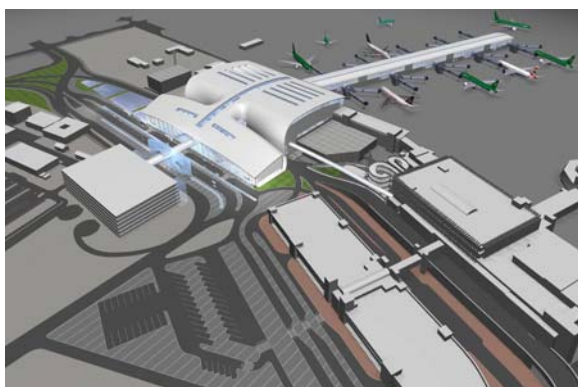


Dublin Airport Authority

Capital Investment Programme
2006 – 2009
DAA/CIP04



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1 Foreword and Executive Summary - Dublin Airport Chief Executive, Declan Collier

This Capital Investment Programme document is being issued at a critical phase in the development of Dublin Airport. The last five years have seen sustained growth coupled with very low levels of investment arising from funding constraints and shareholder deliberations on alternative models for delivering capacity at Dublin Airport.

The facts are:

- All elements of the airport system are experiencing congestion and pressure arising directly from under investment and from growth in passenger traffic and aircraft movements.
- The service level proposition to users is seriously inadequate in the context of Ireland; as an island nation, as a major European capital city, as an economy with a high dependence on inward tourism and as a prime investment location of choice for many of the world's largest corporations over the last 35 years.
- There is a broad consensus amongst users and other interested parties that strong growth in demand will continue for the foreseeable future.
- The business and tourism sectors are united in the view that the capacity deficit at Dublin Airport needs to be addressed as a matter of urgency through the provision of facilities which transform the experience of passengers and which appropriately reflect Ireland's position in the European and global marketplaces.
- The average level of investment in infrastructure at Dublin Airport over the last 5 years has equated to c. € 35 million, whilst European airports are spending substantially more, on a per passenger basis, than this amount.

Following the government's decision in May of 2005, the board of the DAA has moved with great purpose and speed to review the Dublin Airport Masterplan and to appoint internationally experienced consultants to develop an optimum solution for Terminal capacity and key related infrastructure. In parallel, cognisant of the circumstances surrounding delivering a complex and highly interconnected programme of capital projects in the uniquely challenging environment of an operating airport (which is processing over 21 million passengers per annum), the DAA has also appointed a Programme Management team of international renown with specific, contemporary experience in the delivery of complex transportation

solutions to the most exacting standards of time, cost, quality and governance. By combining DAA's in-house expertise and detailed knowledge of Dublin Airport with world class experts in the design and delivery of airport / transportation infrastructure, we believe we have assembled the necessary capability and competence to deliver what is clearly one of the most pivotal and challenging infrastructure programme facing Ireland in the next 5 years. Specifically, this team will deploy, on behalf of DAA, world class proven procedures to ensure rigour and governance throughout the delivery of this programme, with value and risk management as central processes to this objective.

Recognising both the complexity of the challenge and the need to conduct a high velocity process in the aftermath of the Government's Aviation Plan published in May 2005, the DAA has sought to engage the Commission for Aviation Regulation in an ongoing consultative process in order to ensure that CAR is fully apprised of the process, the methodologies and the rationale for the outputs of the major capital expenditure elements which underpin DAA's CIP proposal for the period 2006 to 2009. It is vital that we receive a positive response to remunerate this critically required investment, as a failure to do so will have adverse impacts on Dublin Airport and the Irish Economy for many years to come.

Specifically, commencing in December 2005, we have appraised CAR of the output of the P&W Masterplan process and all of the detailed optioneering, value engineering and the brief development phases of the Terminal 2 proposition. In parallel, the first half of 2006 has seen an unprecedented level of user consultation combined with a detailed and comprehensive optioneering exercise around both the functional form and architectural treatment of the Terminal 2 project leading to the submission of a planning application to Fingal County Council on 31st August, 2006. The process, methodology, specification and output from the Terminal 2 scheme development process was subject to independent verification by consultants who were appointed by the Government as part of the Aviation Action Plan from May 2005. The Independent Verification Consultant's report to Government coincided with DAA's submission of the planning application in the last week of August. We welcome the positive response from the Independent Verification Consultants to the effect that they have confirmed that the process, methodologies, specifications and costs are in keeping with best international practice.

Terminal 2 has specifically been developed against a background of major changes in factors such as mix, home based carrier fleet and market share. The needs of users is driving the scale of the Terminal 2 development, major increases in Pier served stand capacity, extensive provision of remote aircraft parking stands, major taxiway refurbishments and enhancements, enhancements to landside facilities including roads, kerbs and car parking and finally all elements of campus wide utilities.

It should be noted that lack of investment, coupled with sustained high levels of passenger growth has led to a situation where, without exception, all elements of the airport system are under severe stress. The DAA is committed to providing ongoing alleviation of congestion in Terminal 1 through a range of improvement initiatives and refurbishments to bring T1 in line with Terminal 2, many of which are already evident to you and the travelling public.

The DAA is also committed to delivering on our shareholder's directives as outlined in the Aviation Action Plan, and in this regard this CIP is underpinned by an unprecedented level of front-end design and documented optioneering exercises, to the extent that c. 68% of the value of this CIP is now either at planning or construction stage.

This document provides you, as users, with all of the relevant detail underpinning DAA's proposed € 1.178 billion investment programme between now and 2009 and is I believe an appropriate and balanced response to the needs of users, passengers and the broader needs of Ireland as a modern fast growing European economy.

This programme will specifically deliver the following infrastructure;

- 75,000 sq.m. of new Terminal processing capacity, thus creating c. 150,000 m² of combined processing capacity by the end of 2009.
- The retail offering will increase from 11,000 sq.m. to 23,000 sq.m. as part of this programme, thus maintaining strong growth in commercial revenues which continue to subsidise airport charges under the single till environment.
- 40,000 sq.m. of new Pier processing capacity, in the forms of the Piers D and E respectively, providing an additional net 23 contact stands and bringing the total area of pier processing capacity to 70,000 sq.m. serving a total of 52 contact stands.
- Extensive improvements to Terminal 1 in the form of a new check-in area (Area 14), a Northern extension which delivers both direct operational benefits and a significantly enhanced retail experience for the passenger,

increased immigration capacity for passengers arriving on Piers A and B, increased security screening capacity and a range of enhancements within the terminal to improve flow patterns and relieve congestion.

- Circa 210,000 sq.m. of new apron and taxiway facilities extending west of the cross wind runway, delivering the necessary remote aircraft parking stands and enhanced taxiway capacity to improve aircraft circulation and relieve airside congestion. This network is designed in the context of the plan to start construction of the northern parallel runway in 2010 upon successful completion of the statutory planning process.
- Major increases in capacity to landside infrastructure including the internal road network, the departures and arrivals kerbs for both Terminal 1 and Terminal 2, 1,500 additional multi-storey car parking spaces, 5,500 additional long stay car parking spaces and the first phase of an intermodal interchange facility which will provide seamless connectivity to the proposed Metro in 2012.
- The necessary utilities related infrastructure which will support the full development of the Eastern campus including power, gas, water supply, surface water drainage, foul drainage and communications.
- New Customs and Border Control Facilities, which will ensure that Dublin Airport will offer the unique proposition, amongst European capital airports, of full pre-clearance processing for US bound passengers, thus enhancing Ireland's ability to attract and retain transatlantic business.

We believe that this programme will fundamentally improve the passenger and user experience across both terminals, and all elements of the airport campus, and will position our economy to retain and capture more inward investment while retaining our competitive edge.

We believe that the increases in aeronautical charges, which are needed to support this plan, are reasonable and constitute unparalleled value for money in support of transforming the passenger experience for generations to come.

I look forward to working with you, both in the review of this plan, and more importantly in the delivery of this transformation over the next four years.

2 Introduction

The Capital Investment Programme (CIP) for Dublin Airport has been drawn up to provide all users and stakeholders with a comprehensive document that clearly sets out the € 1.178 billion DAA capital investment programme, which is required over the next four years, for the development of the airport and airport facilities to meet existing and future passenger and airline needs.

Dublin Airport Authority (DAA) is responsible for ensuring that Dublin Airport will be able to meet forecast increases in demand, at an acceptable customer service standard and in a manner that does not compromise safety standards.

This document also includes details of the expenditure needed to address Operations and Shared services requirements. The bulk of this expenditure relates to Information technology (IT). The proposed quantum of capital expenditure for Dublin Airport and Group is summarized in section 3.1.

The key outputs that will be delivered from this programme are as follows:

- Short and medium term alleviation measures to cope with the acute constraints that exist in relation to certain elements of the airport system, which must be addressed if it is to facilitate forecast traffic growth over the next four years.
- Delivery of an additional 100,000 sqm of passenger processing facilities by 2009, to facilitate a passenger throughput of + 30 mppa. The facility will be located landside of the existing Pier C facility and comprises a new 75,000 sqm terminal building which is integrated with Pier C, a new Pier (E) with associated apron works, an energy centre, departures and arrival kerbs and extensive additions to the internal campus road network.
- The provision of upgraded utility services, enhanced campus wide road capacity to meet the demands of the expanding site, and a new interface with public transport requirements.
- A net increase of 10 contact stands at the Pier D facility, which recently commenced construction to address the urgent customer need for additional narrow body contact stands at Dublin Airport and a further 13 (19 – 6) contact stands at Pier E to principally facilitate the future growth in wide body operations at Dublin as well as narrow body stand demand.

- Having received planning approval (Subject to Statutory Approval), execute the design and permitting stage of the parallel runway to enable a 'just in time' approach to delivery of this crucial capacity element.
- Maximise utilization of existing runway capacity in the near term with the provision of a parallel runway in the medium term.
- The need to deal with a range of significant constraints at Dublin Airport across most elements of infrastructure including car parking, roads, kerbs, public transport facilities, departure concourse, aircraft parking stands, baggage handling systems and retail facilities which impact on service standards and operational efficiency.
- Ongoing maintenance, compliance and refurbishment capex to maintain operability of existing assets.
- Limited investment in Cargo facilities to alleviate short term constraints, arising from the T2 development, and a de-minimus level of investment to facilitate the provision of long term cargo capacity by alternative funding mechanisms.

The CIP makes no allowance for expenditure on any of the following:

- Aircraft maintenance facilities
- Business aviation facilities

It is expected that any investment required in any of these facilities will be delivered through joint venture or partnership approach and will not be remunerated through airport charges.

It does not make an allowance either for Metro as it is not expected that this will impact in the 2006-2009 period.

The CIP document is structured to take the reader through the Overall Drivers of the airport development and the reasons for the Capital Investment and the expansion and upgrading of the existing airport facilities. These include passenger forecasts, developments in the aviation industry, capacity restrictions and government direction in terms of the Aviation Action Plan.

The CIP looks at the Master Planning process, the Key Drivers and Trends driving the Capital Investment Projects and describes the main project categories into which all projects delivered under the CIP will be categorised.

The CIP document further explains the Financial and Regulatory context as well as the Programme Management and project delivery process. It describes the DAA Gateway and the Risk and Stakeholder Management processes implemented to deliver the CIP projects.

The Project Sheet Template is explained under the Project Presentation heading. This section also looks at the Terms of Expenditure, which explains the three main expenditure groups that underpin the need for investment and ultimately drive all projects to be delivered under this CIP.

The table below summarises the Capex requirement on an annual basis between 2006 and 2009 and is expressed in August 2006 money terms.

Section	2006-2009.	2006.	2007.	2008.	2009.
1-Car Parking	43,495,097	6,765,224	6,988,371	6,749,125	22,992,377
2-Commercial Property	12,169,064		12,169,064		
3-Key Infrastructure	16,051,172	3,970,960	2,466,812	6,613,400	3,000,000
4-Plant & Equipment	6,101,112	2,263,471	2,776,795	310,846	750,000
5-Retail	15,404,168	4,539,175	3,450,115	1,957,439	5,457,439
6-Stands & Airfield	120,013,305	7,393,425	47,477,120	35,541,976	29,600,784
7-Terminal Complexes	825,558,905	59,990,985	208,979,449	326,254,958	230,333,513
8-Operations	86,545,905	32,800,000	20,386,518	16,359,387	17,000,000
9-Utilities	53,000,000	250,000	12,063,924	21,764,076	18,922,000
Grand Total	1,178,338,729	117,973,240	316,758,168	415,551,207	328,056,113

This submission is concentrated on the period 2006 to 2009 for the following reasons:

- It is consistent with the time period in which the CAR may conduct an interim review.
- It is singularly the most critical period facing Dublin Airport in terms of scale and complexity of Capex projects.
- Upwards of 68% of the projects for this period are either at construction, planning or scheme design stage and thus the scope is substantially defined and unlikely to change.
- This period provides the most reliable assessment of need, is backed up by substantial investment in front end design by consultants, is underpinned by a substantial level of consultation and avoids the problem of uncertainty which tends to prevail when taking a longer term view.

3 Overall Drivers of Airport Development

3.1 Government Direction in Aviation Action Plan

On Wednesday, 18th May 2005, the Government approved the Aviation Action Plan proposed by Minister for Transport, Martin Cullen TD. In summary, the Government decided:

- The building of a new Pier for aircraft parking stands at Dublin Airport, available from 2007.
- The building of a Dublin Airport Authority owned new Terminal (Terminal Two) at Dublin Airport to open in 2009.
- A triple safeguard (consultation, verification, regulation) to ensure maximum efficiency and cost effectiveness of the building of Terminal Two.
- An open tender competition to select the operator of Terminal Two. This process will be organised by an independent expert panel.
- Examination of the current legal and regulatory framework governing Dublin Airport, identifying and making any changes necessary to facilitate a third Terminal. This ensures that when passenger volumes determine the need for additional capacity beyond that offered by Terminals One and Two, extra capacity can be brought on stream.
- Terminal Three will be delivered in the most cost efficient and timely way, with this outcome being underpinned by an open competitive process.

Following the Government decision, the Board of the Dublin Airport Authority moved quickly to implement the decision. In June 2005 it requested that a review be carried out, by an independent team of consultants, of the Master Planning work carried out in the previous three years, together with the conclusions and recommendations arrived at in that report.

Following consultations with the key anchor airlines and selected members of the airport community, having reviewed all the technical information available and interrogated a series of alternative schemes and scenarios, a clear recommendation was arrived at for the medium term development of the terminal and pier complexes at Dublin Airport. This was announced in September 2005 and is detailed under section 12 - Terminal and Pier Complexes.

3.2 Capacity Restrictions

Passengers have increased from circa 3 million per annum (MPPA) in 1982 to over 21 MPPA in 2006. Traffic growth projections in passenger numbers indicate that by 2025 Dublin Airport will handle some 39 MPPA. In order to support this growth the number of commercial aircraft movements will increase from 2003 levels of some 166,000 movements to some 285,000 movements per annum.

In order to facilitate the expansion of the current airport to meet future needs, there are a number of key short and medium term projects scheduled to proceed in this programme. These include the development of a new northern parallel runway, expansion of aprons, new pier facilities, expansion of the existing terminal building, internal airport road improvements and the development of a new second terminal building.

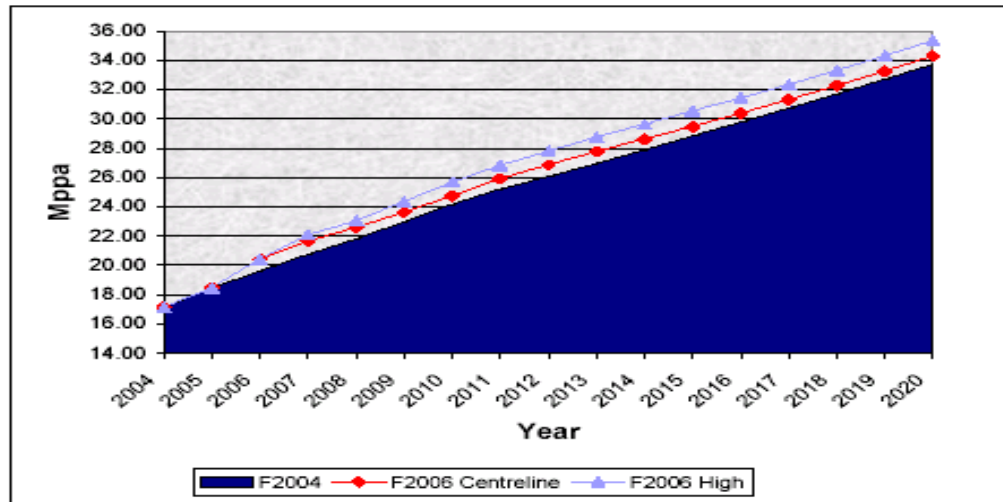
3.3 Passenger Forecasts

Demand passenger and aircraft movement forecasts are produced for Dublin Airport each year. These forecasts are used during capacity development, business planning and regulatory reviews. This assists the DAA in considering what investment in infrastructure is required to meet future demand and how this can be phased and funded. This is more important than ever this year as Dublin faces major capacity developments over the next 10 years. High and low demand forecasts are also produced to test the airport's ability to cope with higher than expected growth and to test the financial constraints implicit where growth is lower. These projections, based on the best knowledge available, allow for a consistent and reasonable series of data to be used across the organisation.

This is a time of rapid change for the air travel industry. Many airlines are adapting their business models; new technologies such as the Internet are providing efficiencies for passengers and airlines alike, globalization and world trade are thriving and manufacturers are launching new aircraft that will fly further at lower cost. After a downward cycle in aviation during the early half of the decade, 2004 and 2005 have seen a major recovery with growth of 15.3% and 7.6% respectively¹.

1 IATA

Figure 1: Annual traffic projections (mppa) at Dublin Airport as developed in Forecast 2004 and Forecast 2006 centreline and high growth scenarios

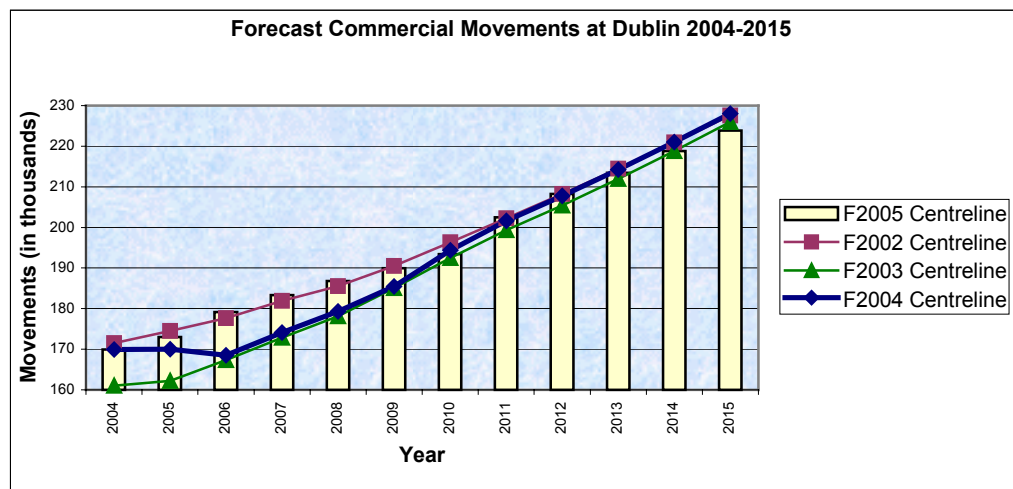


The current forecast projects growth of 34% over the next 5 years, with a CAGR of 4.8% p.a., as compared with 4.6% p.a. over the same 5 years for Forecast 2004. The composition of the traffic is expected to shift markedly over the ten-year period. Traffic on European routes has become increasingly significant in recent years and considering the current growth in 2006, this is expected to continue into the future. Currently Europe comprises 44% of the total traffic. This is expected to grow to 50% by 2015. With Open Skies later on in the decade, the transatlantic market also grows in importance. Transatlantic traffic was 7% of the total in 2005, and is expected to be at 10% in 2015. UK traffic will become proportionally less important, with its overall share declining from 45% in 2004 to 39% in 2015. All of these changes have implications for airport capacity requirements and usage.

Aircraft movements are expected to grow to accommodate increased passenger numbers but the rate of growth in aircraft movements is expected to be slower than the passenger growth rate. This is because airlines and aviation analysts alike expect higher average commercial load factors in the future. Furthermore, while most of the major operators have now replaced their aircraft with larger types, it is still expected that the average aircraft type will continue to rise gradually, as operators continue to try to squeeze as many seats as possible into aircraft, while the long-haul market, which uses large aircraft, is expected to grow robustly. The amount of growth in 2006 leads to quite a large differential between this forecast's aircraft movements and those for Forecast 2004. This initial difference is eroded over the next 10 years because of the further concentration of growth in Europe and

away from the domestic and the UK market in this forecast. Europe has historically utilised larger jets than in the UK short haul market. In fact in 2005, as well as using jets, 9% of flights to the UK were still operated by small turboprops compared to a minuscule number of such aircraft in Europe. The domestic market has also been affected by the use of jets, which has reduced the total number of movements used. Thus, while passenger numbers are higher, larger planes ensure that by 2015 the forecast number of aircraft is lower compared to the previous forecast.

Figure 2: Forecast Commercial Movements at Dublin Airport 2004 - 2015



3.4 Developments in the Aviation Industry

Recently there has been a shift in a number of key traffic growth drivers at Dublin, which in combination have the potential to cause an increase in traffic in excess of historical annual growth increments. Furthermore, these factors may result in a marked shift of the traffic balance between various users at the airport. Thus, there is greater volatility in the 2006 base traffic than in previous years, and there are a number of factors that may indicate changing trends for the future as airline strategies evolve.

- Introduction of slot coordination:** As this summer initially saw the first application of full slot coordination (although following a legal challenge the airport has currently returned to schedules facilitated status), there has been a significant increase in the demand for slots relative to previous years, over and above normal year-on-year growth. Airlines have been anxious to acquire 'grandfather' rights to slots at optimal times, which may be difficult to secure in the future. A particular concern of home-based carriers has been to ensure that

they would be in a position to grow in future years as envisaged in their own airline strategies.

- **Ryanair expansion:** Ryanair's expansion at Dublin, announced pre-Christmas, was related to the introduction of slot coordination, and marks a change in competitive policy for Ryanair vis-à-vis Aer Lingus at Dublin, to a more aggressive attitude than heretofore.
- **Change in Aer Lingus strategy and impending privatisation:** Aer Lingus has targeted aggressive growth projections for its own operation on both long haul and short-haul. In its IPO prospectus, Aer Lingus outlines its capital expenditure plans which include investment of approximately €2 billion through to 2012 for the expansion of its aircraft fleet including the expansion of its short-haul aircraft fleet by approximately 50% and its long haul fleet by approximately 100%. The company also states that its future expansion plans are heavily dependent on the availability of sufficient additional capacity at Dublin Airport.
- **Development of a common aviation area between the EU and the US:** Aer Lingus has also signalled its intention to aggressively grow its Dublin/US network once there is a change in the Ireland/US bilateral. In November 2005, a provisional agreement was reached between the Irish and US governments, which provided for a short transitional period from the current "Shannon Rule" for air services between Ireland and the US. The transition provides for 3 services to Dublin for every 1 service to Shannon during a period covering 3 scheduling seasons, i.e. Winter 06/07, Summer 07 and Winter 07/08. This revised Ireland/US bilateral agreement was conditional on the successful conclusion of a EU/US "Open Skies" deal. US carriers currently serving the Dublin market and others not doing so have indicated their intention to add services once the "Open Skies" deal is concluded. It is not yet certain that either the transitional agreement between Ireland and the US or the EU/US agreement will be implemented on schedule but there is general agreement that a deal will be implemented in a relatively short timespan, certainly by the target date for the opening of T2.

The combined effects of the changes to these drivers is that growth at Dublin is expected to be somewhat accelerated over the next few years relative to previous forecasts as can be seen from the Forecast 2005 graph in Figure 1 above.

Dublin Airport has analysed the impact on the various capacity sub-systems at the airport to assess the impact of such additional traffic, in order to understand if the level of potential traffic could be accommodated. By virtue of the fact that the scenario involves additional traffic being carried mainly on larger aircraft, the effects on passenger-related elements of capacity are generally more significant than the effects on the aircraft related capacity elements, although where there is existing pressure on aircraft capacity, e.g. stands, the effect is still significant. The analysis suggests that the projected demand cannot be accommodated with existing infrastructure, even allowing for increasing operational efficiency in such areas as runway and check-in areas, without serious service deterioration.

Two main alternatives are then possible:

- That the infrastructure is put in place to accommodate the additional transatlantic movements on contact stands i.e. development of Pier D and E, additional stand capacity and major upgrade to Piers B as provided for in this capex programme, or, more likely,
- That some or the potential traffic gains at Dublin will be suppressed pending the provision of capacity.

4 Master Planning Context

Dublin Airport is the principle gateway to Ireland and represents the most significant single economic entity in Fingal County and the Dublin region. The number of passengers using Dublin Airport has increased from 3 million passengers per annum (mppa) in 1982 to over 21 mppa by the end of 2006.

The ability of an airport to expand and evolve with the growth of its traffic is greatly influenced by proper long-term planning for airport development. Previous master plans for Dublin Airport together with a professional approach to development planning on the part of the Local Authority have enabled the airport to grow to its current level and create the potential for it to continue to grow to meet demand for years to come. It is important that future plans maintain the farsighted approach to infrastructure development adopted in the past so that future generations can benefit from this visionary approach.

If Dublin Airport's key role is to be sustained in the future, it is vital that its future development is not constrained. The adoption of a long-term view is critical and it is essential that plans are properly integrated into the wider planning process i.e. National Development Plan, County Development Plan and the National Spatial Strategy. In this way, approaches to runways can be kept free of inappropriate development, adequate drainage and sewerage services can be assured and allowances can be made for access and public transport.

In short, a long-range plan - over a twenty to thirty year horizon - is vital to ensure that the vision for Dublin Airport is achieved. In December 2001, the Aer Rianta Board approved the appointment of consultants to carry out the Dublin Airport Master Plan and Optioneering Study. The company appointed Project Management Group in association with Skidmore Owings Merrill (SOM) and TPS Consult to oversee the consultation and optioneering processes and the development of the preferred Master Plan for Dublin Airport including specific proposals for Terminal, Pier and Airside facilities. Aer Rianta also appointed Parsons Brinckerhoff to oversee the development of the internal transportation plan in support of the preferred Master Plan to include the Metro alignment, the on-airport station and a feasibility study for an internal rail link. The consultants commenced a formal structured process in January 2002 with the objective of developing a vision for Dublin Airport as a 30 million plus passenger processing facility. This process was signalled in a series of preliminary consultation sessions with Stakeholders in spring 2001.

The process was conducted over the period January 2002 to August 2003 and included a most comprehensive consultative process across the full spectrum of stakeholders including all on-airport operators and relevant key external parties. This consultative process produced the Pier D project as a critical early deliverable to meet the urgent need for contact stands at Dublin Airport. Inter alia, a site to rear of the existing pier C was designated as the site for the next phase of terminal development.

In June of 2005, the Board of the Dublin Airport Authority requested that a review be undertaken, by an independent team of consultants, of the Master Planning work carried in the previous three years, together with the conclusions and recommendations arrived at in that report.

Following consultations with the key airlines and selected members of the airport community, having reviewed all the technical information available and interrogated a series of alternative schemes and scenarios, a clear recommendation was arrived at for the medium term development of the terminal and pier complexes at Dublin Airport.

The key characteristics of the Enhancement Plan are detailed under section 12; Terminal and Pier Complexes. The master plan is consistent with Local Area Plan (Master Plan) subsequently prepared in conjunction with Fingal County Council to satisfy Objective DAO1 of the County Development Plan, which provides for the preparation of an Airport Action Plan (Master Plan) for the land within the Designated Airport Area. This Local Area Plan (Master Plan) will provide the primary planning tool for the consideration by the Local Authority of all future significant planning applications.

4.1 Drivers, Service standards and trigger points

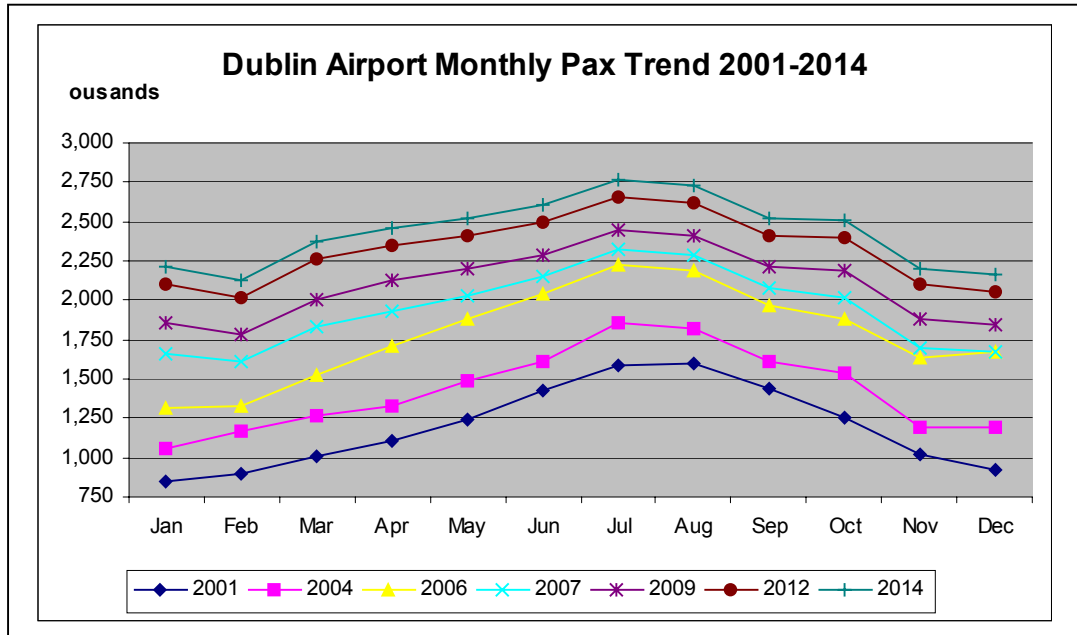
The key driver for development is demand. For the airfield, the driver is aircraft movements; for the terminal, passenger volumes; and for piers, a combination of demand for contact stands for aircraft and gate holding areas to allow for passenger assembly. The quantum of the development is both a function of service/quality standards adopted, and a function of user (airlines, ground handling agents, etc.) efficiency. Generally speaking, DAA is proposing service standards which equate to IATA level C, and this approach has been endorsed by the majority of users.

The relevant trigger point determines the timing of the delivery of the development element, with the aim of providing capacity on a 'just in time' basis. The planning

environment in Ireland combined with the complexities relating to the procurement of large scale infrastructure such as the next phase of terminal development and the proposed Northern runway, underlined the need to execute the planning, design and enabling phases of these projects with great urgency to have any prospect of providing the required capacity within a reasonable timeframe.

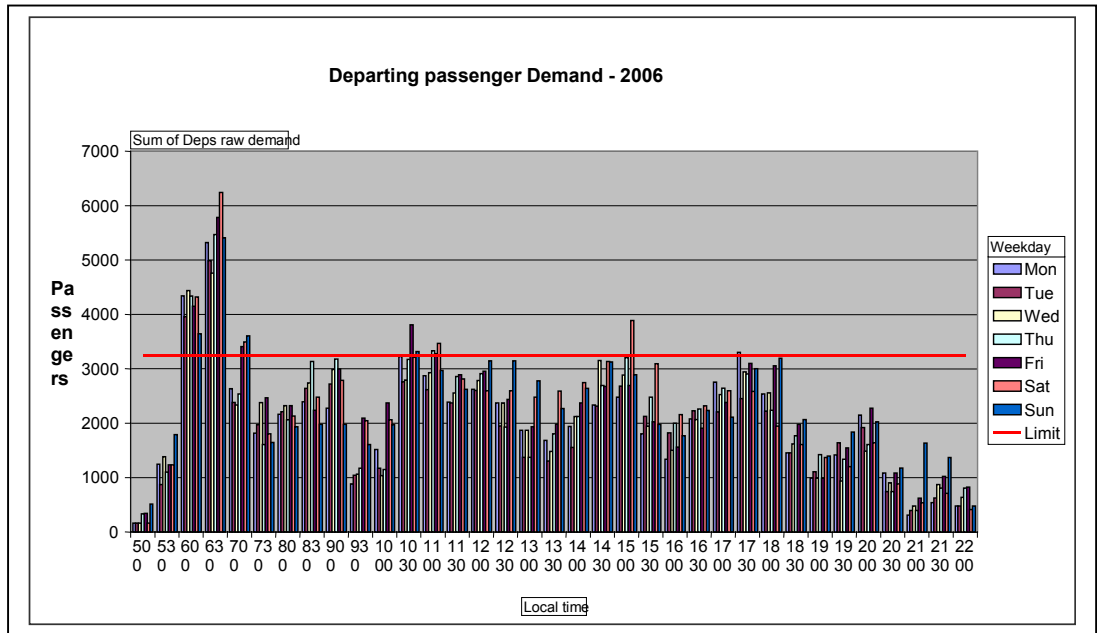
The reality of the Dublin Airport situation is that the triggers points for major elements of infrastructure were passed a number of years ago, specifically pier served contact stands and terminal capacity to name just two such elements. The decision to proceed with major elements of the plan generates the trigger point for connected elements. For example the decision to build Pier D, drives the need for remote apron and additional taxiway capacity to support the reconfiguration of the airfield in an efficient and cost effective manner.

The graph below illustrates the forecast passenger demand, it should be noted that the two peak months in 2006 are surpassed by almost every month in 2014 and summer peaks are each over 0.5 million higher by end of plan.



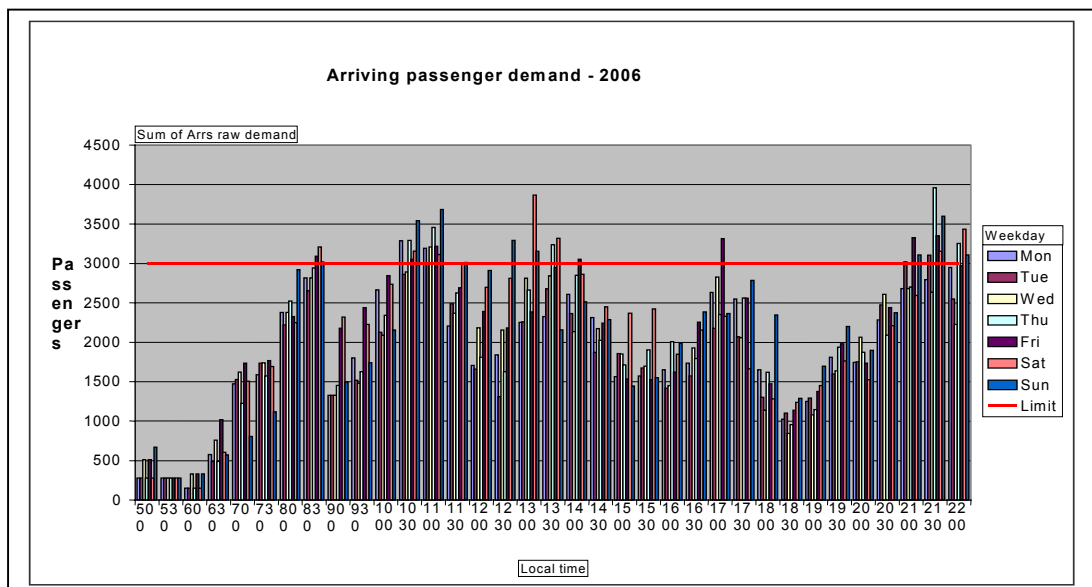
Levels of demand for airport facilities are driven by the aircraft schedules. Dublin Airport’s coordinator, Airport Coordination Limited has produced information regarding the scheduled demand for the current Summer 2006 season. The chart below shows the hourly demand across the day for departure operations. The estimated number of passengers exceeds the current declared capacity of 3,250

passengers per hour by some 2,000 passengers during peak periods (in excess of 60% over capacity). Clearly, even with the advent of a requested change in coordination status it will be difficult to accommodate this peak within the preceding, or subsequent hour.



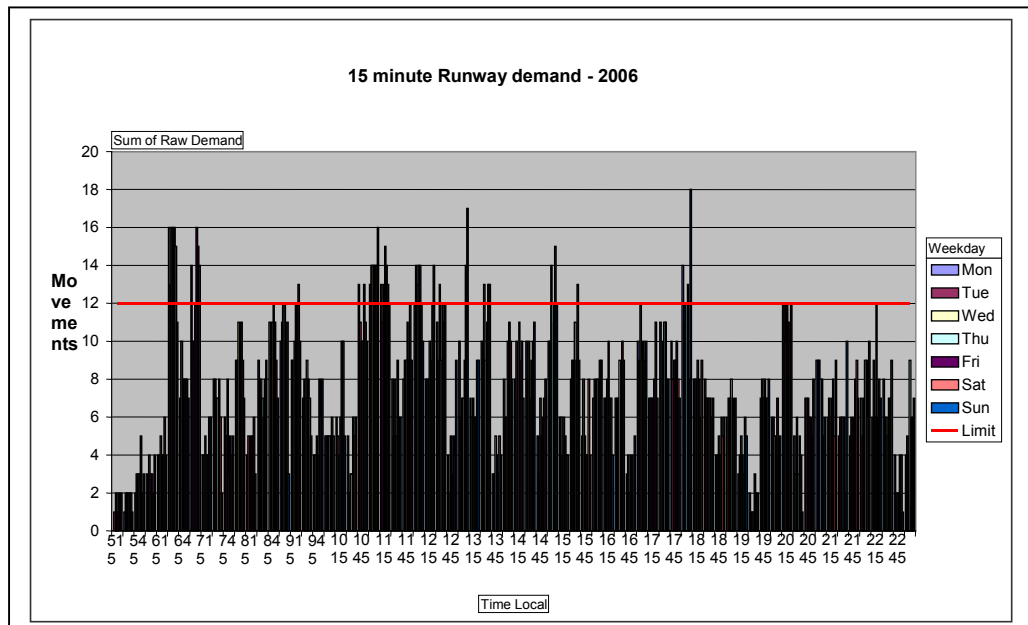
Data from passenger counts during Summer 2006 indicate that these levels will increase further when meeters/greeters and staff, all requiring the use of areas of the terminal building are included.

Similarly, the chart below illustrates that hourly arrival demand passenger figures for Summer 2006 exceed the limit of 3000 passengers per hour by in excess of 500 passengers at regular intervals.

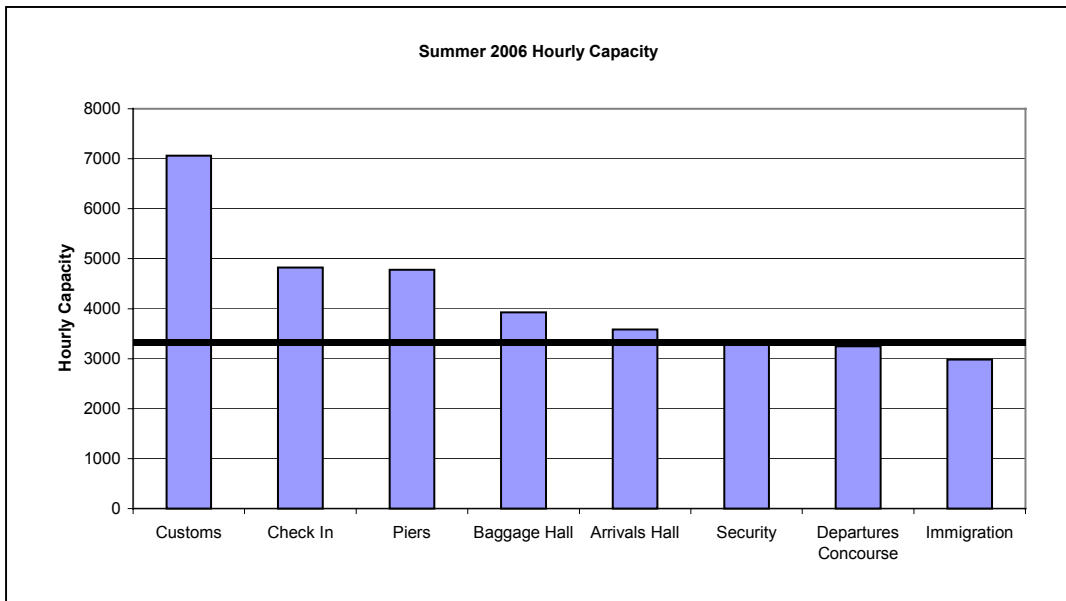


Runway limits, assessed by National Air Traffic Services, are agreed by the Dublin Airport Coordination Committee. Runway capacity currently peaks at a maximum of 46 movements per hour. It is planned that runway capacity will be maximised to a peak of 48 movements per hour through procedural changes and a review of the runway delay criterion.

However, demand for the fifteen minute scheduling periods within this hourly limit are currently in excess of their capacity of 12 movements per 15-minute period. The current capacity limits match those declared at both Gatwick and Stansted, despite the additional infrastructure present at the latter two sites.



Current levels of capacity have previously been defined within the terminal building. The following chart shows the current hourly capacity levels for each resource. It should be noted that recent changes in the security process have led to a reduction in the processing capacity of this area and subsequent resources have been added to meet the levels of demand.



5 Trends driving CAPEX for each project classification

The review of capital investment needs for infrastructure at Dublin Airport has been conducted in a highly structured manner and has been driven by consideration of the following:

- Passenger growth performance and its impact on the need for infrastructure.
- Ongoing DAA studies on the relationship between passenger growth (or aircraft growth) and demand for elements of airport infrastructure.
- The capacity studies for Dublin Airport, utilising an industry accepted best practice approach, which clearly highlight current constraints and the major areas of deficit in the context of the characteristics of the airline business as it is today.
- The recently reviewed Dublin Airport master plan, and related studies, which clearly identify the options for the delivery of future capacity along with associated timelines and capital cost estimates.

Each major category of Dublin Airport infrastructure is assessed against the above four factors as they provide the essential context to DAA's assessment of Capex needs to the end of 2014.

6 Car Parking

Introduction

There are currently 22,450 customer car parking spaces serving Dublin Airport as set out in the following table;

		Spaces	Totals
On Airport	Short-term Car Parks		
	Multistorey	<i>2,450</i>	
	Surface	<u>500</u>	2,950
	Long-term Car Parks		
	Eastlands & Dardistown	<i>10,400</i>	
	Harristown	<u>5,600</u>	<u>16,000</u>
	Total DAA Public Parking		<u>18,950</u>
Off Airport	Private Car Park		<u>3,500</u>
Grand Total			<u>22,450</u>

In addition there are 5,360 staff parking spaces provided at the airport.

Long Stay Car Parks

During most of the year there is sufficient long stay capacity to meet the parking requirements of passengers. Long-term parking capacity at the airport, 16,000 spaces, is stretched to its limit during the peak summer season between July and mid-September. Excess demand has been accommodated by diverting traffic to the short stay car parks (no longer possible since the loss of 850 spaces to car hire) and by using internal roads and grass verges. The long-term car park capacity has been expanded to meet the 2006 peak with the addition of 2,000 spaces at Harristown. A further 1,000 will be available in October 2006. In addition a further 2,500 spaces are planned for Harristown for 2007/2008 to cater for forecast demand.

Short Stay Car Parks

The 3,800-space short-term car parks at the terminal building recently lost 850 spaces to forward car rental areas and are increasingly under pressure particularly;

- mid-week on special occasions including UK and European football matches and
- at weekends catering for short break holiday traffic

The airport faces a challenge in meeting the forecast growth in short stay parking demand because of the loss of surface areas associated with the development of new coach parking and new rental car accommodation. Currently there are only 2,650 spaces available for use in the short stay car park as 300 spaces have been withdrawn from service on a temporary basis to facilitate the development of the coach park. The planned development of T2 will also impinge on the surface car parks. In total 1,200 short stay spaces will be lost to these projects by the end of 2007. DAA proposes to provide 1,500 short stay spaces in the period to 2009 in order to:

- Mitigate losses arising from ongoing development at the airport.
- Provide an increment of capacity to support growth, albeit in a context of the implementation of DAA's ongoing demand management strategy.
- Provide appropriate facilities in close proximity to Terminal 2 in line with passenger and user requirements.

Employee Parking

There are currently 5,360 car parking spaces at the airport, serving approx. 12,500 employees. Employee numbers are projected to rise to 15,500 by 2024. DAA has set a target of (i) 25% of employees travelling by public transport and (ii) doubling the % of employees "car pooling" from 5% to 10% by 2020. Based on the above employee projections and DAA's target public transport mode share it is estimated that approx. 5,450 employee parking spaces will be required by 2020 (30MAP). This is a modest increase of 90 spaces above the current number of spaces.

Current employee parking facilities are operating at capacity during daytime shifts. A number of the current employee car parks are being re-developed as a consequence of the ongoing development of passenger related facilities e.g. OCTB and Executive Car Parks. There is therefore a requirement to make provision for the development of replacement employee parking capacity and where possible to consolidate and re-

organise the facilities into a smaller number of large-scale units. This requires further study and consultation before delivery in 2007/2008.

It is estimated that the number of employee parking events at the airport is similar to the total number of customer parking events each year i.e. c 2.6 million.

Conclusions

The increased passenger traffic through the airport combined with increased car ownership and usage is driving demand for parking at Dublin Airport. However increasing the mode share on public transport will modify this demand. Analysis of the figures clearly indicates a pressing need:

- To complete the current car park systems project
- To continue the development programme for long stay car parks in Harristown
- To develop short stay capacity to replace spaces lost to car rental, coach park development and the T2 programme
- To expand short stay capacity to increase the number of spaces to meet peak requirements, mitigate losses arising from the Terminal 2 project and to ensure the provision of appropriately located facilities to serve Terminal 2.
- To develop new long stay and replacement parking in the current public safety zones at Eastlands prior to any commercial development taking place in the existing Eastlands car parks.
- To expand and re-organise staff parking
- To continue the refurbishment of the existing parking assets.

6.1 Capex Plan – Car Parking

Section	CIP CODE	Description	Workstream	Driver as per Oct 2005 Document	2006-2009.	2006.	2007.	2008.	2009.
1-Car Parking					43,495,097	6,765,224	6,988,371	6,749,125	22,992,377
	CIP1.001	Additional works to Harristown Car Park	Landside	Safety / Environment / Compliance	330,700	330,700			
	CIP1.002	Car Parking Equipment	Landside	Repair / Refurbish / Upgrade	2,985,574	1,939,219	1,046,355		
	CIP1.003	Convert Site Compound to staff Car Park	Landside	Capacity	170,000		170,000		
	CIP1.006	MSCP Short-term Car-Parking; 1500 spaces	Landside	Capacity	27,450,000			5,070,530	22,379,470
	CIP1.007	Passenger Links (travelator to Atrium)	Landside	Capacity	991,972	991,972			
	CIP1.008	MSCP Upgrade Phase 1	Landside	Repair / Refurbish / Upgrade	780,017	780,017			
	CIP1.009	Upgrade Eastlands To Planning Compliance	Landside	Safety / Environment / Compliance	140,000	140,000			
	CIP1.010	Staff Car park Relocations	Landside	Capacity	1,118,880			505,973	612,907
	CIP1.011	Upgrade Eastlands To Permanent Status	Landside	Safety / Environment / Compliance	4,824,804	260,166	4,564,638		
	CIP1.012	3000 Additional Spaces Harristown Ph 1	Landside	Capacity	2,323,150	2,323,150			
	CIP1.013	2500 Additional Spaces Harristown Ph 2	Landside	Capacity	2,380,000		1,207,378	1,172,622	

7 Commercial Property

The commercial property heading refers to those projects associated with provision of facilities to third parties such as hangars, staff accommodation, etc. which are under commercial agreement.

There continues to be an under-provision in terms of the facilities for car hire operators since the last submission. Included in this submission is the provision of additional car hire facilities for the car hire operators to meet their current and future needs over the next five years. This will provide more car parking and operating facilities to be located in and around the existing areas occupied by the operators. The relocation of Car Hire is also driven by the need to release the landbank on the landside of Pier C in order to facilitate the development of the Terminal 2 facility and related infrastructure.

The impacts of September 11 and the downsizing activities of a number of airlines have somewhat reduced the demand for airline accommodation. Dublin Airport Authority's previously stated plan for on-campus office accommodation will be met via a joint venture investment and does not form part of this submission.

7.1 Capex Plan – Commercial Property

Section	CIP CODE	Description	Workstream	Driver as per Oct 2005 Document	2006-2009.	2006.	2007.	2008.	2009.
2-Commercial Property					12,169,064		12,169,064		
	CIP2.006	Car Hire Facilities Eastlands (was Dardistown)	Landside	Capacity	12,069,064		12,069,064		
	CIP2.010	Refurbish West end Cloghran Hse	Landside	Repair / Refurbish / Upgrade	100,000		100,000		

8 Key Infrastructure & Utilities

Projects under this heading relate to the full range of support infrastructure for the main airport operations including all underground services and utilities such as gas, electricity, sewage, drainage, communications, infrastructure, roads, DAA accommodation, kerbs, public transport provision, security etc.

Industry accepted best practice capacity studies have confirmed previously identified constraints relating to both departures and arrivals kerbs as well as the internal road network (Utilities Masterplan Document – T&T). The master plan study has identified a range of internal road schemes that are fully integrated with the kerb systems but which are likely to require grade separation, which has significant cost impacts.

Extensive consultation has been undertaken with key statutory authorities including Fingal County Council and the National Roads Authority on the issue of access to Dublin Airport and the relationship between the external and on-airport road systems.

The proposed ground transportation centre (Bus / Coach Park) which is fully integrated with the next phase of multi storey car parking, Metro and the next phase of proposed terminal development is consistent with options in the reviewed master plan. The master plan study has identified locations for the next phase of terminal expansion / development at Dublin Airport, which, when combined with associated requirements for departures and arrivals kerbside capacity and associated road network will necessitate the demolition of a range of current facilities in the immediate term.

These demolitions are provided for within this submission and are key critical path items for the delivery of the next phase of terminal capacity. The master plan study has also identified a broad range of needs relating to the provision of utilities in support of the next phase of terminal development, which are also incorporated here. Dublin Airport Authority is currently undertaking to provide 2 new secure and fully resilient data centres, along with a secure campus area network that will aim to cater for the networking requirements of all operationally critical systems needed to ensure the efficient operation of Dublin Airport into the future.

As part of this exercise, DAA has commissioned specific preliminary feasibility studies covering all utilities and has had specific discussions with the electricity supply and transmission industries in the context of planning the power needs for future utilities. The proposed Terminal 2 (and related infrastructure), coupled with the acceleration of major elements of the programme is driving very significant additional utilities requirements and associated costs. Offsetting this, to some extent, is the fact that the southern location for Terminal 2 removes the need for substantial demolition and enabling type works, which were identified in the previous CIP for the northern option.

8.1 Capex Plan – Key Infrastructure

Section	CIP CODE	Description	Workstream	Driver as per Oct 2005 Document	2006-2009.	2006.	2007.	2008.	2009.
3-Key Infrastructure					16,051,172	3,970,960	2,466,812	6,613,400	3,000,000
	CIP3.005	Bus Park Entrance & Exit Road	Landside	Capacity	2,220,000	2,220,000			
	CIP3.009	Internal Campus Roads - Excluding Western Approach	Landside	Capacity	10,500,000	30,000	1,500,000	5,970,000	3,000,000
	CIP3.012	New Taxi Holding Area	Landside	Capacity	100,000			100,000	
	CIP3.014	Remaining Perimeter Fence	Landside	Safety / Environment / Compliance	720,960	720,960			
	CIP3.015	External Roads	Landside	Repair / Refurbish / Upgrade	1,237,674	1,000,000	237,674		
	CIP3.022	Upgrade Castlemoate House Phase 1	Landside	Repair / Refurbish / Upgrade	229,138		229,138		
	CIP3.028	Waste Recycling Unit	Utilities	Safety / Environment / Compliance	543,400			543,400	
	CIP3.032	Temporary Passenger Waiting Area	T1	Capacity	500,000		500,000		

8.2 Capex Plan – Utilities

Section	CIP CODE	Description	Workstream	Driver as per Oct 2005 Document	2006-2009.	2006.	2007.	2008.	2009.
9-Utilities					53,000,000	250,000	12,063,924	21,764,076	18,922,000
	CIP9.001	Utilities Consultancy Services	Utilities	Capacity	1,000,000	250,000	500,000	250,000	
	CIP9.003	Utilities Diversions, excl. T2	Utilities	Capacity	4,100,000		2,000,000	2,100,000	
	CIP9.004	Electricity Distribution System Enhancements, HV (38	Utilities	Capacity	10,300,000	0	2,000,000	2,300,000	6,000,000
	CIP9.005	Electricity Distribution System Enhancements, MV (10	Utilities	Capacity	6,900,000	0	1,430,000	2,755,000	2,715,000
	CIP9.006	Gas Distribution System Enhancement	Utilities	Capacity	1,900,000			1,900,000	
	CIP9.007	Potable Water Storage & Service Pipe Upgrade	Utilities	Safety / Environment / Compliance	4,200,000		750,000	2,450,000	1,000,000
	CIP9.008	Potable Water Distribution System Enhancements	Utilities	Safety / Environment / Compliance	4,200,000		750,000	2,450,000	1,000,000
	CIP9.009	Non-potable Water Storage	Utilities	Safety / Environment / Compliance	1,500,000				1,500,000
	CIP9.010	Fire Hydrant Distribution System	Utilities	Capacity	1,500,000				1,500,000
	CIP9.011	Sprinklers Distribution System	Utilities	Safety / Environment / Compliance	1,500,000				1,500,000
	CIP9.012	Foul Water Drainage System Enhancements	Utilities	Repair / Refurbish / Upgrade	4,000,000		500,000	2,500,000	1,000,000
	CIP9.013	Surface Water Drainage System Enhancements	Utilities	Capacity	2,400,000		593,000	1,000,000	807,000
	CIP9.014	Surface Water Quality Attenuation System	Utilities	Capacity	2,400,000		1,270,462	1,129,538	
	CIP9.015	Surface Water Quantity Attenuation System	Utilities	Capacity	2,400,000		1,270,462	1,129,538	
	CIP9.016	Voice & Data Comms Corridors	Utilities	Repair / Refurbish / Upgrade	2,700,000		500,000	1,300,000	900,000
	CIP9.018	Boiler Hse Replacement / District Heating	Utilities	Repair / Refurbish / Upgrade	2,000,000		500,000	500,000	1,000,000

9 Plant & Equipment

Projects under this heading relate to heating, ventilation and air conditioning systems, baggage handling systems, generators, boilers, lifts, escalators, moving walkways, switch rooms etc.

All of the Hold Baggage Screening machines will need to be replaced as new technologies emerge. The baggage handling systems will require significant alterations to accommodate the new machines.

Much of the existing plant and equipment in the older sections of Dublin Airport is beyond its useful operational life, leading to increased maintenance costs and issues with reliability in critical systems. Increasing passenger throughput is exposing the marginal status of many elements of this category, in particular air handling and air conditioning.

9.1 Capex Plan – Plant and Equipment

Section	CIP CODE	Description	Workstream	Driver as per Oct 2005 Document	2006-2009.	2006.	2007.	2008.	2009.
4-Plant & Equipment					6,101,112	2,263,471	2,776,795	310,846	750,000
	CIP4.003	Baggage Reclaim Carousels	T1	Capacity	1,199,634	419,238	715,953	64,443	
	CIP4.006	Escalator 6	T1	Repair / Refurbish / Upgrade	204,000	204,000			
	CIP4.007	New Chiller BOI Departures Flr.	T1	Capacity	200,000		200,000		
	CIP4.008	Rapid Intervention Fire Tender (RIFT)	T1	Safety / Environment / Compliance	474,300	474,300			
	CIP4.010	Refurbishment A Complex Lifts	T1	Repair / Refurbish / Upgrade	373,177	280,231	92,946		
	CIP4.011	Refurbish & Replace PT 14&15 Lifts	T1	Repair / Refurbish / Upgrade	400,001	4,984	395,017		
	CIP4.013	Repl Air-Handling Syst Pier B	T1	Repair / Refurbish / Upgrade	2,380,000	760,718	1,372,879	246,403	
	CIP4.015	Replacement 2 Lifts PT17_PT18	T1	Repair / Refurbish / Upgrade	120,000	120,000			
	CIP4.016	Replacement of Standby Generator at Main Terminal	T1	Safety / Environment / Compliance	750,000				750,000

10 Retail

All projects associated with the development of non-property or car parking related commercial revenue streams including DAA-retail and catering outlets and facilitation works carried out by DAA on behalf of retail and catering concessionaires. In the single till environment, DAA is hugely dependant upon retail activities to underpin business profitability and thus fund investment in infrastructure.

- This CIP contains a substantial component of refurbishment type investment for older generation offerings in Pier B and refurbishment and renewal of retail facilities on the “Street” to assist in increasing the commercial return from retailing. Failure to undertake such investment would materially impact forecasted retail revenues.
- No significant retail capacity has been added since 2001. An extension to the street concept is critical to increasing retail sales, capitalising on passenger footfall towards Pier A and to exploiting the potential offered by the proposed Pier D facility. Mindful of the constraints at Dublin Airport, the extension to the street offers excellent synergy with the need to provide additional space in the departures concourse. An integrated proposal involving an extension to the north of the existing terminal provides a cost effective and efficient mechanism for addressing these two major short term needs within the terminal, whilst at the same time leveraging the benefits of the proposed Pier D facility.
- The Terminal 1 extension project is the single biggest investment in retail facilities and is designed to be self-funding within the single till environment.
- In line with industry best practice, the plan also provides for the centralisation of distribution activities for the retail and catering business into one central warehouse, which will streamline the supply chain management process.

10.1 Capex Plan – Retail

Section	CIP CODE	Description	Vorkstrear	Driver as per Oct 2005 Document	2006-2009.	2006.	2007.	2008.	2009.
5-Retail					15,404,168	4,539,175	3,450,115	1,957,439	5,457,439
	CIP5.001	Airside now Landside Restaurant	T1	Capacity	1,763,000	665,497	1,097,503		
	CIP5.002	CCTV Commercial	T1	Repair / Refurbish / Upgrade	40,000	40,000			
	CIP5.005	Landlord provision to Book Stores	T1	Capacity	130,000	130,000			
	CIP5.008	Pier A Breakroom	T1	Repair / Refurbish / Upgrade	21,743	21,743			
	CIP5.009	Pier A New Bar	T1	Capacity	60,000	60,000			
	CIP5.012	Pier B Travel Value Refurbishment	T1	Capacity	1,589,959	1,589,959			
	CIP5.013	Retail Refurbishments	T1	Repair / Refurbish / Upgrade	4,043,946	37,643	1,349,775	1,328,264	1,328,264
	CIP5.015	Holiday Shop Revamp	T1	Repair / Refurbish / Upgrade	112,352	112,352			
	CIP5.017	Vehicles Warehouse Centre	T1	Repair / Refurbish / Upgrade	21,332	21,332			
	CIP5.018	Street Intersection	T1	Repair / Refurbish / Upgrade	1,525,000	1,525,000			
	CIP5.025	Perfumery Revamp	T1	Repair / Refurbish / Upgrade	320,000	320,000			
	CIP5.034	Retail - local projects	T1	Repair / Refurbish / Upgrade	686,836		428,486	129,175	129,175
	CIP5.035	Mezz Catering Dublin	T1	Repair / Refurbish / Upgrade	100,000	25,649	74,351		
	CIP5.036	External Retail Delivery Facility - Excludes sortation eq	T1	Capacity	5,000,000		500,000	500,000	4,000,000

11 Stands & Airfield

11.1 Apron and Taxiways

This category comprises all airside works related to the parking and movement of aircraft and all associated utilities such as aprons, taxiways, runways, airfield drainage, airfield electrical systems, airbridges, FEGP, docking guidance systems, equipment parking areas, battery charging facilities etc.

Current indications from internal capacity assessments (ref. Pascall and Watson Capacity Enhancement Recommendation Report and ARUP's Airport Wide Gating Study) have identified the need for both additional contact and remote stand capacity in the short term and also the need to realign stands in the existing layout to cater for the introduction of wider gauge aircraft by both large home-based carriers at Dublin Airport, and other non home-based carriers.

Forecast Year	2007	2008	2009	2010
Stand Demand incl ctg.	81	89	98	101
Stand Supply excl Phs 6	71	69	67	75
Delta	-10	-19	-27	-26
Phase 6 A+B Supply	0	+13	+15	+15
Delta	-10	-6	-12	-11

The construction of Pier D is in response to a number of needs:

- Ongoing customer demand for contact stands: - The level of contact stand utilisation for departing passengers and aircraft at Dublin airport in 2004 was 96% and 95% respectively, which dropped to 95% and 94% respectively for 2005. Based on current traffic projections and analysis, it will be necessary to provide additional contact stand capacity in the short term in the form of Pier D, to maintain this high level of performance. Other construction projects such as Pier E and the T1 extension will have a short-term negative impact on these performance indicators.
- There is an ongoing expectation, certainly among our home-based carriers that they should receive 100% contact stand allocation. This has been stated in various written and verbal communications from them. This cannot be achieved until completion of the current Pier development programme.
- Security restrictions in Pier A: - Arrivals from certain European airports are not permitted into Pier A in response to Department of Transport requirements. With the number of such designated airports varying from time to time, this

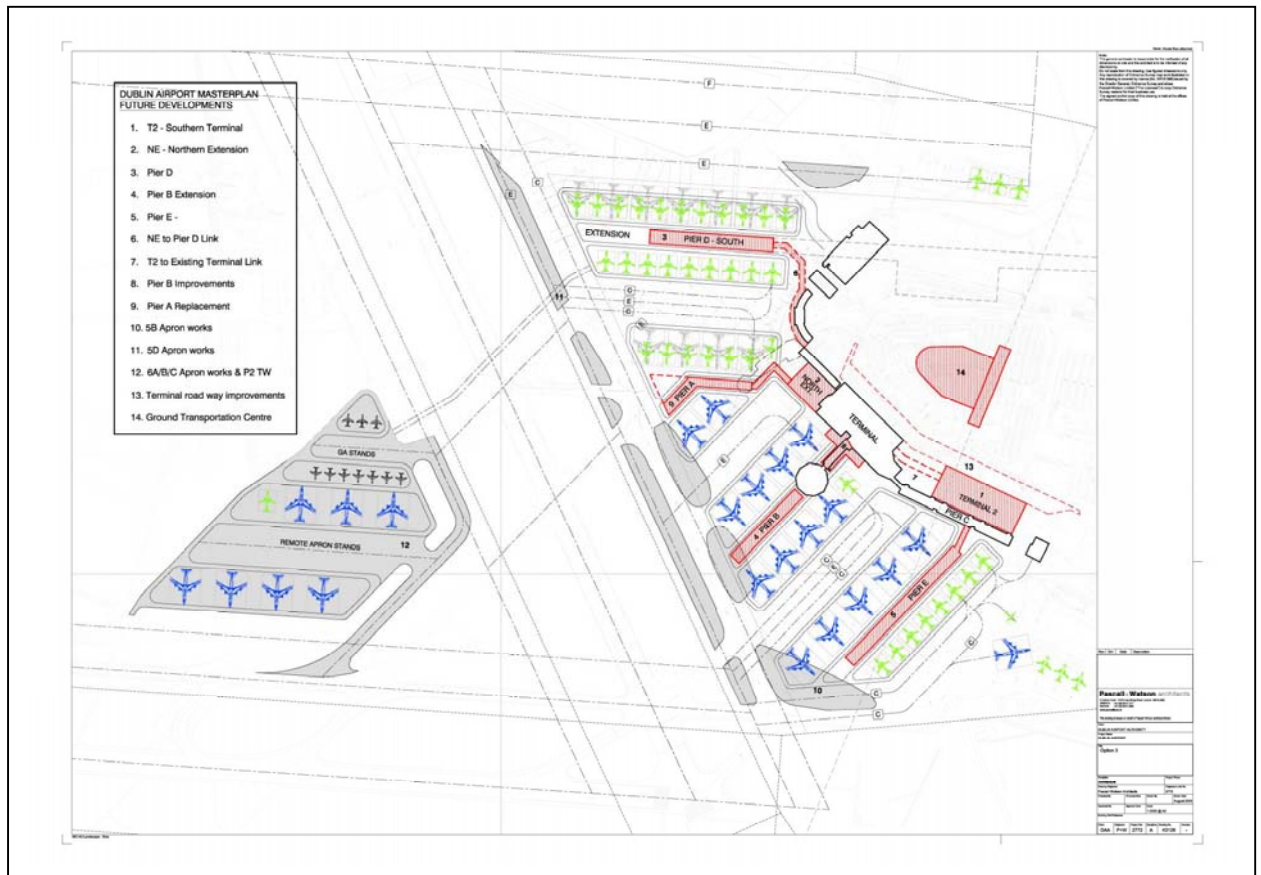
form of restriction impacts on DAA's ability to accommodate current traffic and future growth at this Pier.

- Likelihood of the ending of the "Shannon stop-over" and the gradual increase in transatlantic activity from 2006, culminating with the introduction of full open skies between the EU/US effective from 2008: - The potential growth in transatlantic activity will place a high demand on contact stands at Pier B. The wide body contact stands on Pier C will be discontinued when construction work commences on Pier E. The effect of this will be to discommode short haul and long haul activity, which would otherwise have been accommodated at this pier.
- This transatlantic activity is also likely to entail long dwell time on stands, which will result in the need to tow aircraft off contact stands to remote stands in order to facilitate other aircraft operations on contact stands. Therefore, there is a need to provide additional wide-body remote stand capacity and infrastructure.

In addition to Pier D a number of critical key factors arise in relation to delivering appropriate capacity on the airfield whilst accelerating passenger related capacity in the form of terminal processing and pier served contact stands.

- The cross wind runway operates as a constraint on airfield developments in the short to medium term, pending delivery of the north parallel runway.
- The construction of Pier E, which provides 19 narrow body contact stands for Terminal 2, will necessitate a complete reconfiguration of the airfield east of the cross wind runway, and will necessitate the construction of major tracts of apron in order to replace existing remote apron and to increase supply of remote stands to cater for increased passenger growth and the attendant rise in aircraft movements. Some of the demand is mitigated by the step increase in aircraft size within the last 3 years, however, the Airport Wide Gating Study demonstrates the acute need to construct remote apron, west of the cross-wind runway, between now and 2009.
- Pascall and Watson's Capacity Enhancement Recommendation Report delivered an innovative solution for the provision of additional contact stands in the near term, coupled with the retention of Pier B. However, the study also demonstrated the need to substantially increase taxiway capacity to support the forecasted increased level of aircraft movements.

Pascall and Watsons's Airfield Masterplan is shown in the graphic below:



In summary, the development plan for passenger processing facilities must be matched by an equally comprehensive airside plan, which can deliver efficient circulation of aircraft, adequate remote parking capacity and efficient taxiway routes to the runway system in a manner that can allow airport operations to function adequately during the critical construction period of 2006 to 2009.

The detailed airfield development plan, with associated critical path definition, is outlined in the DAA's Airfield Masterplan Document and Pascall and Watsons Capacity Enhancement Recommendation Report.

11.2 Parallel Runway

A primary assumption of the recently completed master planning process was that a second runway, parallel to the existing east – west runway would be constructed, thus allowing the airport business to grow and thereby maximising the potential of the site. The provision of a parallel runway at Dublin Airport is essential if airlines are not to experience constraints on growth in the medium term.

A programme of work to maximise the ability of the current runway system to serve projected demand (runway capacity) has been developed by the Runway Capacity Group (RCG) which comprises representatives from ATC, IAA Regulatory division, Airlines and the Airport Authority. The RCG has identified a strategy to maximise runway capacity on the main runway at Dublin Airport, based on extensive capacity studies by NATS. This strategy would permit the peak hour runway movements to increase by 5 movements per hour to 49/50 movements per hour by 2009 on runway 10/28, and raise hourly sustainable capacity to circa 44 movements per hour. This work, if supported by a change in the co-ordination status of Dublin Airport to Level 3 from Summer 2007 and other measures to spread demand throughout the day, means that it may be possible to delay the timing of the construction of the proposed parallel runway. Consultation on this strategy is ongoing, in the context of balancing short term Capital Expenditure versus the most appropriate timing for delivery major capacity in the form of the parallel runway.

In the meantime, essential planning and permitting work must be completed in the short-term to ensure that DAA has the ability to move quickly once the specified trigger point for delivery is reached - currently estimated to be circa 2012. In this context provision is made in this plan for design development and early stage procurement activities for the project.

DAA understands that some users are concerned at the possibility of runway capacity constituting a major constraint at the time of opening of the second terminal / Pier E, and have expressed the view that consideration should be given to earlier delivery of capacity. In this context, DAA invites users to formally present their views on the matter in the consultative process which will follow the release of this CIP document.

A number of opportunities to increase runway capacity in the short term have been identified including the provision of a rapid exit taxiway and a bypass taxiway on the existing 10/28 runway. DAA is concerned that such projects offer a relatively poor

return on investment in the context of the plan to provide a second runway. DAA will solicit the views of users on these matters.

11.3 Capex Plan – Stands and Airfield

Sect ion	CIP CODE	Oracle Code	Description	Project Driver	2006-2009.	2006.	2007.	2008.	2009.
6-Stands & Airfield					120,013,305	7,393,425	47,477,120	35,541,976	29,600,784
	CIP6.004	EDAD04027	Airfield Equipment Upgrade	Safety / Environment / Compliance	280,757	280,757			
	CIP6.005	EDAD05005	Airfield Lighting Control System	Repair / Refurbish / Upgrade	739,552	589,746	149,806		
	CIP6.006	EDAD06005	Apron Recon Nth Side Pier A	Repair / Refurbish / Upgrade	4,108,325	929,401	1,071,020	1,053,952	1,053,952
	CIP6.012	EDAD02003	Air Monitoring System	Safety / Environment / Compliance	380,000	50,864	329,136		
	CIP6.014	EDAD00021	Ground Power Pier B	Repair / Refurbish / Upgrade	830,000		68,806	511,151	250,043
	CIP6.017	EDAD06029	Overlay runway 10/28	Repair / Refurbish / Upgrade	546,000	50,000	100,000	396,000	
	CIP6.018	EDAD96015	Parallel Runway Fees	Capacity	7,440,100	650,000	500,000	3,152,000	3,138,100
	CIP6.025	EDAD06031	Repl Centreline Lights 10/28	Repair / Refurbish / Upgrade	400,000		53,322	278,965	67,713
	CIP6.026	EDAD03008	South Apron Infill Phase 5B	Capacity	5,432,571	665,952	4,766,619	0	
	CIP6.028	(blank)	Refurbishment Taxiway H2	Repair / Refurbish / Upgrade	1,500,000	1,500,000			
	CIP6.029	EDAD06034	Taxiway Centreline Lighting	Safety / Environment / Compliance	1,570,000		217,584	1,352,416	
	CIP6.030	EDAD06015	Taxiway P2 bypass for Phase 6 - MIKE 2	Capacity	7,300,000	1,000,000	6,300,000		
	CIP6.033	EDAD02004	Water Monitoring Equipment	Safety / Environment / Compliance	240,000	29,762	210,238		
	CIP6.035	EDAD06027	Aircraft Stands Phase 6A,B & C (GA)	Capacity	51,261,000	0	18,000,000	26,000,000	7,261,000
	CIP6.037	EDAD06013	Runway 10/28 Stopbars	Repair / Refurbish / Upgrade	1,670,000		227,532	1,152,985	289,483
	CIP6.038	EDAD06032	Central Apron Infill Phase 5 D	Capacity	10,000	10,000			
	CIP6.039	EDAD06033	North Apron Infill Phase 5 E	Capacity	13,500,000	1,486,093	12,011,907		
	CIP6.040	EDAD06001	Met Relocation	Capacity	445,000	72,804	372,196		
	CIP6.041	(blank)	MV Alteration	Repair / Refurbish / Upgrade	3,075,000	56,046	3,018,954		
	CIP6.042	(blank)	Overlay Taxiway B4/B5/B6	Repair / Refurbish / Upgrade	4,625,000	20,000	80,000	1,644,507	2,880,493
	CIP6.043	(blank)	Remedial works and diversion to support 6.035	Capacity	6,100,000				6,100,000
	CIP6.045	(blank)	Cargo - Shortterm Solutions	Repair / Refurbish / Upgrade	560,000				560,000
	CIP6.047	(blank)	Apron 5A - 65,000m2	Capacity	8,000,000				8,000,000

12 Terminal & Pier Complexes

The Board of the Dublin Airport Authority requested in June 2005 that a review of the Master Plan be carried out, by an independent team of consultants.

Following consultations with the key anchor airlines and selected members of the airport community, having reviewed all the technical information available and interrogated a series of alternative schemes and scenarios, a clear recommendation was arrived at for the medium term development of the terminal and pier complexes at Dublin Airport (Pascall and Watson Capacity Enhancement Recommendation Report).

The key characteristics of the Enhancement Plan are:

- A new Pier D connected via an elevated walkway back to the proposed northern extension and existing terminal. Given the demand for narrow body aircraft contact stands this is the most appropriate pier and location for this type of aircraft. Phasing dictates that this should be the first pier to be progressed and, to assist with interim operational flexibility whilst the rest of the airfield is then developed, pier and stands need to accommodate interim wide body requirements. Given that planning permission and a set of tender documents for Pier D exists, this is the only pier that can be delivered to meet the clear Government requirement to deliver pier capacity by 2007. As an additional benefit, this also creates the flexibility for wide body contact stands should future demands change.
- A revised and extended Pier A, as and when proposed other new piers are delivered. The current pier handles a significant proportion of aircraft movements and is a core facility in current operations. However the existing Pier provides a poor level of service, inadequate segregation and could be developed to provide additional capacity.
- An extended Pier B with an upgrade of the existing link to the terminal, so as to maximise the number of wide body stands closest to the existing main terminal and proposed public transport interchange. The current US Immigration facility could be expanded within this pier.
- A new Pier E connected to the existing Pier C and the proposed new Terminal 2, in an orientation and size that maximises both the available airside contact stand area, and the inter-relationship it will have with the new T2.
- The study identified an opportunity to deliver a temporary pier to deal with the short term constraints arising from the construction of Pier D. In fact, the combined impact of Pier D construction and the decision of one carrier to locate

an additional 5 aircraft at Dublin airport provided a compelling case to deliver temporary boarding gates in the most expeditious manner possible in 2006.

Following examination of alternative potential locations for Terminal 2 it was clear that the southern location, taking into consideration planning, logistics, affordability and meeting programme targets, is undoubtedly the most appropriate. The new T2, will be built in front of and integrating with the existing Pier C thereby offering the potential to improve the utilisation and hence effective value of an existing asset, Pier C (Ref. Pascall and Watson Capacity Enhancement Recommendation Report). Furthermore there are significantly fewer operational disruptions associated with the development of the site and there exists greater opportunities to create efficient, flexible and successful operational facilities within the areas readily available.

Extract from Pascall and Watson Capacity Enhancement Recommendation Report:

- *"A new T2, a southern terminal built in front of and integrating with the existing Pier C, including associated road and kerb requirements. The proposed location of the terminal is in one of the few remaining relatively clear areas of land close to primary landside and airside provisions (albeit there are considerable underground services in the area). It is proposed that a modular design is provided to enable expansion of the facility as and when required to maximise the available site over time and to respond to specific demand patterns. The internal design can be developed to accommodate the needs of specific airlines, in particular those airlines who will use Pier E and pier B, for example a check-in arrangement that accommodates bag drops and perimeter check-ins (in lieu of the island check-ins in the existing terminal). We recommend that the target level of service is equivalent to IATA level of service C.*
- *We have examined alternative potential locations for Terminal 2 and have identified that the proposed southern location, taking into consideration planning, logistics, affordability and meeting programme targets, is undoubtedly the most appropriate. The proposed development also offers the potential to improve the utilisation and hence effective value of an existing asset, Pier C. Furthermore there are significantly fewer operational disruptions associated with the development of the site and there exist greater opportunities to create efficient, flexible and successful operational facilities within the areas readily available. The appropriate scale of the first phase of the Terminal development needs to be assessed against a range of criteria to ensure that it meets not only the initial requirements of the airlines but is capable of being expanded in a logical manner with as little disruption as is feasible. For example it might be prudent to oversize the initial build, and not fit out all of the available floor*

space; or alternatively to construct the entire substructure for a subsequent expansion phase”.

The key overall benefits of the proposed Terminal 2 are:

- Fast implementation of initial phase of works, meeting 2007 pier and 2009 terminal completion targets set by the Government
- Good utilisation of existing infrastructure and assets
- Good balance and utilisation of the landside, terminal, and airside development zones in an ordered and logical arrangement.
- Capable of meeting the needs of the airlines and other users
- Incremental projects that prudently address and ensure supply meets demand whilst maintaining on-going operational integrity

In addition, the specific benefits for the chosen location of T2, are:

- Close proximity to two of the proposed piers, housing a large mix of both wide and narrow body aircraft stands.
- Ability to support all the operations of an anchor tenant, and indirectly provide maximum relief to existing assets, thereby providing significant benefit to all tenants.
- Located at the entrance to the airport, providing significant design and construction benefits, for instance.
- Space within which to integrate a new landside road alignment with new and increased kerb set down provisions.
- Ability to design and construct a new facility, without the cost and complexity associated with neighbouring facilities that would impose a major constraint.
- Capable of Independent Operation as per Government instruction.

The DAA appointed a team of consultants led by ARUP in January of 2006 to provide project management and design services for Terminal 2 and related infrastructure.

The scope and scale of the Terminal 2 project (and related infrastructure) constitutes the most significant change from both the May CIP and the Pascall and Watson revised CIP of September 2006; in that the busy hour rate demands of the principle tenants of Terminal 2 is driving the delivery of both phases of Terminal capacity (as identified in the September CIP) in a single phase by the end of 2009.

An extensive body of detailed work underpinning the sizing of Terminal 2 and related instructed is detailed in ARUP's Gateway 2 report, which also includes the output from a rigorous optioneering process of 3 functional options for Terminal 2. The Gateway 2 report deals in considerable detail with the evaluation of the functional options against a broad range of criteria presents the rationale for the selection of the preferred option.

Two primary horizons were established for the planning of Terminal 2. They are the opening year of 2009 and 2015 when it is predicted that an additional phase of development on the Terminal 2 site may be required. The decision on the appropriate size of the terminal has to reflect the opening demand, how rapidly this demand is expected to grow, and the associated service standards. The terminal size is usually set midway along the demand curve for a specific terminal lifetime, so that for a number of years demand will be below the planning capacity (i.e. there will be a higher level of service than the target), and for a number of years demand will exceed the planning capacity (i.e. there will be a lower level of service than the target).

For Terminal 2 planning, the team adopted the midpoint demand for each phase as the planning year. Specifically, for Phase 1 which is projected to operate from 2010 to 2015-2016, we have adopted 2013 as the planning year. For Phase 2, which is expected in 2015-2016 and to continue until the eastern site is fully utilized in approx. 2021, 2018 has been used as the planning year.

Three forecast scenarios were examined to determine the extent of traffic to be accommodated in Terminal 2 for opening Phase 1 and a subsequent Phase 2 (see Terminal 2 - Gateway 2 Report) – DAA Centreline, DAA High Growth and Aer Lingus Growth Strategy.

For Terminal 2, the key forecast parameters for terminal sizing are the number of Dublin-based aircraft and the percentage of those departing in the morning peak hour which generates the peak hour departure flow for passengers through the terminal and other processors. The number of Dublin-based aircraft differs for each of the 3 forecasts.

Table 8.1 (Terminal 2 – Gateway 2 Report) presents the analysis and argument underpinning the selection of a peak hour departures flow of 4,200 as a basis for the sizing of Terminal 2.

The DAA has been engaged in a comprehensive consultative process with users on the Terminal 2 project in particular and other Capex related topics. The DAA has maintained an ongoing dialogue with the Commission for Aviation Regulation during the development of the scope, brief and planning application for Terminal 2. The development of the scope, specification, methodology and cost plan for Terminal 2 have been the subject of independent verification by consultants appointed by the Irish Government under its Aviation Policy Directive from May 2005.

To help alleviate medium term congestion in the existing Terminal 1 facility and demand for contact stands, a range of specific measures are proposed, many of which are either implemented or at an advanced stage of development. These include:

- The Temporary Forward Lounge, which was opened in May of 2005, providing 7 contact stands to replace stands lost during the construction of Pier D, and specifically to support the exceptional level of passenger growth which has occurred in 2006.
- Area 14, a new check-in facility, which has been developed in direct response to the serious issues of congestion in the departures concourse of the existing Terminal. This facility will open at the end of 2006.
- A northern extension to the existing 6 Bay terminal is proposed, as recommended in the Pascall and Watson report; – this project also provides substantial commercial benefits arising from an integrated retail and catering solution which is designed to serve both Piers A and D respectively. This again is to be developed to respond to specific user needs, most obviously those who will use Piers D and A, both in terms of its orientation and simplicity in responding to narrow body fast turn around operations. This project is at an advanced stage of development.

- In the context of user comments, and DAA's ambition to achieve an appropriate degree of consistency between the service level propositions for Terminals 1 and 2, in addition to the above developments, DAA proposes to provide appropriate funding for upgrades to Terminal 1, post 2009, when terminal 2 comes on line.

12.1 Capex Plan - Terminal and Pier Complexes

Section	CIP CODE	Description	Workstream	Driver as per Oct 2005 Document	2006-2009.	2006.	2007.	2008.	2009.
7-Terminal Complexes					825,558,905	59,990,985	208,979,449	326,254,958	230,333,513
	CIP7.001	Airbridge #2	T1	Capacity	670,000		499,143	170,857	
	CIP7.002	Terminal 1 - Extension	T1	Capacity	54,778,000	2,682,005	32,933,382	19,162,613	
	CIP7.012	Pier D	Piers	Capacity	113,142,446	36,637,497	69,404,949	7,100,000	
	CIP7.020	Temporary Forward Lounge	Piers	Capacity	6,538,299	6,538,299			
	CIP7.023	Executive Jet Terminal - West	T1	Capacity	500,000		500,000		
	CIP7.025	Central Immigration - Pier A&D	T1	Capacity	7,200,000		7,200,000		
	CIP7.027	Customs & Border Protection	T2	Safety / Environment / Compliance	30,000,000		1,000,000	9,519,128	19,480,872
	CIP7.028	Temporary Forward Lounge - P2	Piers	Capacity	6,000,000			6,000,000	
	CIP7.030	Terminal 2 Projects	T2	Capacity	606,730,160	14,133,184	97,441,975	284,302,360	210,852,641

13 Provision for Operational Projects

Firstly, this category refers to small to medium size projects normally delivered within a 12-month time frame and relating almost exclusively to refurbishments and improvements within the asset base, of which Terminal 1 and older facilities such as Piers A and B are prime candidates. As the work is generally of a maintenance, upgrade or refurbishment type nature, the planning horizon tends to be no more than one to years ahead of implementation. This category of works has been disaggregated into a range of headings, within the Master Project Listing, as follows:

- Airport Operations
- M&E Maintenance
- Airside Operations
- Airport Police and Security
- Fire
- IT/AITT
- Programme Fees

Programme Fees refers to the Programme Management Services Commission, which DAA has contracted for the duration of the Programme, in line with best practice within the industry, in contrast to a model which is based on increasing the permanent employee base. DAA views this approach as substantially more cost effective and also ensures that appropriate experience is deployed in support of the delivery of this programme.

IT/AITT includes infrastructure, hardware, software and consultancy services relating to all three airports or to corporate. IT expenditure is primarily related to infrastructure which underpins Dublin Airport Authority's IT platform, storage and main applications for its airports and retailing businesses. In a number of cases, a contribution towards these costs may be recovered from Cork and Shannon airports, with the medium term continuation of this contingent on post separation arrangements yet to be concluded.

Dublin Airport Authority's programme for IT investment in the period 2006 – 2009 will see further development and enhancement of core business applications in Airport Operations and Retail as well as implementation of integrated Oracle applications in Property, and a critical replacement of a legacy billing system. Dublin Airport Authority will complete the implementation and deployment of integrated Business Intelligence solutions. With a single data-warehouse source of report

information, the company has improved the quality and consistency of reporting and planning for both business and regulatory requirements.

As part of its strategy, Dublin Airport Authority has established its main computer processing and data centre in Dublin Airport. Appropriate business continuity and contingency planning arrangements require investment in storage and revised back up arrangements. With existing facilities running close to capacity we are planning the development and fitting out of a new computer room that will meet business requirements for existing and new systems and also provide for higher availability of applications. In a review carried out at the request of our Board, Risk Management International has made a number of recommendations in relation to risk management and Contingency Planning. Some of the recommendations are factored into DAA's plans including the use of remote sites for housing backup and recovery systems.

Provision is being made for growth in mobile solutions and in web based access to applications, data and mail etc. This is seen as a major area for development with resultant increases expected in employee and process productivity. On the application front DAA is allowing for implementation of some new application solutions and replacement of some legacy solutions. DAA also sees developments in integration of applications, redesign of processes and expansion of links to suppliers and customers. Major refreshes or replacements are factored in at 2009 and 2014 with matching increases to allow for the supporting database technologies and licensing. Consultation will take place with relevant internal and external bodies and individual users as we progress individual projects over the coming years. Project information will be updated as greater detail is agreed and becomes available.

Desktop is an area where significant ongoing investment is expected. The lifecycle for investments in this area is shrinking and we would be looking at a depreciation period of three years or less for many of the new portable devices. DAA is also allowing for increasing mobility and use of technology by staff across the organisation. A major development of networks is factored into 2007/2008 to follow completion of the Fibre Network around Dublin Airport. This will enable delivery of greater bandwidth, video services, IP mobility, application and communication mobility, some of which cannot be delivered over the existing equipment.

Investments in servers and data storage are planned on the basis of expanded usage and growth in application and processing requirements together with the supporting recovery requirements. IT security is an area that requires ongoing investment to protect our working environment. DAA is allowing for a major review of security solutions in 2007/2008.

13.1 Capex Plan – Operational Projects

Section	CIP CODE	Description	Workstream	Driver as per Oct 2005 Document	2006-2009.	2006.	2007.	2008.	2009.
8-Operations					86,545,905	32,800,000	20,386,518	16,359,387	17,000,000
	CIP2.007	Office accommodation	Landside	Safety / Environment / Compliance	1,000,000		506,278	493,722	
	CIP7.034	Area 14	T1	Repair / Refurbish / Upgrade	15,000,000	15,000,000			
	CIP8.003	Airport Operations	T1	Repair / Refurbish / Upgrade	22,807,000	2,950,000	6,959,000	5,449,000	7,449,000
	CIP8.004	M&E Maintenance	T1	Repair / Refurbish / Upgrade	1,439,000	170,000	423,000	423,000	423,000
	CIP8.005	Airside operations	T1	Repair / Refurbish / Upgrade	6,472,000	1,686,000	2,262,000	1,262,000	1,262,000
	CIP8.006	Airport Police & Security	T1	Safety / Environment / Compliance	2,995,000	1,114,000	627,000	627,000	627,000
	CIP8.007	Fire	T1	Safety / Environment / Compliance	2,725,000	2,480,000	245,000		
	CIP8.008	IT / AITT	Support	Repair / Refurbish / Upgrade	21,317,000	5,600,000	5,239,000	5,239,000	5,239,000
	CIP8.010	Programme Fees	Gen-Con	Capacity	12,790,905	3,800,000	4,125,240	2,865,665	2,000,000

14 Critical Path

The work which was carried out by Pascall and Watson / DAA in relation to sequencing of the programme in the summer of 2005 has been developed in considerable detail by Turner and Townsend as part of a detailed assessment of the critical path for the overall programme.

The lack of available funding for Capex in the period 2001 to 2005, ongoing passenger growth at levels in excess of the centreline forecast and the development of a Terminal 2 proposition which requires delivery of a significantly larger scale development, than that originally envisaged, between now and 2009 has resulted in a programme which is highly complex both in terms of scale and the interconnectivities between project elements. In effect, T&T's analysis demonstrates that effectively 80% of the programme, by value, is interconnected, with Terminal 2 functioning as the pivotal element of the programme.

The critical path for the programme will determine:

- The scope and scale of project elements
- The sequencing and timing of projects
- The procurement strategy for major elements of the programme
- The minimum level of investment, which is consistent with delivering Terminal capacity within the timeframe set down by the Government in May 2005.

A high level critical path summary is included in the attached table. This high level summary is underpinned by comprehensive and detailed project schedules within DAA's Primavera toolkit.



The phasing of the discreet airfield projects (Blue) is primarily driven by the Gating Analysis that has been carried out. This demand and continued growth in passenger numbers has dictated the sequence for Pier Construction as discussed earlier, and consequently the sequencing of replacement apron, primarily Apron phase 6 A, B, C. This apron is being constructed on and around Taxiway P2 which is the main taxiway routing to/from the runway. Thus a new "bypass Taxiway needs to be constructed "Taxiway M2" prior to the release of Taxiway P1. This is scheduled due to commence on site in October 2006.

Apron Phase 6C will commence in January 2007 as the contractor will have uninhibited access to this area of the airfield. On Completion of taxiway M2, Taxiway P2 will be decommissioned and released to the contractor, allowing him to start Apron Phase 6B.

In parallel with the above there is a requirement to construct apron east of 16/34 to allow for the construction of the various piers. This apron will be used as a Dual Code C/E set of Parallel Taxilanes allowing aircraft movement around the extended or newly built Piers.

As Pier D is the first to be delivered, Apron Phase 5E needs to be constructed and commissioned prior to Pier D becoming operational next October 2007. This apron will be operational by September 2007.

Apron Phase 5B needs to be constructed prior to Pier E construction works. Thus Phase 5B will be on site from March 2007 until October 2007. This will allow aircraft stands to be relocated, freeing up the south apron to Pier E.

Apron Phase 5D is the final element of these works, and its construction completes the infrastructure for the north-south Dual taxiway system and also allows the construction of Pier B extension which will cater for additional widebody aircraft capacity.

Within the existing Terminal it is proposed to consolidate Immigration Facilities (Grey) serving Pier A and Proposed Pier D into one central facility. This project must be complete prior to Pier D becoming operational to ensure that there is a defined route for arriving passengers to the Baggage Reclaim hall.

On the landside the key driver is the new Terminal, T2. This will be sited, landside of Pier C, on the site of the current Car-hire facilities. Thus it is critical that these are relocated to a chosen area within the Eastlands Longterm Carpark, prior to T2 Construction start in April/May 2007. A new multi-storey carpark needs to be constructed to serve the passengers using T2 specifically and this will be opened head of T2. Likewise the internal road network needs to be upgraded as there are major changes required to ensure that passengers have a clear routing to either T1 or T2 setdown. The majority of these roads need to be in place prior to opening T2.

In parallel with these capacity enhancements there are a number of projects that need to be completed to ensure that the overall airport infrastructure will operate in a cohesive manner. These include replacement of the Airfield Lighting Control equipment, Upgrades to the MV Airfield Power Supplies, a Global Surface Water Quality & Quantity Attenuation Facility to ensure that run offs from the new paved areas do not flood or pollute the local streams/rivers, upgrades/replacement of runway centreline lighting and additional taxiway Lighting.

On the landside there is a requirement to substantially increase the power supply coming to site and the site network, upgrade the voice & data campus network and potable water supplies. These all need to be in place prior to the opening of T2.

15 Financial & Regulatory Context

Section 33 of the Aviation Regulation Act 2001, as amended by the State Airports Act 2004, stipulates that in making its Determination, the Commission for Aviation Regulation must aim to facilitate the efficient and economic development and operation of Dublin Airport, which meet the requirements of current and prospective users. In doing so it must also have regard to, inter alia, the level of investment in airport facilities, in line with safety requirements and commercial operations, in order to meet current and prospective user needs.

In the regulated environment in which DAA operates, the extent of the capital expenditure that is allowed by the Commission for Aviation Regulation to be recouped through airport charges has a critical impact on the scale and scope of infrastructure, which can be delivered by the airport authority and on the timing of that delivery. In a single till environment investment must be underpinned by additional aeronautical revenue as commercial revenue is already built into the Determination. In order to undertake investment DAA must be in a position to earn a reasonable return both on and of its required investments. This is necessary to attract the requisite capital, be it debt or equity, to support the investment, otherwise the investment cannot take place.

CIP03/2005 and the Pascall & Watson Review:

Section 22 of the State Airports Act 2004, directed that the Commission establish a new Determination in respect of the maximum levels of airport charges to be levied at Dublin Airport within twelve months i.e. by 1st October 2005. As an input to the process, DAA produced a Capital Investment Programme in May 2005 and this was submitted to the Commission.

Shortly thereafter, on the 18th May 2005, the Government announced the “Aviation Action Plan”. The most important implications of the plan for capital expenditure at Dublin Airport were the approval for the building of a new DAA owned Terminal (T2) to open in 2009 and a Pier (Pier D) to open in 2007. The plan also incorporated a “triple safeguard” (consultation, verification and regulation) to ensure maximum efficiency and cost effectiveness of the building of T2.

Following the Government decision on the development of Dublin Airport, DAA engaged Pascall & Watson (P&W) to carry out a review of the May capital investment plan in light of the obligations imposed by the Aviation Action Plan to include consultation with the stakeholders at Dublin Airport. The Commission noted in its Determination, CP3/2005, that it fully supported the process undertaken by DAA in this regard and the work carried out by P&W as a necessary precursor to the implementation of the Aviation Action Plan.

In September 2005, P&W's recommendations regarding the Capital Investment Programme were submitted to the Commission. Essentially, P&W endorsed the May 2005 CIP but suggested that some projects be added and that capex spend be "front loaded" to address the capacity constraints as a matter of urgency.

In its submission to the Commission, Dublin Airport Authority requested an average per passenger charge of €7.50 over the regulatory period to fund the €1.2 billion programme for Capital Investment on the basis of the P&W review. However, in the Commission's opinion the constraints imposed by the timeframe for the making of a new Determination as set out in the State Airports Act 2004, precluded a detailed analysis of the revised Programme. Furthermore, the Commission noted that the Government had not yet initiated its independent verification of the second terminal proposal, a pillar of the "triple safeguard" as stated in the Aviation Action Plan. Therefore, the Commission's Determination was based on the earlier CIP and only allowed for a level of capex that resulted in an average per passenger charge of €6.14 over 4 years. Following the outcome of the Aviation Appeal Panel this was increased to an average price cap per passenger of €6.34 for the period 2006-2009.

In its 2005 Determination, the Commission stated that once independent verification had taken place that a review of the Determination could be considered. *"The Commission believes that it may be appropriate to review the Determination once it and other interested parties (including the Government's own aviation experts) have had time to fully consider the finalised capex programme proposed by the DAA."*²

The information in this CIP document is intended to assist the Commission in concluding that substantial grounds exist to support a review of the Determination and to initiate such a review as a matter of urgency.

Implications for Airport Charges of CIP04/2006:

The scale and scope of the current Capital Investment Programme, following consultation and with support from key users, has now altered significantly from that submitted in May 2005, on which the current Determination is based. The scale and scope of the plan has altered and the timing of many elements of the capex programme have been advanced, with expenditure in the current regulatory period being significantly higher than in the May 2005 version, primarily due to changes required to facilitate strategic choices by key customer airlines.

Airport infrastructure cannot be delivered unless the airport authority is allowed to recover the costs which are incurred. Government policy is clear that the airports under DAA's management must be operated on a commercial basis, covering all costs and with no recourse to Government funding, grants or guarantees. The Commission's 2005 Determination set an average passenger charge of €6.34 in real 2004 terms for the period 2006-2009 which is insufficient to finance the capital investment requirements of Dublin Airport.

As previously stated by DAA, an average passenger charge of at least €7.50 in real terms over the same period is required to enable the company to finance the Capital Investment Programme that is now required.

16 Programme Management

DAA Gateway Process

All DAA projects under the Capital Investment Programme are being delivered using the Gateway Process. Over the next 10 years Dublin Airport will be undergoing an exciting and challenging period of capacity enhancement to meet the increasing needs of a growing passenger throughput. This high profile and substantial investment will be under the continuous scrutiny of the Board of DAA and many other stakeholders, such as passengers, local community, airlines, the Commission for Aviation Regulation and Government.

A project gateway process has been implemented to support the delivery of the DAA Capital Investment Programme. In order to enable the efficient delivery of such a large scale programme the Gateway process is necessary for the following reasons:

- The DAA Capital Investment Programme is one of the most highly visible and important programmes in DAA's history. Concise and visible gateway management of the individual projects is essential to enable DAA to demonstrate control and provide high level quality assurance;
- There are tight timescales, budgetary and operational constraints. The project gateway process defines execution planning and informs the decision-making process to ensure effective delivery of capital projects;
- There are numerous stakeholders and interdependencies, such as airport Operations, airlines, passengers, the local community and local Council, the Regulator, who all have relevant, but often conflicting, requirements. The process creates an audit trail which demonstrates the management of these stakeholder requirements throughout the delivery of projects;
- The complexity of the programme is such that there is a need to invest in the front end optioneering and option selection process in order to develop an optimal solution. The Gateway model provides a method for progressive approval and release of funding in a structured and standardised manner.

17 Project Presentation

17.1 Project Sheet Template

A separate project sheet is provided for all material projects in this CIP i.e. those with expenditure in excess of €250,000 in the period 2006-2009. The key facts about each project are incorporated in this sheet with references to support documentation where appropriate. Explanations for each of the fields incorporated in the template sheet are provided overleaf.

For commercial projects, the standard hurdle rate, which must be achieved before a project is approved, is 12% after tax. This reflects the higher level of risk inherent in purely commercial projects. Where commercial projects also play an important facilitation role, a rate closer to the regulatory WACC may be considered.

CIP x.x

Unique Project CIP number and Project Title



DAA Project Code:		EDAD00000
Project Description <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <u>Project Description:</u> Summary of the project setting out the specifications and main purpose </div>		<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <u>DAA Project Code:</u> Unique project code assigned by DAA Project Costing System upon formal initiation </div>
Classification		Driver
<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <u>Classification:</u> Type of project: car parking, commercial property, key infrastructure, land/cargo, plant & equipment, retail, stands & airfield, terminal complexes, IT projects </div>		<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <u>Driver:</u> Classification of Expenditure – Capacity, Compliance, Refurbishment </div>
		<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <u>Drawing / Picture:</u> Insert Drawing / Picture if available </div>
Project Commencement	<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <u>Project Commencement:</u> Year that project is forecast to commence </div>	
Project Completion	<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <u>Project Completion:</u> Date by when the project is expected to be complete </div>	
Total Project Capital Expenditure		
Historic Expenditure (pre 2006)		
Future Expenditure (2006 – 2009)		
Project Stages	<div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <u>Project Stage:</u> Each project passes through a series of stages from concept to final completion. Information on the stage of development of project is supplied in the individual project sheets </div>	

CIP x.x

Unique Project CIP number and Project Title

DUBLIN AIRPORT
AERFORT BHAILE ATHA CIATH

Project Output	<p>Project Output: Details of the outputs that the project provides – These are specified and quantified where possible</p>
Project Justification	<p>Project Justification: Provides rationale for the project e.g. to facilitate demand, ensure compliance with regulations, etc. References to relevant supporting documentation are provided where possible</p>
Capital Cost Assumptions	<p>Capital Cost Assumptions Key assumptions that impact the primary cost metrics for the project e.g. night works, exclusions, non standard inclusions, preconditions and soft cost provision</p>
Cost Benchmarks	<p>Cost Benchmarks: Benchmark cost data based on recent DAA cost experience and info from the airports industry. Where possible we have referenced similar projects in the fixed asset register (FAR) to illustrate benchmark</p>
Stakeholder Evaluation and Consultation Status	<p>Stakeholder Evaluation and Consultation Status: Details of any discussion / consultation with stakeholders regarding this project</p>

17.2 Terms for Expenditure

Capital projects are further divided into three (3) main grounds for expenditure. These underpin the need for investment. It is important to remember that in an airport context, projects in all three categories can have safety implications. The projects in Safety/Environment/regulatory are directly driven by these requirements. The consequences of not delivering new capacity or upgrade/replacement projects can result in congestion in the terminal, the airfield, the roads, etc., which also has safety implications and can breach required standards.

Capacity

Capacity is defined as the provision of new or extended facilities, infrastructure, systems, equipment, etc. in compliance with regulatory standards and to an appropriate level of service (IATA level of service B, C or D) in support of increasing activity, passenger, cargo and/or aircraft movement, regulatory requirements and changing conditions.

The issue of the appropriate service level standard continues to be a subject of significant debate and lack of consensus with users, with clear conflict between expectations of passengers as the ultimate user and that of the airlines. The situation is further exacerbated by the failure of the airlines to adopt a consensus view between them with radically diverging views being expressed.

Refurbishment/Replacement/Upgrade

This category refers to the upgrade/refurbishment and replacement of existing facilities, infrastructure, systems, equipment etc. including:

- Replacement of infrastructure, facilities and equipment at the end of useful life.
- Upgrade, refurbishment, replacement deriving from surveys or inspections of facilities, which are fully depreciated, or near end of useful life, but whose working life can be extended based on defined levels of reconstruction.
- Upgrade or refurbishment deriving from failure to meet declared service level standards due to increased intensity of use or change of use from original design, etc.

Safety/Regulatory/Environmental

Projects, which fall into this category, are required either as direct consequence of compliance with licensing standards and regulation, to meet environmental pressure and/or to meet general safety responsibilities.

Safety / Regulatory / Environment is defined as the provision and/or modification of facilities, equipment, systems to meet existing, proposed and future requirements of licensing standards and authorities, to meet environmental pressure or to meet general safety responsibilities as defined by regulatory authorities / legislation, including:

- The Air Navigation and Transport Act (Amendment) Act, 1998 and previous acts.
- International Civil Aviation Organisation (ICAO)
- Irish Aviation Authority (IAA)
- Local County Councils
- Environmental Protection Agency (EPA)
- Garda National Immigration Bureau (GNIB)
- Department of Justice
- Department of Public Enterprise (Aviation safety and security)
- National Civil Aviation Security Committee (NCASC)
- EU regulations: Slot Allocation, Ground Handling etc.
- Provision of Hold Baggage Screening as defined by ECAC

17.3 Design Fees

In DAA's approach to Capital Cost Assessment, 'Soft costs' refer to the broad issue of professional services and include:

- Programme Management
- Project Management
- Architectural Design
- Structural Design
- Civil Design
- Mechanical Design
- Electrical Design
- Specialist Design – Fire, Retail etc.
- Quantity Surveying
- Construction Management

- Site Supervision
- Site Resident Technical Staff
- Administrative Support

Depending on the complexity of the project and the requirement for some or all of the disciplines detailed above, DAA's experience suggests the following broad classification of soft costs:

Airside Works

- Allow 10% including design, quantity surveying, project management and site supervision services
- Basis: In-house and tendered services for historical projects

Terminal 2

- Allow 15% including design, quantity surveying, project management and site supervisions services
- Higher % than airside works based on additional design services for complex buildings including Architecture and Building Services
- Basis: Tendered services for historical projects e.g. Cork, Pier D, Dublin Master Plan

Terminal 1 Capacity

- Allow 12.5 to 15% including design, quantity surveying, project management and site supervisions services
- Higher % based on additional design services for complex buildings including Architecture and Building Services
- Basis: Tendered services for historical projects e.g. Cork, Pier D, Dublin Master plan

Plant and Equipment

- Allow 10% including specification, project management and site supervision

Contingency

Because of the intrinsic higher risk associated with civil engineering projects, in particular, the issue of below ground risk and the high level of constraints

pertaining, a contingency allowance has been included in the project costs for each individual project. Contingency allowances for major projects will be based on a detailed quantitative risk assessment deploying statistical methodology. This methodology had already been deployed for both Pier D and Terminal 2 projects, and DAA expects that c. € 850 million of the programme will be assessed using this approach by year end.

Inflation

Whilst the C.I.P has been base dated with respect to the cost of the planned programme, it will be necessary to adjust the plan to reflect inherent inflation within Ireland and its construction industry. There are numerous sources of data available forecasting the likely levels of inflation from both the public and private sector, whilst all sources differ in the percentage increase ALL are agreed that the pressure will be upward.

A report prepared by Turner and Townsend considers both construction industry indices and forecasts produced by economic and social research institutes and concludes that given the restraints and conditions applicable to the CIP, namely:

- The inherent constraints associated with the Airport environment
- Significant Capital Expenditure in Dublin over the next 10 years - Landsdowne Road, Metro etc.
- Limited indigenous supply chain
- Complex nature and scale of the projects

that for the remainder of the quinquennium that construction industry inflation related to Dublin Airport will average at an estimated 5% per annum. Given that for the remainder of the quinquennium estimated construction industry inflation is predicted to be higher than estimated increases in CPI, it is therefore appropriate that the Commission applies CPI + 2.5%³ to the inclusion of capital expenditure within the Determination⁴.

³ Based on the Commission's assumption of annual increases of 2.5% in CPI over the remainder of the regulatory period

⁴ In this context it should be noted that a substantial amount of the capital expenditure commitments will be made early in the quinquennium.

18 Dublin Airport Capital Investment Programme by individual projects – CIP 04

19 Tracking the Project Plan

This spreadsheet tracks projects included in DAA/CIP03, the previous CIP which was submitted for the purposes of consultation to airlines / users and the Commission in May 2005. As will be noted from the document, some projects have been completed, cancelled or are now incorporated as projects in the current CIP. Where the latter is the case, the CIP reference number for the relevant project in the current CIP is provided for ease of reference.

20 Key Supporting Documentation

1. Capacity Enhancement Recommendation Report (Pascall & Watson)
2. Terminal 2 – Gateway 2 Report (ARUP)
3. Terminal 2 – Cost Plan (PKS)
4. Terminal 2 – Consultation Data and Presentations (ARUP/DAA)
5. Terminal 2 – Summary of User Comments (DAA)
6. Terminal 2 – Benchmark Summary (ARUP)
7. Utilities Masterplan (T&T)
8. Terminal 1 Extension – Value Management Report (T&T), Cost Plan (Bruce Shaw)
9. Airfield Masterplan (DAA)
10. Airport Wide Gating Study (ARUP)
11. Data pack relating to procurement process and scope of T&T / ARUP commissions (T&T/DAA)
12. Programme Execution plan documents. (T&T/DAA)
13. Strategic and Programme Risk Registers (T&T)
14. Capital Investment Programme – Inflation Review
15. Capital Programme / Terminal 2 Presentations to CAR