

Valuing Dublin Airport Land

[This is a revised version of Chapter 6 of “The Economics of the Proposed Runway” submitted to An Bord Pleanála as part of UPROAR’s appeal against FCC’s granting of planning permission to the new runway on 12 April 2006.]

Introduction

UPROAR believes that the issue of the correct economic valuation of land at and near Dublin Airport needs to be addressed in the context of the proposal by the Dublin Airport Authority (DAA) to build a new parallel runway there. In calling for a cost-benefit analysis of the new runway proposal UPROAR has argued that the publicly owned land to be used for the runway (840 acres) and additional Inner Safety Zone land where no development can take place, should be valued at market opportunity cost, which would be from €1 million to €2 million per acre¹. Land within the Outer Safety Zone under the new flight path is also affected because development has been restricted since January 2005. Some 3,500 acres in the Outer Safety Zone under the new flightpath have probably already lost at least €0.5 million per acre of their value in anticipation of the new runway and its flightpath.² UPROAR also believes that given the CAR’s responsibility to evaluate the CAPEX programme of the airport, most recently represented by its €2 billion Airport Expansion Plan, it should value the assets to be consumed by this expansion plan at opportunity cost similar to these market values.

There is the further issue of the valuation of the entire 2,500 acre site at Dublin Airport and of all the land in existing and proposed safety zones, which is of particular relevance to the determination of airport charges by the Commission for Aviation Regulation (CAR). If, contrary to current practice, airport land and losses to sub-flightpath land were valued at full opportunity cost, the result would have a major effect on airport charges and consequently on national aviation policy.

The Commission for Aviation Regulation (CAR) and economic efficiency.

The CAR lays much emphasis on economic efficiency as a principle of the regulation of airport charges. One of its stated objectives is: “to facilitate the efficient and economic development and operation of Dublin Airport which meet the requirements of current and prospective users of Dublin Airport.” In its draft determination of airport charges in 2005 the CAR says that: “an assessment as to the required CAPEX³ programme and its efficiency is.....a central element of the economic regulation of airports.”⁴ In a press release in 2001⁵ the Commission chided Aer Rianta, inter alia, for: “inadequate or non-existent cost-benefit-analysis or business cases undertaken to justify specific CAPEX projects;” Cost-benefit analysis requires assets to be valued at opportunity cost. Yet the CAR does not value the land at Dublin Airport at its true market value, which is what one would expect if economic efficiency were really fundamental to its mission.

Determining maximum passenger charges – the RAB

In determining the maximum the airport can charge airlines per passenger, the CAR determines the value of assets at Dublin Airport and requires that these assets be remunerated at a rate of 7.4% per annum. These assets form the Regulatory Asset Base (RAB). CAR then determines the maximum charge per passenger by adding adjustments for depreciation and the differences between the airport's operating costs and its net commercial income. If the value of land is included at all in the RAB for Dublin Airport, it is at a minimal valuation that cannot possibly reflect its true market value.

Legal basis for CAR's treatment of assets

The Commission for Aviation Regulation was established on 27th February 2001 under the Aviation Regulation Act, 2001. The 2001 Act, setting out objectives in respect of airport charges says that for the development and operation of cost-effective airports the Commission shall have due regard to: "... (b) a reasonable rate of return on *capital employed* in that investment, in the context of the sustainable and profitable operation of the airport, (c) the efficient and effective use of *all resources* by the airport authority,

Any reasonable interpretation of "capital employed" and "all resources" would include the DAA's own land. When the objective is economic efficiency, this would demand that all assets at Dublin Airport be valued at full opportunity cost, including land. These are public assets. Why should the taxpayer not be entitled to a return on all public assets, especially including land, whose value at Dublin Airport dwarfs other assets that are charged for? Aer Rianta has staunchly defended its right to earn a full return on its assets, even citing a European Court of Justice decision.⁶

There are also state-aid and anti-competitive issues here. How, for example, could private interests compete in the airport business, when they would have to charge for the land for a new airport, but the DAA does not? Private airport charges would have to be high enough to allow for this land. If land had been bought by way of a loan, repayments would be required. If the private interests owned the land, shareholders would demand a market return/rent for it. They could not, as the DAA does, treat its value as of no consequence, because it was bought a generation ago. Could our EU neighbours, or the European Commission complain that we are unfairly attracting business to our state airports because we do not charge users nearly enough to generate market returns on the assets occupied by Dublin Airport?

Determining the RAB

In document CP2/2005 the regulator says: "In its first Determination (CP8/2001), the Commission established an initial valuation of Dublin Airport's RAB, which it based on a valuation of the Indexed Historical Cost of the Net Fixed Assets as at 31 December 2000 prepared by Aer Rianta..." What value did Aer Rianta include for Dublin Airport land?⁷

The DAA's 2005 Annual Report and Accounts⁸ in a footnote to Table 9, page 40, notes that land, as distinct from airfields, is valued at €19.6 million. It is not stated how much land is concerned. The same figure has been used in the DAA's accounts for the last four years. In the 2001 accounts, it was actually higher, at €19.8 million.

The regulator's initial valuation of the whole airport was £457.3m (it was €614 million at 1 January 2004). If land is included in that figure, it must be a very small figure, similar to Aer Rianta's value for land. If the Aer Rianta figures were like those contained in Dublin Airport's Annual Report 2004, airport land is valued at less than €20 million and is clearly not treated at opportunity cost, or anything like it. In May 2006, the CAR confirmed by email that it did use the DAA value in determining the Regulatory Asset Base of Dublin Airport.⁹

These Aer Rianta land values are no doubt based on long-standing accounting practices. Commercial accounting practices do not always reflect true economic value or even current market values and opportunities. If the CAR has simply accepted the accounting procedures of Aer Rianta/DAA in valuing land at Dublin Airport at minimal (possibly agricultural prices), it is not following the economic efficiency paradigm it advocates. In chiding the DAA for not doing adequate cost-benefit analyses of capital project proposals, the CAR was implicitly asserting the need to evaluate the opportunity cost of assets correctly.

It is easy to make a quick estimate of the effect on the maximum passenger charge of adding the true value of land to the asset base. As there is no depreciation of land, we simply multiply the value of land by 0.074 (the CAR's annual discount rate of 7.4%) and divide by the number of passengers per annum, at present about 20 million ppa. So, if the 2,500 acres owned by the DAA is valued (conservatively) at €1 million an acre, we get $(0.074 * 2500) / 20 = €9.25$ per passenger. As the real value of airport land is probably about €2 million and acre in 2006, the charge would increase by €18.5 per passenger. This does not include the loss of value of land under the airport's flightpaths. In socio-economic welfare terms it would be appropriate to attribute those costs also to the DAA's operations and to require it to cover those costs.

Guidelines.

Various guidelines exist to assist in the evaluation of investment proposals by public bodies. The Department of Finance requires all significant projects (defined as those costing over €30 million) to be subjected to a full cost-benefit analysis.¹⁰ A fundamental principal of cost benefit analysis is that assets be valued at their opportunity cost. This is the value in their best alternative use, determined as far as possible by reference to market valuations.

Although a fundamental tool of cost benefit analysis methodology, the economic principle of opportunity cost is highly relevant to the determination of airport charges and the valuation issue raised there. An objective determination of passenger charges must have recourse to the same core economic principles, given that the CAR is required to have regard to economic efficiency as a guiding principle of its determination of airport charges.

Apart from the Finance Guidelines there are also guidelines set down by the European Commission, originally for the evaluation of investments using Structural and Cohesion Funds.¹¹ These guidelines now apply to all investments under the National Development Plan, regardless of the source of funds.¹² The new National Development Plan 2007-2013 envisages spending €1.8 billion on infrastructure at Dublin, Cork and Shannon airports. This includes Dublin Airport's expansion plan and it is therefore subject to the evaluation standards set down in the NDP. Announcing the plan, Finance Minister Brian Cowen said all projects in the new NDP costing over €30 million must be subjected to a full cost benefit analysis.¹³ The NDP evaluation guidelines therefore apply to all elements of Dublin Airport's expansion in particular as regards the valuation of state assets. The same valuation principles should therefore apply the assets of Dublin Airport for the purposes of determining economically efficient charges.

Regarding state land, these EU guidelines state (page 32):

“Many projects in the public sector use capital assets and land, which may be state-owned or purchased from the general Government budget. Capital assets, including *land*, buildings, machinery and natural resources should be valued at their opportunity cost and not at their historical or official accounting value. This has to be done whenever there are alternative options in the use of an asset, and even if it is already owned by the public sector.”

Note the exclusions: in the case of land, *historical cost* or *official accounting value* should not be used, even if the land is already publicly-owned. This is precisely the situation in the case of land at Dublin Airport, which has been valued at historical cost/accounting value for the purposes of determining passenger charges.

The National Roads Authority (under the same parent department as the DAA) also has a set of evaluation guidelines.¹⁴ Regarding land the NRA guidelines state (page B6):

“It is important that all land and property costs be considered in the appraisal and included in the cost estimates....The costs should also include the value of land already owned by the road authority.

“Payments for land and property may be made at various times before, during and after construction. Where land has been purchased in advance of its use for the scheme, the value of the land may have changed in the interval. This change reflects a change in the “opportunity cost” of the land, that is, the value of the land when put to its best alternative use. *Irrespective of the original purchase price, the current price estimated by the Valuer should be used in the scheme appraisal.*”

The U.S. Office of Management and Budget issued updated guidelines in 2003 for “Regulatory Analysis”¹⁵ referring to land and property already owned, they say:

“The use of any resource has an opportunity cost regardless of whether the resource is already owned or has to be purchased. That opportunity cost is equal to the net benefit the resource would have provided in the absence of the requirement. For example, if

regulation of an industrial plant affects the use of additional land or buildings within the existing plant boundary, the cost analysis should include the opportunity cost of using the additional land or facilities.”

The UK’s investment appraisal guide (The Green Book) referring to sunk costs says the following: “5.15 Costs of goods and services that have already been incurred and are irrevocable should be ignored in an appraisal. They are ‘sunk costs’. What matters are costs about which decisions can still be made. However, this includes the opportunity costs of continuing to tie up resources that have already been paid for.”¹⁶

International experience.

What is the international experience of this issue of valuing airport land for the purposes of regulating public airports?

In 2002 the New Zealand Commerce Commission, as part of its enquiry into whether New Zealand’s main airports should be controlled, decided that airport land should be valued at opportunity cost¹⁷:

“In determining the appropriate asset base for each of the airports, the Commission decided that relevant land should be valued at opportunity cost.”

Their main report, paragraph 33, states^{18, 19}:

“Valuing airfield land at opportunity cost provides appropriate signals either to continue operating the land in its existing use (as an airfield), or put the land to alternative use and relocate the airport. It also provides the appropriate incentives for new investment. Opportunity cost should be determined based on the highest alternative use value of airfield land, with that being the higher of the value with or without the sealed surfaces (the latter being after the costs of removing the sealed surfaces).”

In 2000, Sydney Airport Corporation Limited (SACL) arguing for including the full opportunity cost of land in the determination of airport charges, said in its proposal²⁰:

“2.1 Inclusion of land

Under the Federal Airports Corporation, land was not included in the regulated asset base. In the draft notification SACL provides four separate reasons why it believes a return on the value of land should now be included in aeronautical charges, as follows:

- Valuing land according to its alternative use provides the economic signal for efficient decisions regarding the continuing use of the land as an airport, compared with the cost of an airport based further out of the city, with cheaper land, but increased costs in travel time etc;
- The Commonwealth, as a rational investor, would only continue to use Sydney Airport for aviation purposes if it could not achieve a higher return from an alternative use....

- Any possible future airport in the Sydney basin would be unable to compete with Sydney Airport as the cost of the latter's locational advantage is not reflected in current aeronautical charges;
-

The Australian Competition and Consumer Commission's (ACCC) agreed in principle with the SACL proposal and recommend use of an indexed historical cost method instead of current market valuation.²¹

These New Zealand and Australian cases show that the same arguments made by UPROAR in favour of valuing airport land at opportunity cost have been accepted by policy makers in other jurisdictions. The case for full opportunity cost valuation has been accepted for land valuation in the assessment of the economic efficiency of airport operation and for the determination of regulatory airport charges.

Land Zoning and value.

The argument will be made that the land involved is zoned for airport use and therefore has no alternative use value. That would require accepting the assumption that rezoning is impossible. The UK's Green Book, when dealing with the issue of zoning when valuing land, states:²²

“Alternatively, the value of a property may be depressed by restrictions on development. It should be considered whether or not these can be lifted (and at what cost), and the result of this should be reflected in the valuation. In all cases, the prospect for obtaining a higher planning consent should be considered by the appraiser and his professional property advisor.”

In the New Zealand case discussed above, one argument put against a full market valuation of airport land, was that the airport land was zoned agricultural and it should be so valued. The Commission ruled against that argument and decided land should be valued, like other land in the area, as if it were available for mixed residential and commercial use (see Annex).²³

When calling for a proper assessment of the runway proposal, UPROAR is not proposing that Dublin Airport be relocated (although that prospect did not deter the New Zealand Commission), only that alternatives to the proposed *runway* be considered both within the existing airport and elsewhere. If one objectively examines the options of developing runway capacity elsewhere at a new or existing regional airport, one is entertaining the possibility that it would not be built at Dublin Airport. Appraisal guidelines all require that the “do nothing” option should be examined first to provide a baseline. Doing nothing in this case means not building a runway. In which case, the presumption that the land then not needed for the runway could be rezoned for its best alternative use must be accepted as highly probable. If one excludes that possibility, one is ruling that there is no option but to build a new runway on it, and that makes an absurdity of the requirement for proper evaluation of alternatives and of any attempt to impose an economic efficiency paradigm on airport operations. The land must be assessed at its opportunity cost, any necessary rezoning assumed. Land under the flightpath is in a similar situation. With no runway there is

no flightpath, so no planning restrictions are required. Therefore its loss of value due to the runway should be measured by the loss of market value and counted as a cost of building this runway and operating this airport.

Zoning should not be a decisive issue for the land destined for the proposed runway, given recent zoning decisions by Fingal County Council. The FCC Dublin Airport Masterplan allows for the rezoning of land in the Designated Airport Area for commercial development even for “non-aviation related commercial development” (page 3).²⁴ If Designated Airport Area land can be so rezoned, there is nothing to stop other land within the airport area being similarly zoned if it were no longer needed for a runway. There can be no doubt that its value under such conditions would be full market value for similar land in the surrounding area, which is currently €1-2 million an acre.²⁵ Actual sale of the land need not even be envisaged as it could be developed by the DAA, but its value has to be determined by its opportunity cost, i.e., its value *if sold* for its best alternative use. Current airport charges should properly reflect the opportunity cost of that undeveloped land at least, because there can be little doubt as to its real market value. If that were done and charges were increased substantially, the poor economic justification for this land’s use as a runway would become very transparent.

As revealed in the Mahon Tribunal, a site of 24 acres completely surround by Dublin Airport land was rezoned unanimously by FCC in September 1993, from agricultural to industrial. This is known as the Cargobridge land which Dublin Airport had been trying to acquire for airport use. It is clear that FCC had no difficulty rezoning land close to Dublin Airport for industrial use when it was judged to be appropriate. There is no reason to suppose land currently zoned for airport use could not be similarly rezoned in the right circumstances. In 2000, 8 acres of this Cargobridge land were sold for €20 million or €2.5 million per acre in 2000 giving a clear indication of the market value of immediately adjacent airport land.²⁶

These cases demonstrate that the current zoning of Dublin Airport’s land for “Airport and Related uses”, should not limit its alternative use-value, whether for evaluation purposes or for charge determination. Its potential use as land rezoned for mixed development close to the city should be the valuation reference. That should at least apply to undeveloped land, such as that destined for the new runway. If the New Zealand and Australian cases are a guide, it should also apply to the whole airport and if sound economic principles are to apply, the loss of value to private land under the flightpaths, and all other social costs, should also be reflected in airport charges.

The implications for airport operations are immense but the debate has never taken place in Ireland. UPROAR raised this issue with the CAR, as we believed land had not been properly valued in the CAR’s Draft Determination of Charges (CP2/2005)²⁷. The response received did not address the questions raised.

The CAR is required to undertake an economic assessment of the DAA’s CAPEX programme. It follows that as part of its role in determining the charge for the airport as a whole it is obliged to apply sound economic evaluation principles to its evaluation of the DAA’s CAPEX programme, of which the proposed runway is a large element. It follows that in such an evaluation the principle of opportunity cost valuation should be applied to all the assets consumed by the proposed runway.

London City Airport (LCA) and the value of Dublin Airport

LCA is a private airport (formerly owned by Dermot Desmond) in Docklands 10 km from the City of London, 16 km from the West End. Dublin city centre is 9 km from Dublin Airport. LCA was sold for STG£750 million (€1.1 billion) on 11 October 2006, according to the Irish Times of 12 October 2006.

LCA is a small (STOL) airport.

LCA is a Short Take-Off and Landing (STOL) airport.²⁸ It has one runway only 1.3 km long. It had 2 million passengers in 2005 – Dublin had 21 million in 2006. Operations are restricted to between 5:30 and 21:30 Monday to Friday, with an even more restricted service on Saturday and Sunday. In fact, restrictions require the airport be shut for at least 24 hours every weekend. Only emergency flights are allowed outside these hours. The severe restrictions on airport use at night and at weekends lowers the commercial value of the airport compared to an unrestricted airport like Dublin.

The size of the airport, constrained by the water-filled Royal Albert and King George V docks to the north and south respectively, means that there are no covered maintenance facilities for aircraft. It has virtually no land apart from the runway and a terminal – it is nearly surrounded by water.²⁹

The overall site area of the airport is only about 40 hectares (100 acres).³⁰ Dublin Airport is 1000 hectares or 2500 acres – twenty-five times the size.³¹

It is claimed LCA could double or treble passengers to a maximum of about 5 million per annum, because of the site's limitations. The maximum allowed aircraft movements are 73,000 per annum. The landing fee is now £700 (€1000) per aircraft at peak, £350, off-peak.³²

In 2005 LCA had 71,000 movements with 1.998 million passengers.³³ That is 28 passengers per plane. There is no break-down for peak to off-peak usage, so the per passenger charge is between €17.75 and €35.5, to give an average somewhere around: €26.6, compared to Dublin's €6.34. That is what a competitive market is willing to pay for the luxury to take-off and land 10 km from the centre of London. LCA assumes 73,000 (the maximum allowed) movements could eventually deliver 5 million passengers, obviously needing to increase the load factor significantly. That would be to 68 passengers per plane. Therefore the per passenger charge, on average, could more than halve, if they did not increase their per aircraft charge. They almost certainly would increase it, as the market would take it. As they are not regulated – charge-wise, they may charge what the competition will allow and that appears to be about €26 per passenger. Their current per plane charge is probably designed to get the load factor up, bringing more business through the airport shops.³⁴

Comparative airport values.

Table 1: A Tale of two City Airports

	Dublin (public)	London City (private)
To Centre	10km	10km
Acres	2,500	100
Passengers per annum	21,000,000	2,000,000
Value	€614 million	€1.1 billion
Charge pp	€6.34	€26/27

LCA is a small airport with a minimal amount of land, but it is worth nearly double Dublin Airport. The Commission for Aviation Regulation (CAR) valued all of Dublin Airport at €614 million in 2004. Yet LCA is a tiny airport with 1/10 the current capacity of Dublin with very restricted operation and limited scope for future development. Dublin property prices are nearly comparable to London. LCA has little alternative use-value because of its location. It is practically an island. It follows that even without including its vast land bank, Dublin Airport is seriously undervalued and its users are being subsidised, on these figures, by something like €20 per passenger. It is notable that this (estimated) difference of €20 in average charges corresponds to the estimated charge subsidy of €18.5 if the airport's 2,500 acres are valued at €2 million per acre.

The CAR's CAPEX evaluation and the new runway.

UPROAR's main concern is with the new runway, rather than with Dublin Airport as a whole; although the inclusion of all the land at, or affected by, Dublin Airport in the determination of charges would obviously have major implications for the new runway proposal. Whatever about a debate on whether or how much of such land should be valued at opportunity cost, our position regarding the 840 acres ear-marked for the new runway and the 3,500 plus acres in the new safety zone, is categorical. Our demand for a market opportunity cost valuation of this land does not question the continued existence of Dublin Airport or propose relocation.

Much of the proposed new runway site is a greenfield site. The existing northern runway 11/29 occupies some of it. If the DAA is proposing to demolish that old runway it is, in their opinion, expendable; and the site is therefore subject to a full independent determination of its real alternative use-value. By choosing to build a new runway on it, the DAA is saying its current use is sub-optimal and is implicitly claiming that the proposed use of it under a new runway is economically optimal. In our view, that is a hypothesis that must be tested. If the land can realise €1--€2 million per acre, the DAA has to demonstrate that their proposal for its use can yield a return that would remunerate that investment of public land. And that is before consideration of other costs, such as the new safety-zone land devalued by restricted development, to which we have to add construction costs, road congestion costs, etc.

UPROAR has called for an independent cost-benefit analysis to be done of the new runway proposal, as required by Department of Finance Guidelines, and EU/NDP Guidelines. UPROAR has estimated that the new Dublin Airport runway option will lead to an economic loss of some €3 billion compared to a return of 7.4% for an alternative site. See: www.norunway.com/cba.

We understand the CAR does not feel obliged to remunerate “externalities” in airport charges. The opportunity cost of the 840 acres to be used for the new runway is not an externality and cannot be ignored by the DAA or the CAR. Furthermore, the loss of development value for land in the Inner and Outer Safety Zone may be external to the balance sheet of Dublin Airport, but most certainly is not an external cost to the economy of Fingal, about which both Fingal County Council and central government should be very concerned. As a semi-state body the DAA should also be mindful of its duty to society rather than pursuing what appears to be its own private purely commercial interest. The CAR should include it, as it claims that economic efficiency is a guiding principle of the regulation of airport charges. UPROAR believes that airport charges should reflect the full social costs of airports. If they did, we would eventually achieve an economically optimal and sustainable national airport infrastructure.

In its latest determination of Dublin Airport charges (September 2005) the CAR noted that it had been unable to take account of a recent assessment of the DAA’s new CAPEX programme³⁵. It stated further than given the central importance of efficiency in the economic regulation of airports, it was calling for submissions from users on the DAA’s new CAPEX programme.³⁶ UPROAR will make such a submission.

The future for Dublin Airport

Should Dublin Airport be relocated? That is an interesting subject for study and debate, and it is not the point of UPROAR’s challenge to the new runway, which, as we stress, is a marginal investment issue. Whatever the outcome of a wider debate, it is obvious that a slimmed-down, more efficient operation is required at Dublin Airport. At the very least, the hugely loss-making old northern runway 11/29 (that the DAA is planning to demolish) should be demolished as it occupies land that is, without question, worth at least €1 million an acre. If the new runway proposed to replace it, would be a huge economic loss, how much of a loss is 11/29 at its present very low usage?

If economic principles were applied, land not needed at Dublin Airport could be sold for mixed development, probably at least 1000 acres, and so realising €1 billion to €2 billion. Those proceeds could be invested in improving the existing main runway, improved taxiways, a new terminal, improved commercial facilities, etc. DAA’s debt of €500 million could also be repaid³⁷. With a smaller asset base to be remunerated, a more efficient airport could operate at a charge level acceptable to users. It could become, in effect, a more efficient Dublin City Airport as has happened in other major cities. Charges would still be higher than the charge at the new airport, but the convenience of landing and taking-off 10 km from the centre of a capital city has to be paid for.

If Dublin Airport had to compete fairly with a new Greater Dublin Area airport it would be forced to become efficient. It seems rather obvious that whatever the future for Dublin Airport, a new second airport serving the GDA and nearby regions is needed to provide an economically viable option, competition with which would determine what the sustainable future is for Dublin City Airport. As UPROAR has repeatedly said, we need a proper independent study to determine best national aviation policy rather than having such policy dictated by the DAA which seems reluctant to act in the national interest and has refused to contemplate such a study, or claims that it has already been done.

Annex: Valuing Land at Airports: New Zealand experience, some issues.

In the case taken to the Commerce Commission asking whether three of New Zealand's international airports should be controlled, arguments were put against a full market valuation of airport land. This included the charge that full market value could not be ascribed to airport land because if such a large parcel of land were sold, local land prices would be depressed. The second point was that the airport land was zoned agricultural and should be so valued. These issues are likely to emerge when the issue of valuing Dublin Airport land at true market value is raised. The Commission ruled on these points as follows³⁸:

“10.73. Opportunity cost estimates derived are based on an assessment of the proceeds that would be obtained from an orderly sale of the land (in economically manageable parcels) over such time period as would likely be needed to achieve the highest and best alternative use value of that land. They are not estimates of the proceeds that would be obtained by the sale of CIAL's [Christchurch International Airport Limited] airfield land in a single parcel tomorrow (this would be akin to 'scrap' value).

“

“10.77. The current zoning of CIAL's airfield land limits the best alternative rural (farming) use. However, if the airport were to cease to operate it is highly likely that the zoning would change. The current zoning reflects the present use of the land as an airfield and a desire to control development around the airport, so as to avoid noise controls. Without the airport, there is no need for the restrictions on development to continue.”

10.78. The Commission is of the view that the best alternative use of CIAL airfield land would be for urban/lifestyle development, incorporating a range of uses including commercial, retail, industrial, low density residential and lifestyle blocks. The location of the land (both in proximity to the City, and to State Highway one north and south of the City), the existing infrastructure/amenities in place at the airport, and the type of land uses undertaken on nearby land lead the Commission to this view.”

¹ “A price of €3.3 million was secured in January 2005 for a 1.33-hectare site on the Old Airport Road opposite Airways Industrial Estate.” [€1 million per acre]. See: <http://www.ireland.com/newspaper/commercialproperty/2005/0601/1451944554CPBUTLER.html>

A site for mixed development was reported for sale by Dublin County Council for €2 million an acre at Clare Hall near Dublin Airport in April 2006. Northside People, 26 April – 2 May 2006.

Cargobridge land completely surrounded by Dublin Airport land, having been rezoned by the Fingal County Council from agricultural to industrial use in 1993 was sold for €2.5 million per acre in 2000. Evidence to the Mahon Tribunal on 19/9/2006. See Irish Independent of 20/9/2006.

² Uproar consulted three North County Dublin property experts who wish to remain anonymous in mid 2005. They all agreed that an average loss of €500,000 per acre for the land in the Outer Safety Zone is a conservative estimate and expect that, if queried, no reputable valuer would challenge that figure. One example in the Portmarnock area was cited where land restricted because of the existing main runway was sold mid 2005 for €1.2 million per acre while a site across the road, but not restricted, sold for €2.4 million an acre around the same time. That represents a loss of value of €1.2 million per acre due to safety zone restrictions, considerably more than €0.5 million. These experts also believe that the valuation of runway land is conservative at €1 million per acre, as that land could easily be zoned residential and be worth €2 million an acre.

³ Capital Expenditure.

⁴ See Draft Determination CP2/2005, page 42. www.aviationreg.ie.

⁵ See: <http://www.aviationreg.ie/downloads/press270801.pdf>

⁶ “It is clear that, in all circumstances, Aer Rianta is fully entitled to earn an appropriate return on and of capital with respect to its assets. Indeed, this was acknowledged by the Advocate General in the context of access to airport installations in his opinion to the ECJ in the Flughafen Hannover case: “...the right of access to installations should be remunerated at a fair value, that is to say that it allows for the depreciation of the installations and the costs of the management and that it provides airports with a reasonable level of profit.””

See: http://www.aviationreg.ie/images/ContentBuilder/a_Draft_CP3_Final.pdf

⁷ This information should be available at the CAR website, but seems in accessible.

⁸ DAA Annual Report and Accounts 2004 at: http://www.dublinairportauthority.com/AR_Corporate/Live/Lv_pres_GenTemplate.asp?strPage_Name=CR_AnnualReport

⁹ Dear Sir,

I refer to my e-mail of last week. I understand that the figures used are based on those as published by Dublin Airport Authority in its annual report of 2005. Note 10 to the financial statement of that report states that the figures in respect of lands and airfields, for group and company, include airport land at a cost of €19.6 million.

I have no further details.

yours faithfully,

David Hodnett

Deputy Head of Legal Affairs

15/5/2006.

¹⁰ See: <http://www.finance.gov.ie/documents/publications/other/capappguide05.pdf>

¹¹ “Guide to cost-benefit analysis of investment projects”, (Structural Fund-ERDF, Cohesion Fund and ISPA), Evaluation Unit, DG Regional Policy, European Commission, 2002. See: http://ec.europa.eu/regional_policy/sources/docgener/guides/cost/guide02_en.pdf

¹² http://www.csfinfo.com/htm/evaluation_process/index.htm

¹³ See Minister Cowen’s speech of 23 January 2007 at: <http://www.finance.gov.ie/viewdoc.asp?DocID=4481&CatID=54&StartDate=1+January+2007&m=p>

¹⁴ “Guidelines for the Appraisal for Cost Benefit Analysis.”, National Roads Authority, St Martin’s House, Waterloo Road, Dublin 4, June 2005.

¹⁵ See: “Circular A-4 September 17, 2003 at: <http://www.whitehouse.gov/omb/circulars/a004/a-4.pdf>

¹⁶ See: http://www.hm-treasury.gov.uk/media/05553/Green_Book_03.pdf

¹⁷ <http://www.comcom.govt.nz/RegulatoryControl/Airports/Overview.aspx>

¹⁸ http://www.med.govt.nz/templates/MultipageDocumentPage_3334.aspx

¹⁹ <http://www.med.govt.nz/upload/7518/airports-full.pdf>: Commerce Commission, Final Report, Part IV Inquiry into Airfield Activities at Auckland, Wellington, and Christchurch International Airports.

²⁰ The SACL proposal regarding land is available in a consultant’s report: “Land valuation at Sydney Airport: A Report prepared for the Australian Competition and Consumer Commission by the Network Economics Consulting Group”. Final Report, May 2000.
See: http://www.crai.com/%5Cpubs%5Cpub_4689.pdf

²¹ ACCC [Australian Competition and Consumer Commission] Decision on Sydney Airport Prices.
See: <http://www.accc.gov.au/content/index.phtml/itemId/87729>

²² See Annex 3, Land and Buildings at <http://greenbook.treasury.gov.uk/annex03.htm>

²³ See: <http://www.med.govt.nz/upload/7518/airports-full.pdf>.

²⁴ “Draft Dublin Airport Masterplan”, Fingal County Council, March 2006.

²⁵ Cargobridge land (24 acres) surrounded by DAA land was rezoned in September 1993 by FCC unanimously, from agricultural to industrial use. Eight acres of this land was sold for €2.5 million per acre in 2000. See: Irish Independent 20/9/2006.

²⁶ See: Irish Independent 20/9/2006. Referring to the Cargobridge land (under investigation at the Mahon Tribunal) it says in 2000, 8 acres of the Cargobridge land was sold for almost €20 million.

²⁷ See <http://www.aviationreg.ie>

²⁸ Wikipedia http://en.wikipedia.org/wiki/London_City_Airport

²⁹ See: <http://www.lcacc.org/operations/oip.html>

³⁰ <http://www.lcacc.org/history/construction.html>

³¹ A Sunday Tribune article of 1 October 2006 said LCA has 120 acres with a option to develop 5 acres of dockland.

³² [http://www.lcacc.org/fees/fees06\(1\).pdf](http://www.lcacc.org/fees/fees06(1).pdf)

³³ <http://www.lcacc.org/statistics/lcystat2.pdf>

³⁴ <http://www.lcacc.org/future/index.htm>

³⁵ http://www.aviationreg.ie/images/ContentBuilder/a_Draft_CP3_Final.pdf “Maximum Levels of Airport Charges at Dublin Airport Commission Paper CP3/2005 Determination on Maximum Levels of Airport Charges 29 September, 2005. ” Page 54:

“Unavoidably, as stated previously, the Commission has not had adequate time to analyse, in the desired manner, the Pascall & Watson recommendations on the DAA capex programme presented to it by DAA on 26 September 2005 (just days before finalisation of the Determination). The Commission therefore is not in a position to quickly translate the revised DAA capex programme into airport charges for the period of the Determination without a proper examination and still meet its statutory objective of economic efficiency.”

³⁶ “Maximum Levels of Airport Charges in respect of Dublin Airport. Draft Determination and Explanatory Memorandum.” Commission Paper CP2/2005, 31 May 2005. See (pages 42/43:

<http://www.aviationreg.ie/images/ContentBuilder/cp22005.pdf>

“An assessment as to the required CAPEX programme and its efficiency is, therefore, a central element of the economic regulation of airports. Consequently, it is necessary that a regulated firm’s investment plans be carefully scrutinised as to their timing and efficiency.... Accordingly, the Commission seeks submissions from all users on the DAA Capex Programme as set out in Annex 7.”

³⁷ <http://www.ireland.com/newspaper/front/2004/0712/665116119HM1AIRPORT.html>. This is the debt before undertaking the proposed development.

The DAA’s annual accounts for 2005, page 66, show borrowings of €472 million (€517 million at “fair value”. See: <http://www.dublinairportauthority.com/media-centre/annual-report/index.html>. If borrowings exceed €700 million the Government, as shareholder, must amend legislation setting up the company, to allow a larger credit line.

³⁸ See: <http://www.med.govt.nz/upload/7518/airports-full.pdf>.

2007-03-08 UPROAR response to CP1

Subject: UPROAR response to CP1

Attachments: Comments on Cost Benefit Analysis of Terminal 2 and Runway 2 at Dublin Airport.doc; Valuing Dublin Airport Land - CAR copy.doc

-----Original Message-----

Sent: 08 March 2007 11:57
To: cathal guiomard

Subject: Charges Review: CEPA Cost Benefit Analysis

Dear Dr Guiomard

Please find attached our comments on the CEPA CBA paper. There are two documents: "Comments on CEPA Report" and an attachment "Valuing Dublin Airport Land".

I have confined myself essentially to the evaluation issue, as it is our major concern. I would only try to respond to your Question 1 to the effect that the DAA's inability to generate consistent and coherent estimates for its planned expansion should be a major cause for concern. This is a state body responsible for hugely valuable publicly owned assets. It is hard to imagine a private company operating in this way and surviving in a competitive market. Of course, as Dublin Airport is a subsidised monopoly, they can escape that fate. There is no way of telling if the changes are justified, as it is very likely that few if any of the investments would prove to be justified if they were subjected to proper evaluation.

I note that the CEPA model has not been made available for inspection, as expected. If it does become available, I would hope, if I have any further comments on it, you could entertain them even after the deadline.

I hope we will be able to meet sometime soon when we might discuss this CBA issue as well as the draft EU Directive on airport charges, previously referred to.

I would be happy to meet with the CEPA people to discuss their work if that were possible.

Matt Harley
Portmarnock Community Association

Comment on CEPA report: “Cost Benefit Analysis of Terminal 2 and Runway 2 at Dublin Airport”.

Introduction.

UPROAR is a subcommittee of the Portmarnock Community Association (PCA) and we are opposed to the unsustainable expansion of Dublin Airport. We have appealed to An Bord Pleanála the decisions by Fingal County Council to grant planning permission for a new parallel runway (R2) and a new terminal (T2) at Dublin Airport. Part of our case has been our insistence that government guidelines for the appraisal of public investment projects have not been followed. These require that a Cost Benefit Analysis (CBA) be carried out for major public projects. In the absence of such an analysis we carried out our own analysis which shows that Dublin Airport’s current expansion plan will lead to a national waste of €4.5 billion whereas a second airport for the Dublin Region (one of a number of options) would yield at least the 7.4% rate of return on investment required by the Commission for Aviation Regulation (CAR). Our economic case against R2 and T2 can be read at: www.norunway.com/bp/bp.htm and www.norunway.com/t2a/appt2.htm.

We welcome this initiative by the CAR to engage reputable economic policy consultants to apply CBA to the investment plans of Dublin Airport.

Documents.

A number of documents are relevant to this comment. The following are made available on the CAR website at:

http://www.aviationreg.ie/Commission_Paper_2007.HTML

On the CAR website these documents are titled as :

- CP1/2007: This is the CAR’s main document with the cover title “Public Consultation on Dublin Airport Charges Following the Capital Investment Programme 2006.”
- DAA's CIP 2006: This document has the cover title: “Dublin Airport Authority, Capital Investment Programme 2006 – 2009, DAA/CIP04”. As far as we can tell this document is referred to in CP1/2007 as CIP2006. However, as it appears some DAA information has been withheld, we believe there may be another document with a fuller explanation of the DAA’s capital programme for the next ten years.
- CEPA’s CBA Final Draft: This document has the cover title: “Cost Benefit Analysis of Terminal 2 and Runway 2 at Dublin Airport – Report For the Commission for Aviation Regulation, Draft, Cambridge Economic Policy Association”. This is the document we are principally concerned in this comment.
- CEPA's Triggers Document: This has the cover title “Developing Capex Incentives For DAA: Triggers, Commission For Aviation Regulation (Ireland)

February 2007, Discussion Paper, ORIGINAL, Cambridge Economic Policy Associates Ltd.”

- IMR's Top-Down Document: This document has the cover title “High-level analysis of DAA’s investment plans: key issues, Report to the Commission for Aviation Regulation, Prepared by Ian Rowson, 9 February 2007, IMR.”
- CEPA’s Congestion Charging Document. Cover title: “Congestion Charging, Commission for Aviation regulation, (Ireland), February 2007, Discussion paper, ORIGINAL, Cambridge Economic Policy Associates Ltd.”
- DAA’s 2006 Dublin Airport Passenger and Aircraft Movement Demand Forecast Report. This has the title “Dublin Airport Passenger & Aircraft Movement Demand Forecast Report, Final Version, Issued April 2006 (Text updated in August 2006) Ref DAPF06/01” It was made available only on 7 February 2007.

The CAR and economic efficiency.

As part of its “Public Consultation on Dublin Airport Charges” the CAR has published the above CEPA CBA report. The CAR has always stressed economic efficiency as a principle of its regulation of airport charges and is required by statute to apply it. One of the CAR’s stated objectives is: “to facilitate the efficient and economic development and operation of Dublin Airport which meet the requirements of current and prospective users of Dublin Airport.” In a press release in 2001¹ the Commission chided Aer Rianta, inter alia, for: “inadequate or non-existent cost-benefit-analysis or business cases undertaken to justify specific CAPEX projects.” In its draft determination of airport charges in 2005 the CAR says that: “an assessment as to the required CAPEX programme and its efficiency is.....a central element of the economic regulation of airports.”² However this analysis could not then be undertaken. CP1/2007 page 6 says: “A revised CIP in September 2005 was submitted too late to permit the CAR the necessary time to analyse the plan against the statutory objective of economic efficiency.”

It appears that in engaging CEPA, the CAR is endeavouring to undertake that analysis. As this CEPA CBA document says, it goes beyond the time period of the interim review in including the proposed new runway in its analysis. It also states that its primary consideration is linked to the optimal timing of projects. Because a CBA may show a project to be economically non-viable, it would imply in those cases the optimal timing would require never undertaking it. Presumably the model allows for that possibility. The paper’s results are presented as a “first-cut”, and interested parties are invited to use the published model to determine more credible estimates.³ We take it that the invitation for submissions to the questions asked in CP1/2007, extends to the many issues raised this CEPA paper.

General

The effort is welcome and offers the opportunity for a better quality debate to take place on the economic merits of Dublin Airport’s expansion proposals. The report recognises that DAA’s CAPEX plan is subject to Cost Benefit Analysis under the Department of Finance guidelines and that the Department of Transport’s own

guidelines (possibly the NRA guidelines⁴) are also relevant. The authors also points to the UK's Green Book as a guide. The report acknowledges that no Cost Benefit Analysis has been done for either Terminal 2 or the new parallel runway as required under various guidelines. As the Dublin Airport's expansion plan is included in the new National Development Programme (NDP 2007-2013) it is now also subject to EU appraisal guidelines and oversight by a Central Monitoring Committee, and a new Central Expenditure Evaluation Unit.^{5,6} As a consequence, this work by the CAR may be an important input into that process.

In our view this CEPA analysis has not followed Cost Benefit Analysis methodology as laid down in these guidelines. However, it does say its results are "tentative" and "must be treated as indicative or first-cut views." Taken in that light, we see it as a significant step forward in our demands to have the DAA's expansion plans properly analysed and we expect that, as it is developed, the model will improve methodologically and in the robustness of some the assumptions made.

The intention seems to be to build a model and make it available to "interested parties" to use to test alternative assumptions. It is not clear if that is the final or an interim objective of the exercise. In other words, will CEPA produce a final result or end its work with the provision of a working model based on a "robust but pragmatic methodology" for others, e.g. the CAR, to use?

Alternatives.

The only alternative considered to the proposed expansion of Dublin Airport was one in which the proposed expansion does not take place, passengers are delayed and other displaced passengers decide either to use Belfast Airport, sea-ferry travel, or not to travel at all. The alternative of building a second airport in the Greater Dublin Area (GDA) to meet growing demand was not considered. This is a major flaw.

The model takes as a baseline the DAA's "do nothing" or constrained scenario and the main benefits of the proposed development are derived from the time saved by the extra passengers neither delayed nor displaced if the project goes ahead in the unconstrained scenario. The main benefits of proceeding with the proposal were measured in terms of time saved over what would be the case if travellers who use a congested Dublin Airport were delayed and travellers who are displaced from Dublin Airport took some combination of the three other travel options.

It may be legitimate to attempt to measure benefits by way of time saved, but it is inevitable that a proposal will look good if the alternatives chosen excludes an obvious alternative and leaves only poor ones. The stipulations of the Finance Guidelines about the need for objectivity in the choice of alternatives are apposite here.⁷ All of this time, and probably more, could be saved if the option to develop a new Greater Dublin Area airport was considered as one of the alternatives. Neither was the option to improve facilities at the other state airports, Cork and Shannon, considered although the Belfast Airport option might have been taken as a proxy for that option. It obviously does not completely represent that option.

In effect, the only alternative considered was one that would inevitably show large time delay costs compared to the DAA's proposal. By measuring all delays relative to Dublin Airport the analysis is biased, ab initio, in favour of Dublin Airport. It does not amount to a consideration of alternatives at all. It asks only if the investment proposed could be justified in terms of time saved. It does not ask what the best option is to achieve the fundamental objective of accommodating additional air passengers nationally, and not necessarily at Dublin Airport. To see this, we should ask what would be the decision if the result was unfavourable. We would conclude that we should not undertake the expansion plan at all, as it was not worth it and we should do nothing further. That would be a bad decision if other options were available that would prove viable but had not been assessed. The aim must always be to find the best option. This is facilitated by stating the objective of the exercise in a clear manner that does not in itself bias the analysis in favour of a preferred option. It is of course also possible that no option would prove viable and no expansion ought to be undertaken.

Another alternative that should have been considered is that of extending the existing northern runway 11/29 at Dublin Airport.^{8,9} This option was rejected early by the DAA on false cost grounds, in our opinion, which is precisely why it needs to be re-examined in a more rigorous CBA framework. In rejecting the option the DAA's consultants ignored the value of perhaps 500 acres of land that would have been saved if it were chosen over the parallel runway, and wrongly concluded that the parallel runway was the cheaper option. They incorrectly ignored the value of their existing land assets and valued only some land that they would have to acquire. A later FCC consultant introduced a spurious safety argument that the earlier consultants had not used when they rejected the proposal on cost grounds. In its application for planning approval to FCC, the DAA used that false cost argument to reject the 11/29 option, not a safety argument. This 11/29 option needs to be properly analysed in a CBA context.

A consumer surplus approach was also tried by CEPA to estimate the costs due to displacement. This method has the beauty of simplicity but the huge uncertainty about the value of the parameters chosen and about the degree to which the very simple model corresponds to reality renders it little more than an intellectual exercise. To work, it has to be assumed that all of the complexity of the investment benefits are adequately captured in a few idealised parameters. That is highly unlikely and sensitivity testing is unlikely to be useful as the probable range of alternative models and of the parameters to be chosen for a particular model, is so wide.

Land

The second major flaw in the model as so far developed and applied, is the failure to take account of the opportunity cost of land. However, it is acknowledged that to do so would have a "huge impact" on the results and it is proposed that it be sensitivity tested. It must rather become a core component of the analysis, with sensitivity testing if necessary around some realistic mean value greatly different from the zero assumed in the present model.

It is also stated that the opportunity cost of land could be low because it is already owned by the airport and has no alternative use, (page 7). This is fundamentally wrong, as argued in the attached document: “Valuing Dublin Airport Land.” It is contradicted by all relevant appraisal guidelines and by international precedent which are explicit on the need to use market opportunity cost in these cases. If accepted, the implication would be that any assessment, either of a public project using CBA/CEA or of a private project using commercial project assessment tools, would always be biased in favour of the sub-optimal exploitation of existing owned land assets, regardless of their true opportunity cost. By assuming no alternative use, this argument also assumes, wrongly, that existing land zoning is a definitive determinant of opportunity cost.

If it were correct to ignore opportunity cost, none of the multitude of private sector redevelopments presently taking place in the case of hotels, pubs, petrol stations, football grounds, etc., on the basis of a realistic assessment of the market value of these sites, would be taking place,

It is essential that the model assume a land value based on a full market opportunity cost of about €2 million an acre.^{10,11} Such a valuation can be subjected to sensitivity testing over a reasonable range around a central value of that order. That is the probable value of land destined for runway use at Dublin Airport.¹² Under the standard “do nothing” alternative, which is the basic alternative assumption in all appraisal, that land, ipso facto, would not be needed for a runway and could be put to its best alternative use which would value it at about €2 million per acre. Rezoning is not an issue as the Dublin Airport Masterplan allows for land in the Designated Airport Area to be put to non-aviation-related (commercial) use. Neither has rezoning proved to be a problem for local councils in the past when faced with clearly advantageous proposals to rezone. The UK’s Green Book is clear that current zoning does not determine land value.¹³

This failure to value land properly, biases the results of the CEPA analysis in favour of the Dublin Airport option to the detriment of other options where much cheaper land is available. It is notable that the CEPA text says that even a low opportunity cost of land would “unambiguously increase the cost of providing increased capacity.” This is true, but it is even more certain that a realistic market valuation would undermine the case for the DAA’s proposal. If the analysis is to be “evidence-based” as the regulator states in his presentation, the overwhelming arguments that exist in favour of a market valuation of land, including existing state-owned land, cannot be excluded from the core of this analysis.

Jobs

There is a suggestion that job creation has been counted as a benefit but it is not clear what has been assumed, if anything. There are many reasons to question the value of such job accounting exercises as they usually fail to demonstrate that the jobs benefits are either truly additional or additional to what would be created by alternative investment.¹⁴

Social costs

Cost Benefit Analysis is a social accounting framework. I.e. it must include costs and benefits to all affected sectors of society, public and private. In this case there was no accounting for the many social costs associated with the development. As such, this study does not qualify as a CBA even though it says (page 1) that a CBA can help illuminate a core issue such as: “Whether the investment is justified through the broader *social and economic* impacts it entails.” These broad social impacts include the extra costs to near-airport communities of noise, hazard, air pollution, flooding, health damage and damage to children’s education, for example.

They must also include the impact on the value of private land whose development is to be restricted under the new flight path of R2. This cost has been put by three local valuers at a conservative €0.5 million per acre for some 3,500 acres under the new flightpath. It is likely that most of these costs would be avoided by the development of a new GDA airport.

Climate change costs were not estimated either. The climate change cost of the expansion has been estimated by UPROAR at €8.4 billion using the Stern Report.¹⁵ It can be argued that climate change costs would be similar for all aviation-based options, but not for those involving greater use of other “greener” forms of transport and less air travel. For example, while similar climate change costs would apply to a new airport, they would not apply if air travelling passenger numbers are reduced under the constrained option. The result would be less air travel and less global warming, estimated to cost at least €17 per Dublin Airport passenger.¹⁶ The benefits of the Dublin Airport option, as analysed, are overstated by this omission.

Another huge cost not included is the cost of traffic congestion, usually valued as a loss of time for road users, in the same way as reduced terminal congestion costs and other time saved by passengers was taken to be a benefit in this analysis. The road congestion cost should also include the cost of delays caused at Dublin Airport itself whose users will be one of the main victims of increased traffic delays in accessing the airport. If it is legitimate to count as a benefit the time saved by reduced congestion due to a new runway and terminal, it is equally valid to include costs for the extra delay in accessing the airport due to the extra cars arising from this expansion having to use a critically balanced road network.¹⁷ UPROAR’s consultant found that the runway development would make car journey times to and from the airport unacceptably long and unpredictable due to the congested road network.¹⁸ The Metro and Airport Box (roads) proposals will help make a bad situation less bad but will not solve the congestion problems of the expansion. The NRA objected to the IKEA proposal on the grounds that its car load would threaten the €1.1 billion upgrade of the M50. The DAA’s expansion proposal would add six times the worst IKEA daily car load to the local road network, including the M50, by 2025. The expansion by 2035 would add twelve times the IKEA daily load.¹⁹ Again, most of the associated congestion costs would be avoided if any needed aviation facilities were developed elsewhere, such as a new airport on a greenfield site.

The CEPA analysis also adds benefits for an improved quality experience. That should also be done for a new state-of-the-art airport where it would show that such

benefits would apply even more to its passengers. According to Annex 7 results are quite sensitive to these quality assumptions.

It is notable that these benefits are presented as the opposite of airport congestion, the presumption being that the new facilities will only lead to an improved quality of service. The evidence is tenuously based on low/cost high cost differentials exclusively related to terminal service. If the road traffic impacts of this expansion at Dublin Airport were also considered and the inevitable loss of quality of service arising from the thousands of extra car trips to and from the airport were considered, these quality gains could be totally swamped. If congestion costs were properly assessed it is possible that such quality of access factors would be captured, but using standard time-based methods that is not self-evident and it appears CEPA counted such benefits in addition to the benefits of reduced time delays. Before any such tenuous terminal service quality benefits are allowed, a full assessment of the additional costs of a deterioration in the quality of service due to impeded road access to the airport as a result of this expansion, should also be included.

DAA's full CAPEX programme of €2.5 billion.

A key principle of the CAR's mandate is that of economic efficiency and it can be assumed therefore that the economic efficiency of Dublin Airport's investment is to be examined by the CAR in a longer-term context than that delineated by the investments to be made over the 2006-2009 period which are the focus of the revised charges determination. One reason for this is that the investments planned in the 2006-2009 period are only part of a total package of investments.

The CAR's review procedure in train is that of its 2005 determination for the four-year period 2006-2009. This has to be done in the light of "the revised capital programme that the DAA released in October 2006", CIP2006. This document specifies an investment of €1.178 billion in the period 2006-2009 involving improvements to T1 and phase 1 of a new T2, all to be completed in 2009. It does not include the proposed new parallel runway (R2) and does not indicate any investment after 2009, such as Phase 2 of T2 due about 2016.

The CAR in its CP1/2007 document provides some graphical information for DAA investments after 2009 (Charts 2.1 and 3.1). Chart 2.1 gives yearly figures in bar-chart form which add up to about €1.95 billion by 2014. A similar, but not identical chart "Evolution of the capital programme" in the IMR paper, page 3, gives a similar total. These are broadly consistent with the DAA's total of €2 billion and with other sources, but detail is lacking.^{20,21} It appears that not all the DAA's investment data given to the CAR has been released.

DAA's has stated that it intends to invest some €2 billion over the next ten years including the new runway.^{22,23} It is not clear what the DAA's €2 billion includes in detail. It is unlikely to include anything for Phase 2 of Terminal 2, needed about 2015/16.

Further investments are also planned under the Fingal County Council's Dublin Airport Masterplan, which inter alia, foresees a third terminal on a new western

campus of Dublin Airport. This is not included in the DAA's €2 billion CAPEX programme, as it is outside the ten year period. On DAA passenger figures, it will be required about 2020 and, with associated infrastructure, will cost something of the order of €500 million in today's money terms.²⁴ (It may also be privately built). It will be the final major component of infrastructure that will allow airport capacity to increase from 35 million around 2020, to a maximum of about 60 million around 2035.²⁵ It would be very helpful to have a clear numerical, chronological and descriptive breakdown of all planned investments over the next fifteen years within which time it is expected all elements of the Dublin Airport Masterplan will be in place.

This total investment package, amounting to about €2.5 billion, will take Dublin Airport to its maximum capacity of 55-60 million passengers per year around about the year 2035. This is probably an underestimate given the DAA's track record for its estimates. For example, the figures provided by the DAA to the CAR doubled between September 2005 and October 2006 (see CP1/2007 page 6).

The DAA and FCC argue that the "Airport Box" road project and the proposed Metro will help make Dublin Airport's expansion proposal workable. If they are correct in that claim, it follows that most of the Airport Box expenditure of €200 million should be counted as part of the cost of that proposal, as should a substantial share of the proposed Metro currently estimated at between €3.5 and €4 billion. That share can be estimated from the projected share of airport passengers using the Metro. Of course, if such additional transport infrastructure is necessary to make a second airport work, it should also be included in an assessment of that alternative.

In our view this package as a whole should be the basis of the CAR's economic analysis. If not, there is a serious danger of project splitting, whereby each element of an investment plan, taken individually, may not be seen in the wider context in which its inherent unsustainability would be more clearly evident. The investments cannot be properly assessed unless analysed as a complete package. It is also a requirement of the EIA Directive that "project splitting" be avoided. See UPROAR's "Legal Submissions" to An Bord Pleanála.²⁶

Another case for a comprehensive approach is to ensure consistency in the benefits claimed. It is essential that the stream of benefits claimed for the investments are causally linked to the planned investments (see below).

CAPEX understated by CEPA analysis.

There is a lack of consistency and clarity about the detail of planned investments and their timing, and about what should be included in the Cost Benefit Analysis and about how benefits measured in terms of passenger time-saving are related to the CAPEX included.

The title of CEPA paper is "Cost Benefit Analysis of Terminal 2 and Runway 2 at Dublin Airport" and their analysis only includes €951 million of CAPEX. The €951 million is made up of €757 million for T2, €150 million for R2 and €44 million for a new ATC tower (Annex 6). This is €227 million less than the €1.178 billion to be

spent in the 2006-2009 period that is the subject of the current review of charges. It does not include Pier D and the extension to Terminal 1. It is €1 billion less than the €2 billion the DAA stated that it will invest over the next 10 years. And it is €1.5 billion less than the probable total Masterplan package of €2.5 billion over the next 15 years. How sensitive are the results of this analysis to this understatement of CAPEX?

This is an unacceptable basis for the assessment of the economic efficiency of the DAA's CAPEX programme. The analysis cannot be confined artificially to just two (or 3) elements of a much larger CAPEX plan. The CAR's brief was to analyse the revised CIP of October 2006. As pointed out above, that amounts to €1.2 billion by 2009 and nearly €2 billion by 2014. For consistency, we believe that, at least, the full Airport Masterplan package of planned investments amounting to some €2.5 billion should have been analysed by reference to passenger numbers planned to reach a maximum of 60 million by 2035.²⁷ A share of other necessary transport infrastructure (roads and Metro) should be added.

Investments must be aligned with benefits.

Investments and their assumed consequences must be cognate in order for benefits to be reliably assessed and correctly attributed to the originating investment. If not, the benefits claimed may be exaggerated.

While the CAPEX of less than €1 billion included in the CEPA model is much too low, the benefits credited to it are consequently much too high. CEPA has confined itself to an analysis of an investment of T2 and R2 only. In our opinion it is impossible to separate that investment from the total investment package of which it is only a part, much less than half (38%). First of all, it is impossible to envisage these selected investments functioning without much of the other related investments, and secondly it is impossible to separate out the stream of passenger-related benefits that would accrue uniquely to those selected investments, from the benefits that may accrue to all passengers. For consistency one has to be able to demonstrate that the benefits claimed were those due only to those selected and essentially inseparable investments and, as the benefits of the investments are determined by associated passengers, the stream of passenger benefits claimed must correspond causally, no more no less, to the investments made.

The DAA projected passengers per annum to 28.4 million by 2025 if the airport is constrained by lack of investment, and to 38.4 million by 2025 if unconstrained. Although the projections were initially developed in the context of the new runway EIS, the unconstrained outcome with its 10 million extra passengers was not due uniquely to the provision of a new runway. The provision of the runway is presumed to be critical, but other investments would obviously be needed. As the R2 EIS says: "This cannot happen if the growth of Dublin Airport is constrained by a shortage of *runway, terminal or other on-site capacity* or by off-site surface access congestion."²⁸ It is clear the unconstrained projection involved much more than the runway investment.

It follows that the benefits to extra passengers and improvements in all passengers' welfare in the unconstrained scenario must be attributed to the full package of

investments in the preceding period. At the very least, it would appear the entirety of the €2 billion CAPEX to be undertaken over the next ten year period is involved. It will be fully in place ten years before 2025 when these extra 10 million passengers are expected. Otherwise, it would have to be assumed that about half of the €2 billion CAPEX will have no effect on passenger numbers or their welfare. More properly, it should be the full €2.5 billion to be spent by 2020 as envisaged by the Masterplan. It will also be in place well before 2025.

However, it seems the CEPA CBA model counted all the cost-saving benefits of all the passengers who are not delayed or displaced if the project goes ahead and attributed those benefits to an investment of less than €1 billion.^{29,30} If some of the full €2.5 billion CAPEX is to be excluded from the analysis, then some of those passenger benefits must also be excluded. Alternatively, some clear explanation is needed as to why some €1.5 billion of investment will not increase passenger numbers or contribute to an increase in their welfare, as measured in this exercise. If such an explanation can be given, it would strongly suggest that the €1.5 billion investment excluded will have no benefits and should not therefore be undertaken at all.

To put this another way, in the R2 EIS the unconstrained scenario envisaged 38.4 million passengers per year by 2025 (centreline forecast), 10 million more than in the constrained scenario. If that projection did not depend on the full €2.5 billion to be spent by about 2020, we have to presume that numbers will be even higher than so far projected by the DAA, unless that extra €1.5 billion investment is to have no effect on passenger numbers at all. But, as the DAA persists with its position that passenger numbers will be about 38/39 million per annum by 2025, and the Masterplan itself agrees with that, we have to take it that all of the €2.5 billion CAPEX of the Masterplan is inseparably linked to those 38/39 million passengers by 2025.³¹ CEPA based its passenger benefits on that unconstrained figure, it therefore should have included all of the associated CAPEX as a cost.

We do not know exactly how the model treated passenger growth over the full period of analysis and the extent to which future benefits may have been overstated by reference to the clearly understated investments included. The model was to have been made available for inspection but has not been. For example, it is not clear for how many years into the future the analysis is continued.

It is necessary to make a distinction between the analysis period and the investment period. The investment period may be well defined in time with a clear end point. The analysis period, on the other hand, should extend for the lifetime of the assets being invested, and if, as in the CEPA analysis, those assets are assumed to be maintained indefinitely, the analysis period should also be indefinite. There is a reference to a “perpetual project” (page 3) which is consistent with the assumption made that capital will be replaced at a rate of 2.5% per annum (page 8). Whatever the period of analysis, the benefits claimed must correspond to the investment made. That does not appear to have been the case here. This says no more than that while the investment may have well defined costs in a fixed time period, the benefits and other costs which result may continue for a considerable time, and need to be properly accounted for in a sound analysis.

Passenger forecasts

DAA's passenger forecasts have been hard to pin down and DAA sources have given quite different figures even in recent months. What appears to be the latest DAA passenger forecast was made available late on the CAR website. The paper by Coveney and Butler, updates earlier work by the same authors and is dated April 2006 with textual updates in August 2006. It updates earlier forecasts in the light of the recent jump in growth, especially in 2006. However, it only goes as far as 2015 and does not cover much of the period of the CEPA analysis which depends critically on differential passenger forecasts, constrained and unconstrained, at least until 2025. The authors do not appear to have updated that analysis and one has to suppose that CEPA is depending on the original work done for the runway EIS in 2004.³² It hardly needs to be said that this limitation raises serious questions about the reliability of an analysis based on such out-of-date material. We presume that the constrained/unconstrained analysis will be updated to help this CEPA work advance to a more complete stage.

Results.

The graphical analysis is presented with the underlying assumption that there will be a break-even point or range which might be moved somewhat either way in time, under sensitivity testing. It is stated that the "primary consideration of this report is linked to the optimal timing of the project". This assertion excludes the possibility that the project was basically non-viable and that no such point would ever be reached. That is very likely to be the case if the missed costs as listed above were included.

No Cost Benefit ratios or IRRs were produced.³³ The time scheduling analysis is of interest but it seems to be exaggerating the precision of this model. It is very doubtful if the sensitivity of this model to such obviously missed assumptions would allow any really meaningful conclusions to be drawn from this scheduling analysis. The results appear to be very sensitive to assumptions. When an additional €180 million (19%) was added to CAPEX for works associated with T2, the "break-even" date (under a high benefit assumption) was shifted from 2013 to 2018. Under the low benefit assumption it gets pushed out to about 2023. CEPA also admits that it assumed no CAPEX cost overrun (Annex 6) when the UK Treasury recommends a 40% factor. They rightly recommend that this scenario be tested. It would obviously make the results much worse.

Annex 8 provides some "Traditional CBA Results". This Annex is hard to interpret (lots of negative NPVs, "n/a"s and "2015+"s) but it suggests that the case for the T2 and R2 investments is precariously balanced, even with the many cost omissions and overstated benefits.

It is clear that including the costs we believe have been excluded, would totally swamp the results and postpone the "break-even" date indefinitely. For example Table 3.1 has the understated CAPEX of €951 million and no opportunity cost of land. Taking that land factor alone and valuing the 840 acres of airport land at the going rate of €2 million an acre would add another €1.7 billion to the cost. That alone would probably produce a negative rate of return before adding other costs such as:

the understatement of CAPEX of some €1.5 billion, the loss of value of flightpath land, the costs to communities and congestion costs. The CSF (Department of Finance) also recommends a 50% penalty for the use of public funds. That would have to be applied at least to the state-owned land to be consumed by the runway (€1.7 billion).

This time scheduling approach can be used to present poor results in a more palatable form and avoid coming to a blunt conclusion on the DAA's proposal itself. It would be very helpful to have a clear statement of the CBA results for the timing envisaged by the DAA, with all the components of the proposed expansion included. This would be as shown in Chart 3.1 in CP1/2007 for investments up to 2015. What are the NPVs, Benefit/Cost ratio and IRR for the investment plan as actually proposed by the DAA?

All these tentative analysis results say is that the heavily understated costs of construction and operating costs would be covered by the time saved (passenger and airport) if this project goes ahead rather later than planned.³⁴ These gains in time would be also achieved and possibly more so, by an alternative such as a second GDA airport, but with much lower economic, social and environmental costs. Indeed UPROAR has identified (but not quantified) spin-off benefits for a well-sited new airport that would not arise in the case of a congested Dublin Airport.

A CBA analysis must also be done of the option to build a second airport. It would have a construction cost similar to the DAA Masterplan investment of €2.5 billion, not surprising as it includes all the main elements of a new airport, without the land. Unlike the Dublin Airport option, however, it would benefit from a low opportunity cost of land and the much lower social and environmental costs. It would very likely prove to be very positive in comparison with the Dublin Airport option, as found by UPROAR.

Time benefits of a new airport, would likely be similar for the average traveller as between Dublin Airport and a new airport in the Dublin region. If these timesaving benefits were likely to be similar, it would suggest that a Cost Effectiveness Analysis (CEA) may be the more appropriate than attempting to measure benefits which are very uncertain and difficult to quantify reliably.³⁵ UPROAR's analysis was essentially a CEA as discussed in "Note on Runway Cost Benefit Analysis"³⁶ As that note argues, the benefits (consumer surplus) arising from both options for the Greater Dublin Region (expansion of Dublin Airport or a new GDA airport) would be similar but those benefits are achieved in the second airport case without the huge land subsidy (taxpayer transfer) implicit in the passenger charges at Dublin Airport nor the further economic distortions generated by that subsidy and manifest in congestion externalities. It follows that UPROAR's finding of a loss of €4.5 billion for the Dublin Airport expansion option is the minimum cost of the Dublin Airport option relative to the second airport option that we estimate will yield the regulator's required annual return of 7.4% at an unsubsidised passenger charge of €6-€7. This is less than the €7.50 minimum currently being sought by the DAA to fund only its €1.2 billion 2006-2009 investment plan.³⁷

The CEPA paper on congestion charging confines itself to congestion within the airport itself and excludes consideration of congestion on access roads or rail, or parking. The basic idea is to vary charges over time to smooth demand for services between peak and off-peak times.

The paper makes the following important comment on page 1.

“Airport infrastructure represents a large lumpy investment that frequently attracts considerable local opposition, so that any decision to expand capacity should be based on sound principles. Ideally one would observe the willingness to pay (WTP) for landing rights or terminal space in a competitive market and then apply a normal cost-benefit test to determine when to expand capacity. Most airports, and certainly Dublin Airport, are regulated at a level that recovers a fair rate of return on the (*normally historic*) written down value of the assets, which may be below the long-run marginal cost (LRMC) of providing more capacity.³⁸ Airlines therefore do not directly reveal their full willingness to pay for landing rights or terminal space by their willingness to pay the regulated landing or passenger charges, making expansion decisions problematic.”

UPROAR has pointed out the passenger charges at Dublin Airport are grossly understated by the failure to charge for the use of the land at Dublin Airport at its real opportunity cost value. It is, in effect, a heavily publicly subsidised airport. One consequence of this is that the demand for its services are not a true reflection of the real cost of providing those services and is therefore artificially enhanced. The consequences are manifest in congestion within and without Dublin Airport. The planned expansion of the airport is predicated on a projected future demand which is driven by these subsidised charges and is therefore an illegitimate basis for a determination of the airport’s real investment needs.

Among the distortions created by this huge subsidy is the elimination of real competition for Dublin Airport, either from other state airports or any private interests that might consider building extra airport facilities. It is obviously in the airlines’ interest to fail to reveal their willingness to pay for those subsidised services. Indeed, they continue to demand ever lower charges in their own commercial interest. Ryanair has been very critical of the DAA but when asked if it would not build a competing airport did not give a straight answer.³⁹ The reason is obvious; Ryanair (or anyone else) has no incentive to do so, as long as the subsidisation of Dublin Airport continues. If that subsidy were removed, it is very likely that the case for a competing airport in the GDA would be made. The benefits of such an outcome do not need to be repeated here.

On page 4 the paper makes the odd claim that the new parallel runway will support an increase in potential passenger from 20 million to 30 million. That is an error. The CEO of the Dublin Airport has said that the airport’s maximum capacity is 60 million passengers.⁴⁰ The runway, scheduled for completion about 2012, is the key foundation on which the airport’s expansion to its potential maximum of 60 mppa, will depend. Catering for this full passenger throughput by about 2035 will require the construction of Terminal 3 in about 2020. As no further runways are planned, that capacity increase is critically dependent on the proposed parallel runway.

The analysis of congestion charges applied to the existing runway structure at Dublin Airport finds “limited support for additional runway construction.” This is on the grounds “that the net present value of congestion charging revenues from the existing infrastructure is less than the net present value of constructing the new runway, which is approximately €146 million”. “Limited support” is a carefully chosen phrase. The analysis actually finds against additional runway construction. The authors go on to say that, as the congestion charge revenue is likely to grow, the case for the new runway gets better over time. That is very doubtful as the real commercial cost of the runway proposal, including the value of Dublin Airport’s own land is about €2 billion, it is clear that this analysis shows that such a runway investment can never be justified. Needless to say, the case for the runway is even worse on these grounds if we were to take account of the full net social cost of some €3 billion. It would be of interest to have this analysis repeated with these costs included rather than the wholly inadequate construction cost of €146 million, that itself is probably underestimated.⁴¹

The analysts also says that if congestion charging were introduced, “it would postpone the date at which any new runway were needed and provide a much stronger basis for an economic appraisal of new runway capacity.” The first point is consistent with our view that the airport is heavily subsidised and if that subsidy were removed and charges were to rise, demand would fall and undermine the need for a new runway. The scope for congestion charging (beyond that justified by peak/off-peak differentiation) is simply a reflection of that hidden subsidy. The second point is a welcome restatement of the need for proper economic appraisal but it is not clear why the imposition of congestion charging would improve a case that is not only self-evident now, but actually a requirement under current Department of Finance and NDP guidelines. Perhaps it is repeating the sentiment expressed on page 1 that airlines’ reluctance to reveal their willingness to pay for airport services makes “expansion decisions problematic” and is making the same point that we have just made, that the existence of the scope for congestion charging is indicative of economic distortions which need to be thoroughly investigated as part of a comprehensive analysis. We agree.

Response to CP1/2007

Our primary concern is with the economic appraisal of the DAA’s CAPEX plan. However can make a few observations on the questions raised in CP1/2007 about passenger forecasting.

The CAR wonders if the DAA should bear the consequences if its forecasts prove optimistic (CP1/2007 page 4). In our opinion the DAA has an incentive to underestimate passenger numbers on the grounds that the charge determination is on a per passenger basis. We have noted that in its passenger projections recent growth trends drop abruptly at the present, and continue at a lower rate thereafter. This has been seen in a couple of recent instances. It can be seen in the DAA’s 2006 Demand Forecast Report, Table 3.1a. Passenger growth in 2006 was 10.6% but it drops sharply to 6.1% in 2007 and continues downward thereafter. These figures are supposedly determined by a model and the authors point out that the data will be smoothed by that process (page 23). This sudden drop in growth in 2007 does not look very smooth. A similar pattern was evident in a chart shown by DAA CEO

Declan Collier at the Towards Sustainable Airport Conference in October 2006. The figures were not the same as those provided in the above DAA document but show similar discontinuities and interrupted trends.

The primary drivers of traffic growth (Table 1.1) are Economic Growth and Yield (undefined). One wonders what is expected to happen to economic growth per head in Ireland and all those other countries included in the model between 2006 and 2007 to produce such a dramatic fall in passenger growth. If it is not determined by economic growth what is the explanation for such a sharp drop? Has the model output been adjusted in any way? Some explanation is needed.

As pointed out above, in our opinion much of this passenger growth is determined by the subsidised operation of Dublin Airport. It seems that passenger charges are not included explicitly in the forecasting model but (we assume) are part of air fares, that are projected to decline slightly on most routes in the short-term. It seems odd that passenger charges are not separately modelled in view of the importance DAA places on those charges and in having them increased to pay for its expansion plans. A 24% minimum increase is being sought at present. If charges were included as an exogenous variable we could test the effects of higher passenger charges on passenger demand, and in particular the effects of removing the subsidy. The subsidy is about €18.5 per passenger with 20 million passengers per annum. As passenger numbers would probably fall with the removal of such a large subsidy, it could be expected that the actual charge per passenger would have to increase even further. Shocking as that might seem, it is nothing more than a consequence of the correction of the current unsustainable operation of Dublin Airport and its expansion plans.

Matthew Harley
UPROAR
Portmarnock Community Association
8 March 2007.

¹ See: <http://www.aviationreg.ie/images/ContentBuilder/press270801.pdf>

² See Draft Determination CP2/2005, page 42. www.aviationreg.ie.

³ We have been unable to locate the published model and requests to the CAR for access to it have not been successful.

⁴ NRA guidelines: "Guidelines for the Appraisal for Cost Benefit Analysis.", National Roads Authority, St Martin's House, Waterloo Road, Dublin 4, June 2005.

⁵ "Guide to cost-benefit analysis of investment projects", (Structural Fund-ERDF, Cohesion Fund and ISPA), Evaluation Unit, DG Regional Policy, European Commission, 2002. See: http://ec.europa.eu/regional_policy/sources/docgener/guides/cost/guide02_en.pdf

⁶ See UPROAR Press Release: <http://www.norunway.com/Archive/Media%20Coverage/UROAR%20PR24jan07.htm>

⁷ The 2005 Finance Guidelines say:

“Objectives should be expressed in a way which will facilitate consideration and analysis of alternative ways of achieving them. They should not be so expressed as to point to only one solution.”

The 1994 guidelines say:

“Objectivity is important in considering options. There is a danger that the selection of options may be manipulated in order to make a case for a course of action which is already favoured. For example, options for which there is a very weak case may be put forward in order to make a poor option look good.”

⁸ See “Rejecting the Option to Improve Runway 11/29 – the Value of Land Ignored.” Chapter 4 of “The Economics of the Proposed Runway”, submission to An Bord Pleanála at www.norunway.com/bp/bp.htm.

⁹ See “DAA Consideration of Alternatives” at www.norunway.com/alts.doc which deals with the DAA’s failure to properly assess alternatives to their runway proposal both within Dublin Airport and elsewhere.

¹⁰ Land at Clare Hall near Dublin Airport is reportedly being sold by Dublin City Council at over €2 million an acre in May 2006. (Northside People, 26 April-2 May 2006).

¹¹ The Cargobridge land, a parcel of private land completely surrounded by Dublin Airport land, was rezoned unanimously by the County Council in 1993 from agricultural to industrial use. The Irish Independent on 20 September 2006, referring to the Cargobridge land (under investigation at the Mahon Tribunal) says in that in 2000, 8 acres of the Cargobridge land was sold for almost €20 million or €2.5 million per acre seven years ago. This is the best indicator of the value of land at Dublin Airport for its next best use.

¹² URPOAR estimates that some 840 acres of land will be absorbed by the runway. This is greater than the 645 acres (261 hectares) mentioned in the R2 EIS but that figure does not include some airport land, particularly at the western end of the new runway, that will be useless for any other purpose if the runway is built and it must therefore be counted as a cost.

¹³ The UK Government’s Green Book on project appraisal advises that the valuation of a site should be based on the most valuable possible use, rather than the highest value that could be obtained for its current use. In the case of land currently subject to planning restrictions, the prospects for a lifting of such restrictions should be taken into account in making the valuation. “In all cases, the prospect for obtaining a higher planning consent should be considered by the appraiser and his professional property advisor.” Annex 3, “Land and Buildings” in “Appraisal and Evaluation in Central Government: The Green Book”, HM Treasury, London, 1997. See: <http://greenbook.treasury.gov.uk/>

¹⁴ See: “The Economics of the Proposed Runway”, Chapter 3, “Economic Case as Put by the DAA” at www.norunway.com/t2a/bp.htm.

¹⁵ See: <http://www.norunway.com/Archive/Media%20Coverage/UROAR%20PR12Feb07.htm>

¹⁶ UPROAR did not include this €8.4 billion cost in its CBA.

¹⁷ See UPROAR Press Release on the NRA’s selective objection to IKEA: <http://www.norunway.com/Archive/Media%20Coverage/UROAR%20PR%2022may06.htm>

¹⁸ See: <http://www.norunway.com/t2a/Road%20Traffic%20Report.pdf>

¹⁹ Half of the load is due to the extra 10 million passengers in the unconstrained scenario, the other half is due to the assumed 10 million extra passengers arising even in the constrained scenario. See: <http://www.norunway.com/Archive/Media%20Coverage/UROAR%20PR%2022may06.htm>

²⁰ At a conference on Sustainable Airport Development in October 2005, Declan Collier DAA CEO said: “...we are proposing to spend €1.2 billion over the next four to five years with a further €800

million in the following five years”. The total is again €2 billion in ten years, but no precise breakdown was given.

²¹ The new NDP 2007-2013 has €1.9 billion for all three state airports but it is not broken down.

²² See: <http://www.dublinairportauthority.com/media-centre/press-releases/022007.html>.

²³ The DAA’s assumed construction cost of the runway included in the its €2 billion figure is not known. The DAA put it at €141 million to the regulator in 2005. It is probably nearer €200 million.

²⁴ However, Minister Martin Cullen told the Dáil on 7th June, 2006 that Terminal 3 would not be needed until about 2015. That is too early by 5 years, if CEO Declan Collier is to be believed. See: <http://debates.oireachtas.ie/Xml/29/DAL20060607A.PDF>

²⁵ There is a multiplicity of estimates of future passenger throughput from various sources. That is understandable given the complexities and uncertainties involved. However, it would be very useful if the DAA were to provide, perhaps online and regularly updated, its latest opinion on future passenger numbers and the underlying assumptions. From these varied sources it seems that, with its expansion plans allowed, the DAA expects passenger numbers per annum will reach about 35 million by 2020 and 40 million by 2025. For some reason, these projections imply a rate of growth of about only one million passengers a year which is much lower than recent growth of about 1.5 million a year. Average assumed growth is only 3.2% between 2006 and 2025 whereas growth between 2000 and 2006 was actually 7.5% per annum. Assuming only a growth rate of 4.2% p.a., modest by recent trends, we would get to 60 million by 2035. If the recent trend of 7.5% p.a. continued, 60 mppa would be reached by 2020! See also “Passenger Forecasts” in text.

²⁶ See: <http://www.norunway.com/t2a/legals.htm>

²⁷ UPROAR’s CBA assumed a total infrastructural investment of €1.5 billion with passengers reaching a maximum of 55 million by 2040. As we now know that €1.5 billion is underestimated by about €1 billion, but was the figure available at the time of the analysis.

²⁸ See R2 EIS, 6.8.1.9.

²⁹ The CEPA CBA paper page 6 says: “DAA, as part of the planning application for R2, provided Fingal County Council with a constrained forecast assuming neither R2 and T2 occur. The annual impact of constraining the airport has been taken from this report and grafted on to a more recent unconstrained traffic forecast.” Although we are not sure what the more recent forecast is, we take it that CEPA has used the DAA’s figures which assume about 10 million passengers displaced (“constrained-off”) if the investment does not go ahead. In our opinion the relevant investment associated with these passengers is the €2.5 billion of the Dublin Airport Masterplan.

³⁰ The CEPA CBA paper says on page 5 that in using the consumer surplus approach to measure the cost of displacement it used “the quantity displaced as per DAA’s constrained forecast.” We take this to mean that, for example, the full 10 million passengers displaced by 2025 was taken.

³¹ See: “Draft Dublin Airport Masterplan”, Fingal County Council, March 2006. The Executive Summary on page 1 says: Average traffic growth projections in passenger numbers indicate that by 2025 Dublin Airport will handle some 38 million passengers. The Masterplan is clearly predicated on the infrastructural investment needed to underpin these passenger numbers. The 38 million passengers by 2025, 10 million of whom will be displaced if the investment does not go ahead (according to the DAA), are inextricably linked to the Masterplan investment of about €2.5 billion.

³² It is not clear exactly what data was used by CEPA as the text says (page 6): “DAA, as part of the planning application for R2, provided Fingal County Council with a constrained forecast assuming neither R2 and T2 occur. The annual impact of constraining the airport has been taken from this report and grafted onto a more recent unconstrained traffic forecast.” This seems to confirm that the constrained/unconstrained analysis has not been updated. As the differential is critical to the

measurement of benefits this work must be updated in the light of significant recent passenger developments that has led to the updating of the unconstrained forecast.

³³ In Annex 6 it appears that the cost of remunerating the CAPEX costs have been included as an additional cost. While it is correct to include the cost of maintaining the assets, it is double counting to include the cost of capital. That cost should emerge as an output of the analysis in the form of an IRR. The issue is then how the IRR compares to the guide rate (7.5% or 5%). The project would be judged on that basis as to whether it can remunerate its CAPEX adequately in social terms. It may be however, that the analysts have assumed that the cost of capital should be the regulator's 7.4% and determined the "break-even" date as the key dependent variable. This is a valid alternative to the estimation of an IRR. It is similar to what UPROAR did in its analysis of the second airport. We assumed the 7.4% as the required rate and determined the passenger charge necessary to achieve that rate of return. We found it was about the same as the €6-€7 currently applying at Dublin Airport, but without any land subsidy.

³⁴ CEPA uses a percentage (7% to 10%) of CAPEX to represent operating costs. Perhaps CEPA should use a per passenger operating cost. That would be more transparent and consistent with the method used by the CAR in its charge determination. It would also mean that total operating costs would grow with passenger numbers, as one would expect, and not fluctuate with CAPEX.

³⁵ Consider only the uncertainties facing the aviation industry due to the possible imposition of environmental taxes on aviation fuel, the increasing volatility of fuel prices and the probable upward pressure on those prices. How reliable are any estimates of benefits that depend critically on long-term future passenger numbers? If the same uncertainties apply to both options, the next best criterion for decision making is that of least cost.

³⁶ See: <http://www.norunway.com/t2a/CBA%20Note.htm>

³⁷ See: <http://www.dublinairportauthority.com/media-centre/press-releases/142006.html>

³⁸ The EU Cost Benefit Analysis Guidelines are explicit in specifying that historical cost is an inappropriate (page 32): "Many projects in the public sector use capital assets and land, which may be state owned or purchased from the general Government budget. Capital assets, including land, buildings, machinery and natural resources should be valued at their opportunity cost and not at their historical or official accounting value. This has to be done whenever there are alternative options in the use of an asset, and even if it is already owned by the public sector." If historical cost should not be used in project cost-benefit analysis, it should not be used in a charge determination which purports to follow principles of economic efficiency. SEE: "Guide to cost-benefit analysis of investment projects", (Structural Fund-ERDF, Cohesion Fund and ISPA), Evaluation Unit, DG Regional Policy, European Commission, 2002. See: http://ec.europa.eu/regional_policy/sources/docgener/guides/cost/guide02_en.pdf

³⁹ At the Towards Sustainable Airport Development Conference in October 2005, a PCA representative put this issue to Michael O'Leary. The exchange was as follows:

Harley (UPROAR): "You're a great champion of competition. Why would you not consider building your own airport and competing the pants of Dublin Airport?"

O'Leary (Ryanair): "Frankly, I don't see why a facility that has been owned and developed by the taxpayer and given free and gratis to the DAA should be allowed that way. We should continue. I don't think its possible to build a second airport in the Dublin conurbation any more. We're going to put a second runway here at Dublin Airport."

⁴⁰ Declan Collier, CEO of DAA gave a maximum capacity figure of 60 million passengers per annum to Pat Kenny on RTE Radio 1, on 21 September 2006. Ciaran Scanlon, DAA programme manager, gave a capacity figure of 55 million to Fingal Independent, 30 August, 2006.

⁴¹ Chart 3.1 in CP1/2007 shows a new runway investment of about €170 million. Even discounting half of this at 7.4% we get €164 million as CEPA did to get their €146 million from a two year spend of €150 million..

Dublin Airport's Planned Expansion to 2025.

**The proposed expansion
is
Bad for Portmarnock and Bad
for Ireland.**

Portmarnock Community Association - UPROAR

www.norunway.com

UPROAR's Claim: DAA's Expansion Plan fails test of sustainability - twice.

- The DAA has failed to prove that its expansion proposal is a net environmental, economic and social gain.
- UPROAR has shown that it is, on the contrary, a huge net loss.
- It is not a sustainable development.

How to test for an economic, social and environmental gain?

- Net Gain = Gains > Losses
- Losses = Costs (negatives)
 - Project costs - direct
 - Costs to communities – indirect (externalities)
- Gains = Benefits (positives)
 - Extra airport services - direct
 - Other: Jobs/ Income? - indirect

Department of Finance Guidelines

- Cost benefit analysis is mandatory for:
 - Projects over £10 million, since 1994
 - Projects over €50 million, since 2005
 - Projects over €30 million, since Oct 2005
- CBA is a rigorously defined procedure designed to avoid obfuscation.

Is expansion plan covered by Finance Guidelines?

- *“All Government Departments and public bodies...must comply, as appropriate, with the relevant requirements of these guidelines. In the case of State Companies [e.g. the DAA] the Board of each company must satisfy itself annually that the Company is in full compliance with these guidelines.”*
- Therefore Cost Benefit Analysis required.

Did the DAA do a CBA?

- DAA Chairman and Minister Cullen claim Guidelines were followed.
- And yet Guidelines require a CBA.
- But there is no trace of it under FOI.
- At An Bord Pleanála: “DAA does not believe an *unbounded* Cost Benefit Analysis is required.”
- CAR - CEPA: “No CBA has as yet been prepared for the major increase in airport capacity entailed through the T2 and R2 projects.”

NDP 2007-2013

- €1.8 billion for the three state airports (Dublin, Cork and Shannon).
- No breakdown but text refers to extensions to T1, new T2 and runway for Dublin.
- Terminal 3 is not foreseen during this NDP planning period and is not included in the €1.8 billion. €400m ca 2020.
- DAA says €2 billion to be spent in next ten years.

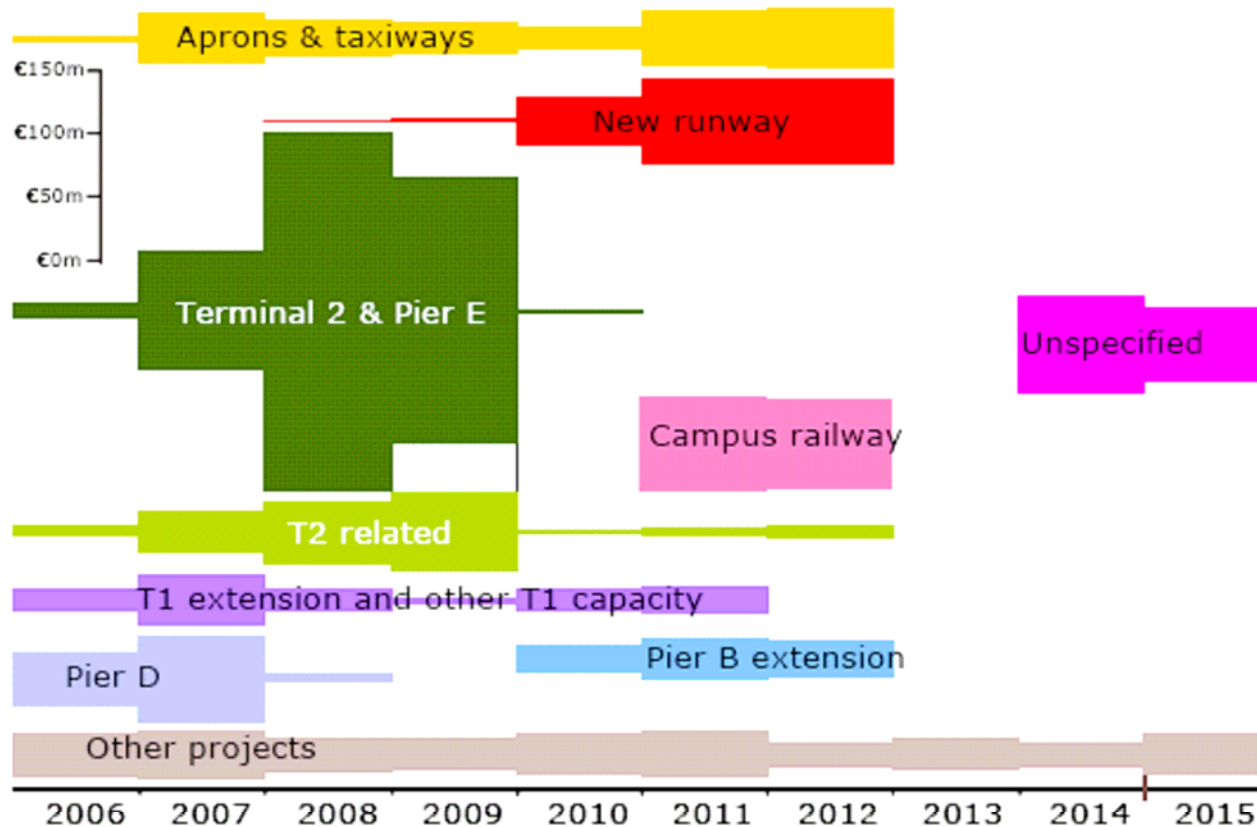
NDP Project Evaluation

- All projects over €30 million subject to CBA.
- EU and Finance guidelines and methodology applies.
- A Central Monitoring Committee, chaired by the Department of Finance, will monitor implementation of the NDP. A new Central Expenditure Evaluation Unit, based in the Department of Finance, will have oversight of all reviews .
- All evaluations must be published and submitted to the various oversight bodies.

CAR – DAA data: €2 billion

Commission
for
Aviation
Regulation
an Commission on Road Traffic

CIP 2006-2015



CAR and Economic Efficiency

- CAR has been very critical of lack of analysis by Dublin Airport of its investment plans.
- CAR has statutory objective of economic efficiency in the determination of airport charges.
- CP2/2005, 31 May 2005 “An assessment as to the required CAPEX programme and its efficiency is, therefore, a central element of the economic regulation of airports.”
- Did not have time (CP3/2005, Sept 2005) so now engaged in a review which includes an economic assessment.

DAA's economic case: Job creation benefits

- They claimed thousands of extra jobs
- But these are not extra jobs and they are not a measure of economic benefit
- With high unemployment, opportunity cost of labour is low and job creation is a benefit, and visa versa.
- Overheating the labour market is an economic *cost*, not a benefit, and visa versa, as in RDP and NSS
- They did no economic evaluation of alternatives.
- EIA models are suspect

Jobs Scam

- Utt: “Highways and Jobs”

- *“With the collapse of most centrally planned economies, use of I/O analysis is now largely confined to economic consultants hired to justify costly and underutilized building projects because they will “create” jobs. In fact, such projects never create anything approaching the benefits projected through the misuse of these models, but there always seem to be local boosters, businessmen, and politicians willing to exaggerate the potential benefits.”*

UPROAR's CBA

- Dublin Airport Expansion:
 - a waste of at least €4.5 billion of public and private assets.
- Second airport serving Greater Dublin Area (GDA):
 - a 7.4% return on investment at same passenger charge as at Dublin Airport - but unsubsidised.

Land Costs

- A major cost element for DA's runway option is land :
 - Airport land (public) **840** acres
 - Flight-path land (private) **3,500** acres
- The cost of using these assets was ignored by the DAA for Parallel Runway, for the **11/29** runway option and for a second GDA airport.

Opportunity Cost of Land – Best alternative use value

- Appraisal guidelines:
 - EU (NDP)
 - NRA (National Roads Authority - DoT)
- These Guidelines require opportunity cost valuation for publicly owned land, not book value or historical cost.
- See: “Valuing Dublin Airport Land”.

Zoning and opportunity cost

- FCC's Dublin Airport Masterplan allowed for rezoning of airport designated land for *non-aviation-related* use
- Cargobridge land (24 acres) rezoned in September 1993 by FCC unanimously, from agricultural to industrial use
- Analysis requires an evaluation of the “do nothing” alternative; i.e. no runway.

Land Values near Dublin Airport

- Airport land: minimum €2 million per acre.
 - Cargobridge land sold for €2.5 million per acre in 2000.
- Land under flight-path loss of value of at least €500,000 per acre (3 valuations).
- Minimum land cost of parallel runway €3.4 billion.

€3.4 billion

Some other direct and community costs

- Construction (only €1.5 bn assumed)
- Health and nuisance effects of noise and air pollution
- Damage to education
- Danger
- Flooding
- Road congestion (NRA against IKEA impact on M50)

€2.3 billion

Benefits

- Direct: we assumed new RAB met by charges.
 - Passenger charges are determined by Regulator supposedly on an “economic efficiency” basis;
 - But CAR only values all airport land at **€20 million!**
 - True passenger benefits are therefore higher than Regulator’s charges, but achieved by a land subsidy transfer from taxpayers; so these are not additional benefits and even add distortions,
 - They would apply at least equally to another airport.
- Other (indirect/induced) benefits are not included but they would apply even more to alternative sites

Bottom line (minimum)

- Net Benefits:

Total Costs (NPV): -€7,085 million

Total Benefits (NPV): €2,594 million

Net Benefits (NPV): -€4,490 million

- Benefit/Cost Ratio: 3.7%

- Return (IRR): -infinity

- A national asset is being turned into a huge liability.

-€4.5 billion

Costs not Counted!

- Climate change **€8.4 billion**
- CSF Guidelines impose a public funds penalty of **50% = €840 million**
- “Airport Box” costs = **€200 million**
- Share of Metro cost of **€3.5 - €4 billion?**

Climate Change Costs

- Ryanair planes emit 93 kg CO₂ per passenger
- Damage (Stern) aviation fuel per tonne CO₂: €184
- Damage per Ryanair passenger (950km) €17
- Aer Lingus planes older/further (1550km) > €17
- Damage now 21 mppa: €358 million p.a.
- Extra 40 mppa damage per year: €681 million
- NPV of total extra using Stern factors €8.4 billion (min).

Second Dublin Airport

- Location: Newbridge, Kinnegad, Carlow,.....
- Cutaway bog; cheap, state-owned
- Cost €2 billion (same as DAA expansion plan)
- Little congestion, pollution, danger or noise nuisance if well designed.
- Accessible – good rail and road links
- Consistent with NSS, NDP, Decentralisation, etc

Second Dublin Airport - Results

- Benefits/Costs: 1.074 (107.4%)
- IRR: 7.4%
- Passenger charge: €6-7 (unsubsidised)

Second Dublin Airport – Benefits not Counted!

- Spin-off benefits
 - Jobs where needed
 - Competition for Dublin Airport
 - New town
 - Land value appreciation

UPROAR's Conclusions

- DAA did no CBA of its proposed expansion
- UPROAR CBA says it will waste > €4.5 billion.
- DAA did no CBA of alternatives
- UPROAR says a second airport, if needed, is viable
- The expansion is not “good for us”, locally or nationally
- Dublin Airport's phrenetic expansion is subsidy driven
- This planned expansion to 60 mppa is not sustainable



Dublin Airport Land

**The Commission for Aviation
Regulation and the land subsidy**

Per Passenger Charge- Regulator's method

- Determine Regulatory Asset Base (RAB)
- Apply 7.4% per annum (required return)
- Add operating expenses
- Deduct commercial revenues
- Add annual depreciation
- Divide by passengers per annum
- Current charge = €6.34

How is land treated?

- How much land?
- 1000 hectares or 2500 acres
- Value used was €19.6 million
- Current passenger land charge?
- €0.07 = 7 cents! 1% of charge.

What should land charge be?

- 7.4% of whatever the true value of airport land is
- Divided by number of passengers p. a.
- E.g. @ €2 million per acre
 $= 2 * 2500 * 0.074 / 20 = €18.5$
- Total charge: $€18.5 + €6.34 = €24.84$

A tale of two City Airports

	Dublin (public)	London (private)
To centre	10 km	10 km
Acres	2,500	100
Passengers	21,000,000	2,000,000
Value	€614m	€1,200 m
Charge pp	€6.34	ca €26/27

Consequences of Subsidy

- **Monopoly at Dublin Airport**
- **Drives unsustainable growth (60 mppa)**
- **No chance for Cork or Shannon or other private/public GDA airport to compete**
- **Dublin Airport is national aviation policy**
- **Taxpayer rip-off of €400 million per annum**
- **Removal of subsidy would bring huge benefits**
- **Competition Authority asked to examine**

New Directive on Airport Charges

- **We have asked Irish MEPs to try to ensure greater transparency in the treatment of land in the setting of airport charges at European airports.**
- **Community Guidelines on Financing Airports: no state-aid if market prices used in land transactions and this should apply to provision of land by public bodies.**
- **Decided by EU Transport Committee April-September 2007**

CAR - CEPA model:

Welcome “first-cut”, but....

- **No real alternatives considered – only “do nothing”.**
- **Second airport or improving Runway 11/29 not considered.**
- **Land not valued but CEPA acknowledges likely impact on result.**
- **Social costs not included: congestion*, noise, pollution, health impacts Climate change**
- ***Time saved counted as benefits but time lost ignored.**

CAR - CEPA model: CAPEX

- **Only €950 million CAPEX included.**
- **DAA says €2 billion.**
- **Masterplan will cost at least €2.5 billion**
- **Plus: Airport Box (€200m), Metro €3.5-€4 billion.**
- **Full plan is 60 mppa by 2035-2040.**
- **CAPEX must be related to passenger benefits.**

CAR - CEPA model: result

- **Basic result: NPV = -51 million**
- **Break-even date very sensitive**
- **Adding costs such as land and congestion drives results off the scale**
- **Confirms UPROAR result**

CAR - CEPA model: future

- **Alternative scenarios developed**
- **Full CAPEX assumed for planned expansion**
- **Realistic land costs assumed**
- **Social costs estimated (CBA).**
- **Feed into NDP evaluation process?**