

# Economic Benefits of a New Northwest Runway at Heathrow



There has been a mass of propaganda claiming huge economic benefits. This note explains the actual evidence produced by the Department of Transport which shows there is negligible economic benefit from a third runway.

1. Figures of £211bn, £147bn etc quoted by Heathrow refer to estimates of “wider economic benefits” made in a study by Price Waterhouse Cooper (PwC) commissioned by the Airports Commission (AC).
2. Wider economic benefits are benefits which are typically not captured by conventional cost/benefit analysis including ‘Webtag’ and Net Present Value (NPV) analysis.<sup>i</sup>
3. The PWC/AC figures for wider economic benefits were slated by the AC’s own peer reviewers, Brian Pearce and Prof Peter Mackie.<sup>ii</sup>
4. DfT recognised another huge flaw. Namely that PwC wider economic benefit figures were double counting because some of those benefits were already being claimed as “passenger benefits”. To include all passenger benefits and all wider economic benefits would be double counting.<sup>iii</sup> These estimates of wider economic benefits have therefore been discarded by DfT.
5. In a major infrastructure project which will have impacts across the UK, it is clearly appropriate to take into account all the costs and benefits of the scheme. The recognised method is to calculate a ‘Net Present Value’ or NPV. The great advantage of NPVs is that they take account of all costs and benefits into the future for everyone, not just financial costs and benefits for some of the parties. For this reason NPVs are the standard measure for large infrastructure projects where the overall cost/benefit to society needs to be assessed.
6. In its NPS consultation documents the DfT laid out its Net Present Value (NPV) and related calculations. These were revised in the ‘Updated Appraisal Report’ of Oct 2017<sup>iv</sup>, issued for the NPS re-consultation. Estimates of particular costs and benefits are shown in sections 4 and 5 and these are brought together in Table 9.2. See appendix below for the results.
7. The revised NPV is now **-£2.5bn to +£2.9bn** (depending on assumptions about scheme costs, surface access costs and wider economic benefits). For the first time, it is admitted the net benefit of a third runway at Heathrow **could be negative**.
8. The upper figure of +£2.9bn may still sound a lot but it is over a period of 60 years and is negligible in the context of the UK economy. It represents about 0.003% of the UK economy and is a fraction of the cost of a cup of coffee for each airport passenger.
9. DfT is obviously very embarrassed by the low NPV values and therefore tries to hide them by claiming much higher figures for ‘net social benefit’ or ‘net public value’ instead of NPV. These are based on an artificial and meaningless distinction between “public” and “private”. The key feature of both net social benefit and net public value measures is that they claim all the benefits but leave out some of the costs.
10. In a document for the House of Commons Transport Committee, a chart gives a comparison between the 3 shortlisted schemes (Gatwick, Heathrow extended northern and Heathrow northwest) using net public value. This is highly misleading. It shows a range of +£67.8bn to +£72.6bn but

only because it leaves out most of the costs. Taking into account all costs, +£67.8bn becomes -£2.2bn and +£72.6bn becomes +£3.3bn ! Inexpert readers, including MPs, would not realise that. (Note that these costs were before the June 2018 amendments by government - see endnote <sup>v</sup>.)

11. As noted in 1, large ‘wider economic benefits’ continue to be claimed by Heathrow airport (and its supporters). But these have been rejected by DfT. The new assessment by DfT of ‘wider economic impacts’ is now £1.8bn to £3.1bn. This is a colossal reduction from figures such £211bn or £147bn claimed by Heathrow.

12. It should be noted that these DfT costs are based on a ‘carbon traded’ scenario. This is where there are no constraints on carbon emissions from aviation but a ‘cost of carbon’ is built into ticket costs. That cost is based on a wild and unjustified assumption that there will be a worldwide market for ‘carbon credits’ such that all the UKs aviation’s emissions will be offset in other sectors. Furthermore, the environmental cost of non-CO2 greenhouse gases (NOx and water vapour in the upper atmosphere) is ignored.

### Appendix - Net Present Value etc in DfT appraisal

Updated Appraisal Report, Oct 2017, page 44	£billion(over 60 years)	Updated Appraisal Report, Oct 2017	£ billion
Passenger benefits	67.6		[sum of 3 figs below is 67.6]
		Lower Fares (p23)	64.3
		Frequency Benefits (p23)	3.0
		Reduced Delays (p23)	0.2
Government Revenue	3.5	Government Revenue Impact (p25)	3.5
Wider economic impacts	1.8 to 3.1		[sum of 2 figs below is 1.8 to 3.1]
		Business Output Benefits (p27)	1.2 revised to 1.9
		Tax wedge (p27)	0.5 to 1.9
Total Benefits [sum of above 3 figs]	72.8 to 74.2		
Environmental disbenefits	-1.6		Revised to 1.9 <sup>v</sup>
Airline profit loss	-55.0	Total Producer Impact (p25)	-55.0
Net Social Benefit [total benefits less previous two figs]	16.2 to 17.5		Revised to 15.8 – 17.2 <sup>v</sup>
Scheme cost	-14.9 to -12.9		
Surface access cost	-3.4 to -1.4 [under- estimate]		
Net Present Value [net social benefit less scheme less SA cost]	<b>-2.2 to +3.3</b>	[16.2 - 14.9 - 3.4 = -2.1] [17.5 - 12.9 - 1.4 = +3.2]	<b>Revised to -2.5 - +2.9 <sup>v</sup></b>
Net Public Value [total benefits less environmental disbenefits less surface access cost]	67.8 to 72.6	[72.8 - 1.6 - 3.4 = 67.8] [74.2 - 1.6 - 0 = 72.6] (surface access = 0, see p43)	Revised to 67.4 – 72.2 <sup>v</sup>

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<sup>i</sup> Net Present Value is a standard economic and costing concept. All costs and benefits are estimated for each future year up to the end of the costing period, here 60 years. A 'discount factor' is applied to each year. This is an interest rate in reverse. It is applied to recognise the fact that a benefit some years in the future is not as valuable as the same benefit now. Likewise a cost in the future is not as costly as the same cost now.

<sup>ii</sup> "While the content of the model itself has been well tested, the same cannot be said of the front end, where an increase in capacity is converted into an increase in trip-making, trade, tourism and finally productivity. Furthermore the interpretation of the result – what exactly do they mean and is their basis transparent? – is an issue. Overall, therefore, we counsel caution in attaching significant weight either to the absolute or relative results of the GDP/GVA SCGE approach (PwC report) within the Economic Case".

<sup>iii</sup> This is a somewhat technical issue, but a standard one in economics. If you claim a business person benefits from a good or service, you can't claim the economy benefits as well. Benefits to businesses from better or cheaper goods are passed through to the final consumer in a market economy and cannot be appropriated by the business. Therefore you cannot count the benefits more than once. (In an imperfect market the business may be able to retain profit, in which case the benefit is not all passed to the final consumer. So again, you cannot count the benefits more than once.)

<sup>iv</sup> 'Updated Appraisal Report' of Oct 2017 at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/653879/updated-appraisal-report-airport-capacity-in-the-south-east.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/653879/updated-appraisal-report-airport-capacity-in-the-south-east.pdf) (Table 9.2, page 44).

<sup>v</sup> Alongside the National Policy Statement (NPS) presented to Parliament on 5th June 2018, the government lodged a number of ancillary documents. One is 'Addendum to the Updated Appraisal Report June 2018' which may be found at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/711589/addendum-to-the-updated-appraisal-report-airport-capacity-in-the-south-east.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/711589/addendum-to-the-updated-appraisal-report-airport-capacity-in-the-south-east.pdf).

In this document the environmental costs are increased from £1.6bn to £1.9bn. The other costs and benefits are unchanged but the summations which include the environmental costs are amended accordingly. This includes the final NPV, which is reduced from the range -£2.2bn to +£3.3bn to the range -£2.5bn to +£2.9bn. These changes are appended to the October 2017 figures in the table above. The revised figures are in the above document referenced above at Table 3.1 (page 10).