

The Truth About Economic Benefits of Heathrow Expansion



There has been a mass of propaganda, mainly from Heathrow but also from government, claiming huge economic benefits from a third runway at Heathrow. But if one looks at the actual evidence – instead of hype, sound bites and corporate propaganda – there is virtually no economic benefit for the UK.

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.ⁱ
3. The PWC/AC figures for wider economic benefits were slated by the AC’s own peer reviewers, Brian Pearce and Prof Peter Mackie.ⁱⁱ
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.ⁱⁱⁱ 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^{iv}, issued for the NPS re-consultation and then revised again in ‘Addendum to the Updated Appraisal Report Airport Capacity in the South East’ of June 2018^v. Estimates of particular costs and benefits are shown in sections 4 and 5 of the 2017 report and these are brought together in Table 9.2 of the 2017 report and Table 3.1 of the 2018 report. See 13 below for the latest 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. It is now admitted by Government that the net benefit of a third runway at Heathrow **could well 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 divert attention 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. (One could equally claim that bank robberies are good for the economy by leaving out the costs!)

10. These result were well hidden from MPs. In the National Policy Statement (NPS) which MPs voted on, there were constant claims of economic benefits but none of the figures – the actual evidence – was shown.

11. In an earlier document for the House of Commons Transport Committee, a chart gave 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.

12. 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.

13 The table below summarises the estimates contained within DfT’s Appraisal Reports (but most certainly not highlighted there). The key figure is the NPV because only it takes account of all the cost and benefits. The table shows how the NPV is built up from the component costs and benefits.

Addendum to the updated appraisal Report, June 2018, Table 3.1, p10	£ billion (over 60 years)	Notes
Passenger benefits	67.6	In the Updated Appraisal Report of Oct 2017 3 components were identified: ‘Lower Fares’ (p23) £64.3bn ‘Frequency Benefits’ (p23) £3.0bn ‘Reduced Delays’ (p23) £0.2bn These total £67.6bn.
Government Revenue	3.5	‘Government Revenue Impact’ (p25)
Wider economic impacts	1.8 to 3.1	In the Updated Appraisal Report of Oct 2017 2 components were identified: ‘Business Output Benefits’ (p27) £1.2 ‘Tax wedge’ (p27) £0.5bn to £1.9bn These total £1.8bn to £3.1bn.
Total Benefits	72.8 to 74.2	$67.6 + 3.5 + 1.8 = 72.8$ $67.6 + 3.5 + 3.1 = 74.2$
Environmental disbenefits	-1.9	Under-estimate of noise and air pollution costs and no economic cost of carbon or the non-carbon climate-changing emissions from aircraft.
Airline profit loss	-55.0	In the Updated Appraisal Report of Oct 2017 ‘Total Producer Impact’ (p25)
Net Social Benefit	15.8 to 17.2	$72.8 - 1.9 - 55.0 = 15.8$ to $74.2 - 1.9 - 55.0 = 17.2$
Scheme cost	-14.9 to -12.9	

Surface access cost	-3.4 to -1.4	This is considered a significant under-estimate by Transport or London and local authorities. Also, it is only the cost of schemes – the economic cost of extra congestion not fully mitigated by schemes is ignored.
Net Present Value (NPV)	-2.5 to +2.9	Net social benefit less scheme less surface access cost: $15.8 - 14.9 - 3.4 = -2.5$ $17.2 - 12.9 - 1.4 = +2.9$
Net Public Value (From Updated Appraisal Report, Oct 2017, Table 9.1, P44.)	67.4 to 72.2	Total benefits less environmental disbenefits less surface access cost: $72.8 - 1.9 - 3.4 = 67.4$ $74.2 - 1.9 - 0 = 72.2$ Surface access is assumed to be 0 because it is assumed it will all be paid for by Heathrow. (See p43 of Updated Appraisal Report of Oct 2017.)

14. 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 charge for carbon is built into ticket costs. That charge 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 and thereby effectively vanish. Furthermore, the environmental cost of non-CO2 greenhouse gases (NOx and water vapour in the upper atmosphere) is ignored.

15. An alternative assumption is made in DfT’s ‘carbon capped’ scenario. Here it is assumed that emissions from UK aviation are capped at 37.5 million tonnes pa by 2050. This is the figure that the government’s own Committee on Climate Change (CCC) considered was the maximum possible that could be allowed if the UK was to meet its 2050 target of 80% reduction in the Climate Act.

16. DfT produced an alternative set of estimates with a scenario, called ‘abatement’, which assumes that the forecast exceedance of the DfT target could overcome by two measures. These measures being a change in the mode of aircraft ground movements at airports and using more renewable fuels. In this way, there is no constraint on the amount of air travel ^{vi} but the Net Present Value reduces to **-£3.5bn to +£1.9bn** (compared with -£2.5bn to +£2.9bn carbon traded). ^{vii}

17. It must be emphasised that these abatement measures are just ideas – there is no policy proposal to actually implement them! ^{viii}

ⁱ 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.

ⁱⁱ “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”.

ⁱⁱⁱ 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.)

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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, p44)

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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 (Table 3.1, p10).

^{vi} The Airports Commission devised a carbon capped scenario with a completely different approach. They assumed that an extra charge was made for the carbon emitted and applied to the price of tickets. An increase in the price of tickets reduces demand and thereby reduces emissions. But progressively increasing the price, emissions were brought down to the CCC target of 37.5m tonnes pa by 2050.

^{vii} Table 3.2 p12 of the ‘Addendum to updated appraisal’ of June 2018.

^{viii} “This scenario is not intended as a statement of future policy or a definitive conclusion on the most cost effective measures that are available. There is significant uncertainty around the results of the study and the conclusions that are drawn. A number of policy measures are likely to be available and the scenario is merely intended to illustrate the kinds of measures that could be used and the likely magnitude of their costs.” (Green box on page 37 of ‘updated appraisal report’ of October 2017.)