NEF CONSULTING

Evaluating the case for expansion of Bristol Airport

CPRE Campaign to Protect Rural England

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1. Executive summary

NEF Consulting (NEF) was asked to review the socio-economic case for the proposed expansion of passenger capacity at Bristol airport. The consultancy team's work concentrated on the Economic Impact Assessment (the Assessment),[i] the Independent Review of that Assessment (the Review),[ii] and the Response from Bristol Airport to Comments Received (the Response).[iii] Reference was also made to the Environmental Impact Assessment.[iv] In each instance, NEF identified and assessed the stated methods, datasets and assumptions.

In this report we raise key questions for policymakers and those seeking to assess the viability of expanding Bristol Airport. In particular these questions address the modelling results presented in the Assessment and the Review on the topic of wider economic impacts, with concerns highlighted in the areas of both productivity and tourism impacts. We also assessed the proposals in the light of the recent commitment by the UK Government to accept a recommendation made by the Committee on Climate Change (CCC) that the UK Government adopt a target of net-zero greenhouse gas emissions by 2050.

Bristol Airport expansion is 'out of sync' with national demand forecasts

The future of UK aviation in relation to passenger demand, flights and carbon emissions is forecast in the Department for Transport's (DfT) aviation sector model. No expansion of Bristol Airport is currently factored into this model, hence as a minimum, the proposed expansion should be reviewed by central government.

The outputs of the DfT model are at odds with the business case produced by Bristol Airport Limited for the Assessment. The economic modelling in the Assessment is based upon anticipated passenger demand of 12 million by 2026, whereas the DfT model estimates that there will be demand from only 8.5 million passengers in 2030. Notably, the expansion of Heathrow Airport (now approved) is factored into the DfT projection and reduces passenger demand at Bristol Airport by 1.0 million passengers in 2030. Neither with, nor without, Heathrow expansion does passenger demand at Bristol exceed the airport's current capacity of 10 million before 2030. While the DfT acknowledges that their model is optimized for national level analysis, Bristol Airport Limited does not provide sufficient explanation to support their significantly more ambitious projections.

Compatibility of the proposed expansion with a net-zero commitment

Following the Government's net-zero announcement it is almost certain that the UK Government will take steps to reduce growth in passenger demand. The DfT aviation sector model projects national growth in passenger demand of around 90% between 2005 and 2050. It is on the basis of this demand growth rate that DfT estimates that passenger demand at Bristol Airport will be 8.5 million by 2030.

In their '*Net Zero*' report, the CCC estimates that, even with extensive roll-out of multiple forms of carbon mitigation in the aviation sector, demand should grow by no more than 60%

between 2005 and 2050. This 30% discrepancy in passenger growth between DfT projections and the CCC modelling for net zero will almost certainly require the application of some form of carbon tax, or other regulatory mechanism to curtail demand. While we cannot be sure of the full extent of the impact the regulatory mechanism will have on passenger demand at Bristol Airport, the logical conclusion is that growth would fall. Any such reduction is not factored in to the 8.5 million passenger projection from the DfT (nor in to the projections of even greater demand, rising to 12 million, produced by York Aviation in the Assessment).

Regional economic benefits of the proposed expansion

If, as the evidence above strongly suggests, demand growth does not exceed the current capacity of 10 million passengers or the DfT projection of 8.5 million passengers over the long-term, there is likely to be no economic benefit in the proposed expansion. Even if passenger demand does align with the modelling in the Assessment, reaching 12 million passengers in 2026, NEF has identified multiple reasons to believe that the original business case overstates significantly the likely regional economic benefits of the scheme.

The primary area of concern relates to the issue of 'displacement'. A critical question for decision makers to query in any business case, is whether the proposal creates entirely new value, or simply moves value from one place to another. The Assessment estimates that by the year 2026 the expansion of Bristol Airport will be producing £190 million per year of newly created productivity to businesses in the South West and South Wales region. An assumption of *zero displacement* was applied to this value in the original Assessment. This assumption significantly boosted the figures presented in the Assessment in favour of expansion. Claiming zero displacement is extremely ambitious in a context where all other airports in the South West and South Wales region have significant spare capacity. It seems more likely that a significant proportion of this value would be displaced from Cardiff or Exeter airports, and not newly created.

In stark contradiction of the assumption made in the Assessment in relation to regional productivity benefits, the Assessment assumes *total displacement* of carbon costs, with the claim that all new flights at Bristol Airport would otherwise have left from another airport. This decision once again boosted the case in favour of expansion, as it meant that the Assessment did not have to include the social costs of carbon in its cost-benefit ratio. It is our view that this contradiction completely undermines the credibility of the Assessment. If the decision were referred to the DfT it is likely that some, or all, of the productivity benefits claimed would be disregarded (as has been the case in comparable airport assessments), and that carbon costs would be incurred.

We identified further issues with the regional economic benefits claimed by the Assessment in regard to tourism impacts. Our review has concluded that while the methodology used was suitable, the Assessment may have used a benchmark value that represents tourism spend across the whole of the UK, rather than using the available benchmarks for regions being considered. As tourist spending patterns vary considerably across the UK this would have led to an overestimate of the scheme's positive impact on tourism by over a third. Until such a time as the calculations in the Assessment are made more transparent, and the values used justified, tourism benefits should be assumed to be overstated.

Looking at all of these factors, we estimate that the following adjustments should be made to York Aviation's proposed 2026 values when considering the wider economic impact assessment:

- North Somerset – Reduce by £20 million, from £90 million to £70 million.
- The West of England – Reduce by £100 million, from £210 million to £110 million.
- The South West region and South Wales – Reduce by £280 million, from £390 million to £110 million.

In considering these new, significantly lower values as a whole, together with the critical mistakes and inconsistencies in the business case (highlighted below and in the council's review), and the urgency of the global climate crisis, NEF regards the business case for expansion of Bristol Airport to be a poor proposition.

Recommendations for policy makers:

- The application from Bristol Airport Limited for permission to expand capacity to 12 million passengers should be rejected due to critical inconsistencies in the application documents highlighted herein and by the Council's own review.
- Any future applications should clearly address the case for expansion in a demand-constrained world, consistent with meeting a national net-zero greenhouse gas emissions target of 2050.
- Any future applications should adequately address and justify an appropriate approach to displacement which does not overstate the wider economic impacts of the scheme.
- Any future applications should be forwarded to the UK Government for appraisal by the DfT to ensure consistency with national aviation sector planning and guidance and climate change targets

2. Background

The proposed expansion of passenger capacity at Bristol Airport has been supported by an Economic Impact Assessment (the Assessment),[1] an Independent Review of that Assessment (the Review),[2] the Response to Comments Received (the Response)[3] and an environmental impact assessment.[4] This paper considers all of these documents and also analyses national documentation relating to aviation, including modelling produced by the Department for Transport (DfT).

The Assessment considers the current (baseline) economic impact through a two-component framework:

- **Economic footprint**: a classic analysis of employment and 'value added', looking at Bristol Airport's direct employment, the supply chain effect, and 'induced' spending (spending that occurs as a result of higher wages).

- **Wider economic benefits**: this includes an analysis of potential productivity gains that result from business travel or freight movement, and an analysis of the relationship between passenger numbers and inbound tourists.

Throughout the analysis, the Assessment uses three key study areas, corresponding to the immediate area of the airport, the surrounding counties, and a wider regional area. Given that aviation is often considered to be national-level infrastructure, it may have been useful to have incorporated a specific, national-level study area; however, the choice not to do so is justified within the assessment on the grounds that the majority (94%) of passengers departing from the airport live in or originate from the South West region and South Wales.

The study areas are:

- North Somerset.
- The West of England - including North Somerset, Bristol, Bath, North East Somerset, and South Gloucestershire.
- The South West region and South Wales

3. Climate change impacts

The consideration of proposals to expand Bristol Airport takes place in the context of a national policy landscape that is evolving rapidly with regard to climate change and greenhouse gas emissions. Developments have taken place since the production of both the Assessment and the Review which have important implications for the expansion proposals.

On 2 May 2019 the Committee on Climate Change (CCC) published its report, *'Net Zero – The UK's contribution to stopping global warming'*. In it, the CCC recommended a new UK-wide emissions reduction target of net zero by 2050. The CCC set out detailed information on many policy changes and sectoral emission reductions that would be necessary to meet this goal. On 12 June 2019 the UK Government moved secondary legislation that would introduce a target for net-zero greenhouse gas emissions, effectively accepting the CCC recommendation. The implications of enshrining this new target into law are profound for the proposals to expand Bristol Airport.

Bristol Airport expansion is not part of national planning on climate change

The Department for Transport Aviation models that were used to model the aviation sector's future emissions did not include provision for the expansion of Bristol Airport. As such, any additional flights created by the expansion would add to the sector's emissions total. Allowances have already been made for the aviation sector to considerably exceed zero greenhouse gas emissions in 2050; these will be reconciled through offsets in other sectors and countries. Further allowances would need to be made for Bristol Airport and would almost certainly be costly. The likely cost per tonne of CO_2 equivalents will be over £300 by 2050 based on CCC analysis (see page 28 of *'Net Zero'*).[v] The current price to abate a tonne of carbon is £12.76 (central estimate).[vi]

Passenger demand under a net-zero target

Current capacity and planning consent at Bristol airport allow for 10 million passengers per year. According to the Civil Aviation Authority around 8.7 million passengers moved through Bristol Airport in 2018. York Aviation's modelling, presented in the Assessment, suggests that an expanded Bristol Airport could reach its passenger capacity of 12 million by 2026; an increase of almost 40% in 8 years. This forecast is not in keeping with the DfT's own model, which estimates demand of 9.5 million by 2030 in the absence of Heathrow Airport expansion. Expansion of Heathrow Airport has been approved, in this scenario the DfT estimates passenger demand at Bristol Airport to be 8.5 million in 2030 (**Table 1**). This modelling suggests, even without the Heathrow expansion, that Bristol has a demand potential that will not exceed existing capacity until the 2040s, reaching 10.5 million by 2050; which is short of York's projections. Arguably, expansion of Bristol Airport is therefore not necessary and, according to DfT's projections, would result in significant under-utilisation if implemented before 2040.

Table 1: DfT Aviation forecasts in the absence and presence of expansion at Heathrow: passenger number forecast / modelled capacity

Scenario	Airport	2030	2040	2050
Without Heathrow expansion	Bristol	9,504,824 / 10,000,000	9,994,530 / 10,000,000	10,196,874 / 10,000,000
	Cardiff	819,293 / 8,000,000	1,131,908 / 8,000,000	2,983,913 / 8,000,000
	Exeter	653,401 / 4,000,000	965,555 / 4,000,000	3,063,204 / 4,000,000
	Newquay	496,627 / 1,000,000	546,371 / 1,000,000	518,375 / 1,000,000
With Heathrow expansion	Bristol	8,525,167 / 10,000,000	10,003,409 / 10,000,000	9,976,669 / 10,000,000
	Cardiff	795,318 / 8,000,000	968,560 / 8,000,000	2,095,572 / 8,000,000

However, even if we take the Assessment's forecasts as the more credible, the UK's commitment to net zero presents significant new issues. The more conservative DfT forecasts assume an almost 90% growth in demand for aviation above 2005 levels. The CCC report, '*Net Zero*', suggests that the UK can achieve significant emissions reductions only if passenger demand is curtailed to 60% growth. Interventions in the sector, such as a carbon tax, will be needed to achieve this. Bearing in mind some variation between airports and regions, the likelihood is that future passenger demand will be lower than either the York Aviation or the DfT models. In this context the expanded capacity of Bristol Airport would be redundant.