

Bristol Airport Inquiry 2021
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Four flaws in the passenger demand forecasts

My name is Phil Goodwin. I am Emeritus Professor of Transport Policy at the University of the West of England in Bristol, and at University College London, and a Senior Fellow of the Foundation for Integrated Transport. My personal family background is also half London and half West of England, in Cornwall, Devon and Somerset. I have been head of the transport research groups at Oxford University and UCL, a local government planner, a Director of the Port of Dover, and adviser on matters of demand forecasting and project appraisal to the UK Government and other local, national and international bodies. I have published extensively¹ on the effects of transport prices and other influences on demand, over more than 50 years.

My focus is on business risk, affecting demand, which is central to the question of whether there is a genuine demand or felt need for airport expansion. I want to refer to the range of risk in the demand forecasts made by York Aviation² consultants commissioned by Bristol Airport Ltd in November 2020. I do not think I am repeating the same conclusions as discussed earlier, or challenging the inquiry framework of Government policy and planning.

The methodology used by York Aviation to assess risk is to assign probabilities to various uncertainties about factors influencing future demand growth, and use these to create a range of different scenarios.

“The input assumptions for the short term forecasts may be optimistic in general as they do not sufficiently reflect the ‘shock’ associated with COVID-19. However, in the medium to long term, when *normal market conditions will return*, we believe these forecasts represent a reasonable range”. (para 3.3)

I want to mention four risk factors which have not been taken into account, but which take us outside the phrase ‘When normal market conditions will return’. They relate to the longer term effects on demand of climate change, Brexit, and Covid19.

The first risk factor relates to the connection between carbon prices and carbon values discussed earlier in the inquiry³, where it was pointed out that appraisal values are not the same as prices.

¹ A fairly full list of my publications, with details of their citations, is available at <https://scholar.google.com/citations?hl=en&user=3hF5l4oAAAAJ>

² Passenger Traffic Forecasts for Bristol Airport to Inform the Proposed Development to 12 mppa, Document CD 2.21 available at https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/5c/2b/5c2bc4e0-0f3d-4716-985a-1e79c0272b91/cd221.pdf

³ Day 8, 7th September, <https://youtu.be/9WVrdxD8IfE>

One of the uncertainties is the future level of the price of carbon. York Aviation say that their forecasts used the (then) relevant BEIS carbon **values**, but they explain that in their forecasts they

“assume that passengers will, via some mechanism, have to pay for the carbon emissions associated with their travel. In other words, the cost of carbon is internalised within the forecasts” (para 2.12 2nd bullet point)

Thus BEIS provided a range of carbon *values* for appraisal, but the consultants actually used them as a range of *prices* in calculating the range of risks in the demand forecasts.

I think that was the right approach when the carbon values were low, and if it was right then, it would also be right now they are higher – independently of whether Government has yet taken a view about how or whether that will be implemented. [To get an idea of scale, the highest BEIS figure is 10 times bigger than the highest York Aviation figure. They take a most probable value of £20 per tonne of CO₂ emitted, and allow for a range from £4 to £36⁴ for 2021, with some increase over the future years. However the latest September 2021 advice from the Government⁵ has changed very substantially. This now give £245 per tonne of CO₂ with a low of £122 and high of £367]

So the first risk factor is that prices might go very much higher than the ones they assumed less than a year ago, and this is well outside the range of scenarios used in the forecasts.

The second risk factor is not about the effect of aviation on the climate, which has been much discussed here, but the reverse effect: the effect of climate on aviation, which is material in calculating business risk.

The most authoritative and recent global assessment of the progress and prospects of climate change is given by the authoritative 6th report of the Intergovernmental Panel on Climate Change⁶. I think this is not considered controversial in context of the Inquiry.

With this in mind, we can consider one of the widely mentioned underlying reasons for the growth in air travel in recent years, that is the development of mass tourism for holidays in sunny, seaside destinations. We can all relate to that. It is not a huge proportion of the airline demand, but it is a high profile and important one. Climate change, alas, even if we are successful in slowing it down, is already starting to undermine the attractiveness of precisely these destinations, due to greater incidence of storm surges, and ‘sunny’ becomes either flooded or unbearably hot, or both, and, in prospect, sea level rise which by definition will impact mainly on coastal and tidal areas. This is a long term trend, but we have already found that the long term is a lot sooner than we thought.

⁴They do not give an exact citation but it appears to be from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/794186/2018-short-term-traded-carbon-values-for-appraisal-purposes.pdf

⁵ <https://www.gov.uk/government/publications/valuing-greenhouse-gas-emissions-in-policy-appraisal/valuation-of-greenhouse-gas-emissions-for-policy-appraisal-and-evaluation>

⁶ <https://www.ipcc.ch/assessment-report/ar6/>

There is not any consideration of this risk in the forecasts. Optimists will hope that the world can adapt, and maybe new, different, sunny beaches, hotels and infrastructure will evolve, but nobody can be sure of that. The risk is that climate change itself will materially undermine the realism of the forecasts.

The third risk factor relates to the longer term effects on aviation demand of Brexit. I am not talking here of the effect on the economy, which may – or may not – be a short term effect. It is about the explicit policy objective of reducing immigration. One of the consequences of that will be fewer UK residents with families in two or more countries, who are a disproportionately important sector of the market as they tend to make far more international trips, sometimes several times a year, sometimes in family groups, and this would be expected to have a long-lasting impact.

The fourth risk factor is the indirect consequences of lockdown. People have learned how much useful work and social interaction can be done by Zoom, Teams and similar platforms. These will never replace all face-to-face meetings, of course, just as working from home will not replace all journeys to the office. But it is not realistic to think that they will all disappear. A proportion of the reasons for flights, especially frequent business meetings, will be replaced. We do not yet know how big that proportion will be, but it will not be zero. It may be uncomfortable, but aviation just has to accept that this is now part of ‘normal’.

The point of all this is that these four main risk factors in the demand forecasts are not randomly some high and some low. They are all such as to depress future demand growth, not increase it. Maybe in five years time we will have more confidence in how this works out, but now is the worst possible time to assume indefinitely prolonged growth.

In the York Aviation forecasts⁷ all the scenarios considered have uninterrupted, more-or-less straight line, growth over the entire forecasting period. By 2040 this shows underlying growth of up to 89%, on what is described as ‘optimistic’ assumptions, and no scenarios at all showing stable figures, let alone a decline. But my judgement, based on the combined effect of the four risk factors, that there is a very real possibility that 10 million will not happen in the timeframe suggested, and possibly ever.

The focus of the inquiry is to allow expansion from 10 million passengers a year, assumed to be imminent, to 12m passengers per year, which I suppose would raise the question of then providing for 14m, or 16m, or 20m. I don’t think this is a realistic view of the world we live in any more, or the demand trends of the last 50 years. The central claim underpinning the appeal by BAL is that there is a near inevitable growth in underlying demand, that this represents a need sufficiently powerful to offset all the reasons for rejecting it. I do not think that case has been demonstrated because of the risks it has not considered⁸.

⁷ Forecasting graph on figure 3.1

⁸ I accept that the November 2020 forecast could not have considered the implications of the 6th IPCC report or the revised 2021 BEIS figures, because it was prepared before they were published, and the common assumptions on Brexit and Covid 19 in 2020 were that they would have settled down more swiftly than occurred.. My argument is not that they were incompetent, but that they have been made invalid by developments since, and therefore cannot now be relied on.