CSACL Response to TR020001-001683-8.43 (Response to Chris Smith Aviation Consultancy Limited - Initial Review of DCO Need Case for the Host Authorities)

Ref.	York Paragraph	CSACL Response
1	1.1.4 Materiality of CSACL comments of slower growth	Comments in relation to slower growth are material as they may guide the Host Authorities and the ExA in the weight to be given to the several different forecasting scenarios presented in the Need Case. Ultimately, decision-makers need to make choices between scenarios and reach a conclusion despite the uncertainty.
2	2.1.2 b Consideration of Climate Change Committee recommendations	The opinion and recommendations of the CCC were presented to ensure the Host Authorities (and the ExA) were aware of these facts. At no point has it been suggested that they form part of current government policy.
3	2.1.3 DfT explanation of similarity between forecasts pre- and post-Pandemic	York refers to Paragraph 3.6 of a Jet Zero document noting a fuel efficiency feedback loop which lowers fuel costs leading to higher demand as the explanation of the similarity. Notwithstanding the very small likelihood of a feedback loop relating to a small contribution to a minority fare component having such a large impact on demand, a later sentence of the same Para 3.6 notes "*…The impact of higher carbon pricing in the model is the opposite – carbon costs lead to higher fares and therefore lower demand…*". In the 2017 DfT forecasts, by 2050, fuel costs were estimated to represent 18% and carbon costs 21% of average air fares. In the 2017 work, carbon costs in 2050 were assumed to be £221 per tonne of CO_2, while in 2022 for Jet Zero it was £378 per tonne. With an increase in price elasticity from -0.6 in 2017 to -0.9 in 2022, it is difficult to understand how this could be an explanation of the similarity of the two forecast outcomes. The DfT, during a meeting with CSACL on 26 September 2023, indicated that the similarity in forecasts was not due to the feedback loop, but to other factors including the division of the European market into two forecasting

		regions (previously identified by CSACL), and the use of higher load factors in the passenger allocation model (the NAPAM module).
4	2.1.4 DfT elasticities	York notes that elasticities were recalibrated in 2022, but does not make clear that this was when the recalibration was undertaken and that the underlying passenger data was pre-Pandemic, as noted in Paragraph 3.34 of the CSACL report (REP2-057). CSACL's point was not that the DfT's elasticies were not the best option available, but rather that they carried a weakness of being based on pre-Pandemic relationships. The DfT has confirmed to CSACL that the elasticities reflect passenger behaviours and attitudes up to 2019 on air travel before the Pandemic. Hence, they reflect, *inter alia*, pre-Pandemic behaviour on use of video-conferencing, awareness of climate change, and priorities for the use of disposable income. The form of the DfT's forecasting model (and it is believed also of York's) is that an annual change in an explanatory variable (e.g. UK GDP) is multiplied by an elasticity to give passenger growth in that year. Hence, a faster increase in video-conferencing has a long term impact and decreases the forecasts produced even if the end-point use of video-conferencing in 2050 is the same.
5	2.1.5 The CCC's advice	CSACL does not and has not disputed the points made by York. Again, reference to the CCC was made to ensure the HAs were fully informed.
6	2.2.1 CSACL downside risks	These are noted by York, although in the CSACL document the economic forecasts were described as 'generally' pre-dating the major external events (some did not), although this is acknowledged in York's paragraph 2.2.2. The CSACL report (REP2-057) also noted York's difficulties (faced by all forecasters).
7	2.2.3 More optimistic UK GDP forecasts	The assumptions given in Table 2.1 of York's response, show the same growth rates post 2030 for the Need Case and more recent projections, so are not 'more optimistic' in the long term. Applying the growth rates to a 2019 base of 100 shows the Need Case (not the more recent assumptions presented by York) to be more optimistic by 2030, while starting from 100 in 2022 results in identical growth to 2030.

		CSACL's concern is though not focused on the monthly micro adjustments and revisions, but rather with the wider economic background to the forecasts.
8	2.2.5 Higher staff costs and Balance Sheet rebuilding are short term fluctuations	The Pandemic had a very considerable impact on the air transport industry, with passengers at UK airports dropping to below 10% of the previous peak (on a moving annual basis), leading to considerable job losses, and significant borrowing and equity injections to companies involved in the business. The recovery saw a shortage of staff in many areas which sometimes resulted in disruption to service standards. While higher staff costs may prove to be part of a normal cycle of variation of staff costs (as suggested by York), rebuilding the balance sheet will represent significant extra costs in the short to medium terms. With the structure of the forecasting models being based on calculation of annual changes this will delay growth during the whole forecasting period. It is possible that these factors may already be holding back growth.
9	2.2.6 DCO forecasts are not the same as those used by DfT	This has been acknowledged (REP2-057, Para 3.33). It also means that they do not have the same pedigree as those of the DfT.
10	2.2.7 Costs of SAF	The carbon costs included in the DfT's model are for the purchase of emissions permits bought as part of the UK ETS and CORSIA schemes. The funds raised are intended to pay for the purchase of permits from sectors that are easier to de-carbonise than aviation, for offset schemes and for carbon removal projects including Carbon Capture and Storage (CCS) infrastructure. It is not clear that the carbon costs used in the model would generate sufficient funds for these off-set measures, particularly in the short/medium term. There is no reason why these costs in total should equal the total incremental costs of purchasing SAF (rather than Kerosene), unless, as a policy, carbon costs were set sufficiently high to act as an incentive. This would firstly require the total for the true aviation carbon costs to be less than the total incremental costs of SAF; and secondly it would need agreement within CORSIA and to a lesser extent the ETS for this to be implemented. It may of course be that carbon costs are greater than incremental costs of SAF, although the exercise undertaken by CSACL and noted in Para 3.39 (REP2-057) suggests that this is not the case for the assumptions in the short/medium term to the early/mid 2030s, largely as a consequence of very low CORSIA carbon costs, with CORSIA flights accounting for some 70% of UK emissions.

		This latter exercise was discussed with DfT on 26 September. The Department appeared conscious of the low CORSIA carbon costs in the short/medium term which make it cheaper for airlines to pay the carbon cost rather than to buy SAF. It is therefore planning to introduce a SAF Mandate which would require, *inter alia*, airlines to buy a certain amount of SAF. It is also including explicitly SAF costs in its modelling for the next forecasting exercise which is underway. On the basis of this, CSACL sees no reason to revise its view that there is downside risk arising from the carbon costs assumptions (and absence of SAF costs) in the DfT's most recent published forecasts.
11		York has focused on some of the factors which influence demand growth, but there are others, including: • the use of optimistic assumptions of improvements in fuel burn (REP2-057, Para 3.32), • future changes in ADP, • any increases in the ownership costs and non-fuel and non-carbon operating costs of new aircraft entering airline fleets (and such changes are not included in the DfT's most recent forecasts). Additionally, if the possibility of more 'unknown unknowns' is considered (and three have emerged in recent months in the form of RAAC concrete, UK local government financial crises, and the violence in the Near East) they add to the downside risk identified. It should be noted that the overall downside risk is important because it arises from consideration of these possibilities collectively: some of the risks may not materialise, but CSACL considers it is improbable that none will happen.
12	2.2.11 Capacity assumptions at Heathrow and Gatwick in the absence of additional runways	York has indicated that it has capped the capacities of these two airports at 90 mppa and 50 mppa in line with the figures in the DfT's 2017 forecasts. In the 2022 modelling for the Jet Zero Strategy (Modelling Framework), the DfT indicates in Para 3.16 that it only set a passenger terminal capacity if there was a planning restriction in place. For most airports, the DfT calculated an effective passenger capacity by multiplying ATMs by expected numbers of passengers per ATM for each year. This is in line with the MBU policy. This means that passenger capacity was considered by the DfT not to be a static figure but a parameter that could change. With no passenger caps in place at either Heathrow or Gatwick, the DfT did not assign a passenger capacity but its model allowed their capacities to rise without constraint to reflect growth in average passengers per ATM.

		As noted in TR020001-001882 (Page 6 of the Host Authorities' ISH2 Post Hearing Submission), Gatwick Airport Limited also considers that its passenger handing capacity will continue to grow even with a fixed number of aircraft movements as a result of continuing increases in the average number of passengers per ATM.
13	2.2.13 The role of long haul services in allowing passengers per ATM to increase at Heathrow	York suggests that there was a clear trend evident in CSACL's Figure 3.1 (REP2-057) that long haul passengers displacing short haul passengers at Heathrow. While CSACL considers the gradient (or lack thereof) in this chart speaks for itself, in the period from 2009 to 2019, the percentage of long haul passengers at Heathrow rose from 52.9% to 53.0%. The development was not monotonic suggesting that changes are more related to small perturbations than to any clear trend.
14	2.2.14 No material effect on Luton demand projections	The CSACL analysis suggests that the application of a passenger cap of 90 mppa at Heathrow in the Core Planning Case makes a five to seven year difference in when Luton might reach 32 mppa: in 2041 or 2043 with the cap (REP2-057, Para 3.64 or York's demand case respectively) and 2048 without a cap (REP2-057,Para 3.62 and Table 3.7). CSACL assumes that some parties may consider this material rather than largely moot.
15	2.3.4 Long haul projections	CSACL recognises that the long haul destinations are indicative, although presumably these are the destinations which show the most potential on an historic basis. CSACL reservations are based not just on the current dominance of Heathrow in the provision of long haul services, but also of its own experience of working with airlines to develop such services and the many factors that are considered. It expressed an opinion on which destinations were most likely to attract a service from Luton and accepted if they did not materialise it is likely they would be replaced by short haul services.
16	2.3.8 Timing of reaching 32 mppa	As the DCO's Core Planning Case is based on one extra runway in the London area (an assumption agreed by CSACL as the most likely outcome), the more important date to consider in the CSACL assessment is that of 2048. It should be noted that this was based on (a) CSACL's best estimate of what York's wider demand forecast might be and (b) does not apply any of the downside risks factors identified: if these were to be applied, the time when 32 mppa might be reached would be later than 2048. It should also be noted that CSACL's high-level assessment of timings described in REP2-057, Para 3.62 with a passenger cap at Heathrow produces in the Core Planning Case a 32 mppa date of 2041 (REP2-057, Para 3.64), against York's more detailed approach of 2043. In other words, the CSACL approach and apportionment

		assumptions produce an earlier date than does York. Use of a more detailed approach without a passenger cap at Heathrow would be likely to delay reaching 32 mppa at Luton beyond 2048, even before adjusting for the many factors with downside risk.
17	2.3.10	Others and time will judge which aspects of the passenger forecasting exercises are more reliable. CSACL notes though that a detailed modelling approach does not of itself lead to a robust set of forecasts.
18	3.2 Cargo Forecasts	CSACL made some comments about York's cargo forecasts and the associated cargo aircraft movements but had concluded that the projections were acceptable for assessment purposes and sees no reason to change these conclusions.
19	3.3.2 Sustainability of 87% load factor	CSACL did not suggest that the Applicant considered an 87% load factor was unsustainable. The second sentence of REP2-057, Para 4.10 reads: "*It* [York] *then argues that this growth was not sustainable because of the inability to increase the seating capacity of aircraft using LTN.*" This clearly states that it is the growth which CSACL suggests York considers is unsustainable rather the 2019 load factor. CSACL's concern was with the reason York gave for this position. CSACL makes clear at Para 4.15 (REP2-057) that while York's load factor assumptions may be a little conservative, they are not unreasonable for the purposes of assessment. CSACL sees no merit in further discussion of this point.
20	3.6 Night Period Aircraft Movements	York and CSACL discussed these points prior to completion of the CSACL report [REP2-057], in which CSACL agreed that York's suggestions for handling this matter were plausible. CSACL sees no need for further comment.
21	4 No Development Case	CSACL notes the points made by York, and although not agreeing with all of them, sees little value in debating them, having acknowledged in its report that the differences in environmental assessments may not be material.
22	5 Overall Conclusions	While CSACL considers the demand forecasting approach adopted by York to be reasonable, it does not accept that the forecasts produced are robust and considers that environmental impacts and economic benefits will be seen later than in the Core Planning Case. The Applicant's Slower Growth Case offers a more realistic evaluation, although this may still be too early.