York Aviation

Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum

Air Traffic Forecasts

James Brass

Proof of Evidence

Section 78 Town and Country Planning Act 1990 Appeal by Bristol Airport Limited Relating to Bristol Airport, North Side Road

Planning Inspectorate Reference: APP/D0121/W/20/3259234
North Somerset Council Reference: 18/P/5118/OUT

1. Introduction

1.1. Qualifications and Experience

1.1.1. My name is James Brass. I am a Partner with York Aviation LLP (York Aviation), a specialist air transport consultancy providing services including aviation policy advice, economic impact assessment, air traffic forecasting, and specialist advice on airport capacity assessment and planning. I joined York Aviation from its sister company York Consulting, a general economics and economic development consultancy, in 2004.

1.1.2. I graduated from the University of York, with an Honours degree in Economics. I have over 20 years of experience working with the aviation industry.

1.1.3. During my time with York Aviation, and before that with York Consulting, I have worked with a wide range of clients with an interest in the aviation industry. I have provided advice to airports, airlines, financial institutions, investors, trade associations, national and local governments, and economic development agencies. This advice has encompassed a broad range of topics from demand forecasting to economic impact assessment to policy and strategy advice. One of my key specialisms is demand forecasting.

1.1.4. Specifically in relation to demand forecasting, my experience includes working with London Luton Airport Limited, with Stansted Airport Limited in relation to demand forecasts to support engagement in relation to the Civil Aviation Authority's (CAA) regulatory review for Quinquennium 6, and with London City Airport in relation to the preparation of long-term demand forecasts to support its recently published Master Plan. I have also advised the Department for Transport in relation to the development of air traffic forecasts to support the Regional Connectivity Fund and worked with Transport for the North in recent years to forecast demand growth at the Northern airports in the context of potential policy interventions. Further afield, I have provided air traffic forecasting advice to bidders in relation to the ongoing letting of airport concessions in Brazil and to a bidder in relation to its bid for the airport concession at Belgrade Airport.

1.1.5. In relation to Bristol Airport, I have been engaged by Bristol Airport Limited (BAL) on a number of occasions over recent years to consider a range of issues. This has included economic impact assessments for the airport, the preparation of supporting economic evidence for new route development, and advice in relation to the reform of air

passenger duty (APD) and its potential devolution in Wales. This previous experience has given me strong background knowledge of Bristol Airport's market and market performance.

1.1.6. I was the lead author of the economic impact assessment for the proposed development of Bristol Airport to accommodate 12 million passenger per annum (mppa) (the Appeal Proposal) that was submitted with the planning application in December 2018, Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum: Economic Impact Assessment (CD2.8 York Aviation, 2018), and the associated the Regulation 25 request responses relating to socio-economic matters (CD3.4.3 York Aviation, March 2019) (CD3.6.7 York Aviation, May 2019). I was also the lead author of the economic impact assessment addendum report submitted alongside the Environmental Statement Addendum (ESA) in 2020, Development of Bristol Airport to Accommodate 12 Million Passengers Per Annum: Economic Impact Assessment Addendum (CD2.22 York Aviation, 2020).

1.1.7. York Aviation was engaged by BAL to provide updated air traffic forecasts to inform the planning appeal against North Somerset Council's (NSC) decision in March 2020 to refuse planning permission for the expansion of Bristol Airport to accommodate 12 mppa. The updated forecasts provided the basis for the supplementary environmental assessments for the Appeal Proposal presented in the ESA, and associated documents, that were prepared to take account of the global COVID-19 pandemic's impact on passenger demand and address the uncertainties associated with the rate at which demand will return.

1.1.8. The scope of this work can be summarised as follows:

- development of passenger demand forecasts for Bristol Airport expanding to a capacity of 12 mppa ('With Development');
- development of passenger demand forecasts for Bristol Airport where it is limited to a capacity of 10 mppa, in line with its existing planning permission ('Without Development');
- production of three different scenarios for future growth; a Core Case, which reflects the 'most likely' path for future passenger demand growth; and two sensitivity test scenarios, a Slower Growth Case, in which passenger demand grows more slowly than anticipated, and a Faster Growth Case, in which passenger demand grows more quickly than anticipated. The latter two

scenarios were to provide a basis for considering uncertainty within the environmental assessments, with particular reference to the impact of the COVID-19 pandemic;

- building on the Core Case passenger demand forecasts, the production of associated air transport movement (ATM) and other aircraft movement forecasts, busy day timetables, fleet mix and 92 day fleet mix, night movements and quota count, average range forecasts, and passenger surface origins and destinations;
- development of a structured assessment of airport passenger demand displacement in the event of Bristol Airport's growth to 12 mppa.

1.1.9. I was the Project Director for this work and the lead author of the associated air traffic forecasts report submitted with the ESA, Passenger Traffic Forecasts for Bristol Airport to Inform the Proposed Development to 12 mppa (CD2.21 York Aviation, 2020). I have been supported in preparing this Proof of Evidence by other members of the York Aviation team, in particular Louise Congdon and Richard Connelly.

1.2. Scope of Evidence

1.2.1. My Proof of Evidence concerns the air traffic forecasts for the Appeal Proposal. The air traffic forecasts are not a main issue for the appeal; however, they have been identified by the Inspectors, in their Case Management Conference Summary Note, as a sub-issue.

1.2.2. In this Proof, I will first consider the broader context around air traffic growth in the UK (**Section 2**) before presenting a summary of our forecast methodology and an overview of the results of our traffic forecasting assessment, including supporting rationale (**Section 3**). I then address specific issues raised in relation to traffic forecasting by North Somerset Council (NSC), the Parish Councils Airport Association (PCAA), and Bristol XR Elders in their respective Statements of Case, as well as a number of third party comments (**Section 4**) before presenting my conclusions (**Section 5**).

1.2.3. This Proof draws upon the passenger traffic forecast report (CD2.21 York Aviation, 2020).

1.2.4. It should be noted that my Proof of Evidence does not address the wider need case for Appeal Proposal, including conformity with national aviation policy. These issues are dealt with by Mr Melling in his planning evidence.

1.2.5. The evidence which I have prepared and provide in this proof of evidence is true and I confirm that the opinions expressed are my true and professional opinions.

1.3. Summary of Evidence

1.3.1. In this Proof, I will present evidence that supports a number of key conclusions:

- long-term air transport growth is related to fundamental drivers that are well recognised. These drivers remain in place in the UK and will do so into the future;
- UK Government economic policy envisages a growing, increasingly prosperous, Global Britain and this is reflected in air transport policy. This global focus, combined with the 'levelling up' agenda, will continue to drive air traffic growth in the future;
- the UK Government expects growth in aviation demand in the future in the UK and the South West market;
- while there is uncertainty around the speed of recovery from COVID-19 there is a general consensus amongst industry commentators that demand will return to 2019 levels by around 2024 once travel restrictions begin to lift and air traffic becomes governed by its traditional drivers once more;
- Bristol Airport has a strong track record of growth and is the dominant airport in the South West market. Bristol Airport has outperformed the UK airport market and its local competitors over the long run and there is no reason to expect this pattern to fundamentally change in the future;
- the approach to forecasting chosen is a robust, best practice approach that takes proper account of forecasting uncertainty. It enables the effective consideration of a range of issues around future growth that means that the forecasts are a sound and reasonable basis for assessment;
- the forecasts identify that Bristol Airport is expected to reach a passenger throughput of 12 mppa in the time period between 2027 and 2034, with a reasonable most likely outcome being about 2030;
- that the outputs from the passenger and air transport movement and forecasts used in the environmental impact assessments are reasonable and appropriate

and that these are unlikely to be significantly influenced by the speed of growth of Bristol Airport;

- that the comments made by third parties have no basis in evidence, demonstrate misunderstandings about the operation of air transport markets, and reflect speculation about the future rather than being an evidence based assessment of the future growth potential of Bristol Airport.

2. Context for the Air Traffic Forecasts

2.1. Introduction

2.1.1. In this Section of my Proof, I consider the context and background to the air traffic forecasts for the Appeal Proposal.

2.1.2. Firstly, I set out the fundamental drivers of long-term air traffic demand and analyse the UK's position in terms of these drivers moving forward. I then move on to consider UK Government policy in relation to these issues and the Government's view on future air transport growth in the UK. I also analyse the current short-term context associated with the COVID-19 pandemic and explain why the current restrictions in the market are, ultimately, of limited importance in considering what is at issue here, the long-term growth of Bristol Airport.

2.1.3. I then provide further context for the forecasts for Bristol Airport, considering the long-term drivers for passenger growth in the context of COVID-19, examining industry views on recovery from COVID-19 and the long-term historic performance of Bristol Airport.

2.2. The Drivers of Air Transport Demand

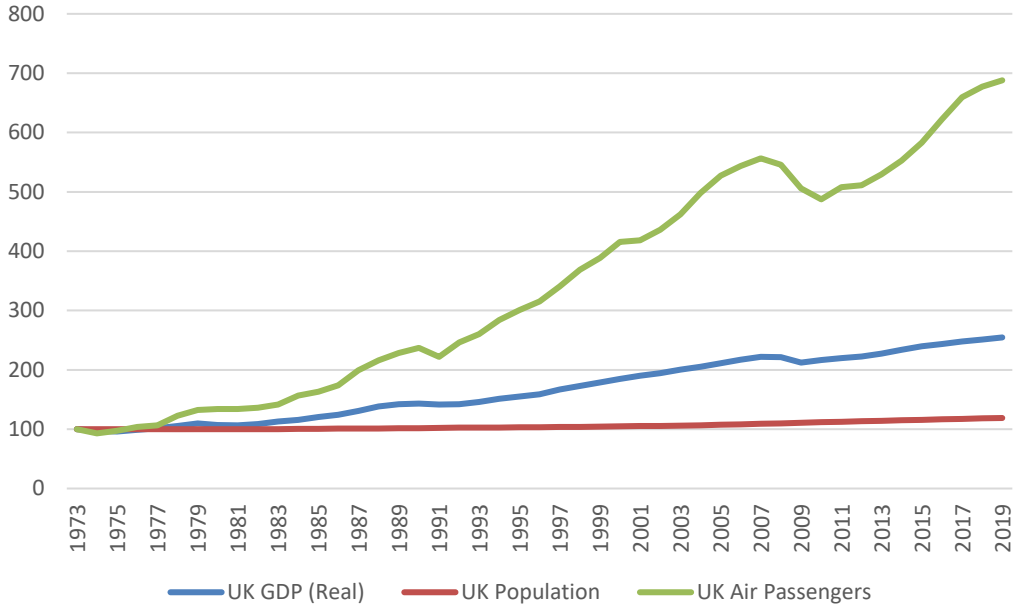
2.2.1. The demand for air travel is fundamentally driven by economic and population growth. With the former related, in part, to the latter. Within that growth, people travel for different purposes. Some people travel for business, because fundamentally people prefer to do business face to face. Some people travel to visit friends and relatives and some for holidays, neither of which can be done other than by travelling. Others travel for study, where again face to face contact for teaching is preferred, alongside the broader benefits of living in and experiencing another culture. This basic relationship is well established and has been the basis for long-term air traffic forecasting for a long time. It is also intuitively logical and sensible. The more people there are in a country, the more people will fly. The richer those people are, both collectively and individually, the more they will fly.

2.2.2. This long-term relationship between population growth, economic growth and air traffic growth in the UK can be seen in Figure 1. Air passenger numbers have grown at a multiple of GDP over the long run and GDP has grown at a multiple of population. There have clearly been other influences on growth, notably the falling cost of air

travel over time, driven by liberalisation and greater efficiency, but the fundamental link between long run economic growth and the demand for air travel is clear[1].

2.2.3. Indeed, the Department for Transport's econometric analysis that underlies its long-term aviation forecasts has identified an overall elasticity of air passenger growth to economic growth of around 1.2 (CD6.2 Department for Transport, 2017, p. 22). It also notes the link between economic growth and population growth. The Department's 2013 Aviation Forecasts Report, provides a review of other research into air travel elasticities to economic growth, which supports the Department's findings (Department for Transport, 2013, p. 19 Excerpt in Appendix 2). This establishes the basic context for considering future air passenger demand growth that, if the UK economy continues to grow, then there will be continued growth in the demand for air services.

Figure 1: Long-term Comparison of UK Population, Real GDP and Air Traffic Growth (Index: 1973 =100)



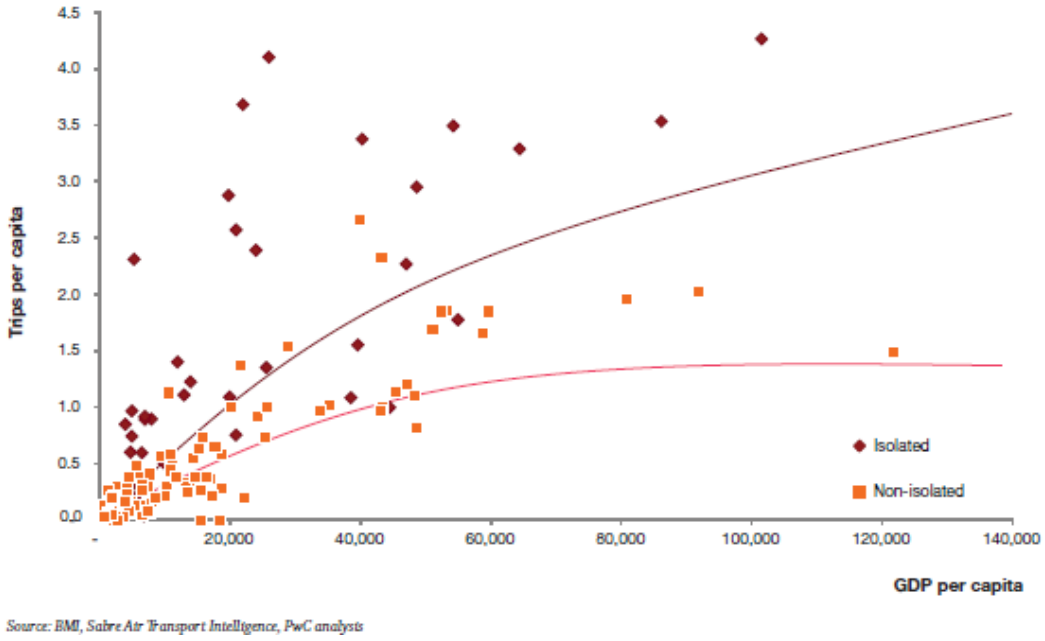
Source: ONS and CAA Statistics.

2.2.4. In considering the fundamental drivers of air travel demand, it is also important to consider the link between personal wealth and propensity to fly. As again, this helps to understand the underpinnings of air passenger demand in the UK. Research by PwC (PwC, 2014, pp. 22-23 Excerpt in Appendix 2) considered propensity to fly in around 200 countries worldwide (see Figure 2). This clearly shows the strong, positive

[1] Air passenger numbers fell substantially in 2020 as a result of travel restrictions associated with COVID-19. This was in the great part not related to the underlying drivers shown but to the fact people were not able to travel.

link between GDP per capita and the number of trips per capita. It also highlights that isolated countries, such as island nations like the UK, are likely to have particularly strong propensities to fly.

Figure 2: PwC Analysis of Propensity to Fly



Source: (PwC, 2014)

2.2.5. This, again, helps to explain the growth that has been seen in the UK market over time and why the market is fundamentally strong and likely to grow over the long-term. As the UK has increased its GDP per capita over time, it has enabled individuals to make more trips, and, while growth in propensity to fly is likely to have slowed, the UK's status as an island nation means that propensity to fly is likely to continue to increase with continued economic growth.

2.3. The Future Outlook for the UK Economy

2.3.1. Above, I have established clearly the link between long-term economic growth and the growth in air passenger demand. I now turn to the future economic outlook for the UK economy and, by extension, the air transport market in the UK in which Bristol Airport operates.

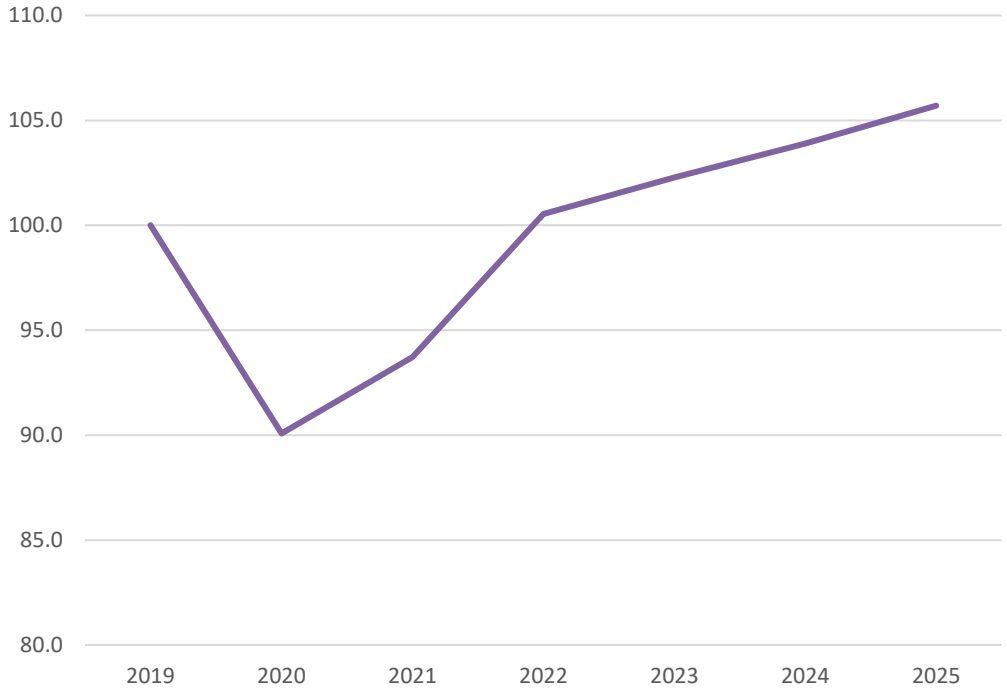
2.3.2. Currently, the UK economy is, of course, suffering from the effects of the COVID-19 pandemic, and 2020 saw one of the largest falls in UK GDP ever recorded. However, from the point of view of the Appeal Proposal, it is not the short-term that matters but the long-term. It is clear that UK economic growth will return to pre-pandemic levels in the long-term and that this will drive growth in air passenger demand as

current travel restrictions are eased. In this context it is clear that passenger demand will grow to 12mppa, although over a longer timescale than was envisaged in the original pre-pandemic forecasts. The key issue is to understand the broad timescale within which that growth to 12mppa is likely to take place and that is considered in Section 3 of my proof below.

2.3.3. What is clear, however, is that economic growth is already returning and the UK economy is expected to recover to 2019 levels of GDP by 2022, according to the Office for Budgetary Responsibility's (OBR) March 2021 economic forecasts (see Figure 3). The EY ITEM Club, a leading economic forecaster, has recently substantially upgraded its GDP forecast for 2021 (CD13.5 EY ITEM Club, 2021), reflecting the strong forward prospects for the UK economy given the success of the vaccination programme. The Bank of England also significantly upgraded its GDP forecast for the UK economy (Bank of England, May 2021, p. 11 excerpt in Appendix 2) in May 2021 to 7.25% growth for 2021, up from 5% in its previous forecast.

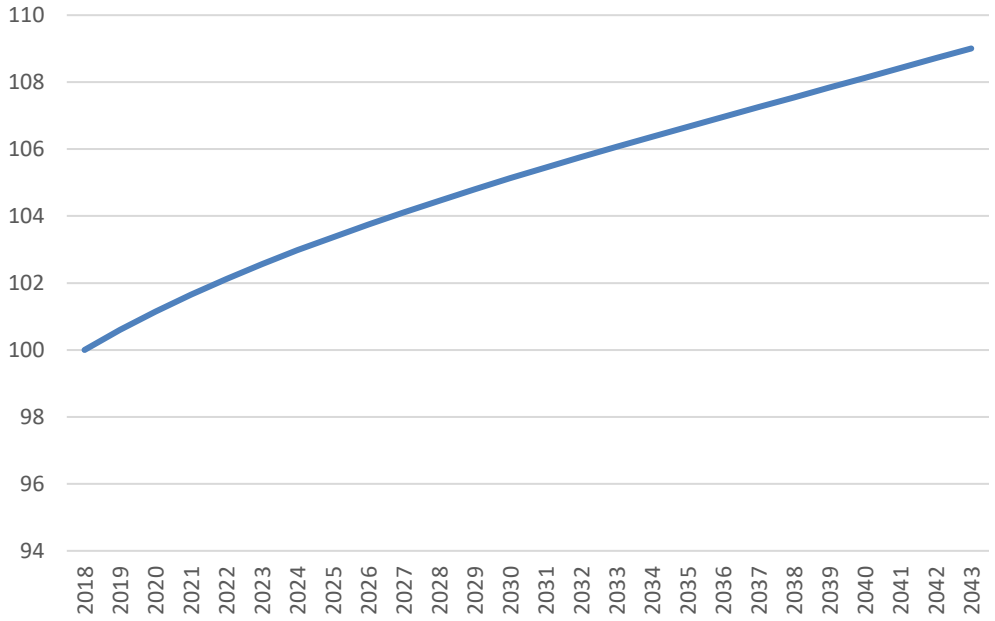
2.3.4. The medium to long-term prospects for the UK economy, once the immediate effects of the pandemic are over, are strong. Economic growth is forecast to return strongly and this will, ultimately, support air transport demand growth in the UK market moving forward.

Figure 3: Office for Budgetary Responsibility UK GDP Forecast (March 2021)



2.3.5. This view of long-term economic growth is supported by the UK's long-term population projections prepared by the ONS (see Figure 4). This forecast sees continued population growth in the UK over the coming decades. This will underpin future economic growth and, with it, air transport growth.

Figure 4: UK Population Projections



Source: ONS National Population Projections (Accessed via NOMIS).

2.4. UK Government Economic Policy

2.4.1. I would also highlight the extent to which UK Government economic policy is focussed on returning the UK to economic growth, which will, as I have demonstrated, restore the underlying driver of long-term air passenger growth. In March 2021, the Government published Build Back Better: Our Plan for Growth (CD11.10 HM Treasury, March 2021). This strategy is focussed on rebuilding the UK economy following the COVID-19 pandemic and it highlights a number of themes that are pertinent to considering the air traffic forecasts for the Appeal Proposal.

2.4.2. Build Back Better sets out the Government's vision for a 'Global Britain':

"Following our exit from the European Union, an independent Global Britain can take advantage of the opportunities that come with our new status as a fully sovereign trading nation. We have the opportunity to reinvigorate international cooperation and institutions, working with others to tackle global challenges head on." (CD11.10 HM Treasury, March 2021, p. 92)

2.4.3. It emphasises a strategy for Britain that sees it firmly embedded in the global economy, through trade, foreign direct investment, and competition. It sees the UK as very much outward looking and that this is central to securing future growth and prosperity. This international focus will ultimately drive requirements for air travel that will need to be met if this vision is to be achieved.

2.4.4. Build Back Better highlights the importance of the so called 'levelling up' agenda and the need to ensure that all of the UK benefits from future economic growth and highlights, in particular, the role of the UK's major cities in driving forward productivity and the importance of ensuring the UK's cities are globally competitive and well connected:

"Cities are a fundamental driver of productivity growth. They play a critical role in the success of the wider region – successful regions benefit from strong cities to anchor growth. Our long-term vision is therefore for every region and nation of the UK to have at least one globally competitive city at its heart, helping to drive prosperity and increasing opportunity for all those who live nearby." (CD11.10 HM Treasury, March 2021, p. 75)

"To achieve this vision, our core cities like Birmingham, Manchester and Glasgow must become well-connected, innovative hubs of high-value activity." (CD11.10 HM Treasury, March 2021, p. 76)

2.4.5. This focus on levelling up and globally focussed regional cities will lead to economic growth and, with it, air transport demand across the UK.

2.4.6. I also note Build Back Better's comments in relation to net zero and its comments around the importance of the Jet Zero Council (CD11.10 HM Treasury, March 2021, p. 88) in enabling net zero aviation by 2050, highlighting the continued future importance of aviation growth in its role in supporting the economy.

2.4.7. The overall focus of Build Back Better on economic growth, internationalisation, and levelling up, will drive future air transport demand across the UK but also highlights the continued importance of enabling air transport growth to support these goals, consistent with existing aviation policy.

2.5. The Link to UK Air Transport Policy

2.5.1. The UK Government is strongly supportive of long-term sustainable aviation growth to support the economic and social benefits that it brings and is focussed on enabling growth at UK airports to support this position:

2.5.2. The 2013 Aviation Policy Framework makes clear at the outset that the Government's primary objective is securing economic growth, within a framework that balances benefits and environmental costs:

"The Government's primary objective is to achieve long-term economic growth. The aviation sector is a major contributor to the economy and we support its growth within a framework which maintains a balance between the benefits of aviation and its costs, particularly its contribution to climate change and noise."

2.5.3. The Aviation Policy Framework goes on to make clear that a key objective of Government is to ensure that the UK has good air connectivity to support economic growth.

"One of our main objectives is to ensure that the UK's air links continue to make it one of the best connected countries in the world."

2.5.4. This support was re-iterated in the consultation document Aviation 2050: The Future of UK Aviation, which was published shortly after the submission of the 12 mppa planning application. In it, the Government states that:

"The government has been clear about the importance of aviation to the whole of the UK. Aviation creates jobs across the UK, encourages our economy to grow and connects us with the rest of the world as a dynamic trading nation. It also helps maintain international, social and family ties. This is why the government supports the growth of aviation, provided that this is done in a sustainable way and balances growth with the need to address environmental impacts." (CD9.29 HM Government, December 2018, p. 18)

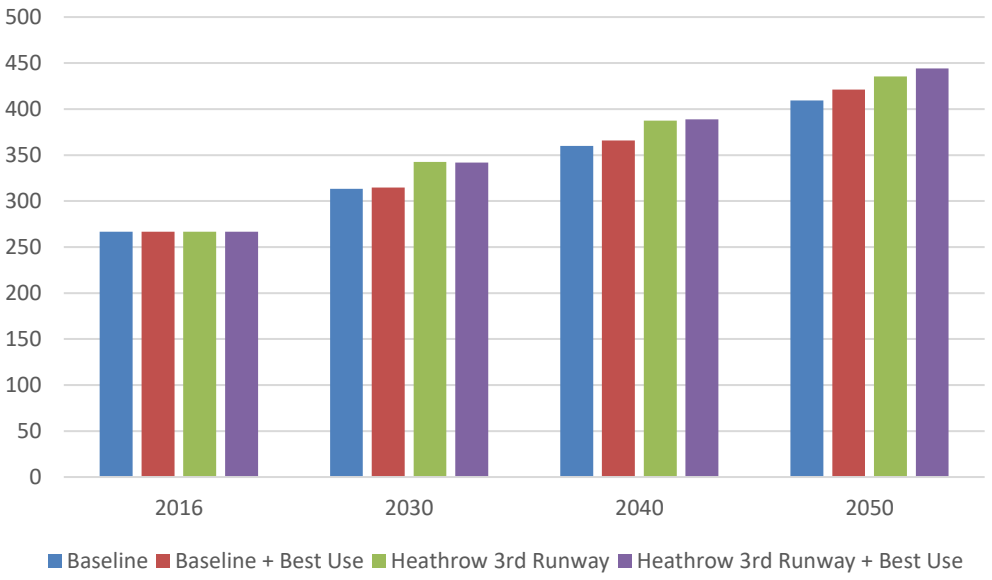
2.5.5. The Government's policy position is based on a long-term view of future growth in the UK air transport market, which is driven by economic fundamentals and not short-term variations in demand, and this is made clear within the UK Aviation Forecasts 2017:

"The purpose of these forecasts is primarily in informing longer term strategic policy rather than in providing detailed forecasts at each individual airport in the short-term; the uncertainty reflected by future demand growth scenarios at the national level is compounded at the level of the individual airport. At the airport level the department's forecasts may also differ from local airport forecasts. The latter may be produced for different purposes and may be informed by specific commercial and local information – such information is particularly relevant in the short-term." (CD6.2 Department for Transport, 2017, p. 13 para. 1.3)

2.5.6. I would also highlight the statement here in regards to the Department's forecasts of individual airports. Whilst the Department for Transport's UK Aviation Forecasts identify passenger throughput capacities for other airports other than Heathrow, this is by reference to their consented capacities, the Department also states that *"the forecasts should not be considered a cap on the development of individual airports"* (CD6.2 Department for Transport, 2017, p. 13). In fact, the Department for Transport forecasts demand in the South West region to increase by some 76% to 2050, with overall market share rising from 4% to 5%. This growth represents an increase in passengers originating in the South West of England from 14.3 mppa in 2016 to 25.1 mppa in 2050. This suggests a strong and growing market for Bristol Airport within its core catchment area, where its wide network of routes means it is the main provider of airport services. I return to the fundamentals supporting Bristol Airport's future growth below but would note that this position articulates the importance of preparing forecasts for the Appeal Proposal at a local level.

2.5.7. In December 2018, the UK Government published its future strategy for UK aviation in Beyond the Horizon: The Future of UK Aviation - Making Best Use of Existing Runways (CD6.4 HM Government, 2018). The strategy sets out the latest UK Government view of future passenger demand growth under a number of scenarios. This analysis builds on its UK Aviation Forecasts 2017 (CD6.2 Department for Transport, 2017). These are set out in Figure 5.

Figure 5: Making Best Use of Runways Passenger Forecasts (Terminal Passengers, millions)



Source: (CD6.4 HM Government, 2018)

2.5.8. This clearly demonstrates that, whatever the scenario considered, the UK Government expects demand for passenger air travel to grow significantly in the future over the long-term. This confirms that there is expected to a strong and growing market in the UK that Bristol Airport will be operating in.

2.5.9. I would also note that the Government's continued adherence to the 'Making Best Use' policy has been confirmed since the Government's adoption of 'Net Zero' in June 2019. The Secretary of State, in a statement to the House of Commons following the Court of Appeal's decision in relation to the Airports National Policy Statement, said:

"Our airports are national assets and their expansion is a core part of boosting our global connectivity. This in turn will drive economic growth for all parts of this country, connecting our nations and regions to international markets, levelling up our economy and supporting a truly global Britain.

We are also a Government who are committed to a greener future. This Government are acting to tackle climate change and we are the first major economy in the world to legislate for net zero emissions by 2050……

We fully recognise the importance of the aviation sector for the whole UK economy. The UK's airports support connections to over 370 overseas destinations in more than 100 countries facilitating trade, investment and tourism. It facilitates £95.2 billion of UK's non-EU trade exports; contributes at least £14 billion directly to GDP; supports

over half a million jobs and underpin the competitiveness and global reach of our national and our regional economies. Under our wider "making best use" policy, airports across the UK are already coming forward with ambitious proposals to invest in their infrastructure.

We are committed to working closely with the sector to meet our climate change commitments. Our global aviation emissions offsetting scheme, sustainable aviation fuels, greenhouse gas removal technology and eventually, electric net-zero planes, will all help play their part in the aviation sector decarbonising. We also welcome Sustainable Aviation's Industry-led commitment to net zero carbon emissions by 2050 and the range of innovative action this will unlock to achieve this outcome. We are investing nearly £2 billion into aviation research and technology, and this year my Department will publish an ambitious plan of actions setting out how we will decarbonise transport and support the UK achieving net zero emissions by 2050.

It is critical that vital infrastructure projects, including airport expansion, drive the whole UK economy, level up our regions, and unite our country." (CD6.8 Grant Schapps, 2020)

2.5.10. This statement makes clear the Government's continued support for regional airports in developing to support growth given the importance of air services in driving economic growth.

2.5.11. I note that the Stansted Airport appeal decision also recognised the Government's continuing commitment to 'Making Best Use':

"Since publication of MBU, UK statutory obligations under the CCA have been amended to bring all greenhouse gas emissions to net zero by 2050, compared to the previous target of at least 80% reduction from 1990 levels. In addition, the Government has indicated a new climate change target to cut emissions by 78% by 2035 compared to 1990 levels, effectively an interim target on the journey to net zero. Notwithstanding these changes, MBU has remained Government policy." (CD6.13 The Planning Inspectorate, May 2021, p. 5 para 24)

2.6. The Relevance of Short-Term Forecasts and Aviation's Recovery from COVID

2.6.1. I have discussed above the ultimate purpose of the Appeal Proposal forecasts. The air traffic forecasts are there to identify that Bristol Airport will reach 12 mppa, the timescale over which this threshold is expected to be reached and some sensitivity scenarios around this, and what the characteristics of the airport at 12 mppa are likely to be in terms of issues such as the fleet mix and diurnal profile (as determined by the Busy Day Timetables) at the airport. It is these latter outputs from the modelling that ultimately drive the results of the environmental assessment of the Appeal Proposal and these are not likely to alter significantly depending on the timescale over which 12 mppa is reached. This is a really important point to understand and one to which I return in Section 3.

2.6.2. In this context, the short-term forecasts for the UK air transport market and, by extension, Bristol Airport are of no great relevance to the environmental assessment. These short-term air traffic forecasts are not used within the environmental assessment process. They are simply a step on the path to 12 mppa. At present, it is not actually possible to observe the level of demand in the UK market. The extent of travel restrictions through much of 2020 and the early part of 2021 has been such that passengers could not travel whether they wanted to or not. All that could be seen is passenger throughput, which was the relatively small subset of demand that was allowed to travel at any given point in time.

2.6.3. The UK Government has now announced a programme for re-opening international travel and air transport markets, and the early steps have taken place, with some markets re-opening. However, it remains likely that travel restrictions will affect some markets for some time to come, meaning that the genuine level of demand (as opposed to throughput) is not being expressed. I would, however, note that there have been positive signs as regards to the level of pent-up demand following the early lifting of restrictions. Again, I return to this issue later in this Proof. From the perspective of the Appeal Proposal, what is important is that air passenger throughput will in time return to being driven by the long run drivers of demand described above. I do not believe there is any reason to believe that will not be the case when travel restrictions are fully lifted.

2.6.4. This medium to long-term return to the fundamental drivers of demand is central to the assessments of the recovery of air transport from COVID-19 that have been made. There is a range of industry commentators who have considered aviation's recovery post-COVID-19 and future growth, as has been highlighted in the air traffic forecast report (CD2.21 York Aviation, 2020). These commentators have generally suggested recovery to 2019 passenger levels by around 2024, with the suggestion that domestic and short haul markets likely to recover more quickly than long haul (CD13.7 IATA, 2020). More recent research by the Airport Operators Association (CD13.13 Steer, December 2020) has suggested recovery by 2025 for the UK air transport industry, but this is dependent on the successful rollout of vaccines globally. Similarly, ACI, a global trade representative of the world's airport authorities, published its latest view on recovery in March 2021 (CD13.1 ACI Airports Council International, March 2021). This sees global air traffic recovering to 2019 levels by 2024, even in its pessimistic scenario. These commentaries ultimately see short-term recovery as being heavily linked to successful vaccine rollout, which then enables travel restrictions to be removed and a return to normal economic drivers. The speed of recovery is a reflection of how fast vaccines are distributed and how effective they are.

2.6.5. Again, in considering how Bristol Airport might grow in the future, it is important to articulate the key messages from these various forecasts. There is, unsurprisingly, uncertainty around the exact speed of demand recovery and different commentators have different views. However, what is clear is that demand is expected to recover and that ultimately growth will return within a reasonable timeframe when travel restrictions are removed and markets can return to traditional drivers of demand.

2.7. The Effect of the Sixth Carbon Budget

2.7.1. One recent development in relation to the national policy position that is worthy of further comment is international aviation's inclusion within the UK's Sixth Carbon Budget.

2.7.2. In relation to the potential influence of this change on future growth, I would make a number of comments:

- it is important to be clear about the extent of change that international aviation's inclusion in the Sixth Carbon Budget actually means. The first to fifth carbon budgets include emissions from domestic aviation and, consistent with

Section 30(1) of the Climate Change Act 2008 ('CCA 2008'), these budgets did not formally include emissions from international aviation. However, in accordance with Section 10(2)(i) of the CCA 2008, the budgets were set at a level that "took into account" emissions from international aviation and shipping and this was done by setting those budgets allowing 'headroom' for such emissions. For the purposes of the budget setting process, the Committee on Climate Change recommended a 'planning assumption' for international aviation at 37.5Mt CO_2 and this was allowed for in each of the budgets. In other words, whilst international aviation has not been formally included previously within carbon budgets, it was always accounted for within the budgeting process. Hence, the formal inclusion of international aviation within the Sixth Carbon Budget is a change in the way emissions from international aviation are accounted for, but they were always taken into account in setting previous budgets. The recent Stansted Airport appeal decision recognised this as follows:

"Of course, the headroom approach of taking account of emissions from international aviation which has been used to date means that accounting for such carbon emissions as part of the Carbon Budget process is nothing new. What is set to change, however, is the process by which it is taken into account. As of yet, there has been no change to the headroom planning assumption. Nor has there been any indication from the Government that there will be a need to restrict airport growth to meet the forthcoming budget for international aviation, even if it differs from the current planning assumption." (CD6.13 The Planning Inspectorate, May 2021, p. 4 para 20)

- it should be noted, however, that the Sixth Carbon Budget does reflect the Government's 2019 commitment to 'Net Zero' by 2050, whereas the previous carbon budgets reflected the original commitment to reduce emissions by 80% in 2050 (compared to a 1990 baseline). This does mean that a more ambitious trajectory of emissions reductions budgets will be required to meet the revised 2050 target. This could result in some increase in the cost of flying over the longer term that could reduce demand. Equally, it could incentivise more rapid technological change that eliminates or even reverses this effect;
- the requirement to reduce carbon emissions and thereby aviation's effect on climate change has been recognised for some time and the recent

announcement as regards inclusion in the Sixth Carbon Budget does not change the direction of travel. UK Government policy in relation to aviation and airport growth has for some time been based on demand forecasts that have included an assessment of the impacts of increasing climate change costs on the demand for air travel. Aviation's inclusion within the Sixth Carbon Budget is, from this perspective, simply another step down an already well understood path;

- it should also be recognised that global aviation already has in place a long-standing programme, CORSIA, to meet its emissions targets, and that its proposed integration with the UK Emissions Trading Scheme, means that the sector will be committed to reducing its net emissions. It is also clear that the UK Government remains committed to this approach:

  "International aviation emissions are an important part of our decarbonisation effort. The Government recognises that global action helps reduce the risks of competitive market distortions and carbon leakage that can come with acting alone, and remains committed to global action to tackle international aviation emissions through international processes at the International Civil Aviation Organization (ICAO). We already play a leading role in the development and implementation of measures driving emissions reduction in the international aviation sectors at ICAO, including securing and developing the CORSIA scheme, and now in ICAO's work towards a long-term emissions reduction goal for international aviation.

  The UK is also already taking domestic action to reduce aviation emissions, for example, through the work of the Jet Zero Council, the £125 million we are investing into the Future Flight challenge, including aviation within our new UK Emissions Trading Scheme and allocating £18m of further funding for commercialisation of Sustainable Aviation Fuels." (Holly Greig, Department for Transport, April 2020, p. Copy in Appendix 2)

- I also note that the Sixth Carbon Budget applies to the period from 2033 to 2037; some 12 to 16 years into the future. This gives considerable time for the aviation industry to adapt and innovate to reduce average carbon emissions per passenger. The Government has made it clear that it will conduct a further assessment of the treatment of international aviation emissions in carbon

budgets in 2025, reflecting on any significant developments in domestic or international policy.

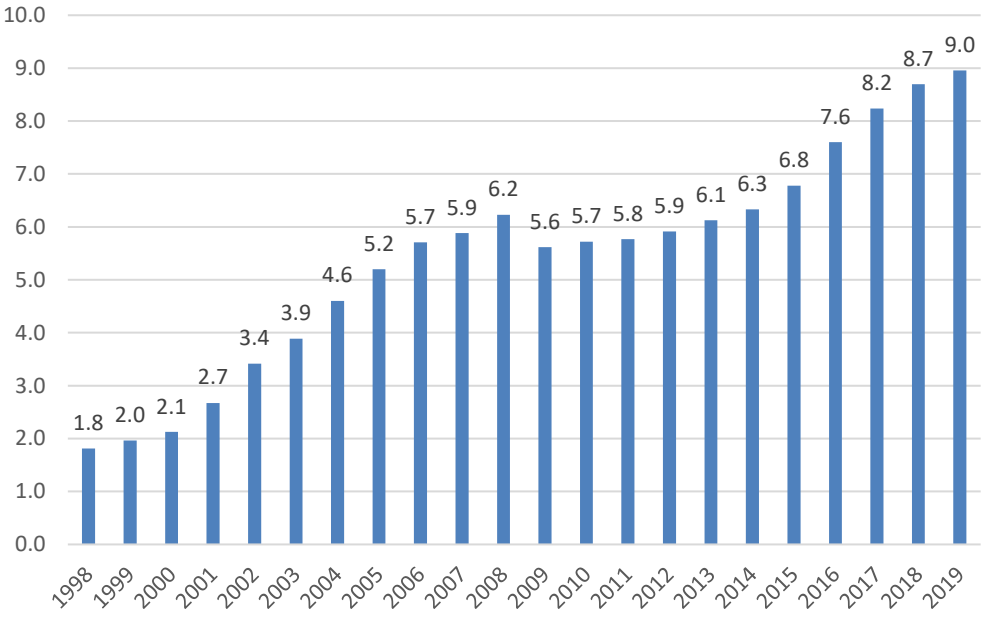
2.7.3. Overall, whilst the recent announcement concerning the Sixth Carbon Budget clearly represents an important evolution in the way that the emissions from international aviation are accounted for in UK legislation, I do not believe that it reflects a substantially changed circumstance in relation to forecasts of future aviation growth in the UK. There may be some potential for the Sixth Carbon Budget to result in slower growth in air passenger demand in the future but that simply highlights the importance of considering a range for future forecasts, as the Appeal Proposal air traffic forecasts have done. The cost of carbon will ultimately reflect the permits distributed to airlines and other industries as part of the UK ETS, their ability to trade those permits and, in addition, any offsetting through CORSIA. A 'tightening' of the budget will potentially increase prices to some degree slowing growth. However, again, the potential for higher carbon prices has been included within the Department for Transport's aviation forecasts and, also, in the Appeal Proposal forecasts, as is explained below in the air traffic forecasts report (CD2.21 York Aviation, 2020) and below in sub-section 3.2. Thus, in my view, any slowing effect on demand growth as a result of the Sixth Carbon Budget is simply consistent with the Slower Growth Case forecasts described below. I would also note that rising carbon prices would act as a significant incentive on airlines to stimulate and invest in innovation to reduce emissions, which will limit the slowing effect. This is, of course, entirely consistent with Government policy.

2.8. Bristol Airport's Catchment Performance and Historic Performance

2.8.1. Above, I have considered the long-term term drivers of air passenger demand and the context for future air passenger demand growth in the UK. I now turn to considering the specific context Bristol Airport in similar terms.

2.8.2. Figure 6 shows total passenger numbers at Bristol Airport between 1998 and 2019. It serves to make the simple point that Bristol Airport has been a strong, growing and resilient UK regional airport for a long time. Prior to the COVID-19 pandemic, it had experienced only one year with a decline in traffic, in 2009, immediately following the Global Financial Crisis. I would also note the steady recovery made by the airport post the Global Financial Crisis, with passenger growth averaging 2.4% per annum between 2009 and 2014.

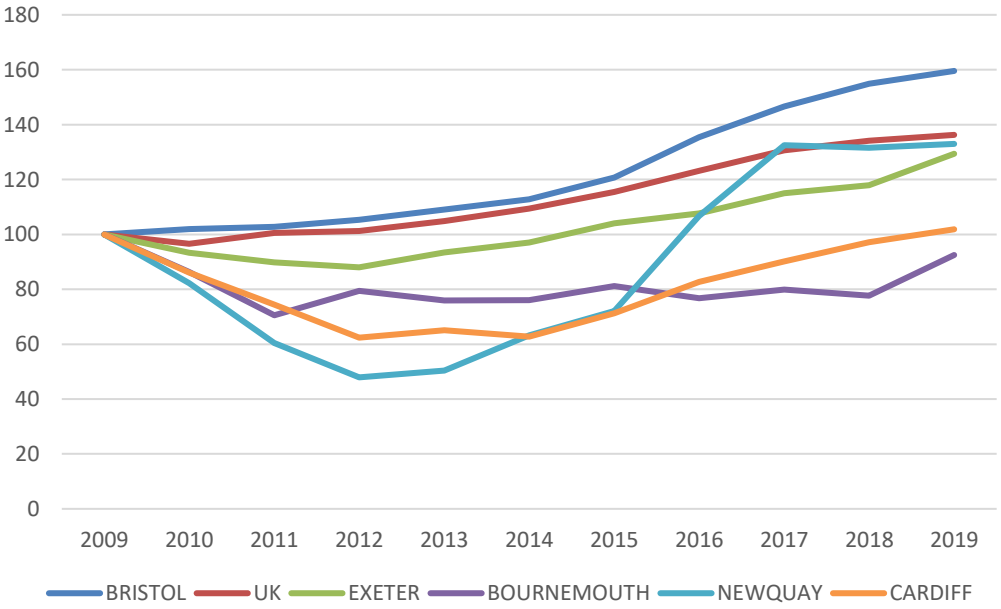
Figure 6: Passenger Numbers at Bristol Airport (millions)



Source: CAA Statistics.

2.8.3. Bristol Airport has been one of the best performing regional airports in the UK over the last 20 years. Figure 7 highlights Bristol Airport's relative passenger growth performance compared to the UK as a whole and the other regional airports that surround it since 2009. It demonstrates that Bristol Airport has outperformed the UK as a whole substantially; it has also outperformed the airports that surround it, having been able to capture and deliver growth more effectively and to a greater extent than these regional competitors.

Figure 7: Passenger Growth at Bristol Airport, its Regional Competitors and in the UK (Index: 2009 = 100)

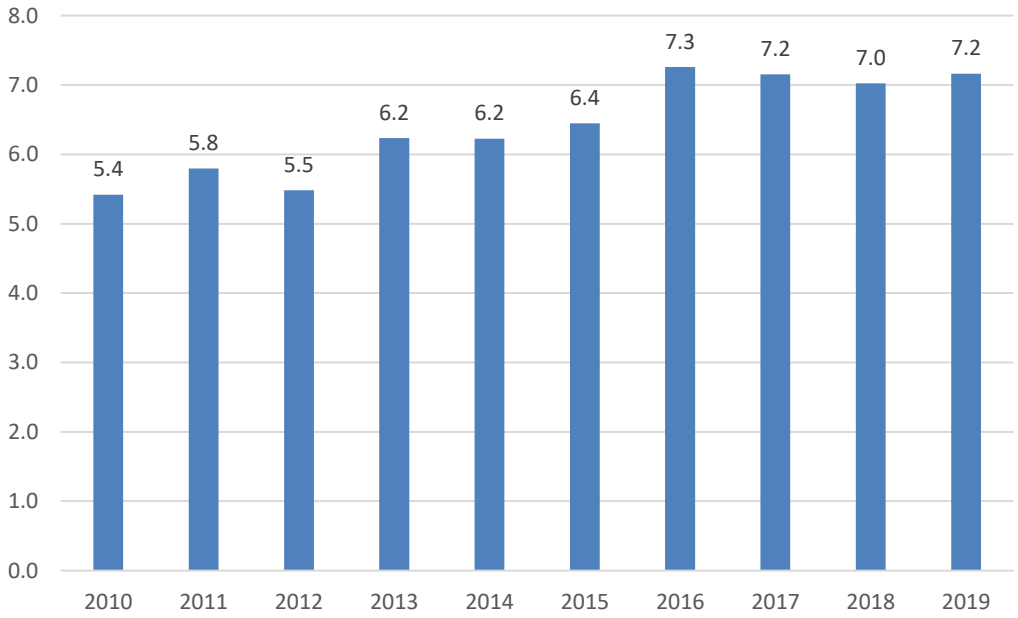


Source: CAA Statistics.

2.8.4. The simple point to draw from this analysis is that Bristol Airport has been for a long time, a strong and growing regional airport that has been able to outperform the UK as a whole and its nearest competitors.

2.8.5. This performance is, ultimately, a reflection of a strong, relatively affluent catchment area, in which the airport is the only significant local player. It is also worth noting in this context that passenger demand using airports outside of the South West has also continued to grow, demonstrating the strength of the South West demand base more generally. Figure 8 shows the number of passengers travelling to and from the South West via the airports that are surveyed on a continuous basis for the CAA Passenger Survey. These are Birmingham, East Midlands, Gatwick, Heathrow, Luton, Stansted and Manchester. It shows the continued growth of demand from the South West using these airports.

Figure 8: Passenger Demand from the South West at Continuously Surveyed Airports



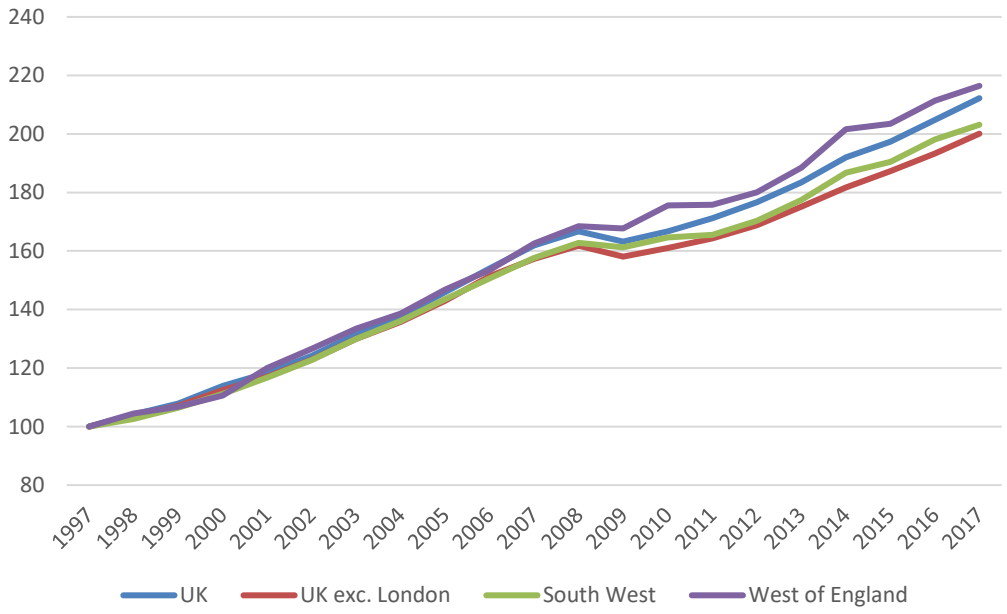
Source: CAA Passenger Survey.

2.8.6. In other words, the drivers of air passenger demand described above, are strong in Bristol Airport's catchment area. This fundamental strength will stand it in good stead in terms of its recovery from COVID-19.

2.8.7. This can be seen from the two charts below. Figure 9 shows the GVA performance of the West of England and the South West compared to the UK and the UK excluding London. The West of England, the core of the airport's catchment area, has grown strongly outperforming the UK as whole, even when London is included. The South

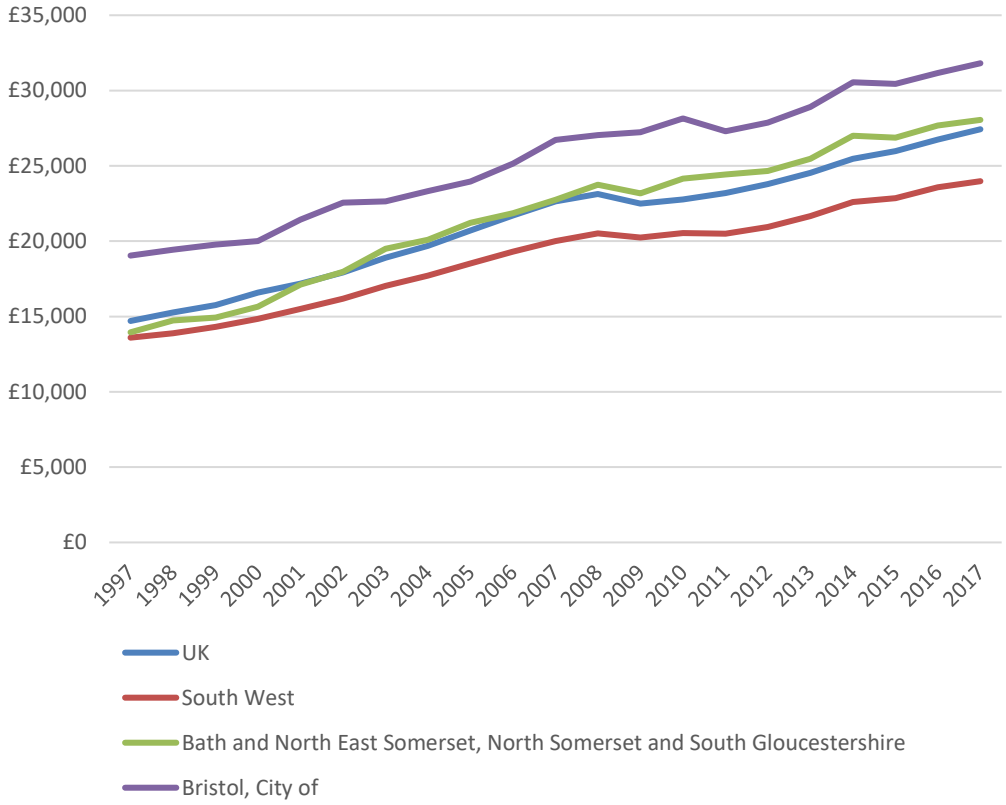
West has not performed as strongly, reflecting the economic challenges in Cornwall particularly. However, the region has still outperformed the rest of the UK excluding London. Figure 10shows GVA per capita in the areas of the West of England and the South West compared to the UK. The City of Bristol stands out as being substantially more affluent than the UK as a whole, while Bath and North East Somerset, South Gloucestershire and North Somerset overtook the UK in the early 2000s and have remained above the UK average since. The South West is below the UK average, again reflecting the economic challenges in Cornwall.

Figure 9: Gross Value Added in the West of England and South West at Current Prices (Index: 1997 = 100)



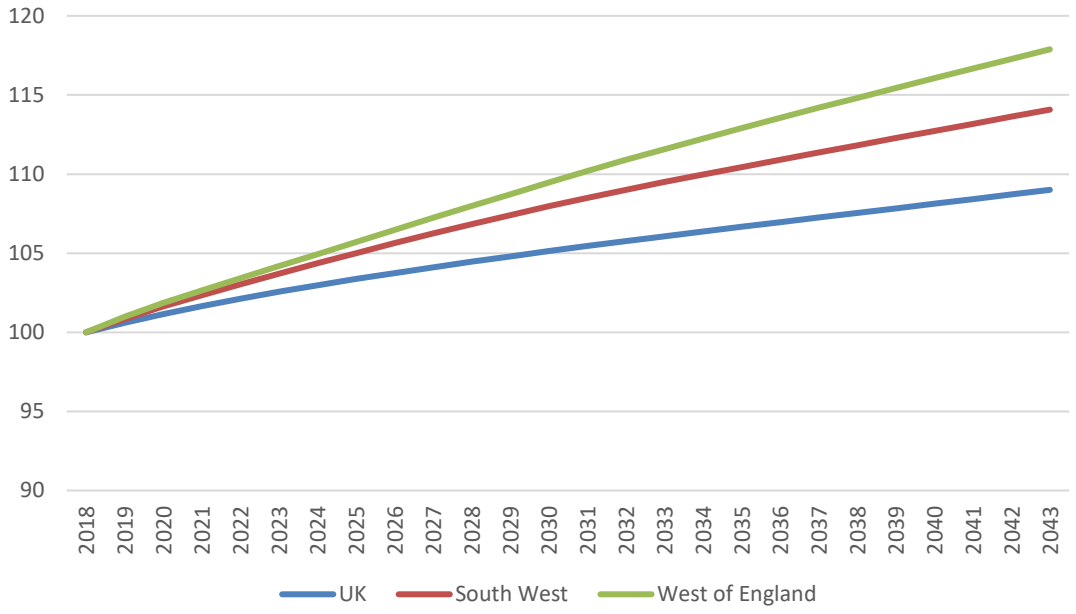
Source: Office for National Statistics.

Figure 10: GVA per Capita in the West of England and South West



2.8.8. When this position is combined with the population projection information set out in Figure 11, it clearly demonstrates the strong underlying economic fundamentals that have driven Bristol Airport's growth in the past will persist into the future. The graph shows the Office for National Statistics population projections for the UK, the South West and the West of England. It shows that population is expected to continue to grow. This will ultimately feed economic growth and the demand for air travel. It is also interesting to note in the context of Bristol Airport that both the South West and the West of England are expected to grow faster than the UK as a whole.

Figure 11: Population Projections for the UK, South West and West of England (Index: 2018 = 100)



Source: ONS National Population Projections (Accessed via NOMIS)

2.9. Conclusions

2.9.1. In this Section I have identified the fundamental long-term growth drivers for air transport demand: population growth, economic growth and personal wealth. I have then demonstrated that these growth drivers are expected to be strong in the UK in the long-term following recovery from the COVID-19 pandemic.

2.9.2. I have then demonstrated that current UK Government policy is strongly focussed on fuelling economic recovery, promoting a Global Britain, and levelling up the cities and regions of the UK, including through improving their global competitiveness. This feeds through the Government's strong policy support for sustainable aviation growth to realise the economic benefits it brings, which is founded on a long-term assessment of future demand growth.

2.9.3. I have considered the relevance of the short-term passenger throughput figures in current circumstance where demand for travel is artificially distorted by travel restrictions. I have demonstrated, however, that air travel demand will return to long-term trends driven by population and economic growth once pandemic related travel restrictions begin to ease. I have explained, therefore, that short-term throughput figures are of limited relevance to the key issue here of long-term demand at Bristol

Airport and, in particular, when it will reach 12 mppa and, importantly, the characteristics of air transport and passenger throughput at that level.

2.9.4. I have also shown that Bristol Airport's catchment area has strong economic fundamentals and has exhibited high levels of growth compared to the UK as a whole and that the UK Government's population projections suggest that the areas around the airport will continue to grow strongly. I would, therefore, expect previous market dynamics to re-establish themselves once recovery starts in earnest, with Bristol Airport resuming steady growth moving forward, with recovery ahead of the UK as a whole, aligned with historic trends.

3. Forecast Summary

3.1. Overview of Forecasting Approach

3.1.1. York Aviation's approach to undertaking the air traffic forecasts for the 12 mppa appeal is set out in detail in the traffic forecasting report (CD2.21 York Aviation, 2020). Below, I provide an overview of this approach before commenting on a number of specific elements of the methodology. Prior to doing so, I would make three comments regarding the forecasting approach:

- the primary purpose of the air traffic forecasts here is to establish when Bristol Airport will reach 12 mppa and what the airport's traffic will be like at that point in time in terms of, for instance, fleet mix and diurnal profile, to enable the environmental assessment to be undertaken. It is important to understand that in the current short-term situation, where the level of demand is suppressed due to the extent of travel restrictions, looking at current throughput is of limited relevance to understanding underlying long term demand. York Aviation's forecasts anticipate the airport reaching 12 mppa between 2027 and 2034, with a reasonable most likely outcome being about 2030. This is between 7 and 13 years into the future. I believe that the long-term forecasts are robust and appropriate and I do not believe that the difficulties in forecasting demand in the short-term undermine the long-term forecasts. It is also important to recognise that the characteristics of the airport at 12mppa, such as the catchment area profile, fleet mix and diurnal passenger profiles, that are used in the environmental assessments, are relatively insensitive to precisely when the airport reaches 12mppa;
- York Aviation has undertaken air traffic forecasting for a wide range of different airports, in different markets, for a range of different purposes, using different techniques. The approach adopted by York Aviation to preparing the air traffic forecasts for Bristol Airport builds on this significant experience and, in my professional opinion, is comprehensive, robust, proportionate and in line with industry best practice. It has been selected because it enables effective consideration of issues that are particularly pertinent to the 12 mppa appeal, namely the current extent of uncertainty caused by the global COVID-19 pandemic and the potential for passenger displacement from other airports as Bristol Airport grows in the future. There are, of course, a range of possible

approaches to air traffic forecasting. I do, however, believe that approach adopted here is appropriate and provides high levels of confidence in relation to Bristol's path and timing of future growth;

- in its Statement of Case, NSC states that it is *"broadly content with the methodology employed by BAL to generate its annual passenger forecasts but has a number of remaining issues in respect of which discussions with BAL continue"* (North Somerset Council, 2021, p. 8) and that *"Subject to further discussions relating to the issues above, whilst the recovery of passenger travel remains uncertain and could recover at a slower rate than forecast by BAL, for the purposes of assessment in the present appeal, the Council is prepared to accept the assessment years proposed by BAL"* (North Somerset Council, 2021, pp. 9-10). I infer from these comments that, while there are matters of detail in relation to the underlying demand forecasts, there is agreement on the broad method and broad timing of future growth.

3.1.2. The air traffic forecasting report provides considerable detail on the methodology adopted and I have not sought to repeat the detailed explanation here but have provided a brief summary of the main 'building blocks' of the forecasts.

Establishing Future Market Growth Rates

3.1.3. The first stage in the forecasting process was to develop an understanding of how underlying passenger demand in Bristol Airport's catchment area is expected to grow over time. The analysis uses existing research by the Department for Transport (CD6.2 Department for Transport, 2017) into the sensitivity of air passenger demand to core drivers of demand to forecast how fast different segments of the market will grow in the future. Fundamentally, the drivers of future growth are economic growth and the level of air fares, albeit the level of air fares is assumed to be a function of a number of different factors. It is at this point in the process that much of the analysis around future uncertainty is conducted, using a Monte Carlo probability approach. Our approach to considering uncertainty is a point I return to below.

'Bottom Up' Forecasting Approach

3.1.4. A 'bottom up' approach to demand forecasting has been used to inform the first four years of the forecast. This is common practice in airport demand forecasting. Many 'bottom up' forecasts are derived solely from assumptions about aircraft capacity, frequency and load factors, informed by discussions with airlines. York Aviation has

expanded on this approach to develop a hybrid model to reflect not only airline behaviour, but also the underlying market demand at a route level to determine real world opportunities available to airlines to support growth. The approach makes extensive use of Civil Aviation Authority (CAA) Passenger Survey data to understand individual markets. Given the current market dislocation caused by COVID-19 and the attendant travel restrictions, which do not lend themselves to more econometrically based approaches, the process of airline discussions and route by route market analysis has been important in understanding how supply will be affected in the short-term and how it is expecting to build back once restrictions are lifted. These forecasts not only provide key intelligence in relation to the passenger volume forecasts but the analysis also provides important input in terms of the air traffic forecast outputs.

'Top Down' Forecasting Approach

3.1.5. In the longer term, the air traffic forecasts use an econometric passenger allocation model to determine how the underlying passenger demand base in the broad catchment area around Bristol Airport will split between it and a number of competing airports. The allocation model is similar in concept to that used by the Department for Transport within its aviation forecasting suite, which I consider to be a robust approach to considering air traffic growth in competed markets. The approach uses a multinomial logit form, a type of discrete choice regression analysis. This essentially examines how passengers make choices between the different airports based on a range of factors.

3.1.6. This is another area within our approach where uncertainty is considered. Specifically, in relation to the availability of capacity at other airports to satisfy demand. With the exception of Gatwick and Heathrow, all other airports considered are assumed to have the capacity to meet the demand identified as allocated within the model. Gatwick and Heathrow are, however, assumed to be constrained and only capable of growing incrementally until additional runway capacity can be added. Given the policy support for the third runway at Heathrow as set out in the Airports National Policy Statement ('ANPS'), the basic assumption within our forecasts is that this is delivered. However, because of the delay to that project caused by legal challenge to the ANPS and then the global pandemic, the need for development consent to be granted for the project and, indeed, the time necessary to construct a third runway and associated development, our forecasts have assumed that a third runway at Heathrow is not now delivered until 2033. In relation to Gatwick, our core assumption

is that additional runway capacity is not delivered before Bristol Airport reaches 12 mppa.

Approach to Air Transport Movements

3.1.7. ATMs have been calculated for future years based on a projected average number of passengers per movement, with the overall passenger demand forecast then divided by this figure to provide an annual number of movements. The average number of passengers per movement has been derived by looking at historic trends, as well as confirming likely fleet plans for Bristol Airport with the key airlines. All other movements, such as general and business aviation, are assumed to remain broadly similar to recent years.

Approach to the production of other Air Traffic Forecast outputs

3.1.8. Our approach to producing other outputs, based on the air traffic forecasts, to support the environmental assessment is set out in detail in the traffic forecast report (CD2.21 York Aviation, 2020, pp. 14-20). These other air traffic forecast outputs were central to the environmental assessments in that they provide the base parameters for these assessments. The outputs prepared were:

- Busy Day Timetables – these provided an assessment of the profile of air transport movements across the day that provided an input to the surface access assessment. They were also an input to the annual fleet mix and 92 day movements and fleet mix;
- Fleet Mix – the annual fleet mix informed the carbon assessment and air quality assessment primarily;
- 92 Day Movements and Fleet Mix – these provided input to the noise assessment;
- Night Movements and Quota Count – similarly, these provided input to the noise assessment;
- Average Range (Flight Distance) Forecasts – these informed the carbon assessment;
- Surface Origins and Destinations of Passengers – these provided an input to the transport and socio-economic assessments;
- Passenger Demand Displacement to Other Airports – this provided an input to the socio-economic assessment.

3.1.9. All the air traffic forecast outputs provided a basis for assessing the Appeal Proposal against a 10 mppa baseline position. In relation to the transport assessment, the air traffic forecast outputs were used to support total volumes of passenger movements at 12 mppa.

3.1.10. These have been prepared in line with industry standard practice and are designed to reflect the position of Bristol Airport in around 10 years time. I do need to stress, however, that the air traffic forecast outputs to support the environmental assessment are relatively insensitive to the point in time at which 12 mppa is reached.

3.1.11. I discuss each of these air traffic forecast outputs in more detail below at paragraphs 3.4.7 to 3.4.27.

3.2. Treatment of Uncertainty in the Forecasts

3.2.1. The treatment of uncertainty within the air traffic forecasts is an area that merits specific mention given the impact of the COVID-19 pandemic on the aviation sector. Indeed, one of the main objectives of the approach selected for the preparation of the air traffic forecasts for Bristol Airport was to deal with this uncertainty effectively.

3.2.2. At the outset, it is important to be clear that all forecasts of the future, of whatever type, have some element of inherent uncertainty. From this perspective, the challenges around the development of the air traffic forecasts for the 12 mppa appeal were no different. Uncertainty is always a factor within forecasts and the production of a range of outcomes is inherently sensible and the Appeal Proposal forecasts do precisely that. They have considered a range of potential outcomes for the core drivers of future air transport demand within a structured framework to analyse uncertainty. The analysis then reaches a rounded view on when Bristol Airport will reach the critical threshold of 12 mppa. It provides a range of forecasts for consideration through the environmental assessment, enabling the forecasting uncertainty to be considered effectively and any likely significant effects to be identified. It should be noted that these forecasts all see Bristol Airport reach 12 mppa within a reasonable timeframe between 2027 and 2034. It is not, therefore, a question of precisely when the airport reaches the 12 mppa threshold, but of the broad timescale for it doing so.

3.2.3. Central to our approach has been the use of 'Monte Carlo' analysis to feed into the process of defining future growth rates for air passenger demand in Bristol Airport's

catchment area. This is a mathematical simulation technique that, in essence, combines different random paths for core assumptions, such as economic growth or the cost of travel, but weights them within the analysis based on an assessment of their probability of occurrence. The simulation runs the potential different combinations of inputs, weighted by their probabilities, many times (the model identifies 1,000 iterations of what can be considered individual underlying growth rate scenarios) to determine a broad range of growth rates for each year for the forecast. It is a well recognised and documented approach to dealing with the issues around uncertainty that are inherent in any form of forecasting.

3.2.4. This means that the growth rates that support the forecasts are not reflective of 'single risks', so there is no specific growth case that is reflective of the economic effects of a 'hard' BREXIT or further waves of the COVID-19 pandemic, but that these possibilities are reflected across all the growth cases identified but at different likelihoods of occurrence or in different combinations with other factors. For instance, a low path for future growth may reflect a slow recovery from COVID-19, alongside increasing carbon costs and fuel prices, all of which will suppress demand.

3.2.5. I believe that this approach is ultimately a robust and sensible way of dealing with the unusually large range of uncertainties that face air transport currently. It enables effective consideration of the divergent economic growth paths associated with COVID 19 and the UK's exit from the EU alongside more general high and low growth scenarios for the post-COVID-19 world, while also considering longer term risks to passenger demand around fuel prices, carbon costs and air passenger duty levels at the same time.

3.2.6. The process has enabled York Aviation to identify a wide range of forecasts for Bristol Airport from which three scenarios have been identified to provide a rounded and reasonable view of if and when, in broad terms, Bristol Airport will reach 12 mppa, thereby enabling the environmental assessment to consider significant effects and the implications of faster and slower growth.

3.2.7. In summary, these scenarios are:

- **Core Case**: this represents a balanced view of the future market and current risks that is felt to be a reasonable best estimate of when Bristol Airport will reach 10 mppa and 12 mppa. This Core Case reflects a largely central view of issues such as economic growth and carbon costs moving forward;

- **Slower Growth Case**: this represents a reasonable worse case in terms of the future growth of the airport being slower than expected, reflecting potentially slower than expected recovery from COVID-19, lower economic growth in the future/or other adverse market conditions, such as increased carbon costs; and
- **Faster Growth Case**: this represents a reasonable worse case in terms of the future growth of the airport being faster than expected, reflecting a more rapid bounce back from COVID-19 and / or faster economic growth in the future. Hence, this case shows an accelerated point at which both 10 mppa and 12 mppa are reached.

3.3. The Sixth Carbon Budget and the Appeal Proposal Passenger Forecasts

3.3.1. I have considered above the potential influence of the Sixth Carbon Budget on future growth in air passenger demand in the UK in general. The position in relation to the Appeal Proposal air passenger forecasts is essentially the same. I do not expect the recent formal inclusion of international aviation in the Sixth Carbon Budget to significantly affect the growth forecasts identified for Bristol Airport.

3.3.2. The Appeal Proposal forecasts, as I have described above, already consider the cost of carbon within the assessment of future growth, as the Department for Transport has done in its aviation forecasts, including consideration of higher levels of carbon costs. To the extent that aviation's inclusion in the Sixth Carbon Budget might increase the overall cost of flying through higher carbon costs, then in my view this may simply push Bristol Airport's growth path towards the Slower Growth scenario set out.

3.3.3. I would also return to the point that what is important in terms of the environmental assessment of the Appeal Proposal is not precisely when Bristol Airport will reach 12 mppa, but the 'characteristics' of the airport when it reaches that point. From this perspective, slower growth is actually likely to be a positive from an environmental assessment perspective in many regards. It will allow more time for more new generation aircraft to enter airline fleets and to be deployed at Bristol Airport, with these existing aircraft types being quieter, 'cleaner' and more fuel efficient. I note that this is an issue that was acknowledged in the recent Stansted Airport appeal decision:

"It remained unclear throughout the Inquiry, despite extensive evidence, why the speed of growth should matter in considering the appeal. If it ultimately takes the

airport longer than expected to reach anticipated levels of growth, then the corresponding environmental effects would also take longer to materialise or may reduce due to advances in technology that might occur in the meantime." (CD6.13 The Planning Inspectorate, May 2021, p. 6 para 30)

3.3.4. I would also note the broader macro-economic incentive on airlines in relation to fleet renewal created by the formal inclusion of international aviation in the Sixth Carbon Budget and the more challenging emissions target around 'net zero'. These requirements will increase the incentive on airlines to invest in new aircraft types and bring them into service faster, given the operating cost advantages that they will offer.

3.4. Summary of the Air Traffic Forecasts

Growth to 12 mppa and timescales

3.4.1. I have set out below a summary of the key outputs from the Appeal Proposal traffic forecasts. The starting point for this summary is the confirmation that the Appeal Proposal forecasts see Bristol Airport reach 12 mppa in all three scenarios and the timescales over which the different scenarios see Bristol Airport reach the key passenger throughput thresholds of 10 mppa and 12 mppa. This is set out in Table 1.

Table 1: Key Threshold Years for the Passenger Forecasts

	Core Case	Slower Growth Case	Faster Growth Case
10 mppa	2024	2028	2022
12 mppa	2030	2034	2027

Source: York Aviation.

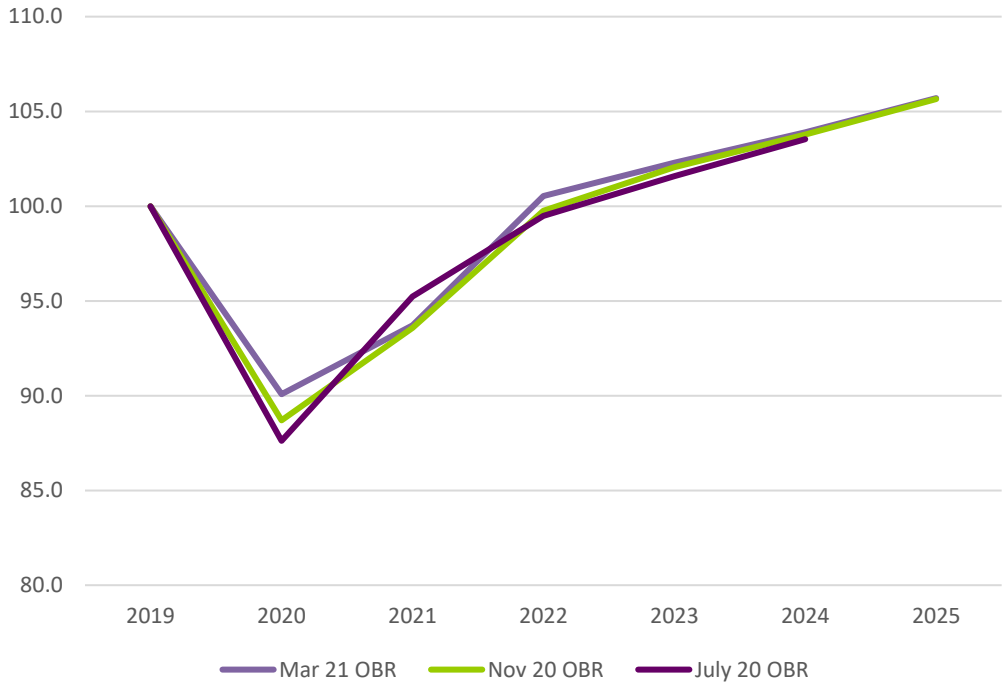
3.4.2. The air traffic forecasts see Bristol Airport reach 10 mppa between 2022 (Faster Growth Case) and 2028 (Slower Growth Case), with the Core Case reaching 10 mppa in 2024. The airport then reaches 12 mppa between 2027 (Faster Growth Case) and 2034 (Slower Growth Case), with the Core Case reaching 12 mppa in 2030.

Short-Term Market Conditions and the Appeal Proposal Forecasts

3.4.3. I note that since the time that the forecasts were produced the outlook for 2021 has worsened following the emergence of new variants and prolonged travel restrictions. I do not believe, however, that this difference significantly effects the medium to long-term outlook, which will be driven by the economic position and not travel restrictions associated with the pandemic. This position has not changed markedly since Summer 2020, as can be seen by a comparison of the Office for Budgetary Responsibilities forecasts for the UK economy from July 2020 (CD13.10 Office for Budgetary

Responsibility, July 2020), November 2020 (CD13.12 Office for Budgetary Responsibility, November 2020) and March 2021 (CD13.11 Office for Budgetary Responsibility, March 2021). In fact, the successful vaccination programme in the UK may ultimately result in faster than expected economic recovery, as is discussed at paragraph 2.3.3. The dislocation of supply currently from travel restrictions means that it is simply not possible to assess the current level of demand.

Figure 12: OBR UK Real GDP Forecast Comparison (Index: 2019 = 100)

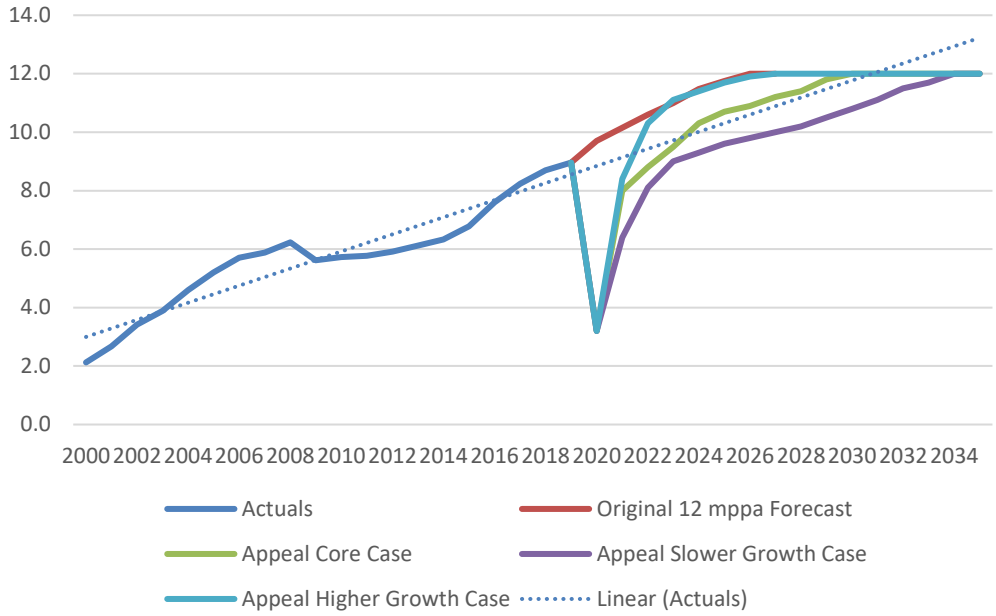


3.4.4. The ongoing impact of travel restrictions and the strong 'second wave' of the pandemic suggests that the Faster Growth Case is now less likely to be achieved, certainly in terms of the point at which Bristol Airport reaches 10 mppa, with the Core Case and Slower Growth Case now more likely for 10mppa. However, the overall range that is considered within the Appeal Proposal forecasts and taken forward to environmental assessment remains reasonable.

Comparison of the Forecasts to the Planning Application Forecasts and Long Run Trend

3.4.5. In Figure 13 below I have compared the Appeal Proposal passenger forecasts to those that supported the 12 mppa planning application and also the long run historic growth trend for Bristol Airport.

Figure 13: Comparison of the Appeal Proposal Passenger Forecasts



3.4.6. The purpose of this comparison is to demonstrate that the Appeal Proposal forecasts are intuitively reasonable in, firstly, confirming that Bristol Airport will return to growth and reach 12 mppa, and that the broad timescales in which the Appeal Proposal forecasts indicate that 12 mppa will be reached are reasonable based on the long run growth trend for the airport. I would also note the evidence this analysis provides of Bristol Airport's strong resilience following the Global Financial Crisis, with the airport recovering, 'catching up to' and then overtaking the long run growth trend.

Air Traffic Forecast Outputs for the environmental assessments

3.4.7. In many ways, the detailed air traffic forecast outputs that support the environmental assessment are the core outputs from the Appeal Proposal forecasts.

3.4.8. The quantitative assessment of significant effects within the environmental assessment was based on quantitative outputs based on the Core Case passenger forecasts. Sensitivity testing of the environmental effects was undertaken qualitatively based on a qualitative assessment of the way in which the passenger forecast outputs to support environmental assessment would be affected by slower or faster passenger growth at the airport, reflecting the Slower Growth and Faster Growth cases. This assessment identified that the outputs from the detailed air traffic forecasts that are used as inputs to the environmental impact assessment were unlikely to be significantly affected by slower or faster growth in passenger numbers. Consequently, further quantitative sensitivity testing was not considered necessary or

appropriate. I note, again, the comments in the Stansted Airport appeal decision in this regard:

"It remained unclear throughout the Inquiry, despite extensive evidence, why the speed of growth should matter in considering the appeal. If it ultimately takes the airport longer than expected to reach anticipated levels of growth, then the corresponding environmental effects would also take longer to materialise or may reduce due to advances in technology that might occur in the meantime." (CD6.13 The Planning Inspectorate, May 2021, p. 6 para 30)

3.4.9. I have summarised the individual air traffic forecast outputs below and the assessment of the effect of slower or faster growth in each case.

Air Transport Movements

3.4.10. The forecast air transport movements for Bristol Airport in the Core Case in 2030 at 10 mppa and 12 mppa are set out in Table 2. They see Bristol Airport handling 85,980 movements at 12 mppa, including 75,340 commercial movements. At 10 mppa, the airport is forecast to handle 74,380movements, including 63,740 commercial movements. These numbers reflect on-going growth in aircraft size in line with airline fleet development plans and discussions with key airlines as regards likely deployment at Bristol Airport.

Table 2: Air Transport Movements at Bristol Airport in 2030 (Core Case)

	12 mppa	**10 mppa**
Commercial Movements	75,340	63,740
Positioning Movements	600	600
Other Movements	10,040	10,040
Total Movements	85,980	74,380

3.4.11. If passenger growth were to be slower, in line with the Slower Growth Case, I believe that movements at 12 mppa will be similar to those seen in the Core Case because airlines operating at Bristol Airport will need to maintain some balance of their larger and smaller aircraft, as not all routes will be able to sustain larger aircraft. However, it is likely that by 2034, slightly more operations could be by newer generation aircraft, such as the Airbus 'Neo' and Boeing 'Max' families, than projected in 2030 in the Core Case.

3.4.12. In the Faster Growth Case, I believe that movements will be slightly higher when the airport initially reaches 12 mppa in 2027 because airlines are unlikely to be able to

allocate their larger aircraft to Bristol Airport by this time due to the delivery timescales of newer fleets. However, under these circumstances, we believe from our consultations with the airlines that there would still be some accelerated growth in aircraft size ahead of the Core Case, as airlines would seek to maximise efficiency on core routes by using larger aircraft where possible. I would also expect that movements will trend towards the Core Case forecasts as time goes on, as airline fleet renewal 'catches up'.

3.4.13. Overall, I do not believe that the speed of passenger growth at the airport will significantly impact on the number of movements at Bristol Airport at the point at which 12 mppa is reached.

Busy Day Timetables

3.4.14. As described in the air traffic forecast report, a series of busy day timetables that describe the diurnal profile at the airport were developed based on the passenger and ATM forecasts using industry standard approaches for the Core Case at 12 mppa and 10 mppa in 2030. They provide a profile of air transport movements and passenger numbers across the day and informed a number of the other air traffic forecast outputs described below. As such, the potential impact of the Faster Growth and Slower Growth cases on these busy day timetables was considered. These timetables are primarily driven by passenger throughput and, as such, it was concluded that they are highly unlikely to alter significantly as a result of the speed of growth to 12 mppa. In particular, it was adjudged that there would be no significant difference in operational patterns across the day.

Fleet Mix

3.4.15. A summary of the annual fleet mix for Bristol Airport in the Core Case in 2030 is set out in Table 3. This splits movements into five broad types of aircraft: new generation[2], current generation, regional aircraft, widebody aircraft and others (primarily general aviation aircraft). The fleet mix for the year is required for air quality, carbon assessments and some elements of the noise assessment.

[2] The term New Generation aircraft refers to aircraft such as the Airbus A320 Neo and Boeing 737 Max, which are the latest versions of existing aircraft that are more efficient, quieter and have lower emissions. It should be noted that these aircraft are already operating and are in the current fleets of Bristol Airport's major customers.

Table 3: Annual Fleet Mix at Bristol Airport in 2030 (Core Case)

	12 mppa		10 mppa	
	Movements	**%**	**Movements**	**%**
New Generation	52,890	62%	43,590	59%
Current Generation	9,710	11%	9,680	13%
Regional	12,840	15%	10,560	14%
Widebody	510	1%	510	1%
Other	10,040	12%	10,040	13%
Total	85,980	100%	74,380	100%
Note: Columns may not sum due to rounding.				

3.4.16. The fleet mix sees around 62% of movements operated by new generation aircraft by 2030. This is in line with airline fleet renewals and consultations with key airlines at Bristol Airport. The pattern of aircraft replacement in airline fleets since the beginning of the COVID-19 pandemic has seen airlines retiring older aircraft as they rationalise their fleets in response to the short-term market difficulties. Indeed, there is an incentive for faster investment in and deployment of new generation aircraft created by international aviation's inclusion in the Sixth Carbon Budget. I note that since the Appeal Proposal forecasts were produced, Jet2.com has announced the establishment of a base at Bristol Airport. The airline has been consulted in relation to its future fleet plans and intentions for Bristol Airport and sensitivity testing of the fleet mix undertaken. I would emphasise strongly that the fleet mix assumptions are not airline specific and are not intended to be so given the distance into the future being considered here, they are instead intended to be reflective of general industry trends. Following this analysis, I remain confident that the fleet mix remains an appropriate basis for considering the environmental effects of the Appeal Proposal.

3.4.17. Compared to the Core Case fleet mix, I would expect a lower proportion of newer generation aircraft in the Faster Growth Case at the point that 12 mppa is reached for the same reason that I would expect movements to be slightly higher in the Faster Growth Case. Airlines will simply have had less time to bring new aircraft into their fleets. I would, however, not expect the difference to be significant and, over time, I would expect convergence back in line with the Core Case as new aircraft are delivered to the airlines. Conversely, in the Slower Growth Case, I would expect a greater proportion of new generation aircraft, which will have lower environmental footprints compared to the current generation of aircraft.

92 Day Movements and Fleet Mix

3.4.18. The 92-Day movement period, which covers the period from 16th June to 15th September each year, together with the fleet mix and are used for the noise contour modelling. An average day across the period is used. The period reflects a busy part of the year in terms of flying at the airport. These include the pattern of movements across the day. The 92 day movements and fleet mix for the Core Case in 2030 at 12 mppa and 10 mppa are set out in Table 4. Again, I would emphasise that these have been derived from my analysis of the long-term fleet mix at Bristol Airport, which has included further consideration following Jet2.com's announcement. In my view the assessment remains robust.

Table 4: 92 Day Movements and Fleet Mix at Bristol Airport in 2030 (Core Case)

12 mppa						
	Arrivals			**Departures**		
	Day	**Evening**	**Night**	**Day**	**Evening**	**Night**
New Generation	5,048	1,634	1,710	5,866	1,036	1,490
Current Generation	912	222	330	1,194	92	190
Regional	1,530	210	0	1,420	210	100
Widebody	0	0	110	110	0	0
Other	1,785	55	5	1,785	55	5
Total	**9,275**	**2,121**	**2,155**	**10,375**	**1,393**	**1,785**
10 mppa						
	Arrivals			**Departures**		
	Day	**Evening**	**Night**	**Day**	**Evening**	**Night**
New Generation	4,018	1,614	1,360	5,176	686	1,110
Current Generation	912	222	330	1,184	82	190
Regional	1,250	170	0	1,110	210	100
Widebody	0	0	110	110	0	0
Other	1,785	55	5	1,785	55	5
Total	**7,965**	**2,061**	**1,805**	**9,365**	**1,033**	**1,405**

3.4.19. In terms of considering the potential effect of the Slower Growth Case, I would expect the pattern of movements in the 92-day period to match that in the Core Case, given the extended timeframe for new aircraft to enter the fleet. On reaching 12 mppa in the Faster Growth Case in 2026, I would expect commercial movements in the 92-day period to be about 350 movements higher than in the Core Case in 2030 resulting from the fact that there would not be as many newer aircraft in the fleet at that point in time. This is around 1.3% of total movements in the 92 day period and about 3.5 movements a day on average. By 2030, however, this would have reduced to match the Core Case in that year as average aircraft sizes increase. Overall, again, I

do not consider that faster or slower growth would materially impact on the overall outputs for assessment.

Night Movements and Quota Count

3.4.20. The outputs from the air traffic forecasts have projected the following:

- the anticipated number of movements taking place in the summer period and over the year in the 2330-0559 period of the night;
- the Quota Count (QC) total for all aircraft expected to operate in the QC period of the night for the summer.

3.4.21. The period 2330-0559 is the 'night control period' for which there are current controls at the airport permitting 4,000 annual movements, of which 3,000 are permitted in the summer period currently and 1,000 in the winter period. It should be noted that this differs from the 2300-0700 'night period' calculated for the 92-day summer period because the latter timing is a standard 8-hour window used for noise assessment.

3.4.22. The night movements and QC associated with the Core Case in 2030 at 12 mppa and 10 mppa are summarised in Table 5.

Table 5: Night Movements and QC in 2030 in the Summer Period (Core Case)

12 mppa				
	Movements		**Total QC Points**	
Aircraft	**Arr**	**Dep**	**Arr**	**Dep**
New Generation	2,859	212	630	53
Current Generation	424	0	212	0
Widebody	106	0	53	0
Total	3,600		950	
10 mppa				
	Movements		**Total QC Points**	
Aircraft	**Arr**	**Dep**	**Arr**	**Dep**
New Generation	2,300	200	830	100
Current Generation	400	0	200	0
Widebody	100	0	50	0
Total	3,000		1,180	

3.4.23. In the Faster Growth Case, at the point that 12 mppa is reached, we would expect a slightly higher total QC count because of the lower number of new generation (quieter) aircraft at the earlier date, but over time this would converge with the Core Case. I would anticipate the Slower Growth Case being very similar to the Core Case.

Overall, I would not expect significant differences based on the speed of growth to 12 mppa.

Average Range (Flight Distance) Forecasts

3.4.24. The average flight distance or range operated by different aircraft types were an input into the climate change assessment. Again, the average range forecasts for the Core Case in 2030 at 12 mppa and 10 mppa are in traffic forecast report in Appendix C (CD2.21 York Aviation, 2020). This is not an area of the forecasts that would be affected by the Faster Growth or Slower Growth cases.

Surface Origins and Destinations of Passengers

3.4.25. The surface origins and destinations of passengers were an input to the surface access assessment and socio-economic assessments. Again, these assessments were based on the Core Case but surface origins and destinations were ultimately considered to be a function of the level of demand rather than the speed of growth. They were again adjudged to be unlikely to differ between the Faster Growth and Slower Growth cases.

Passenger Demand Displacement to Other Airports

3.4.26. The extent to which passengers would use other UK airports to travel in the event of Bristol being constrained to 10 mppa in 2030 was an input to the socio-economic assessment. The results of this analysis are summarised in Table 6.

Table 6: Displacement of Demand to Other Airports in 2030 (Core Case)

Other airports in the South West and South Wales	28%
Other airports outside of the South West and South Wales	33%
No longer travel	39%

3.4.27. Again, the potential impact of the Faster Growth or Slower Growth cases was considered qualitatively. In the Faster Growth Case, at the point 12 mppa is reached there is not likely to be any notable change in the capacity and relative competitive position of competitor airports and hence I would not expect a difference in displacement patterns. In the Slower Growth Case, the third runway at Heathrow is assumed to have opened by the time Bristol Airport reaches 12 mppa, we would therefore expect displacement to be tilted more towards Heathrow and away from local competitors. This would reduce the level of displacement in the socio-economic assessment. I would not, however, expect the difference to be significant.

3.5. Conclusions

3.5.1. In my view the forecast methodology used for the Appeal Proposal is a best practice approach that deals effectively with the inherent uncertainty in forecasting and the particular risks in the market at the current time. The air traffic forecast outputs that provide the basis for the environmental assessment have been prepared using industry standard approaches and the best available underpinning evidence.

3.5.2. I have concluded that Bristol Airport will reach 10 mppa between 2022 (Faster Growth Case) and 2028 (Slower Growth Case), with the Core Case reaching 10 mppa in 2024, and that the airport will then reach 12 mppa between 2027 (Faster Growth Case) and 2034 (Slower Growth Case), with the Core Case reaching 12 mppa in 2030. This is the headline question for the air traffic forecasts.

3.5.3. I have considered the potential influence of the current short-term market conditions relating to COVID-19. In my view, considerable care should be taken in this regard, as it is simply not possible to derive any sensible understanding of the current level of demand from current throughput figures, given the travel restrictions currently in place. I have shown above that the fundamentals for future growth remain strong and, as a consequence, that growth will return and that the timeframe in the forecasts for Bristol Airport reaching 12 mppa is reasonable. I would note, however, that growth in line with the Core Case or Slower Growth Case is now more likely than the Faster Growth Case.

3.5.4. I have summarised the outputs taken from the air traffic forecasts that have been used as inputs to the environmental assessment. In each case, I have considered the potential implications of faster or slower growth in the air traffic forecasts, in line with the overall forecast range set out. I have concluded that faster or slower growth is unlikely to significantly effect the characteristics of Bristol Airport's traffic at the point it reaches 12 mppa. I, therefore, conclude that these air traffic forecast outputs were a robust basis for considering the likely significant environmental effects of the Appeal Proposal.

4. Response to Issues Raised by North Somerset Council and Third Parties

4.1. Introduction

4.1.1. In this section, I consider comments made by a number of parties in relation to the air traffic forecasts set out in the Appeal Proposal.

4.2. Comments from Parties Objecting to the Appeal Proposal

4.2.1. I note that several issues have been raised by NSC and Rule 6 parties in relation to the air traffic forecasts. Below, I have addressed a number of these issues in broad terms, providing my response to the issues raised. There is a degree of commonality across the various issues and, hence, I have sought to address these under a number of themes and sub-themes. The matrix below provides a 'map' of the broad issues raised and the parties raising them. I have also reviewed comments made by other third parties in terms of their basis for objections in relation to the air traffic forecasts. These have not raised new issues over and above those raised by NSC and the Rule 6 parties but I have noted the areas covered within the matrix.

Table 7: Matrix of Issues Raised

	NSC	PCAA	Bristol XR Elders	Other Interested Parties
Challenges to Forecast Growth				
a) Current Throughput and the Impact of COVID-19		✓	✓	✓
b) UK / Global Economic Slowdown		✓	✓	
c) Climate Change and Propensity to Fly		✓	✓	
d) Higher Carbon Pricing and Future Demand Management		✓		
e) Bristol Airport's Traffic Base is Vulnerable		✓		
f) Recovery of Business Travel	✓		✓	
Demand Can be Met at Other Airports		✓		
Displacement of Passenger Demand is Understated	✓	✓		
The Influence of Jet2 on Fleet Mix	✓			

4.2.2. Before considering these points further, I would stress that in my opinion the issues raised do not impact my conclusions in relation to the Appeal Proposal air traffic forecasts and associated outputs, as set out in Section 3.

4.2.3. I would also make a general point in relation to the comments made by parties objecting to the Appeal Proposal on the air traffic forecasts. There is, in general, an unwarranted focus on short-term issues in the market. As I have explained in some detail above, the air transport market globally is not currently functioning in anything approaching a normal fashion. Patterns and volumes of travel are being driven by travel restrictions and government policies, not underlying drivers of air travel demand. What can be seen currently is not demand, it is just throughput. The majority of demand cannot travel. Seeking to make judgements about the traffic performance of an airport a decade in the future on the basis of what is happening now is simply not appropriate. Judgements must be made on the evidence of long-term relationships between population size, economic growth and demand for air travel.

4.3. Challenges to Forecast Growth

4.3.1. There is a general theme amongst comments from the PCAA and Bristol XR Elders around the fact that air passenger demand growth will be much slower than anticipated in the Appeal Proposal forecasts. The reasoning behind this position is based on a number of points and I address these below. I note that NSC and its expert advisers do not share this view around air passenger demand growth generally, and indeed I understand there is agreement on the broad timescales for growth to 12 mppa. NSC does, however, raise concerns with regard to the specific issue of business travel. Again, I address this point below.

4.4. Current Throughput at Bristol Airport and the Impact of COVID-19 on Recovery

4.4.1. Both the PCAA (Parish Councils Airport Association, February 2021, p. 3 para. 8) and Bristol XR Elders (Bristol XR Elders, 2021, p. 9) in their Statements of Case seek to suggest that the impact of COVID-19, and the current state of the aviation industry as a result, means that Bristol Airport's growth will be slow long into the future and that the Appeal Proposal air traffic forecasts are too optimistic.

4.4.2. The primary basis for the PCAA's position in relation to the general recovery of air transport appears to be based upon a statement from IATA that demand is unlikely to recover before 2024. I am well aware of IATA's position, indeed it is cited above and an earlier statement was cited in the air traffic forecasting report. York Aviation's

forecasts are not at odds with this position and I would envisage recovery of the overall market along similar timelines.

4.4.3. Bristol XR Elders position does little more than highlight the current position in relation to travel and cites a series of health related reasons as to why air travel should not be allowed until the pandemic has been brought under control. It does not, in my view, make any commentary as regards to why these factors should influence long-term demand at Bristol Airport.

4.4.4. However, both arguments actually miss the fundamental point. The Appeal Proposal is not about when precisely Bristol Airport will reach 12 mppa but about being confident that it will and, for the purposes of environmental assessment, broadly when this threshold will be reached. This is a question of long-term forecasting and the fundamental economic drivers of air transport growth in to the future. It is not something that is directly related to the short-term travel restrictions based impact of the pandemic. The current level of passenger throughput is not a reflection of demand. I firmly believe that once travel restrictions are lifted demand will be released and will return to being determined by the fundamental economic drivers. I have discussed these issues in some detail above in Section 2.

4.4.5. In relation to the point that demand will recover quickly when travel restrictions are lifted, I would point to the significant evidence that we have seen in recent weeks as to the extent of suppressed demand currently. I would cite the well reported statements from airlines including easyJet, Ryanair, Jet2 and TUI reporting very large 'spikes' in bookings following the Prime Minister's announcement regarding the road map out of lockdown (CD13.9 My London, 2021). I would also highlight the analysis of the impact on passenger demand of previous lockdown easings, which, again, clearly demonstrate peoples' desire to travel. British Airways has published useful insight in this regard (CD13.3 Boon, 2020). It is also worth noting the speed of recovery in markets such as the US (Wall Street Journal, 2021, p. Copy in Appendix 2) and China (CAPA Live, 2021, p. Copy in Appendix 2) where domestic services, which are not subject to significant restrictions, are making a strong recovery. This evidence shows that travel restrictions, which are a short-term phenomenon, are artificially suppressing demand. When they are released, demand will come back, as the market returns to normal drivers of demand. That is not to say that it will immediately return to previous levels. Recovery will take time and that is exactly what York Aviation's forecasts show.

4.4.6. I would also respond to specifically in relation to the AOA research (CD13.13 Steer, December 2020) cited by Bristol XR Elders as evidence that future growth will be slower than expected:

- it is important to emphasise that it only reflects one view of the world and that there are important nuances, notably that its forecasts are predicated on the speed of the vaccine rollout in particular, which since the time of writing has proved highly successful. This would tend to push the AOA position towards recovery by around 2025;
- other commentators, notably IATA and ACI are continuing to suggest more optimistic timescales for recovery;
- I would also highlight that the AOA research is focussing on a UK level analysis. Clearly, there will be some airports that will recover faster and some that will recover slower within the overall whole and some markets that will recover faster than others. In my view, Bristol Airport is in a strong position to be one of those to recover faster, based on the evidence above of its strong catchment fundamentals and its position as a strong regional airport, with an impressive track record of outperforming the UK market and its local competitors. Also, it is primarily a short haul, leisure passenger airport, both of which are market segments that are likely to recover faster.

4.5. UK / Global Economic Slowdown

4.5.1. The PCAA (Parish Councils Airport Association, February 2021, p. 4 para. 15), in particular, but also Bristol XR Elders (Bristol XR Elders, 2021, p. 12 para. 5.5), have attempted to suggest that the economic outlook for the UK following the COVID-19 pandemic means that Bristol Airport will grow more slowly than in the Appeal Proposal forecasts. Furthermore, the PCAA suggests that COVID-19 and the UK's exit from the EU and their impacts on passenger demand have not been considered is simply inaccurate. As I have described above, the long-term effects of both are within the economic forecasts that underpin the demand growth rates identified. It cites particularly the OBR economic forecasts published in November 2020 (CD13.12 Office for Budgetary Responsibility, November 2020). I would again point out that this fundamentally misses the point of the Appeal Proposal air traffic forecasts, which are about confirming that Bristol Airport will reach 12 mppa, and the broad timescale in which it is expected to do so.

4.5.2. I would also point out that the economic outlook for the UK, including the views of the OBR, are a fundamental element of the air traffic forecasts, albeit the OBR forecasts used in the Appeal Proposal air traffic forecasts were produced earlier in 2020. However, as I have already noted above in Figure 12, there is very limited difference between these two forecasts. I would also note that the prognosis for the UK economy has also improved markedly in recent months following the success of the vaccine rollout, as discussed at paragraph 2.3.3. I would, therefore, suggest that the position presented here by the PCAA and Bristol XR Elders has already been considered and accounted for within the air traffic forecasts.

4.6. Climate Change and Propensity to Fly

4.6.1. Bristol XR Elders raise two points in relation to changing future behaviours and their potential effects on the forecasts. The Statement of Case refers to society reaching a tipping point at which carbon intensive forms of travel, presumably including air transport, will become unacceptable and this will impact on demand. Similarly, it cites the potential influence of the 'flight shame' movement (Bristol XR Elders, 2021, pp. 10-11).

4.6.2. In response, I would highlight that the evidence around such impacts remains highly uncertain. I would note, for instance, that in Sweden, where the 'flight shame' movement started and which is frequently cited as an example of its impact, that much of the supposed change may in fact have been the result of a significant increase in aviation taxation in 2018. I would also point out that there has been no noticeable effect on demand in the UK from this phenomenon.

4.6.3. It is also worth considering the research undertaken by Ipsos Mori for NATs in 2019 (Ipsos Mori, 2019, p. Copy in Appendix 2). It highlights that 60% of respondents thought reducing emissions should be the priority for the aviation industry, an increase since 2018 (52%), and I would note the continued and expanding commitment of the industry in this regard in a similar time period. However, at the same time, comparatively few were willing to change their own behaviour. 38% of respondents said they would be willing to pay a charge or levy when booking a flight to help protect the environment (32% said they wouldn't), although this was up from 30% in 2018. By a margin of more than two to one, the respondents did not believe people should be discouraged from flying if they wanted to (47% against 22%) , even if this might have a negative impact on the environment. These results suggest to me

that it is not that people do not want to fly as a result of increasing concerns around climate change, but that they expect the industry to mitigate and innovate to enable them to do so. I would also note that a significant proportion of respondents said that they would also be prepared to pay to facilitate this.

4.6.4. In my view, therefore, it is not that greater awareness of climate change issues will reduce demand per se but that it will result in people seeking to mitigate the costs of their activities and to drive technological change to reduce emissions.

4.7. Higher Carbon Pricing and Future Demand Management

4.7.1. Turning to the comments made by the PCAA within the section on climate change in its Statement of Case in relation to Bristol Airport's vulnerability to demand management through mechanisms such as carbon pricing, frequent flyer levies and changes to fuel duty, VAT and air passenger duty (Parish Councils Airport Association, February 2021, p. 13 para. 59). The PCAA suggests that Bristol Airport's future growth could be threatened by measures taken by Government to reduce demand. This general theme around the costs associated with climate change impacting on future demand is also a common theme amongst objectors. In response, I would make a number of points.

4.7.2. Firstly, the fact that aviation is likely to face increasing costs to mitigate its carbon emissions is not new. I have discussed this issue in some detail above in relation to my consideration of the potential effects of international aviation's inclusion within the Sixth Carbon Budget (see sub-section 2.7 above). While the recent announcement appears to be a major change at first glance, in reality, it isn't. International aviation has always been allowed for within previous carbon budgets.

4.7.3. Secondly, airlines at Bristol Airport are already subject to requirements around carbon pricing through the aviation's inclusion in the EU Emissions Trading Scheme and have been for some time, and that its largest airline, easyJet, has already committed to offsetting carbon emissions from all its flights (easyJet, 2021). In this context, passenger demand at Bristol Airport has continued to grow strongly, up to the onset of the COVID-19 pandemic.

4.7.4. Thirdly, the comments made by the PCAA are purely speculative in relation to such demand mechanisms. There is at present no UK Government policy that would suggest punitive measures to reduce air travel demand, indeed, as I have

demonstrated above (see sub-sections 2.4 and 2.5), the UK Government's policy framework both requires and supports the continued sustainable growth of air transport. It is not a policy of demand management. There is no evidence that this will change. In this context, I would highlight the comments within the recent Stansted Airport appeal decision:

"Indeed, the Government's press release expressly states, amongst other things, that following the CCC's recommended budget level does not mean we are following their policy recommendations. Moreover, it also says that the Government will 'look to meet' this reduction through investing and capitalising on new green technologies and innovation, whilst maintaining people's freedom of choice, including on their diet. For that reason, the 6CB will be based on its own analysis, and 'does not follow each of the Climate Change Committee's specific policy recommendations." (CD6.13 The Planning Inspectorate, May 2021, p. 14 para 86)

4.7.5. Finally, from a methodological standpoint, I note that the Appeal Proposal forecasts have considered rising carbon costs and also rising taxation of air services through the avenue of increasing Air Passenger Duty. The forecasts have, therefore, taken into account these potential issues and certainly the Slower Growth Case would be consistent with much higher and increasing carbon costs and rising taxation.

4.8. Bristol Airport's Traffic Base is Especially Vulnerable

4.8.1. In relation to future air traffic growth at Bristol Airport and recovery from the COVID-19 pandemic, the PCAA specifically asserts that Bristol Airport's demand is likely to be particularly vulnerable (Parish Councils Airport Association, February 2021, p. 4 para. 16). I am unclear as to why the PCAA believe this should be the case and no basis has been provided to substantiate this claim. Bristol Airport's demand base is not unusual for a UK regional airport and, at the current time, having a strong short haul, leisure focus is an advantage given that this market is expected to recover more quickly than business markets. I note that this is a point made by IATA in its assessment of the forward outlook, which I have discussed above (see paragraph 2.6.4) and which is indeed cited by the PCAA itself.

4.8.2. Similarly, Bristol Airport's largest airline customers, easyJet and Ryanair, are amongst the financially strongest and most resilient airlines in Europe, and the comment that the airport relies heavily on commercial revenues is spurious in that this is normal for

regional airports. I would also note Jet2's recent decision to establish a significant base at the airport is an indication of its confidence in the market at Bristol Airport in the medium to long-term.

4.8.3. Overall, I would strongly reject the suggestion that Bristol Airport's underlying market is particularly vulnerable to the current economic circumstance.

4.9. Recovery of Business Travel

4.9.1. NSC, while accepting that Bristol Airport will reach 12 mppa and the broad timeframe for doing so, has stated that it would like to better understand the rationale for future growth in business passenger numbers (North Somerset Council, 2021, p. 8 para. 27), particularly the routes that are expected to come forward in the future that might be used by business passengers, and why domestic business passenger growth rates are high. Bristol XR Elders also question the recovery of business travel citing issues such increased use of communications technologies and greater corporate awareness of climate change issues (Bristol XR Elders, 2021, p. 14 para. 5.11). I consider these issues below.

Rationale for the Recovery of Business Travel

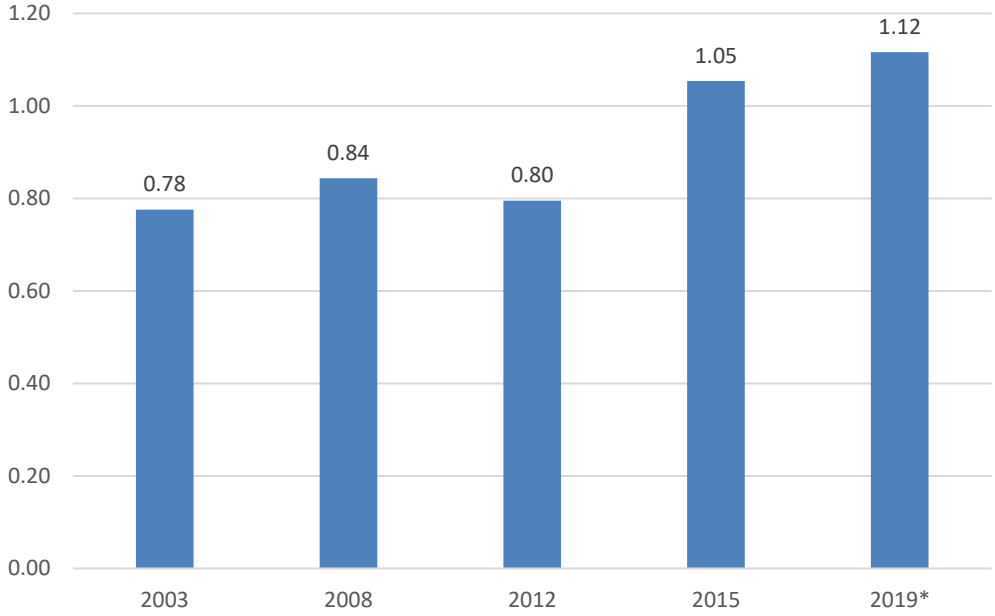
4.9.2. In terms of the future growth of business passenger numbers, I view the impact of COVID-19 on business travel as a short-term phenomenon and that, as normality returns, business passenger numbers will, once more, become driven by economic growth. As a consequence, I believe that the elasticities derived by the Department for Transport (CD6.2 Department for Transport, 2017) remain a sound basis for considering business demand growth over the medium to long-term.

4.9.3. I would also highlight a number of other points that are related more specifically to business travel recovery post COVID-19. Clearly, the Government's travel restrictions have had a significant effect on business related air travel over the last 12 months and it is common to see a downturn in business travel during recessions. It is also common for commentators to question whether business travel will ever recover after recessions.

4.9.4. In this context, it is worth noting that Bristol Airport's business market proved resilient in the face of the Global Financial Crisis. Data from the CAA Passenger Survey shows the dip in business travel following the recession and the subsequent recovery (see Figure 14). Business travel does decline in recessions, unsurprisingly, and it is often

suggested that it won't recover, but the evidence supports my conclusion that business travel will return to its normal growth trend at Bristol as travel restrictions ease and economic growth resumes.

Figure 14: Business Passengers at Bristol Airport Over Time (millions)



* Note: the CAA Passenger Survey altered its approach to weighting in 2019. This has resulted in a around 800,000 passengers at Bristol not being classified in terms of their purpose of travel. This number is, hence, likely to be understated.

Source: CAA Passenger Survey.

4.9.5. I also note that there is evidence of a recovery in business passengers in markets which have started to recover from the pandemic. Air New Zealand, for example, has reported that business passengers numbers on its domestic services are already at 90% of pre-pandemic levels, substantially above expectations (CD13.2 Air New Zealand, March 2021).

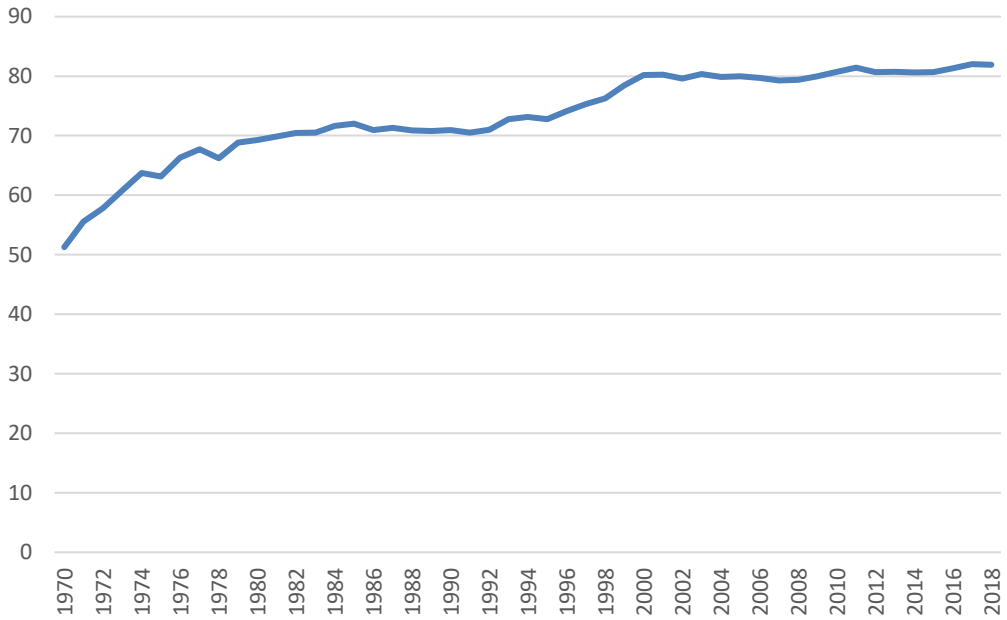
The Continued Globalisation of the UK Economy

4.9.6. My views in relation to the recovery of business travel are also founded in the long-term vision for the UK as a 'Global Britain' (see sub-section 2.4). Business travel is ultimately driven by an increasingly globalised world where countries' economies become more and more interlinked via trade, investment, labour and knowledge sharing. The UK is a highly globalised country and international trade is vital to its prosperity, as described in Build Back Better (CD11.10 HM Treasury, March 2021). It is also a country that is becoming more globalised.

4.9.7. The KOF Globalisation Index (CD13.6 Gygli, 2019) measures the economic, social and political dimensions of globalisation. It provides an assessment of countries' extent of

globalisation and how that has changed over time. Figure 15 shows the KOF economic globalisation index for the UK over time. It demonstrates that the UK continues to become more globalised. I contend that this trend will drive the need for continued growth in business travel and, again, I note the focus within Build Back Better on levelling up and making the UK's major cities, such as Bristol, globally competitive (see paragraph 2.4.4).

Figure 15: The KOF Globalisation Index – Economic Globalisation for the UK



Source: KOF Globalisation Index 2020.

Video Conferencing and Technology

4.9.8. The argument made by Bristol XR Elders that business travel will be replaced by virtual communication is not a new one. It has long been argued that improvements in communication technologies will render business travel obsolete and, clearly, the COVID-19 pandemic has accelerated the use of technologies such as Zoom and Microsoft Teams as businesses have had to 'adapt' their operations to not being able to travel. This dynamic appears to be a key argument by some as to why business travel will not return. I would, however, make a number of points here:

- whilst it is clear that businesses have had to 'adapt' to travel restrictions, the use of video technologies is still generally seen as being a sub-optimal solution compared to face to face contact. While some of the behaviours we have learned over the last year will be retained, in many cases the need for and preference for face to face contact will return. Whilst anecdotally many people

are complaining about being 'Zoomed-out', few are clamouring for less social interaction;

- it should also be remembered that video communications technologies are not new. They have evolved and continue to improve and their increased use is a long run phenomenon, but that evolution is already within the background relationships upon which the Department for Transport's business travel elasticities are based. The pandemic has resulted in an acceleration of that trend but I would expect the growth in the use of these technologies to return to the long run trend over time. It should also be remembered that there are many activities and functions that cannot be delivered remotely and require travel, for instance technical support and repair and after sales care, and a wide range of scientific and research & development activities. In this context, I would also note the West of England's strengths in aerospace and advanced engineering, and its internationally regarded universities.
- furthermore, increased remote communication technology may in and of itself stimulate more business travel. Enabling new international relationships to be serviced remotely by reducing market entry costs is likely to result in more companies seeking to trade overseas in a wider range of markets. While some of the required communication for these new relationships may be remote, it is highly likely that there will remain a requirement to meet face to face, perhaps while the relationship is first being built or to actually deliver particular products or services. Ultimately, improved communication technologies will drive increased globalisation by making trade easier. Increased globalisation will in turn increase the requirement for business travel;

4.9.9. In my view, communications technologies may mean that each individual may travel less for business but that more individuals will travel. In this regard, it is perhaps helpful to consider the findings of previous research undertaken by York Aviation for the City of London Corporation in relation the importance of air services for the city economy (CD13.14 York Aviation, 2011, pp. 31-32). This work was undertaken in the aftermath of the Global Financial Crisis, when similar issues were facing the business travel market. It involved direct discussions with a range of major businesses regarding their use of air services and their intentions for the future. It highlighted the continued importance of face to face contact with clients and its fundamental importance as a competitive issue for firms. It also explored the potential influence of

communication technologies and specifically identified the potential long-term stimulatory effect of these technologies on business air travel demand. In this context, I note the comments from AstraZeneca provided to the recent Stansted Airport 35mppa+ Inquiry in relation to its ongoing and vital need for travel (CD13.4 Congdon, 2020, p. 17). It sees face to face collaboration as essential to the scientific process and to attracting the best talent to come and work in the UK. I would also highlight the comments from ARM Holdings highlighting the importance of international travel in working effectively with its customers and accessing niche technologies and skills (CD13.4 Congdon, 2020, p. 31).

4.9.10. Overall, at worst, I would suggest that the increasing use of video conferencing and communications technologies may slow business travel growth towards that seen in the Slower Growth Case forecasts.

Routes that Will Facilitate Future Business Traffic Growth

4.9.11. NSC have also asked which new routes will drive future growth in business passenger traffic (North Somerset Council, 2021, p. 8 para. 27). While the short-term 'bottom up' forecasts do consider the market at a route level, given that this focuses primarily on the period of recovery from COVID-19 and the likely reinstatement of routes, there are not significant numbers of 'new' routes to the airport. In the longer term, the forecasts do not consider the market at a route level and we would not consider it sensible to do so. This is standard practice in traffic forecasting. They focus more on the nature of demand that will come forward than on specific routes. In that regard, as I have described above, I would expect airlines to bring forward a range of routes, some of which will be leisure focussed, but some of which, notably additional city destinations, will be useful to business travellers. Again, it is important to realise that this is how Bristol Airport has always grown. By way of example, I have set out in the new city destinations added to Bristol Airport's route network since 2011 in Table 8.

Table 8: New City Destinations Added to Bristol Airport's Route Network since 2011

Athens	Dubrovnik
Basle	Dusseldorf
Bilbao	Frankfurt
Bologna	Hamburg
Bucharest	Munich
Budapest	Reykjavik
Cologne	Stockholm
Copenhagen	Vienna

Source: OAG Schedules Analyser.

4.9.12. In this regard, I would, however, note one important recent development at the airport, namely the announcement of the new Frankfurt route to be operated by Lufthansa. This is a good example of a route that will have significant value to business, providing as it does, access to a major European business centre, and importantly, access to Lufthansa's global hub at Frankfurt, which provides connectivity to a wide range of European and long haul destinations. High quality hub access has been a gap in Bristol Airport's network and significantly enhances its attractiveness to business travellers.

Conclusions on the Recovery of Business Travel

4.9.13. Overall, on the basis of the evidence above, I believe that it is reasonable to assume that business markets generally, and in the South West specifically, will recover over time and that, in relation to Bristol Airport, business passengers will return to making up a similar proportion of overall traffic as before the global pandemic. In other words, again, I do not envisage the airport changing in character significantly over the medium to long-term. I am not suggesting that the airport is going to become more 'business focussed'. I am simply saying we expect its passenger makeup to be broadly similar in the future.

4.10. Demand Can Be Met at Other Airports

4.10.1. The PCAA makes considerable comment as regards to the availability of capacity at other airports to meet demand, notably Cardiff and Exeter, but also Heathrow, and that as a result expansion of Bristol Airport is not required (Parish Councils Airport Association, February 2021, p. 3 para. 20). The PCAA's inclusion of Heathrow within this analysis is in its response to the Environmental Statement Addendum (CD17.5 Parish Councils Airport Association, January 2021) in light of the Supreme Court decision in relation to Heathrow's Third Runway in December 2020.

4.10.2. The PCAA seems to suggest that Bristol Airport should not be able to expand because others have capacity. This does, however, seem to advocate intervening in the market to stifle competition, which would clearly be against UK Government policy. It also seems to miss the point of much the forecasting work that has been undertaken and described above. The point that comes out from our analysis is that, in a competitive market, Bristol Airport is able to grow to 12 mppa by around 2030. If it is constrained to 10 mppa some passengers might choose to use Cardiff, Exeter or, indeed, Heathrow instead. However, this is a sub-optimal option for them and significant numbers will choose not travel at all in these circumstances (see paragraph 3.4.26). In other words, the fact that there is spare capacity at other airports does not matter. They are not an option that a significant proportion of users want to use. In relation specifically to Heathrow, I would highlight again that the potential for a third runway is considered in the forecasts, albeit that in my view it is highly unlikely that a third runway could now be operational before 2033.

4.10.3. I note that the PCAA's position here would appear to run contrary to its arguments that expansion is not required because there will not be sufficient demand. It seems to suggest that it is happy to see growing demand accommodated at other airports, which are sub-optimal for passengers, but not at Bristol Airport.

4.11. Displacement of Passenger Demand is Understated

4.11.1. Both NSC (North Somerset Council, 2021, p. 41 para. 142) and the PCAA make comment about the extent of passenger demand displacement in the event that Bristol Airport is not able to grow beyond 10 mppa. These comments are made in the context of discussing the socio-economic impacts of the Appeal Proposal but, as this is primarily an air traffic forecasting issue, I have addressed these comments in broad terms here. At this stage, neither party has presented specific evidence on this matter, other than the PCAA's false argument about other airports in the South West and South Wales region having spare capacity, which I have considered above at sub-section 4.10. I have, therefore, made a number of general points about the air traffic forecasts approach to assessing displacement and the results of that assessment.

4.11.2. Assessing demand displacement was an area of specific focus within the Appeal Proposal air traffic forecasts following comments made by objectors in relation to the planning application. The air traffic forecasts specifically set out to consider the potential extent of passenger displacement from other airports as Bristol Airport

grows towards 12 mppa in the future. This can also be thought of as which airports will passengers use if they cannot use Bristol Airport when it has reached its existing planning permission limit of 10 mppa and how many may choose not to travel at all.

4.11.3. It is worth commenting on displacement as a concept within traffic forecasting, as it has important implications for the interpretation of the costs and benefits of the development that this analysis feeds into.

4.11.4. Firstly, it should be remembered that displacement is a theoretical construct. It is not actually possible to observe how potential passengers will behave in the event of a constraint arising at an individual airport because the alternative never actually happens. Hence, all considerations around displacement and its implications must be considered with caution.

4.11.5. Secondly, it is important to recognise that displacement is the result of a distortion of competition. For it to occur, one airport in the market must be constrained in its ability to meet the demand for its services. Taking the situation in question here, Bristol Airport does not in any way 'own' or have a 'right to' future demand growth in its catchment area. If it wants to grow and reach the threshold of 12 mppa, it must provide the services required and compete with the other airports serving its catchment area; the better services it offers the stronger will be its competitive position. Similarly, its competitor airports are in the same position, they must compete to fulfil that demand by providing potential customers with a better service. This is the essential strength of an open market economy. Displacement means that the market is not clearing as it should and this competitive process is not working properly. How market actors, notably passengers, airports and airlines, will behave in a situation where the market is not in equilibrium is difficult to predict. While it may be rational for a passenger, an airport or indeed an airline to behave in a particular way, the distortion in the market may mean that they do not in reality do so because market signals are unclear or because the distortion creates different incentives. This introduces inefficiencies into the market and results in outcomes that are sub-optimal. Passengers may find that the service they require is not available or they have to travel further access it. Airports may choose to focus on markets that are more beneficial for them in a constrained circumstance, or airlines may alter their operations or strategy to suit the distorted market circumstance. Again, this means that displacement must be viewed with caution.

4.11.6. However, the potential displacement of passengers from other airports is an issue that has been raised by NSC and other parties in relation to the socio-economic assessment submitted as part of the planning application. It has been suggested that if Bristol Airport cannot grow beyond 10 mppa, then passenger demand will simply divert to other airports in the South West and South Wales region. Hence, in developing the air traffic forecasts to support the 12 mppa appeal, York Aviation was tasked specifically with developing a methodology that could examine this issue in a systematic and robust fashion.

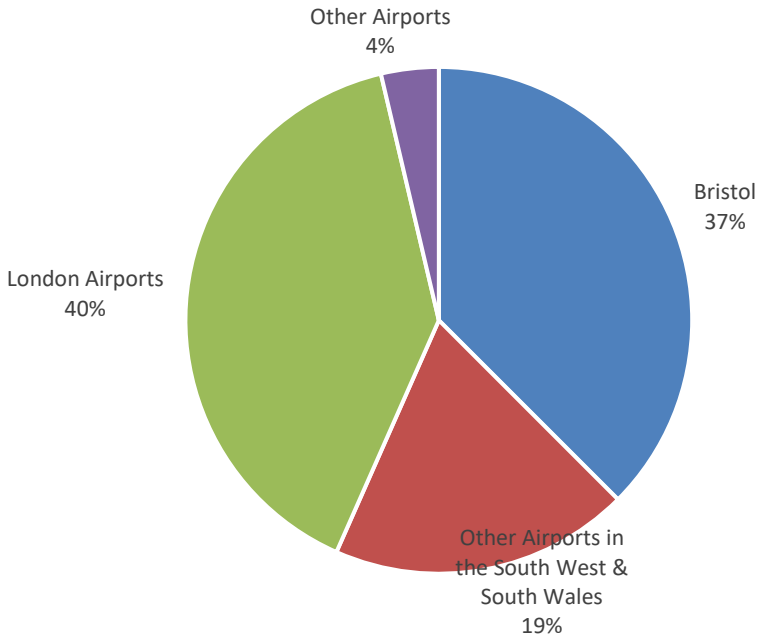
4.11.7. The chosen approach to assessing passenger displacement was to develop the econometrically driven, allocation model described above in sub-section 3.1 and in detail within the traffic forecasting report. This uses well established and recognised econometric techniques to analyse passenger decision making based on such decisions as observed within the CAA Passenger Survey. This analysis is then used to consider how constraining Bristol Airport, by making it systematically a less attractive option compared to its competitors, will impact on passengers' choice of airport in each district across Bristol Airport's catchment area or their decision to fly at all. It is important to understand that this analysis is not simply about the location of alternative airports to Bristol Airport. It is very much about the range of destinations offered, the frequency of service and the fares that might be on offer elsewhere. Passengers will not simply divert to their nearest alternate. They will consider, in the round, which airport offers what they are looking for to satisfy their travel requirements. That is often a larger airport that is further away. In other words, it examines systematically which airports passengers might choose if they cannot use Bristol Airport or if they will simply choose not to fly at all.

4.11.8. This analysis identified that only around 28% of the additional 2 mppa handled by Bristol Airport in the Appeal Proposal would be displaced from other airports in the South West and South Wales. Of the remaining passengers, 39% would no longer travel and 33% would use other airports outside the region. Given the known existing market shares of different airports in the South West and South Wales region, I believe that this estimate is entirely reasonable.

4.11.9. Figure 16 shows the market share of airports in the South West and South Wales area based on the CAA Passenger Survey 2019 and CAA Statistics for 2019. The latter is used to estimate the number of passengers in the region using Bournemouth, Exeter and Newquay airports, which were not included in the CAA Passenger Survey

2019. For these airports, all passengers are assumed to originate from somewhere in the South West and South Wales.

Figure 16: Estimated Passenger Market Shares in the South West and South Wales in 2019



Source: CAA Passenger Survey 2019 and CAA Statistics.

4.11.10. This analysis shows that, in total, the other airports in the South West and South Wales only account for around 19% of passengers. It is not these airports but the London airports that are by some margin the most important influence within the regional market other than Bristol. In other words, other airports in the South West and South Wales get 'more than their share' of displacement within the air traffic forecasts.

4.11.11. Overall, I strongly refute the assertions made that potential demand displacement to other airports in the South West and South Wales is understated. These assertions are not backed by evidence, whereas, as I have set out above, the Appeal Proposal air traffic forecasts are based on a detailed econometric analysis using real world data from the CAA Passenger Survey.

4.12. The Influence of Jet2 on Fleet Mix

4.12.1. I note that NSC raises a specific point in relation to the fleet mix assumed and used to produce a number of the outputs for environmental assessment from the air traffic forecasts. Specifically, NSC expresses concern that the fleet mix assessed did not reflect the subsequent announcement by Jet2 that it would be establishing an

operating base at Bristol Airport (North Somerset Council, 2021, p. 10 para. 31). I make a number of points in regard to this position:

- it is important to understand that the assessment of fleet mix at Bristol Airport is not airline specific. It is not predicated on particular airlines holding a particular market share or operating particular routes. It is, of course, informed by knowledge of and discussions with the airlines operating at Bristol Airport now and takes account of their future development and fleet plans, but it is also informed by more general trends in the market in terms of growth, operating patterns and fleet renewal;
- airlines operate on relatively short operational planning time horizons, which certainly do not extend out to considering aircraft basing decisions between 2027 and 2034, the broad time horizon during which Bristol Airport is forecast to reach 12 mppa. Given the planning horizon being considered between 2027 and 2034, it would be wholly inappropriate to seek to 'micro analyse' such decisions over that timeframe on an airline by airline basis, particularly as airlines can place orders and take deliveries of new aircraft in much shorter timescales. Furthermore, airlines may come and go or expand faster or slower at any airport. Aircraft are mobile and airlines are agile and effective in seeking the best location for their capacity. What is important is that appropriate consideration is given to the broad principles around what markets will be served in the future, how and the aircraft chosen to service demand. Ultimately, it is the balance between current and new generation aircraft which is important in this. This is what has been done in the Appeal Proposal air traffic forecast outputs;
- NSC's concern would appear to be around the fact that Jet2 does not at present operate 'new generation' aircraft. I would point out that the fleet mix considered does include a significant allowance for the continued operation of 'current generation' aircraft (see Table 3) and that, as such, there is allowance within the fleet mix in this regard. I would also highlight that just because Jet2 does not operate 'new generation' aircraft currently, does not mean it will not do so in the future;
- subsequent to the announcement by Jet2 of its new base at Bristol Airport, similar discussions have been held with the airline to those with other airlines at Bristol Airport. Following these discussions, further analysis of the potential

fleet mix was undertaken and the conclusion reached that the existing assumptions around the balance of current and new generation aircraft remain appropriate and reasonable;

- it is also worth noting that the debate is in many ways moot. I would anticipate that the conditions associated with any granting of approval would effectively require the delivery of a fleet mix no noisier than that assessed.

4.12.2. Overall, I remain confident that the indicative fleet mix developed from the air traffic forecasts was appropriate and remains so. I would also highlight again that the issue is in many ways moot given the likely conditions associated with the granting of the Appeal Proposal.

4.13. Conclusions

4.13.1. I have considered here the various comments made in relation to objectors' issues with the Appeal Proposal air traffic forecasts. In my view these comments are not valid and do not change the passenger forecasts or impact on the outputs developed from those forecasts to support environmental assessment. I continue to conclude that the Appeal Proposal air traffic forecasts are robust and reasonable basis for considering environmental effects.

5. Conclusions

5.1.1. In this Proof of Evidence, I have set out the air traffic forecasts for the Appeal Proposal. I have demonstrated that Bristol Airport can be expected to grow to 12 mppa and that it will reach this threshold between 2027 and 2034, with a reasonable most likely outcome being about 2030. This is the fundamental conclusion in relation to the air traffic forecasts. I note that this position has been agreed with NSC.

5.1.2. I have identified the fundamental long-term growth drivers for air transport demand: population growth, economic growth and personal wealth. I have then demonstrated that these growth drivers are expected to be strong in the UK in the long-term following recovery from the COVID-19 pandemic.

5.1.3. I have then demonstrated that current UK Government policy is strongly focussed on fuelling economic recovery, promoting a Global Britain, and levelling up the cities and regions of the UK, including through improving their global competitiveness. This feeds through to the Government's strong policy support for sustainable aviation growth to realise the economic benefits it brings, which is founded on a long-term assessment of future demand growth.

5.1.4. Specifically in relation to Bristol Airport, I have shown that its catchment area has strong economic fundamentals and has exhibited high levels of growth compared to the UK as a whole and that the UK Government's population projections suggest that the areas around the airport will continue to grow strongly. I would, therefore, expect previous market dynamics to re-establish themselves once recovery starts in earnest, with Bristol Airport resuming steady growth moving forward, with recovery ahead of the UK as a whole, aligned with historic trends.

5.1.5. I have set out an overview of the forecast methodology. I believe the forecast methodology used for the Appeal Proposal is a best practice approach that deals effectively with the inherent uncertainty in forecasting and the particular risks in the market at the current time. The air traffic forecast outputs that provide the basis for the environmental assessment have been prepared using industry standard approaches and the best available underpinning evidence.

5.1.6. I have considered the potential influence of the current short-term market conditions relating to COVID-19. In my view, considerable care should be taken in this regard, as it is simply not possible to understand the current level of demand given the travel

restrictions currently in place. I have shown above that the fundamentals for future growth remain strong and, as a consequence, that growth will return and that, as a consequence, the timeframe for Bristol Airport reaching 12 mppa considered here is reasonable. I would note, however, that growth in line with the Core Case or Slower Growth Case is now more likely than the Faster Growth Case.

5.1.7. I have summarised the outputs taken from the air traffic forecasts and used within the environmental assessment. In each case, I have considered the potential implications of faster or slower growth in the air traffic forecasts, in line with the overall forecast range set out. I have concluded that faster or slower growth is unlikely to materially effect the characteristics of Bristol Airport's traffic at the point it reaches 12 mppa. I, therefore, conclude that the air traffic forecast outputs taken forward for the environmental assessment were a sound basis for considering the likely significant environmental effects associated with the Appeal Proposal.

5.1.8. I have considered here the various comments made in relation to objectors' issues with the Appeal Proposal air traffic forecasts. In my view these comments are not valid and do not change the passenger forecasts or impact on the outputs developed from those forecasts. I continue to conclude that the Appeal Proposal air traffic forecasts are robust and reasonable basis for considering likely significant environmental effects.

1. Appendix 1: Response to CPO Objections

1.1.1. Below, I have considered specifically the issues raised by objectors to BAL's A38 Compulsory Purchase Order application in respect of air traffic forecasting. These objections do not raise new issues and, hence, where possible I have referred back to evidence already presented above.

1.2. The assumptions on which the Application was predicated will need to be reviewed and potentially reassessed (i.e. passenger forecasts).

1.2.1. I have discussed in some detail above (sub-section 2.6 and sub-section 4.4) that the current throughput of Bristol Airport is of limited relevance to its growth in the medium to long-term. The short-term throughput is driven by travel restrictions not underlying demand. In the medium to long-term, growth will be driven once again by underlying economic fundamentals. These remain strong and, as I have discussed above at sub-section 2.3, these remain strong and there is no reason to suggest a requirement to revisit the air traffic forecasts. I would also note that the forecasts include both Faster Growth and Slower Growth cases, which enable consideration of different speeds of future growth.

1.3. It is improbable that passenger demand will reach the existing 10 mppa cap next year, or that it would grow by a further 20% within the following 5 years (i.e. to 12 mppa by 2025).

1.3.1. The air traffic forecasts consider a range of cases for future growth Bristol Airport. It is only in the Faster Growth Case that 10 mppa is reached in 2022 and, even then, 12 mppa is not reached until 2027. The Core Case and Slower Growth Case are simply not reflective of the statement above. The air traffic forecasts have been developed through an in-depth and robust analysis and I believe that the time period identified over which Bristol Airport is expected to reach 12 mppa is reasonable.

1.4. If the Airport follows IATA projections, it is likely that passenger numbers would not return to pre-COVID levels until 2025, so previously forecast growth to 12 mppa would not be reached until early 2030s. Therefore, there is a failure to demonstrate a compelling case to acquire the Order Land at this stage.

1.4.1. As described above, the air traffic forecasts has been developed using an in-depth and robust analysis that is set out in sub-section 3.1. The air traffic forecasts see Bristol Airport reach 10 mppa between 2022 (Faster Growth Case) and 2028 (Slower Growth Case), with the Core Case reaching 10 mppa in 2024. The airport then reaches 12 mppa between 2027 (Faster Growth Case) and 2034 (Slower Growth Case), with the Core Case reaching 12 mppa in 2030. This is in line with the statement made above.

1.5. There has been plenty of polling that suggests that business and employee behaviours have changed for good following the mass adoption of remote working and online conference calls. Business air travel only looks set to decrease.

1.5.1. The issue of the recovery of business air travel is discussed in sub-section 4.9. I believe that it is reasonable to assume that business markets generally, and in the South West specifically, will recover over time and that, in relation to Bristol Airport, business passengers will return to making up a similar proportion of overall traffic as before the global pandemic.

2. Appendix 2: Additional Supporting Documents and Excerpts

2.1. Department for Transport. (2013). UK Aviation Forecasts, page 19

Box 2.2: National aviation demand price and income elasticities comparisons

In assessing the results of the econometric modelling, the price and income elasticities have been compared with those found in the literature. In choosing elasticities for comparison, it is essential to focus on studies which are relevant to the UK national passenger demand. For example, it would not be accurate to compare a national level price elasticity to that of a sub-national market, or an individual airline. As shown by CAA (2005), price effects at the sub-national level could be stronger, reflecting greater substitution possibilities, but substitution between routes or airlines would not affect the total market size. Also, comparisons with markets in other countries or regions of the world are complicated by their different population distribution, geography and transport systems, and market structures.

A literature review revealed that while there is a large number of studies of aviation price and income elasticities, relatively few are relevant to UK national demand. Key studies which are directly comparable are Graham (2000),[1] Dargay & Hanley (2001),[2] CAA (2005)[3] and Dargay, Menaz & Cairns (2006).[4] None of these studies covers all the market sectors modelled and used for forecasting, but where they coincide they find price elasticities broadly comparable to those presented in this report.

The price elasticity of UK leisure travel is found to be -0.6 by Dargay & Hanley; in the range of -0.7 to -0.8 (outbound) by the CAA; and, -1.0 for short haul and 0.4 for long haul by Dargay. Menaz & Cairns could not find significant fare effects for UK business travel, while Dargay & Hanley found a small price effect of -0.3, slightly above the elasticity underpinning the updated forecast of -0.2. Dargay and Hanley also estimated a price elasticity of -0.3 for the foreign business and leisure markets, which is close to the elasticities of -0.2 and -0.6 used for these sectors in these updated forecasts.

The income elasticity of UK leisure travel is found to be 2.0 by Graham, 1.5-1.8 (outbound) by CAA, 1.1 by Dargay & Hanley, and 1.0 for short haul and 2.9 for long haul by Dargay, Menaz & Cairns. These results match well with the elasticity underpinning the updated forecasts of 1.4. UK business travel's income (trade) elasticity is found to be 1.5 by Dargay & Hanley, and 3.5 for short haul and 0.2 for long haul flights by Dargay, Menaz & Cairns. The domestic income elasticity (1.2) used reporting the updated forecasts therefore lies comfortably within this range. Only Dargay and Hanly (1.8), estimated income elasticities for the foreign leisure sector, rather higher than the elasticity used here of 1.0.

[1] Graham (2000) Demand for leisure air travel and limits to growth, Journal of Air Transport Management 6, 2000, 109-118
[2] Dargay & Hanley (2001) The Determinants of demand for international air travel to and from the UK
[3] CAA (2005) Demand for outbound leisure air travel and its key drivers
[4] Dargay, Menaz and Cairns (2006) Public attitudes towards aviation and climate change.

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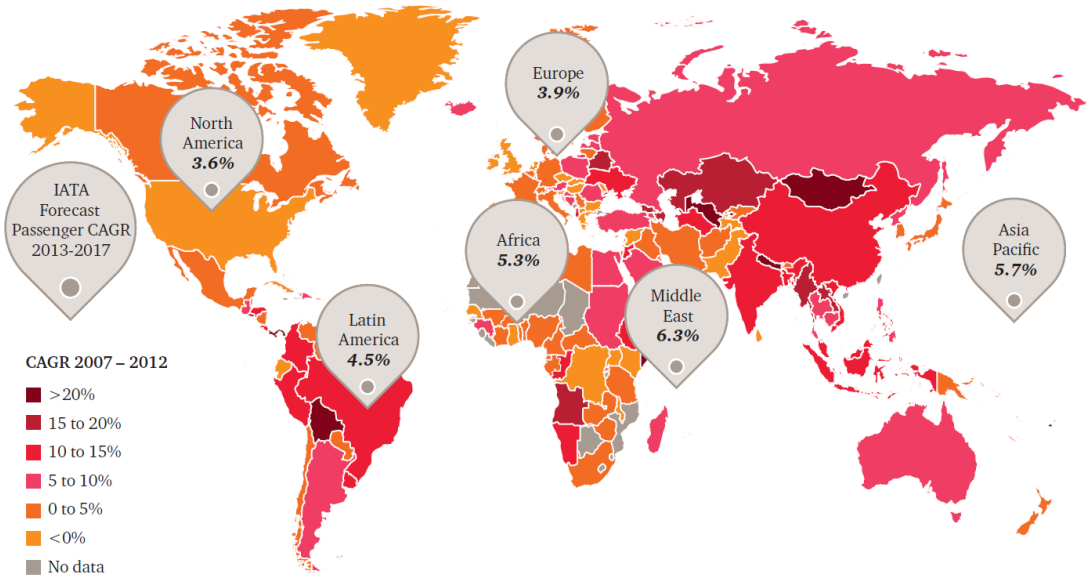
2.2. *PwC. (2014). Connectivity and Growth: Directions of Travel for Airport Investments, Pages 22-23.*

Figure 1: Growth in Air Passengers



Note: Shaded countries represent historical CAGRs for international air passenger traffic. Bubbles represent regional forecast CAGRS.

Source: IATA, PwC

Correlations between per-capita GDP and number of air trips

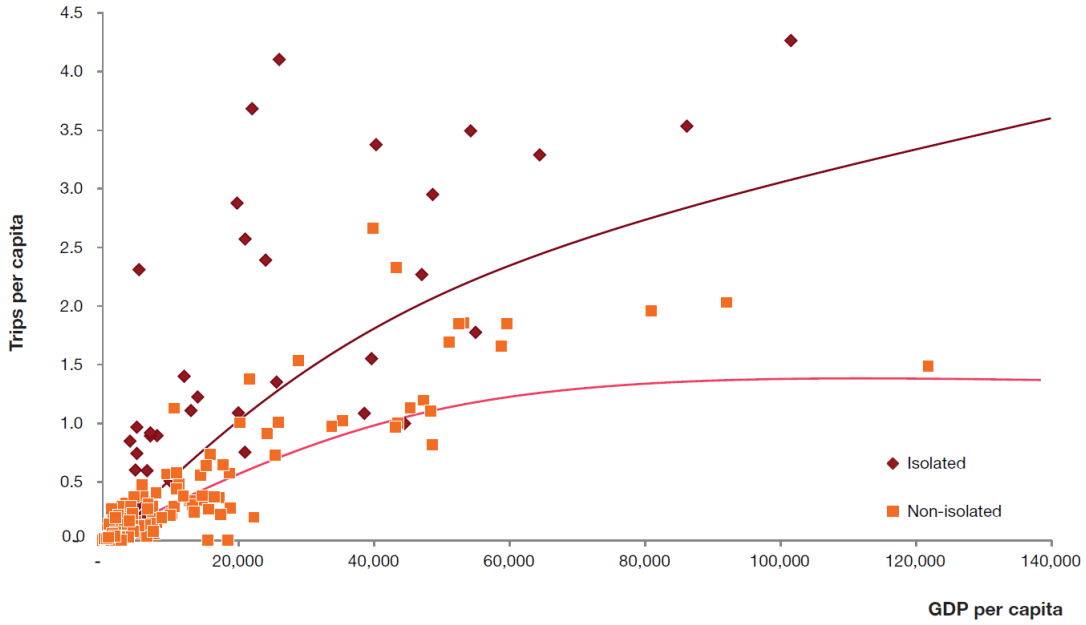
In addition to analysing growth in the number of air passengers, we looked at the relationship between per-capita GDP and number of air trips. But we qualified this analysis in several ways. For instance, we based our calculations on the number of one-way passengers with the point of sale in a particular country.[4] This approach takes out the impact of disparity between inbound and outbound passengers. Countries with a lot of inbound tourism and a low local resident population show a much higher number of trips per capita, driven by the economies of the inbound countries. So to keep things simple, we considered only resident travel patterns in our analysis.

For nearly 200 countries, we plotted per-capita GDP against per-capita number of trips. Collectively, the countries we analysed account for 97% of passenger trips captured in Sabre's airport data intelligence database.[5] Drawing on the data, we developed a relationship between propensity to fly and per-capita GDP. We took into account market saturation, assuming 2–2.5 trips per capita for non-isolated markets (countries where alternative transport modes are available) and more than twice that for isolated markets (for example, small island nations, countries where other travel modes are not available or competitive, or countries with major air hubs creating an inflated air travel market due to connectivity). Figure 2 shows that as GDP increases, propensity to fly increases. It also suggests that propensity to fly reaches saturation as GDP rises.

[4] We excluded countries for which economic data was unavailable as well as nations that have low levels of outbound travel because of political or social restrictions. Likewise, we didn't include countries that have a disproportionate share of outbound passengers and that have incomplete point-of-sale or point-of-origin data.

[5] Though airfares and exchange rates also contribute to the number of trips a person takes, it wasn't feasible to gather this level of detail for each country. For this reason, our analysis doesn't reflect these fares and rates.

Figure 2: Relationship between air trips per capita and GDP per capita, 2013



Source: BMI, Sabre Air Transport Intelligence, PwC analysis

Resident trips per country

We used the relationships derived for isolated and non-isolated markets from the data in Figure 2 to forecast growth in resident trips for 2020 for each country in our study, given growth in per-capita GDP and population over the coming three decades.[6] We then compared these forecasts to resident trips for each country in 2013 and considered how the top 20 rankings might change by 2020. (See Table 1.)

[6] Based on real GDP per capita and population forecasts from Global Insight (August 2014).

2.3. *Bank of England. (May 2021). Monetary Policy Report, Page 11*

Table 1.B: Indicative projections consistent with the MPC's forecast[a][b]

	Averages		Projections			
	1998–2007	2010–19	2020	2021	2022	2023
World GDP (UK-weighted)[c]	**3**	**2¼**	**-4½ (-4¾)**	**5 (4¾)**	**4½ (5)**	**2½ (2¼)**
World GDP (PPP-weighted)[d]	4	3½	-3½ (-4)	6¼ (6)	4¾ (5¼)	3½ (3½)
Euro-area GDP[e]	2¼	1½	-6¾ (-7)	3¾ (3½)	5½ (6½)	2¼ (1¾)
US GDP[f]	3	2¼	-3½ (-3½)	6¾ (6½)	4¼ (3¼)	1¾ (1¾)
Emerging market GDP (PPP-weighted)[g]	5½	5	-2½ (-3)	7 (6¾)	5¼ (5¾)	4¾ (4½)
of which, China GDP[h]	*10*	*7¾*	*1¾ (2¼)*	*9¼ (8½)*	*5½ (5½)*	*5¼ (5¼)*
UK GDP[i]	**3**	**1¾**	**-9¾ (-10)**	**7¼ (5)**	**5 ¾ (7¼)**	**1¼ (1¼)**
Household consumption[j]	3¼	1¾	-11 (-12¼)	5¼ (4¼)	9¼ (11¾)	1¾ (1)
Business investment[k]	2¾	3¾	-10¼ (-15)	7 (4)	13½ (12)	1¼ (4½)
Housing investment[l]	3¼	3¾	-12½ (-10½)	13½ (10¾)	4¾ (3½)	3¼ (6¼)
Exports[m]	4¼	3¼	-15¾ (-13½)	1 (-3)	4½ (5½)	4½ (4¼)
Imports[n]	5¾	3½	-17¾ (-19)	8½ (5¼)	10 (12¾)	4 (3½)
Contribution of net trade to GDP[o]	-¼	-¼	¾ (2)	-2¼ (-2½)	-1¾ (-2¼)	0 (0)
Real post-tax labour income[p]	3¼	1¼	1 (1½)	-¾ (-1)	1½ (1)	¾ (1¾)
Household saving ratio[q]	8	8½	15¾ (17¾)	12 (15¼)	6 (6½)	6 (6½)
Credit spreads[r]	¾	2½	2 (2)	2¼ (2¼)	2 (2¼)	2 (2)
Excess supply/Excess demand[s]	**0**	**-1¾**	**-2 (-1¼)**	**-¾ (-1¼)**	**+¼ (+¼)**	**+¼ (0)**
Hourly labour productivity[t]	2¼	½	¾ (2¾)	¼ (-3¼)	½ (2)	¾ (½)
Employment[u]	1	1¼	-1¾ (-1¼)	1¼ (-¾)	1¼ (2 ¼)	¾ (1¼)
Average weekly hours worked[v]	32¼	32	30¼ (29¾)	32¼ (32¼)	32 (32)	32 (32)
Unemployment rate[w]	5¼	6	5 (5¼)	5 (6½)	4½ (5)	4¼ (4½)
Participation rate[x]	63	63½	63½ (63¾)	64 (63¾)	64 (64)	64 (64)
CPI inflation[y]	**1½**	**2¼**	**½ (½)**	**2½ (2)**	**2 (2¼)**	**2 (2)**
UK import prices[z]	0	1½	2 (1¾)	-1½ (-½)	0 (0)	¼ (0)
Energy prices – direct contribution to CPI inflation[aa]	¼	¼	-½ (-½)	¾ (½)	0 (0)	0 (0)
Average weekly earnings[ab]	4¼	2¼	4¾ (4¼)	-½ (¾)	2¾ (2½)	2¾ (2¼)
Unit labour costs[ac]	3	1½	11¾ (13½)	-8 (-8¼)	2¼ (2½)	2¼ (2¼)
Private sector regular pay based unit wage costs[ad]	1¾	1¾	10¾ (14)	-4½ (-5¾)	1 (2)	3 (3)

Sources: Bank of England, Bloomberg Finance L.P., Department for Business, Energy and Industrial Strategy, Eurostat, IMF *World Economic Outlook* (*WEO*), National Bureau of Statistics of China, ONS, US Bureau of Economic Analysis and Bank calculations.

(a) The profiles in this table should be viewed as broadly consistent with the MPC's projections for GDP, CPI inflation and unemployment (as presented in the fan charts).
(b) Figures show annual average growth rates unless otherwise stated. Figures in parentheses show the corresponding projections in the February 2021 *Monetary Policy Report*. Calculations for back data based on ONS data are shown using ONS series identifiers.
(c) Chained-volume measure. Constructed using real GDP growth rates of 188 countries weighted according to their shares in UK exports.
(d) Chained-volume measure. Constructed using real GDP growth rates of 189 countries weighted according to their shares in world GDP using the IMF's purchasing power parity (PPP) weights.
(e) Chained-volume measure. Forecast was finalised before the release of the preliminary flash estimate of euro-area GDP for Q1, so that has not been incorporated.
(f) Chained-volume measure. Forecast was finalised before the release of the advance estimate of US GDP for Q1, so that has not been incorporated.
(g) Chained-volume measure. Constructed using real GDP growth rates of 155 emerging market economy countries, as defined by the IMF *WEO*, weighted according to their relative shares in world GDP using the IMF's PPP weights.
(h) Chained-volume measure.
(i) Excludes the backcast for GDP.
(j) Chained-volume measure. Includes non-profit institutions serving households. Based on ABJR+HAYO.
(k) Chained-volume measure. Based on GAN8.
(l) Chained-volume measure. Whole-economy measure. Includes new dwellings, improvements and spending on services associated with the sale and purchase of property. Based on DFEG+L635+L637.
(m) Chained-volume measure. The historical data exclude the impact of missing trader intra-community (MTIC) fraud. Since 1998 based on IKBK-OFNN/(BOKH/BQKO). Prior to 1998 based on IKBK.
(n) Chained-volume measure. The historical data exclude the impact of MTIC fraud. Since 1998 based on IKBL-OFNN/(BOKH/BQKO). Prior to 1998 based on IKBL.
(o) Chained-volume measure. Exports less imports. GDP data based on the mode of the MPC's GDP backcast.
(p) Wages and salaries plus mixed income and general government benefits less income taxes and employees' National Insurance contributions, deflated by the consumer expenditure deflator. Based on [ROYJ+ROYH-(RPHS+AIIV-CUCT)+GZVX]/[(ABJQ+HAYE)/(ABJR+HAYO)].
(q) Annual average. Percentage of total available household resources. Based on NRJS.
(r) Level in Q4. Percentage point spread over reference rates. Based on a weighted average of household and corporate loan and deposit spreads over appropriate risk-free rates. Indexed to equal zero in 2007 Q3.
(s) Annual average. Per cent of potential GDP. A negative figure implies output is below potential and a positive figure that it is above.
(t) GDP per hour worked. GDP data based on the mode of the MPC's GDP backcast. Hours worked based on YBUS.
(u) Four-quarter growth in LFS employment in Q4. Based on MGRZ.
(v) Level in Q4. Average weekly hours worked, in main job and second job. Based on YBUS/MGRZ.
(w) LFS unemployment rate in Q4. Based on MGSX.
(x) Level in Q4. Percentage of the 16+ population. Based on MGWG.
(y) Four-quarter inflation rate in Q4.
(z) Four-quarter inflation rate in Q4 excluding fuel and the impact of MTIC fraud.
(aa) Contribution of fuels and lubricants and gas and electricity prices to four-quarter CPI inflation in Q4.
(ab) Four-quarter growth in whole-economy total pay in Q4. Growth rate since 2001 based on KAB9. Prior to 2001, growth rates are based on historical estimates of AWE, with ONS series identifier MD9M.
(ac) Four-quarter growth in unit labour costs in Q4. Whole-economy total labour costs divided by GDP at constant prices, based on the mode of the MPC's GDP backcast. Total labour costs comprise compensation of employees and the labour share multiplied by mixed income.
(ad) Four-quarter growth in private sector regular pay based unit wage costs in Q4. Private sector wage costs divided by private sector output at constant prices, based on the mode of the MPC's GDP backcast. Private sector wage costs are average weekly earnings (excluding bonuses) multiplied by private sector employment.

2.4. Holly Greig, Department for Transport. (April 2020). The Sixth Carbon Budget and International aviation emissions

Dear Stakeholder,

The Government has announced today that it will set the world's most ambitious climate change target in the Sixth Carbon Budget, to reduce carbon emissions by 78 per cent compared to 1990 levels, in line with the recommendation from the independent Climate Change Committee. For the first time, this Carbon Budget will also legally include the UK's share of international aviation (and shipping) emissions, which will allow for these emissions to be accounted for consistently (UK domestic aviation emissions are already included).

The Sixth Carbon Budget limits the volume of greenhouse gases emitted over a five-year period covering 2033-2037 at 965MtCO_2e, taking the UK more than three-quarters of the way to reaching net zero by 2050. The Sixth Carbon Budget will ensure Britain remains on track to end its contribution to climate change, while remaining consistent with the Paris Agreement temperature goal to limit global warming to well below 2°C and pursue efforts towards 1.5°C.

International aviation emissions are an important part of our decarbonisation effort. The Government recognises that global action helps reduce the risks of competitive market distortions and carbon leakage that can come with acting alone, and remains committed to global action to tackle international aviation emissions through international processes at the International Civil Aviation Organization (ICAO). We already play a leading role in the development and implementation of measures driving emissions reduction in the international aviation sectors at ICAO, including securing and developing the CORSIA scheme, and now in ICAO's work towards a long-term emissions reduction goal for international aviation.

The UK is also already taking domestic action to reduce aviation emissions, for example, through the work of the Jet Zero Council, the £125 million we are investing into the Future Flight challenge, including aviation within our new UK Emissions Trading Scheme and allocating £18m of further funding for commercialisation of Sustainable Aviation Fuels. We will set out further decarbonisation plans for aviation in the Transport Decarbonisation Plan and Net Zero Aviation Consultation, which I would encourage you to respond to.

The Government will conduct a further assessment of the treatment of international aviation (and shipping) emissions in carbon budgets in 2025, reflecting on any significant developments in international or domestic policy.

If you have any questions or would like to discuss any of the above, please do not hesitate to contact me.

Many thanks,
Holly

Miss Holly Greig
Deputy Director, Aviation Decarbonisation Division

2.5. *Wall Street Journal. (2021, May 12). Air Travel Is Back, Including All the Things You Hated*

https://www.wsj.com/articles/air-travel-airport-crowds-back-after-covid-11620828493

A-HED

Air Travel Is Back, Including All the Things You Hated

Passenger volumes hit pandemic records over the weekend, and with them are higher ticket prices, crowded planes, TSA lines; 'selfishly, I like an empty airplane'

By Alison Sider
May 12, 2021 10:10 am ET

Listen to Article (7 minutes)

Air travel is coming back. So are things people hated about it.

Passenger volumes at U.S. airports hit pandemic records over the weekend, with more than 1.7 million people passing through airport security Friday and again on Sunday.

Frequent fliers like Tim Slabaugh aren't thrilled. "We had this window in Covid where business travel was just wonderful," said the medical-supply company representative, who kept up his travel pace throughout the pandemic.

Rolling back

"The airports themselves were empty," he said. "Now, it's like somebody turned the light switch back on."

Many people traveling now are vacationers and "older folks, hopped up on vaccines," he said, rather than travel pros. To get around obstacles such as a rental-cars shortage, Mr. Slabaugh said he has resorted to tricks like booking a car for longer than he needs.

Fares are rising, middle seats are no longer empty and everything from parking lots to security lines is getting more congested. Meanwhile, some airports are understaffed to handle demand, many airport restaurants are still closed or at limited capacity, some terminal seating remains blocked for social distancing, and passengers scuffle with airline staff over not wearing masks.

A scene from Tim Slabaugh's journey through Raleigh-Durham airport last week.
PHOTO: TIM SLABAUGH

"This is going to be a very bumpy summer for the traveler," said Henry Harteveldt, president of Atmosphere Research Group, a travel-industry advisory group.

U.S. air-passenger traffic fell more than 60% in 2020 from 2019, and the outlook was grim at this year's start. That started to change this spring as the pace of vaccinations accelerated. Airlines and hotels say U.S. leisure bookings for this summer are nearly back to their pre-pandemic pace.

Now, domestic flights are nearly 77% full, on average, according to trade group Airlines for America.

"I have definitely been pampered during the pandemic," said B.P. Perry, a political consultant who flew three or four times a week last year. Getting through airport security took no longer than five minutes, and he often had a seating row to himself.

Now some people seem to have forgotten how to travel, he said—neglecting to take laptops out or remove shoes or trying to shove oversize bags into the overhead compartments. "It will be interesting this summer if it's back-to-normal back to normal," Mr. Perry said. "I'm crossing my fingers that it's not."

Mr. Perry nearly missed a recent flight to Washington, D.C., from Atlanta because the security wait was so long, even with Clear, a service that speeds access through security lines.

Last year, customer satisfaction with North American airlines rose to an all-time high, according to J.D. Power's annual study, as passengers enjoyed more flexible tickets, attentive service and empty middle seats.

Shauna Brown of Mobile, Ala., is conflicted. As a travel adviser whose business helping plan romantic getaways and destination weddings shriveled up during the pandemic, she is relieved to see passengers returning.

"It's great for our industry to see no empty seats," she said, but "selfishly, I like an empty airplane."

For rental-car companies, which sold portions of their fleets to stay afloat, demand picked up "seemingly overnight" in March, and tight supplies prompted higher rates, Joe Ferraro, chief executive of Avis Budget Group Inc. told analysts last week.

The Miami International Airport rental-car center on April 12. Seems like old times.
PHOTO: JOE RAEDLE/GETTY IMAGES

American Airlines Group Inc.'s fares for U.S. leisure travel, which at year's start were half of pre-pandemic levels, have climbed to roughly 90% of that mark, Vasu Raja, American's chief revenue officer, said in an earnings call last month. United Airlines Holdings Inc. said domestic leisure fares are starting to overtake 2019 prices for bookings beginning in mid-June.

SHARE YOUR THOUGHTS

What's the most annoying thing about flying? Share your experience. Join the conversation below.

Airlines have found it harder to plan, given the uncertain outlook, and passengers like Angela Flynn are still having trips upended.

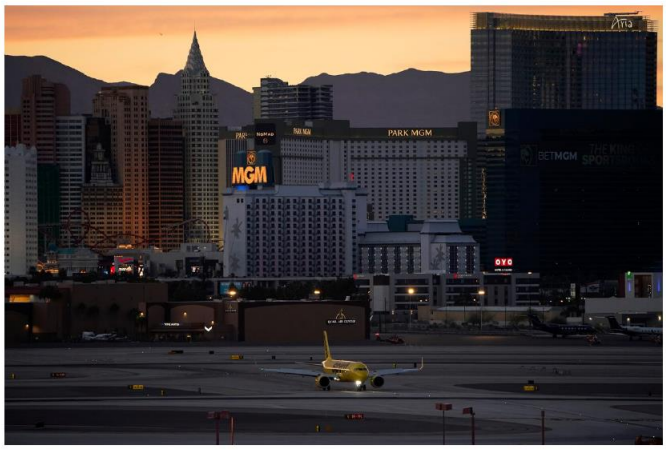
Ms. Flynn was booked to fly Southwest Airlines Co. from Raleigh, N.C., to New Orleans for a conference in July. Southwest told her last week that her nonstop flight would have a

layover and that she would arrive hours later than she had originally planned, she said. She ended up being able to rebook, but now must leave at the crack of dawn.

"It's annoying," she said, but after a year of Covid anxiety: "That's just normal annoyance. Isn't that awesome?"

A Southwest spokesman said the airline is sorry for the inconvenience and believes that it has finished tweaking its summer schedule and that any additional changes would likely be in response to increased demand.

Airports still aren't as busy as before the pandemic. Most business travelers, who bring in a huge chunk of airline and hotel revenues, have yet to return, and many lucrative international markets are effectively closed.



McCarran International Airport, Las Vegas, in February.
PHOTO: JOHN LOCHER/ASSOCIATED PRESS

At Phoenix Sky Harbor International Airport, businesses aren't sure how long the travel recovery will last, and hiring has been a challenge, said Assistant Aviation Director Charlene Reynolds. Close to half of the airport's concessions remain closed.

Hiring at the Transportation Security Administration has been slow, despite expected higher passenger volumes this summer. The TSA has added 2,500 of the 6,000 screeners it had hoped to hire by summer, Acting Administrator Darby LaJoye told a congressional panel last week. The agency expects to hire 1,600 more in the next two months.

"While TSA is actively working to minimize impact to screening operations, passengers may experience longer wait times than they have experienced over the past year due to the increase in passenger volume," a TSA spokesman said.

Airlines are calling back pilots and flight attendants, in some cases years sooner than expected. "I think we're all prepared for this to be messy," Southwest CEO Gary Kelly said

during the company's earnings call last month.

At Delta Air Lines Inc., pilot-training bottlenecks have contributed to shortfalls. The airline had to cancel more than 100 flights over Easter weekend but said it has worked through the issue and is prepared for summer. Citing a rapid increase in demand, the airline is asking Atlanta-based employees to pitch in and volunteer to help out around its short-staffed Sky Clubs there, which cater to frequent fliers and first-class passengers. An airline spokesman said that isn't unusual during busy travel seasons.

It took more than one call to Delta and hours of waiting for Cynthia Traina to change her family's reservation for a coming trip from San Francisco to Atlanta for a wedding. She gave up after one nearly three-hour wait, she said. On another attempt—after a wait of three hours and 18 minutes—she was able to make the change.

A Delta spokesman said the airline is "increasing staffing resources and providing self-service options."

Hal Berenson, a software-startup founder, was taken aback when he arrived at the Denver airport to find it, he said, looking like the day before Thanksgiving. "The shock value was super high," he said. "Where'd these people come from?"

Write to Alison Sider at alison.sider@wsj.com

How the Reopening Will Affect You

Grocers, Restaurants to Suppliers: Hurry Up, Make More

Google Adopts Hybrid Workweek

Five Days in the Office? For These Startups, the Future of Work Is Old School

Inside Disneyland's Sanitized Reopening Plan

Companies Wrestle With Hybrid Work Plans

Ten Signs Things Are Getting Back to Normal

Gyms Are Reopening, but Everything's Different

When CEOs Really Think We'll Come Back to Work

Appeared in the May 13, 2021, print edition as 'Yearning for Pre-Pandemic Crowds? Head to the Airport.'

2.6. *CAPA Live. (2021, April 14). China's domestic aviation recovers;but not international*

14-Apr-2021 5:57 AM

CAPA Live: China's domestic aviation recovers; but not international

Analysis

Each CAPA Live, held on the second Wednesday of each month, contains a summary of the latest key developments by region.

In the Apr-2021 report:

- Following months of rapid recovery in the second half of 2020, China's recovery experienced setbacks entering 2021.

- Chinese airlines expected to remain in the red in 1Q2021, due to the missed opportunity during the Lunar New Year, when citizens were strongly encouraged to stay put.

- Second wave of recovery under way as demand, load factor and airfares on upward trajectory.

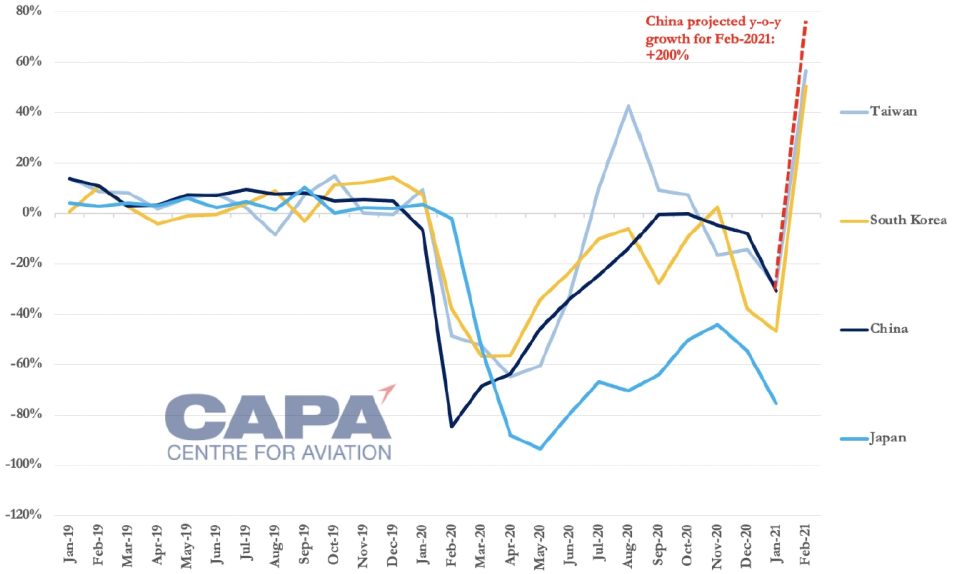
- International market will remain largely closed off as vaccine rates and effectiveness remain below expectation.

China's aviation market came to an abrupt halt in Feb-2020, quickly followed by aviation in every other country in the world.

But effective control of the spread of coronavirus by China and its neighbouring countries helped their domestic markets to bounce back quickly throughout the second half of 2020.

With the exception of Japan, which declared a state of emergency twice due to worsening outbreaks of coronavirus, in China, South Korea and Taiwan the domestic traffic levels came very close to, or exceeded, 2019 levels at some stage through 2020.

Selected North Asian countries: domestic passenger year-on-year growth, Jan-2019 to Feb-2021



Source: CAPA – Centre for Aviation, CAAC, Taiwan CAA, South Korea MOLIT, Japan MLIT.

This momentum did not continue into 2021, however, as pockets of outbreaks of coronavirus hindered growth.

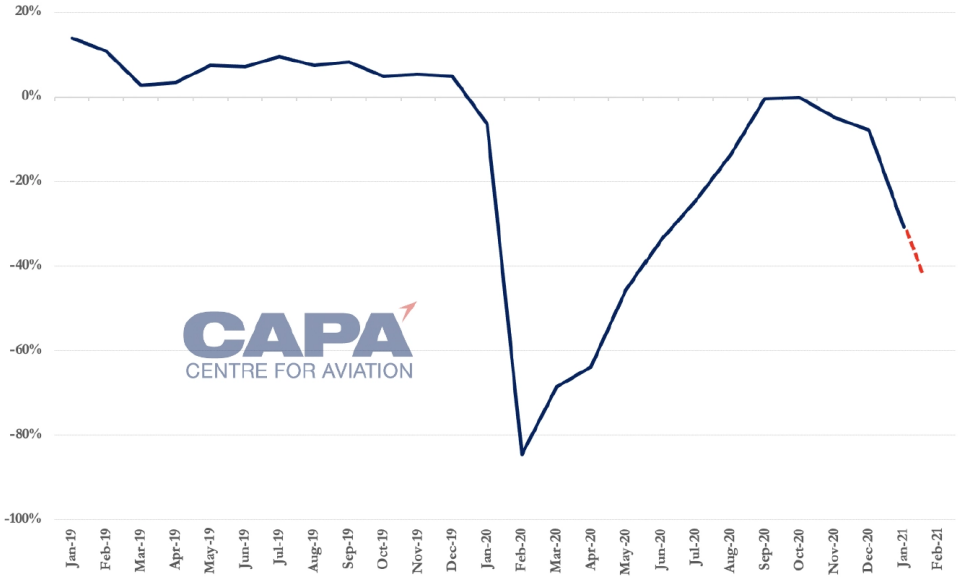
In China the government, in contrast to 2020, did not impose strict lockdowns but instead strongly encouraged its citizens to refrain from travelling to their hometowns to spend Lunar New Year with their families; Lunar New Year fell in mid Feb-2021.

The government put the onus on companies and local governments to provide employees and urban residents with financial incentives to stay put.

As a result, Feb-2021 domestic passengers dropped to approximately 50% of 2019 levels. The Lunar New Year is one of the rare opportunities for the highly competitive airline industry in China

to make a profit.

China: domestic passenger numbers year-on-year growth, Jan-2019 to Feb-2021*



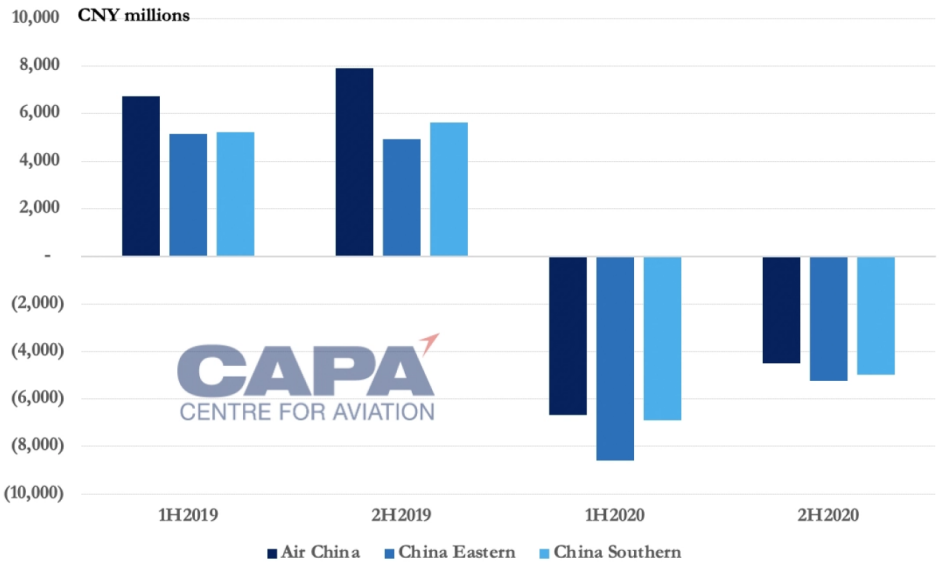
Source: CAPA – Centre for Aviation and CAAC.
*2021 growth is compared to 2019.

But because traffic declined by more than 50% during the 40-day-long holiday period, this will inevitably affect those airlines' first quarter earnings, which are due to be published at the end of Apr-2021.

At the time of this CAPA Live update, only China's 'big three' airline groups had reported their full year 2020 financial results.

All three airlines remained in the red in the second half of the year, but their operating losses narrowed quite noticeably in the second half.

'Big Three' Chinese airlines (China Southern Airlines, China Eastern Airlines and Air China): operating profit (loss), 1H2019 to 2H2020



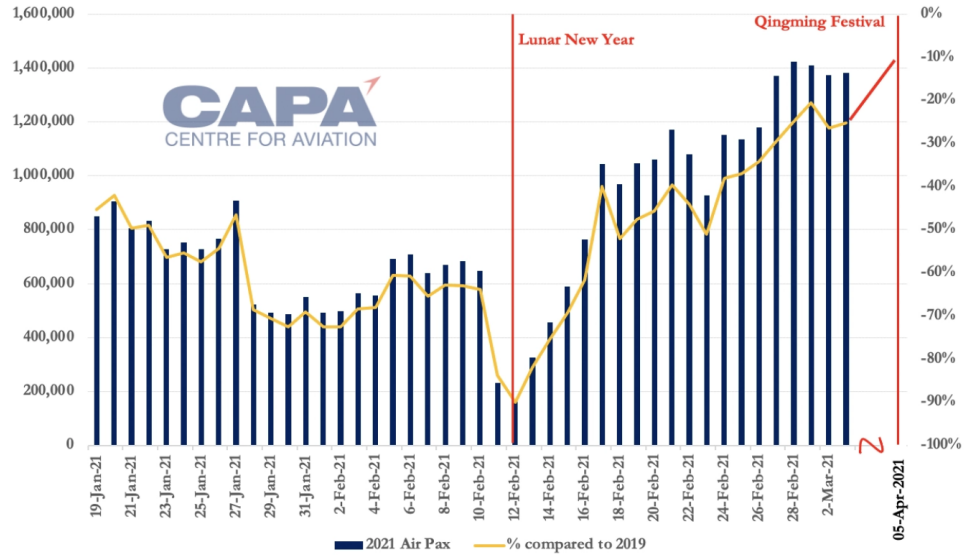
Source: CAPA – Centre for Aviation and airline reports.

Although Chinese airlines are also likely to remain in the red in the first quarter of 2021, there is cause for optimism for China's domestic aviation market.

In Apr-2021 air passenger volume recovered to 89% of 2019 levels

During the most recent 'Qing Ming Festival' holiday in early Apr-2021, also known as the 'Tomb Sweeping Festival', China's air passenger volume recovered to 89% of 2019 levels, continuing a solid recovery since the end of the Lunar New Year, and as a result of the pockets of coronavirus outbreaks having been brought under control.

China: daily passenger numbers and growth before and after Lunar New Year compared to 2019



Source: CAPA – Centre for Aviation and China Ministry of Transport.

Fares are also returning to previous levels

More importantly, average airfares recovered to 96% of 2019 levels during the Tomb Sweeping holiday, according to Ctrip, China's largest travel booking site.

Passenger load factor averaged 73%, which was an improvement of 8ppts compared to 2020, although still down 7ppts compared to 2019.

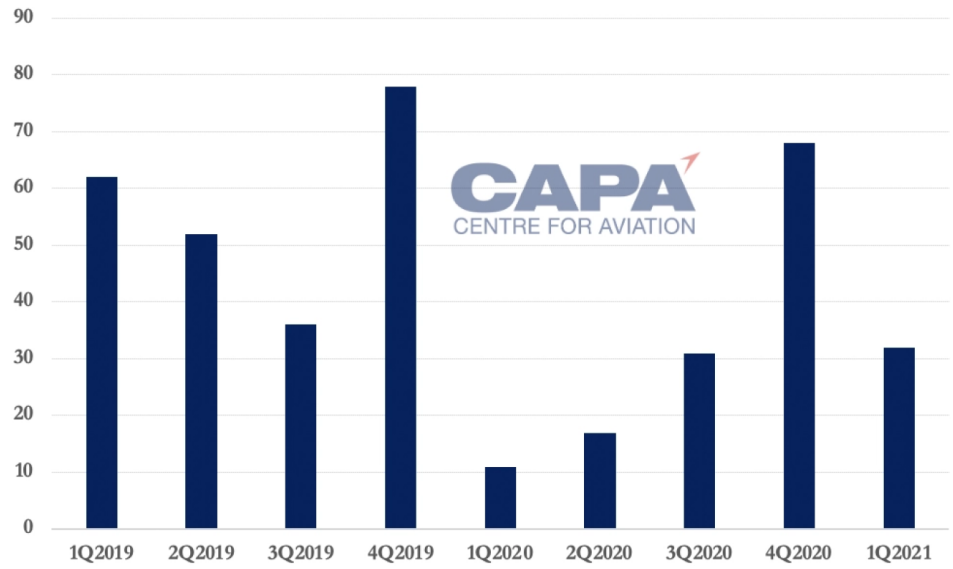
Furthermore, for the upcoming week-long May Day holiday in early May-2021, average economy fares are showing an increase of 11% compared to 2019 levels, further indicating that the pent-up demand that CAPA spoke about last year is catching up to domestic capacity growth.

New aircraft are being delivered

Domestic capacity growth has been aided by the delivery of new aircraft to Chinese airlines.

There were seven deliveries in Jan-2021 and 11 in Feb-2021, rising to 14 in Mar-2021.

China passenger aircraft deliveries: 1Q2019 to 1Q2021



Source: CAPA Fleet Database.

The outlook is for more capacity growth in the coming months, rising above pre-pandemic levels.

According to OAG, China's airlines are scheduled to increase domestic frequencies and seat capacity by double digits compared to 2019 during the Northern Summer season, running from Apr-2021 to Oct-2021.

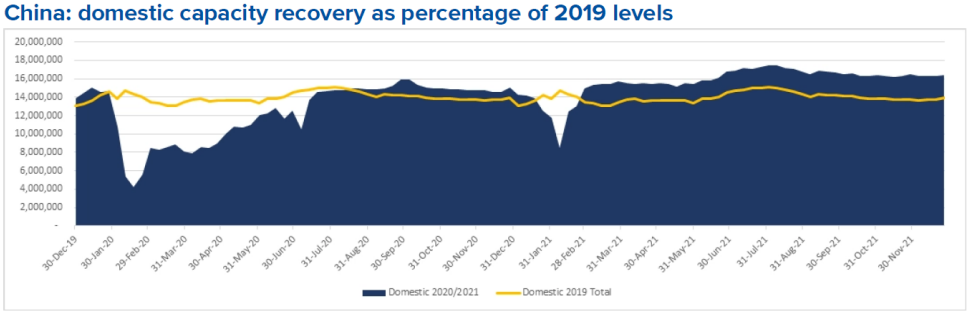
In mid Mar-2021 the Aviation regulator, the CAAC (Civil Aviation Administration of China), set a target of recovering passenger numbers to 90% of 2019 levels over the whole of 2021.

No doubt this will be mainly driven by the domestic market.

CAPA's model projects a solid uptick in capacity for 2021

Using CAPA's exclusive Air Capacity Model, CAPA expects that China's domestic seat capacity levels will remain above 2019 levels for the remainder of 2021, barring any further major outbreaks of COVID-19.

China: domestic capacity recovery as percentage of 2019 levels



Source: CAPA – Centre for Aviation and OAG.

Spring Airlines has prospered in 2020/21

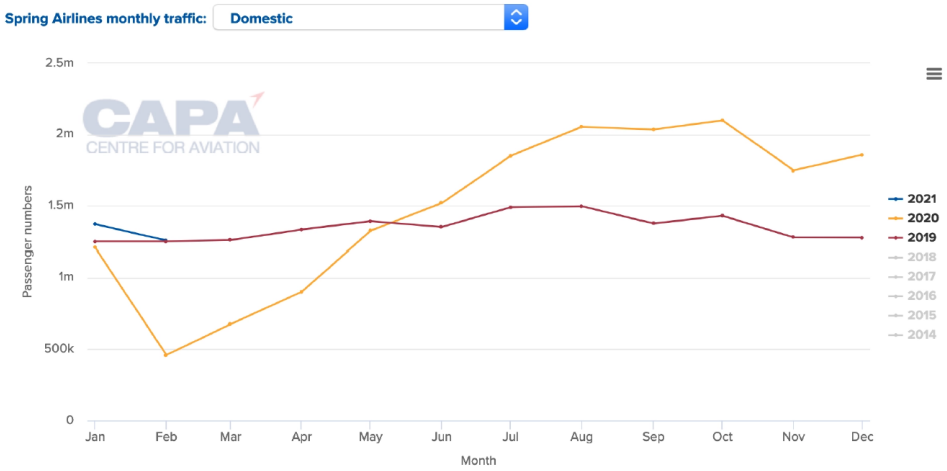
This focus and growth in domestic capacity is most evident at Spring Airlines, China's largest LCC.

Spring added more than 60 domestic routes to its network in 2020, which resulted in its domestic passenger numbers exceeding 2019 levels every month from Jun-2020 onwards.

Even in Feb-2021, when the rest of the industry experienced more than 50% declines in domestic passengers, Spring was able to maintain 2019 volumes. Its load factor suffered, though, declining from 80% on average in 2020 to 72% in the first two months of 2021.

See related report: Spring Airlines' growth surges in China's reopened domestic market

Spring Airlines: monthly domestic passengers, Jan-2019 to Feb-2021



Source: CAPA – Centre for Aviation and Spring Airlines.

Regardless, the LCC's growth ambitions remains intact, with plans to add 19 new domestic routes in summer 2021. Spring expects to operate 3248 weekly domestic frequencies – almost 70% more than in 2019.

In a rare admission China's director of the Centers for Disease Control, Gao Fu, reportedly said that China's coronavirus vaccine effectiveness was low, and the government was considering a range of measures to improve the situation (although he subsequently withdrew the remarks).

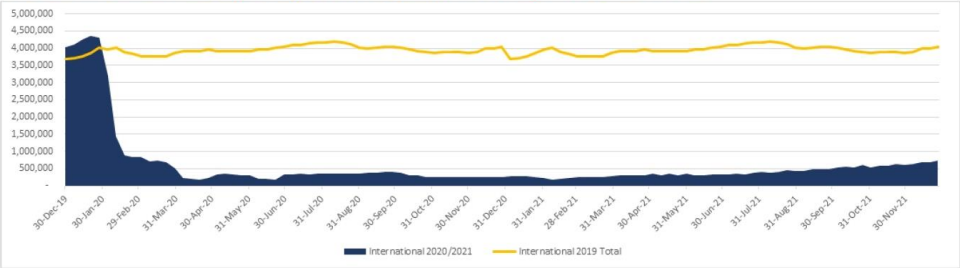
A range of incentives has been offered, including vouchers for groceries in exchange for vaccinations, to try to lift the vaccine rate.

International markets likely to remain closed in 2021

China previously considered easing border restrictions if it could achieve its aim of vaccinating at least 70% of its population by the Northern Spring of 2021.

With this and an array of other factors in mind, CAPA's exclusive Air Capacity Model projects China's international market to remain largely closed in 2021.

China: international capacity recovery as percentage of 2019 levels



Source: CAPA – Centre for Aviation and OAG.

So, in summary, it's a fairly rosy picture for the domestic market, with rising passenger volumes, load factors and fares, but a bleak international outlook as borders remain closed and vaccine rates and effectiveness remain below expectation.

Related Articles

Analysis

21-Apr-2021

CAPA Live: EMEA aviation update, Apr-2021

Each CAPA Live, held on the second Wednesday of each month, contains a summary of the latest key developments by region.

In this report:

- Europe shows signs of preparing for the summer season.

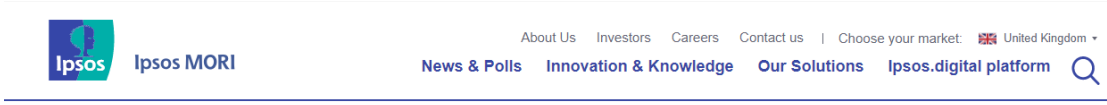
- Middle East recovery continues into the spring.

- Africa has turned the tide on months of negative data.

- EMEA: COVID-19 cases per country.

- EMEA: COVID-19 vaccinations per country.

2.7. Ipsos Mori. (2019, August 15). Aviation Index 2019 - public attitudes towards aviation in the UK.



Aviation Index 2019 - public attitudes towards aviation in the UK

TRAVEL, TOURISM & TRANSPORT

Ipsos MORI's second Aviation Index survey for NATS (National Air Traffic Services) finds the public more likely to anticipate adverse Brexit-related impacts on flying, and keener on the industry delivering sustainable flying.

15 August 2019 Transport / Infrastructure / Environment / Consumer Behaviour

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NATS used the second Aviation Index survey to explore issues such as attitudes to flying, safety, choice of airport, as well as other aspects such as concern about terrorism, the impact of Brexit on air travel, and future changes to air traffic control.

- NATS' interactive visualisation summarises the findings

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Key findings and trends include:

Airline choice: if the price is right

- Price remains the most important factor in choosing which airline to fly with. However, the time of flights appears to have fallen in terms of relative importance (from 82% to 79%), while on-board comfort and facilities have become more important factors than in 2018.
- Seven in ten, 71%, agree they would never choose to fly with an airline with a bad reputation. However, only 38% agree that they would be willing to pay more to fly with a particular airline.

Brexit means… anticipated disruption to travel plans for many

- One in five, 22%, say they are less likely to travel to EU destinations in the future because of Brexit, double the 11% last year.
- A similar proportion (24%) say they have held off booking a trip or altered, postponed or cancelled plans to travel to the EU.
- Younger adults and those who fly more regularly are most likely to say they have had to adjust travel plans in the run-up to Brexit.
- In terms of anticipated impacts more generally, the public are far more likely to think the UK's departure from the EU will have greater implications for border control (visas and queues) than for the numbers of flights between destinations, or a change in passenger rights.
- Seven in ten think that flights between the UK and destinations in the EU will become more expensive (25% expect prices to go up a lot, 45% a little).

Flying seen as safer nowadays than it has ever been, but drones perceived as a 'real risk'

- Almost three in four think that flying is safer nowadays than it has ever been (73%, up from 63% last year) although the survey fieldwork was completed before the widely reported Ethiopian Airlines crash and subsequent reporting on the safety of Boeing's new 737 MAX

aircraft.

- Terrorism is seen as the biggest risk to flight safety, followed by passenger behaviour and technical faults. Only 12% think drones are the biggest risk to flight safety, though 84% think they pose a real risk to flights during take-off and landing (up from 74% last year).
- Most people also want the use of drones well regulated, with four in five who say that anyone who operates a drone should have to have compulsory training (81%) and a licence (also 81%).

People warmer towards airport expansion and support reform of flight paths

- More agree than disagree that airport expansion in the UK is the right thing to do; 57%, up from 48% last year.
- By a margin of nearly seven to one, the public support changes to flight paths when given a detailed explanation of why they are necessary (47% against 7%). They also agree (60%) that it should be given the same priority as high speed broadband rollout.

They prioritise the environment… but are cool on disincentives and personal impacts

- Three in five think reducing emissions should be the priority for the aviation industry, an increase since 2018 (60% this year, 52% last year) and almost double the second most-mentioned priority (reducing noise).
- However, comparatively few are willing to change their own behaviour. Now, 38% say they would be willing to pay a charge or levy when booking a flight to help protect the environment (32% say they wouldn't), although this is up from 30% in 2018.
- A smaller proportion are willing to accept more noise from flights paths above where they live (20%).
- And by a margin of more than two to one, the UK public do not believe people should be discouraged from flying if they want to (47% against 22%) , even if this might have a negative impact on the environment.

Technical note

The research was conducted online through the Ipsos MORI Online Panel. A total of 1,012 UK members of the panel aged 18+ took part between 4-7 March 2019. Data are weighted to be representative of the UK population.

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