

Response to Jennifer Dawes - Annex 1 - Report by Louise Congdon of York Aviation [LC]

Re-determination of the Application by RiverOak Strategic Partners Limited (“the Applicant”) for an Order granting Development Consent for the reopening and development of Manston Airport in Kent.

I would like to respond to the representation by the Louise Congdon (LC) which contains several errors and / or omissions.

1.0 Introduction

It seems surprising that Harrison Grant decided on behalf of Jennifer Dawes, to employ Louise Congdon (LC) to make representations on their behalf rather than a qualified expert on forecasting¹. It will be interesting to see if Harrison Grant decide to retain the services of Paul Stinchcombe QC who cross-examined LC during the Stansted Public Inquiry and established that she was not qualified to act as an expert witness in aviation forecasting.

The representation produced by LC for Harrison Grant is mostly a regurgitation of, and attempts to justify, the comments made in previous submissions to the Examination by her. As such, most of this representation is irrelevant and does not address the 4 Matters raised by the Secretary of State (SoS).

The report by LC does not even address Matter 3 on the Sixth Carbon Budget, which is odd. It is worth noting that the JR case, on behalf of Jenny Dawes, was accepted as being covered by the Aarhus Convention as it involved environmental information and decision making by a public body. If the report from LC, on behalf of Harrison Grant, was paid for out of money donated for or from costs awarded from the Judicial Review (JR), we assume that Harrison Grant will be employing someone else to comment on this significant environmental issue.

2.0 The report

LC has produced a lengthy representation covering some 43 pages, but she has said virtually nothing new. The report contains several errors and/or serious omissions.

- LC has failed to acknowledge the positive implications for the development of the long delay in the Heathrow expansion.
- LC has underplayed the significance of the MBU for the development.
- LC misunderstood or misrepresented the situation in section 3.14.
- The points raised by LC in section 3.14 of her report were irrelevant to the granting of the DCO for Manston.²
- The point raised by LC in section 3.15 about reviewing the Policy is pointless. The airport is safeguarded for airport related uses and the applicant owns the airport land.
- The statement by LC *“To the extent that there is ongoing unemployment in Kent, the Airport would, at best, make only a small contribution to overcoming the issue”* is blatantly untrue.³
- The statement by LC that the *“Thames Freeport will be of no benefit to Manston Airport”* is not true.
- The comments by LC about The London Resort and Ebbsfleet City are pointless.
- LC refers to the Lower Thames Crossing, but it is hard to see that the opening of the Lower Thames Crossing will make any material difference to the decision of granting the DCO.
- LC used incorrect data in representing the freight situation in May 2021⁴.

¹ SMAa [Matter 4]

² CORSIA – FAQs – page 20 section 2.14

³ District Unemployment Level Kent 2021

⁴ CAA airport data May 2021

- LC tried to imply that predictions for future freighter numbers have remained static whereas they equate to a 60% growth⁵.
- It seems astonishing that LC decided not to include the effect the pandemic has had on e-commerce and internet sales because of the implications it has for air cargo and dedicated freighter use.
- LC's statement that "*Prima facie, there is no change in the need for additional airport capacity going forward for dedicated freighter operations as a consequence of the Covid-19 pandemic*" is not correct.
- New trade deals will increase the need for both bellyhold and dedicated freighters and the latter will increase the quantitative need for Manston. For LC to suggest otherwise goes against all the evidence.
- Contrary to what LC stated, evidence shows 51% of new freighters will be for growth and not replacements⁶.
- LC has failed to mention a recent trend away from wide-body aircraft towards narrow-body planes which, if it continues, strengthens the quantitative need for the development.
- LC has failed to make the case that other airports in the Southeast will have sufficient Cargo ATMs to meet the cargo needs.
- LC has failed to grasp that dedicated freighter aircraft will make up at least 50% of global air cargo traffic⁷.
- LC has failed to grasp that carrying freight as bellyhold has limitations.
- LC continues to make aviation forecasts when it has been established that, although she is qualified to be an expert in socio-economic factors, she is not qualified as an expert witness for aviation forecasts.

For all the reasons outlined above, I urge the Secretary of State to consider the arguments that we have put forward and conclude that the representation by LC for Grant Harrison does not stop the granting of the DCO for Manston.

David Stevens

⁵ Boeing WACF – page 10

⁶ Boeing WACF – page 90

⁷ Boeing WACF – page 89

References for DS representation to the Secretary of State for Transport
Response to Jennifer Dawes – Annex 1 – Report by Louise Condon [LC]

| | Pages |
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| 1. CORSIA – FAQs | 4 |
| 2. District Unemployment Level Kent 2021 | 5-10 |
| 3. CAA airport data May 2021 | 11-12 |
| 4. Boeing WACF 2020 – executive summary | 13-21 |

| | |
|------|---|
| | <p>offsetting, are exempted from the offsetting requirements of the CORSIA, while retaining simplified reporting requirements. The requirement to monitor, report and verify CO₂ emissions from international aviation is thus independent from the offsetting requirement.</p> <p>The data reported by States will be used for the calculation of the CORSIA baseline (see question 2.17 for more details on CORSIA's baseline) as well as for the calculation of the aeroplane operators' offsetting requirements, where applicable.</p> |
| 2.11 | Can an aeroplane operator have offsetting requirements, even if its State of registration does not participate in CORSIA offsetting? |
| | Yes. Because of the CORSIA's route-based approach, an operator operating on routes between participating States would be subject to the offsetting requirements under the CORSIA, no matter whether its State of registration participates in CORSIA offsetting or not. |
| 2.12 | What would happen to the CORSIA emissions coverage if an operator of a non-participating State flies on the routes between participating States (e.g. fifth-freedom traffic right)? |
| | Because of the CORSIA's route-based approach, these routes between participating States would be subject to the coverage of emissions offsetting requirements under the CORSIA. Thus, an operator of a non-participating State would be subject to offsetting requirements if it had a flight between two participating States, and emissions from such flights would be added to the coverage of CORSIA's offsetting requirements. |
| 2.13 | What would happen to the CORSIA emissions coverage if a State without an operator undertaking international flights decides to participate in the CORSIA offsetting? |
| | States without an operator flying international flights are encouraged to participate in all phases of the CORSIA. If such a State decides to participate, international flights to and from that State to other participating States are additionally included for the CORSIA's offsetting requirements, due to the route-based approach. The total international emissions covered by CORSIA offsetting would ultimately increase. |
| | Key design element 3: CORSIA offsetting requirements and eligible emissions units |
| 2.14 | What is offsetting and how does it work, in general? |
| | <p>In general, offsetting is done through the purchase and cancellation of emissions units (see question 4.20), arising from different sources of emissions reductions achieved through mechanisms, programmes or projects. The buying and selling of eligible emissions units happens through the carbon market. The price of the emissions units in the carbon market is influenced by the law of supply (availability of emissions units) and demand (level of offsetting requirements).</p> <p>“Cancelling” means the permanent removal and single use of an emissions unit so that the same emissions unit cannot be used more than once. This is done after an aeroplane operator has purchased emissions units from the carbon market.</p> <p>For CORSIA, an aeroplane operator is required to meet its offsetting requirements by cancelling CORSIA Eligible Emissions Units in a quantity equal to its total final offsetting requirements for a given compliance period. CORSIA Eligible Emissions Units are to be determined by the ICAO Council, and up-to-date information on eligible units is made available on the ICAO CORSIA website (see question 4.21).</p> |
| 2.15 | How are an aeroplane operator's offsetting requirements calculated? |
| | Paragraph 11 of the Assembly Resolution A40-19 addresses the distribution of the total amount of CO ₂ emissions to be offset in a given year among individual aeroplane operators. This is accomplished by introducing a dynamic approach for the distribution |

COVID-19 continues to have a significant impact on the number of claimants of unemployment benefits.

The claimant rate in Kent is currently 5.6%, below the national average rate of 6.0%. Unemployment in Kent fell by 5.1% over the previous month, whereas nationally it increased by 3%.

Youth unemployment (18-24) in Kent is slightly higher than the national average: 8.7% in Kent, 8.2% UK, however Kent saw a reduction (-5.8%) while nationally youth unemployment increased (+1.5%).

Unemployment has fallen for both males and females over last month: -4.9% for males in Kent compared to -5.4% for females.

The latest data for May 2021 was released on the 15th June 2021 and is presented below.

This workbook looks at the number of people claiming either Jobseekers Allowance or Universal Credit principally for the reason of being unemployed. It also looks at the age and sex of claimants, in particular at youth unemployment which is defined as those aged 18 to 24.

This workbook uses information from a dataset called The Claimant Count by Sex and Age. This experimental series counts the number of people claiming Jobseeker's Allowance plus those who claim Universal Credit who are out of work.

Under Universal Credit a broader span of claimants are required to look for work than under Jobseeker's Allowance. As Universal Credit Full Service is rolled out in particular areas, the number of people recorded as being on the Claimant Count is therefore likely to rise.

Unemployment rates are calculated using the Office for National Statistics Mid-year Population Estimates 2001-2019. The resident working age population is defined as all males and females aged 16-64. These denominators will be updated annually with the ONS mid-year population estimates.

Related Documents

[Welfare Reform Report](#)

[Ward unemployment interactive model](#)

[Unemployment Measures Bulletin](#)

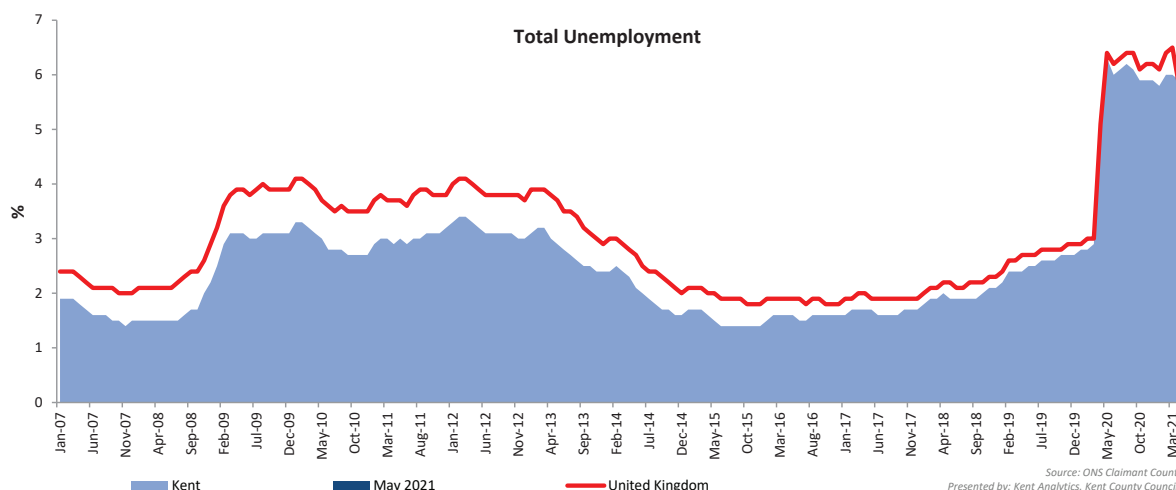
[Universal Credit Claimants](#)

Further Information

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| May 2021 | Number | % rate | Number change since April 2021 | % change since April 2021 | Number change since May 2020 | % change since May 2020 |
|----------------|-----------|--------|--------------------------------|---------------------------|------------------------------|-------------------------|
| Kent | 52,985 | 5.6% | -2,860 | -5.1% | -7,060 | -11.8% |
| United Kingdom | 2,503,160 | 6.0% | +73,635 | +3.0% | -158,180 | -5.9% |

District unemployment

| May 2021 | Number | % rate | Number change since April 2021 | % change since April 2021 | Number change since May 2020 | % change since May 2020 |
|-----------------------|--------|--------|--------------------------------|---------------------------|------------------------------|-------------------------|
| Ashford | 4,250 | 5.5% | -200 | -4.5% | -695 | -14.1% |
| Canterbury | 4,815 | 4.6% | -220 | -4.4% | -660 | -12.1% |
| Dartford | 3,725 | 5.2% | -265 | -6.6% | -445 | -10.7% |
| Dover | 4,150 | 6.0% | -250 | -5.7% | -695 | -14.3% |
| Folkestone & Hythe | 4,440 | 6.7% | -220 | -4.7% | -455 | -9.3% |
| Gravesham | 4,635 | 7.1% | -260 | -5.3% | -280 | -5.7% |
| Maidstone | 5,100 | 4.9% | -290 | -5.4% | -645 | -11.2% |
| Sevenoaks | 2,655 | 3.8% | -250 | -8.6% | -370 | -12.2% |
| Swale | 5,625 | 6.2% | -240 | -4.1% | -745 | -11.7% |
| Thanet | 7,615 | 9.4% | -220 | -2.8% | -1,180 | -13.4% |
| Tonbridge and Malling | 3,090 | 3.9% | -195 | -5.9% | -470 | -13.2% |
| Tunbridge Wells | 2,875 | 4.0% | -250 | -8.0% | -440 | -13.3% |
| Kent | 52,985 | 5.6% | -2,860 | -5.1% | -7,060 | -11.8% |
| Medway | 11,590 | 6.6% | -440 | -3.7% | -735 | -6.0% |

Kent unemployment headlines May 2021

The unemployment rate in Kent is 5.6%. This is below the rate for United Kingdom (6%).

52,985 people were claiming unemployment benefits in Kent. This has fallen since last month

Thanet has the highest unemployment rate at 9.4%. Sevenoaks has the lowest unemployment rate at 3.8%.

The 18-24 year old unemployment rate in Kent is 8.7%. They account for 19.9% of all unemployed people in the area

Thanet has the highest 18-24 year old unemployment rate in the South East at 14.9%.

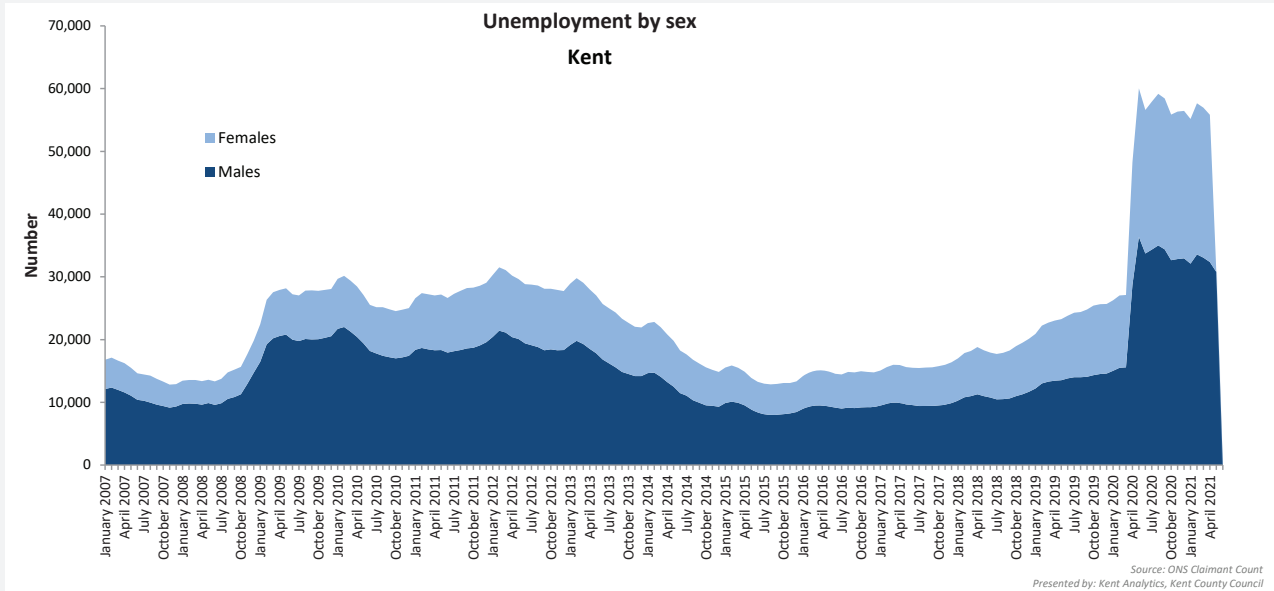
Unemployment by sex

Kent

| May 2021 | Number | % rate | Number change since April 2021 | % change since April 2021 | Number change since May 2020 | % change since May 2020 |
|----------|--------|--------|--------------------------------|---------------------------|------------------------------|-------------------------|
| Males | 30,765 | 6.5% | -1,585 | -4.9% | -5,600 | -15.4% |
| Females | 22,220 | 4.6% | -1,275 | -5.4% | -1,460 | -6.2% |
| Total | 52,985 | 5.6% | -2,860 | -5.1% | -7,060 | -11.8% |

District unemployment by sex

| May 2021 | Male claimants | Males claimant rate | Female claimants | Female claimant rate |
|---------------------|----------------|---------------------|------------------|----------------------|
| Ashford | 2,415 | 6.4% | 1,835 | 4.6% |
| Canterbury | 2,865 | 5.4% | 1,950 | 3.7% |
| Dartford | 2,065 | 5.8% | 1,665 | 4.6% |
| Dover | 2,425 | 7.0% | 1,725 | 4.9% |
| Folkestone & Hythe | 2,680 | 8.1% | 1,760 | 5.4% |
| Gravesham | 2,640 | 8.1% | 1,995 | 6.1% |
| Maidstone | 2,930 | 5.6% | 2,170 | 4.1% |
| Sevenoaks | 1,485 | 4.3% | 1,170 | 3.3% |
| Swale | 3,260 | 7.2% | 2,365 | 5.2% |
| Thanet | 4,605 | 11.6% | 3,010 | 7.2% |
| Tonbridge & Malling | 1,740 | 4.4% | 1,345 | 3.3% |
| Tunbridge Wells | 1,655 | 4.6% | 1,220 | 3.4% |
| Kent | 30,765 | 6.5% | 22,220 | 4.6% |
| Medway | 6,775 | 7.7% | 4,815 | 5.5% |

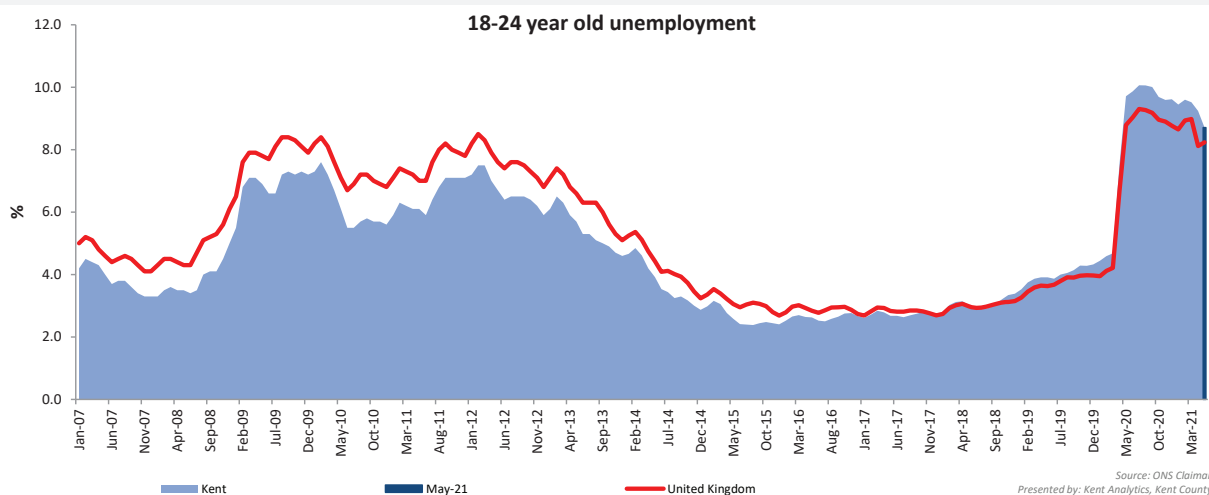


Unemployment by age group in Kent

| May 2021 | Number | % rate | Number change since April 2021 | % change since April 2021 | Number change since May 2020 | % change since May 2020 |
|----------|--------|--------|--------------------------------|---------------------------|------------------------------|-------------------------|
| 18-24 | 10,560 | 8.7% | -645 | -5.8% | -1,220 | -10.4% |
| 25-49 | 29,260 | 6.0% | -1,485 | -4.8% | -4,310 | -12.8% |
| 50-64 | 13,080 | 4.2% | -720 | -5.2% | -1,460 | -10.0% |

District unemployment by age group

| May 2021 | 18-24 claimants | 25-49 claimants | 50-64 claimants | 18-24 claimant rate | 25-49 claimant rate | 50-64 claimant rate |
|-----------------------|-----------------|-----------------|-----------------|---------------------|---------------------|---------------------|
| Ashford | 890 | 2,290 | 1,065 | 10.1% | 5.7% | 4.1% |
| Canterbury | 1,055 | 2,605 | 1,150 | 4.1% | 5.6% | 4.0% |
| Dartford | 660 | 2,280 | 775 | 8.7% | 5.5% | 3.9% |
| Dover | 830 | 2,215 | 1,095 | 10.3% | 6.6% | 4.2% |
| Folkestone & Hythe | 835 | 2,340 | 1,260 | 11.4% | 7.3% | 5.2% |
| Gravesham | 945 | 2,595 | 1,090 | 12.4% | 7.4% | 5.3% |
| Maidstone | 950 | 2,970 | 1,175 | 8.1% | 5.4% | 3.5% |
| Sevenoaks | 510 | 1,450 | 690 | 7.1% | 4.1% | 2.8% |
| Swale | 1,250 | 2,985 | 1,375 | 11.0% | 6.5% | 4.6% |
| Thanet | 1,485 | 4,215 | 1,905 | 14.9% | 10.6% | 6.7% |
| Tonbridge and Malling | 635 | 1,680 | 770 | 7.1% | 4.1% | 2.9% |
| Tunbridge Wells | 510 | 1,630 | 730 | 7.2% | 4.3% | 3.0% |
| Kent | 10,560 | 29,260 | 13,080 | 8.7% | 6.0% | 4.2% |
| Medway | 2,480 | 6,595 | 2,505 | 11.0% | 7.0% | 4.8% |

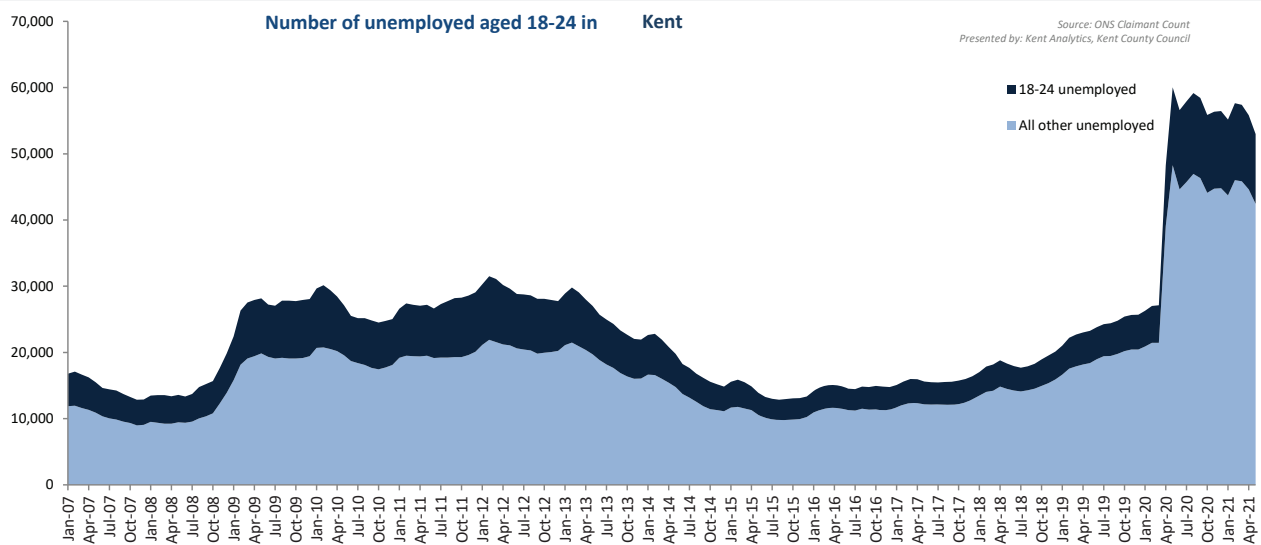
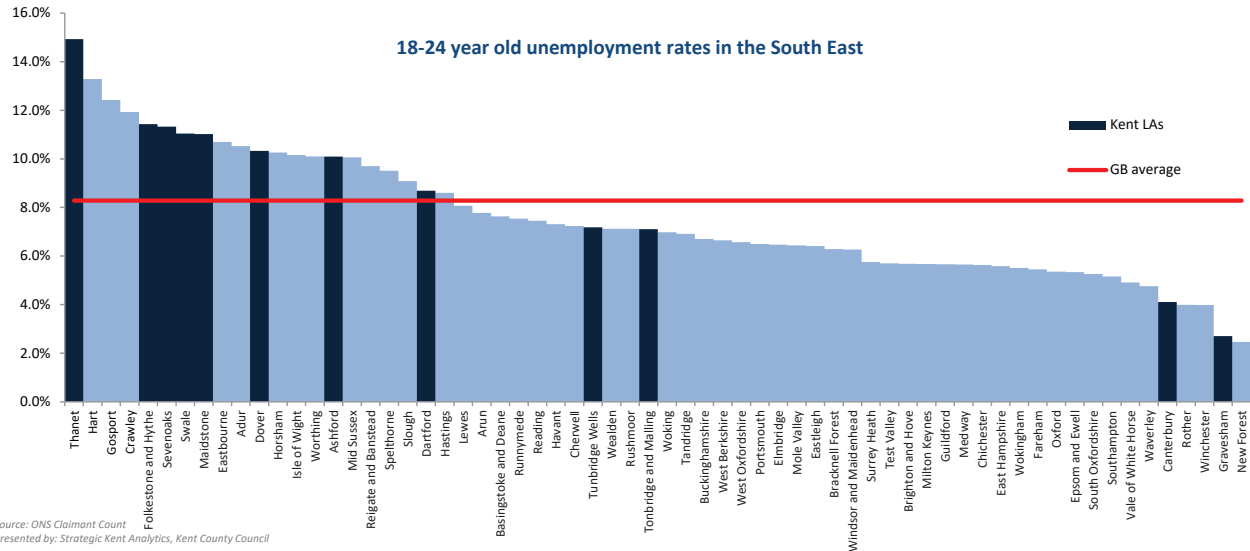


18-24 Unemployment

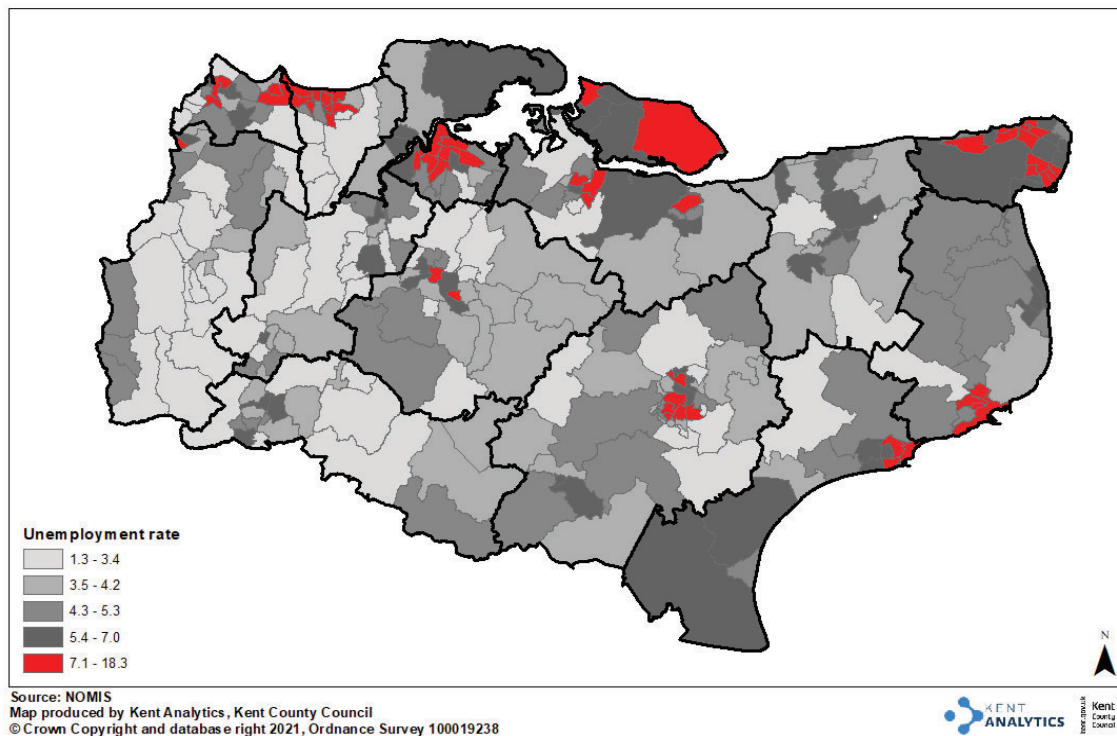
| May 2021 | Number | % rate | Number change since April 2021 | % change since April 2021 | Number change since May 2020 | % change since May 2020 |
|----------------|---------|--------|--------------------------------|---------------------------|------------------------------|-------------------------|
| Kent | 10,560 | 8.7% | -645 | -5.8% | -1,220 | -10.4% |
| United Kingdom | 465,245 | 8.2% | +6,660 | +1.5% | -30,930 | -6.2% |

Unemployment by age group - % of all unemployed

| May 2021 | Number of claimants in Kent | % of all unemployed in Kent | Number of claimants in United Kingdom | % of all unemployed in United Kingdom |
|----------|-----------------------------|-----------------------------|---------------------------------------|---------------------------------------|
| 18-24 | 10,560 | 19.9% | 465,245 | 18.6% |
| 25-49 | 29,260 | 55.2% | 1,434,100 | 57.3% |
| 50-64 | 13,080 | 24.7% | 598,035 | 23.9% |



Ward Unemployment rates in Kent & Medway
May 2021



This workbook looks at the total number of people claiming either Jobseekers Allowance or Universal Credit principally for the reason of being unemployed. It also looks at the age profile of claimants, in particular at youth unemployment which is defined as those aged 18 to 24.

This workbook uses information from a dataset called The Claimant Count by Sex and Age. This experimental series counts the number of people claiming Jobseeker's Allowance plus those who claim Universal Credit who are out of work. The dataset currently includes some out of work claimants of Universal Credit who are not required to look for work; for example, due to illness or disability. Therefore this dataset is considered experimental and the results should be interpreted with caution.

Unemployment rates are calculated using the Office for National Statistics Mid-year Population Estimates 2001-2018. The resident working age population is defined as all males and females aged 16-64. These denominators will be updated annually with the ONS mid-year population estimates.

Introduction of Universal Credit

Since 2013 the roll out of Universal Credit has progressed across the UK. Universal Credit will replace a number of means-tested benefits including the means-tested element of Jobseeker's Allowance (JSA).

The Universal Credit Live Service roll out in Kent & Medway began in April 2015. This was replaced in 2016 with the Universal Credit Full Service using the DWP bespoke digital system. The full service rollout in Kent was completed in autumn 2018. The table below shows how Universal Credit rolled out within Kent districts.

While initially Universal Credit was only available to single claimants without a partner and without child dependents, the roll out of the full service made Universal Credit available to all new claimant types and to those reporting changes to their personal circumstances.

From July 2019 the government intends to begin a pilot scheme transferring claimants of existing benefits (those that Universal Credit was designed to replace) onto Universal Credit. This managed migration will start initially with 10,000 existing claimants. They won't start moving people over to Universal Credit in great numbers until the pilot scheme has been completed and assessed, however they plan to have completed the full migration process by the end of 2023.

For more information on Universal Credit: <https://www.gov.uk/universal-credit>

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Freight by Aircraft Configuration May 2021 (a)
Comparison with Previous Year
Tonnes

Table 15

| | <----- Passenger Aircraft -----> | | | <----- Cargo Aircraft -----> | | | <----- Total -----> | | |
|-----------------------------|----------------------------------|--------|-------------------|------------------------------|--------|-------------------|---------------------|---------|-------------------|
| | 2021 | 2020 | Percentage Change | 2021 | 2020 | Percentage Change | 2021 | 2020 | Percentage Change |
| London Area Airports | | | | | | | | | |
| GATWICK | 390 | 3 | 12900 | 509 | - | - | 899 | 3 | 29867 |
| HEATHROW | 47 189 | 16 345 | 189 | 70 311 | 63 751 | 10 | 117 500 | 80 095 | 47 |
| LUTON | - | - | - | 1 736 | 2 464 | -30 | 1 736 | 2 464 | -30 |
| STANSTED | 16 | 12 | 33 | 22 037 | 19 829 | 11 | 22 053 | 19 840 | 11 |
| Total London Area Airports | 47 595 | 16 360 | 191 | 94 593 | 86 043 | 10 | 142 188 | 102 403 | 39 |
| Other UK Airports | | | | | | | | | |
| ABERDEEN | 113 | 121 | -7 | 347 | 280 | 24 | 460 | 401 | 15 |
| BARRA | 1 | - | - | - | - | - | 1 | - | - |
| BELFAST CITY (GEORGE BEST) | 3 | - | - | - | - | - | 3 | - | - |
| BELFAST INTERNATIONAL | - | - | - | 2 253 | 1 838 | 23 | 2 253 | 1 838 | 23 |
| BENBECULA | 2 | 2 | - | - | - | - | 2 | 2 | - |
| BIRMINGHAM | 29 | 15 | 93 | 1 200 | 474 | 153 | 1 229 | 489 | 151 |
| BOURNEMOUTH | - | - | - | 2 090 | - | - | 2 090 | - | - |
| CARDIFF WALES | - | - | - | - | 72 | - | - | 72 | - |
| DONCASTER SHEFFIELD | - | - | - | 1 766 | 3 069 | -42 | 1 766 | 3 069 | -42 |
| EAST MIDLANDS INTERNATIONAL | - | - | - | 35 214 | 28 404 | 24 | 35 214 | 28 404 | 24 |
| EDINBURGH | 170 | 1 | 16900 | 1 383 | 1 202 | 15 | 1 553 | 1 203 | 29 |
| GLASGOW | 8 | 12 | -33 | 183 | 54 | 239 | 191 | 66 | 189 |
| HUMBERSIDE | 5 | 3 | 67 | 1 | 1 | - | 6 | 3 | 100 |
| ISLAY | 7 | 1 | 600 | - | - | - | 7 | 1 | 600 |
| ISLES OF SCILLY (ST.MARYS) | 4 | 1 | 300 | 6 | 4 | 50 | 9 | 5 | 80 |
| KIRKWALL | 2 | 1 | 100 | - | - | - | 2 | 1 | 100 |
| LANDS END (ST JUST) | 3 | 1 | 200 | 5 | 4 | 25 | 9 | 5 | 80 |
| LIVERPOOL (JOHN LENNON) | 1 | 10 | -90 | - | - | - | 1 | 10 | -90 |
| MANCHESTER | 1 414 | 749 | 89 | 2 557 | 576 | 344 | 3 971 | 1 325 | 200 |
| NEWCASTLE | - | - | - | 61 | - | - | 61 | - | - |

Freight by Aircraft Configuration May 2021 (a)
Comparison with Previous Year
Tonnes

Table 15

| | <----- Passenger Aircraft -----> | | | <----- Cargo Aircraft -----> | | | <----- Total -----> | | |
|---------------------------------|----------------------------------|--------|-------------------|------------------------------|---------|-------------------|---------------------|---------|-------------------|
| | 2021 | 2020 | Percentage Change | 2021 | 2020 | Percentage Change | 2021 | 2020 | Percentage Change |
| NORWICH | 8 | 22 | -64 | - | - | - | 8 | 22 | -64 |
| PRESTWICK | - | - | | 1 314 | 1 069 | 23 | 1 314 | 1 069 | 23 |
| SCATSTA | - | 11 | | - | - | | - | 11 | |
| SOUTHAMPTON | 2 | 2 | | - | - | | 2 | 2 | |
| STORNOWAY | 12 | 8 | 50 | - | - | | 12 | 9 | 33 |
| SUMBURGH | 14 | 3 | 367 | - | - | | 14 | 3 | 367 |
| TIREE | 1 | - | | - | - | | 1 | - | |
| Total Other UK Airports | 1 798 | 963 | 87 | 48 382 | 37 047 | 31 | 50 181 | 38 009 | 32 |
| Total All Reporting UK Airports | 49 394 | 17 322 | 185 | 142 975 | 123 090 | 16 | 192 369 | 140 412 | 37 |
| Non UK Reporting Airports | | | | | | | | | |
| ALDERNEY | 4 | 4 | | - | 1 | | 4 | 4 | |
| GUERNSEY | 5 | 3 | 67 | 59 | 40 | 48 | 63 | 44 | 43 |
| ISLE OF MAN | 1 | 10 | -90 | - | 4 | | 1 | 14 | -93 |
| JERSEY | 2 | 2 | | 82 | 26 | 215 | 85 | 28 | 204 |
| Total Non UK Reporting Airports | 12 | 19 | -39 | 141 | 71 | 99 | 153 | 90 | 70 |

(a) Domestic traffic is counted both at the airport of arrival and the airport of departure.
The total domestic plus international traffic is, therefore, only a measure of airport activity.



WORLD AIR CARGO FORECAST 2020-2039



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The Boeing Company issues the biennial World Air Cargo Forecast (WACF) to provide a comprehensive, up-to-date overview of the air cargo industry. The forecast summarizes the world's major air trade markets, identifies major trends, and presents forecasts for the future performance and development of markets, as well as for the world freighter airplane fleet.

This document would not be possible without the efforts of several contributors. The Boeing World Air Cargo Forecast 2020 production team included the Boeing Content Studio and our colleagues in the Market Analysis Group. We extend special thanks to Divya Gupta, who managed all aspects of the WACF update. We also give special thanks to Adin Herzog, who, along with Wendy Moore, Kitt Forsyth-Burton, Aaron Tayler and Sarah Nizolek, thoroughly updated our Airline Cargo Traffic Database (ACTD), which includes historical traffic data for nearly 850 airlines. Thank you also to Wendy Moore, who researched and modeled the air freight yield curves in the Air Cargo Industry Overview; Kimberly Tornabene, who analyzed and compiled historical airline cargo revenues; Katrina Krebs, who developed the North America chapter; Jacqueline Kaye, who authored the Latin America and Europe chapter; Staci Strickland, who authored the Domestic China and Latin America and North America chapters; Allison Corrigan, who authored the South Asia chapter; Amine Benkirane, who authored the Middle East chapter; Carl Allen, who authored the East Asia and North America chapter; Don Lim, who authored the Europe and East Asia chapter; Jayden Lee, who developed the insights and analysis behind the Intra–East Asia and Oceania chapter; and David Franson, who led our freighter fleet forecast effort. Lastly, we would like to acknowledge the professional work accomplished by our summer interns, Kaitlyn Elgart and Portia Uwase Zuba, who assisted in the research and authoring of the Intra–Europe and Europe and North America chapters, respectively.

The next update to the WACF will appear in fourth quarter 2022. The authors welcome any questions or comments. All queries and suggestions should be directed to the following:

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EXECUTIVE SUMMARY



Air cargo markets disrupted in 2020 by COVID-19 pandemic

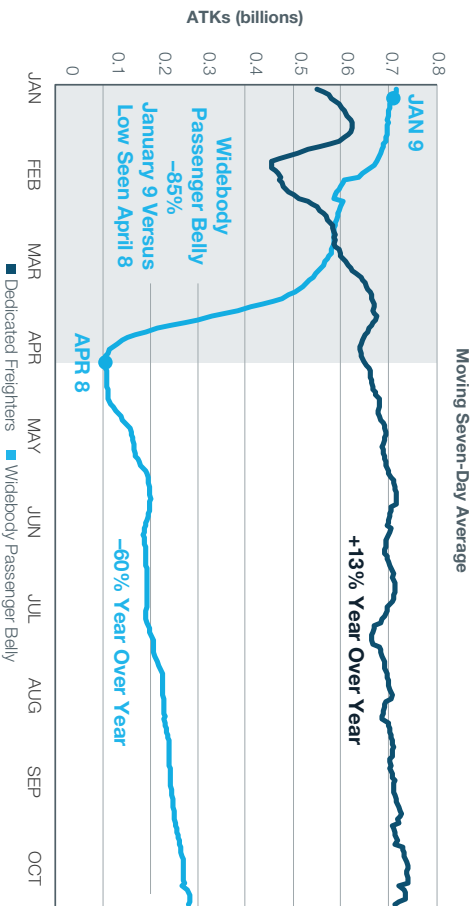
As the new decade began, the air cargo market was poised to benefit from improvement in the world economy.

This followed a weak 2019, in which the effects of tariffs, tepid world economic growth and weakened industrial production resulted in air cargo traffic decreasing by 3%.

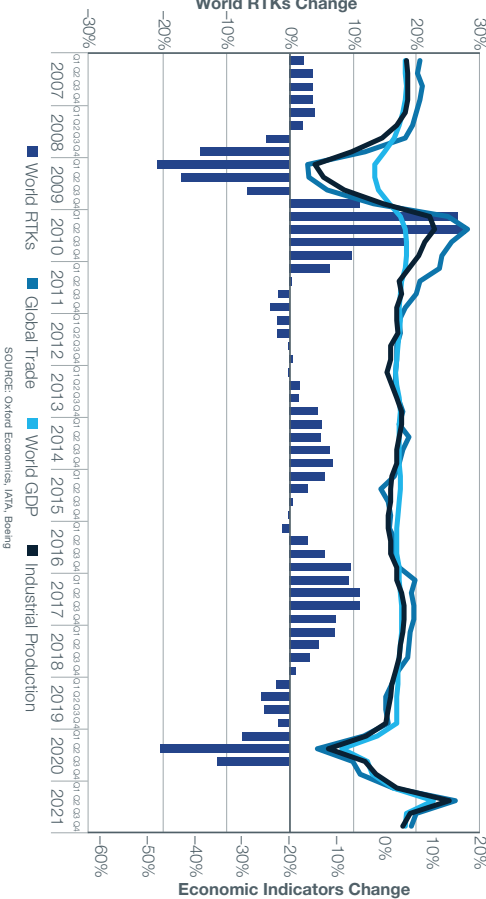
As COVID-19 quickly spread to all corners of the world early this year, the impact from the loss of long-haul passenger

belly capacity from widebody fleets created a significant air cargo capacity shortfall. Passenger belly cargo capacity typically accounts for 54% of the world air cargo capacity. Freightler operators have responded by operating above normal utilization levels to fill the lower cargo hold shortfall.

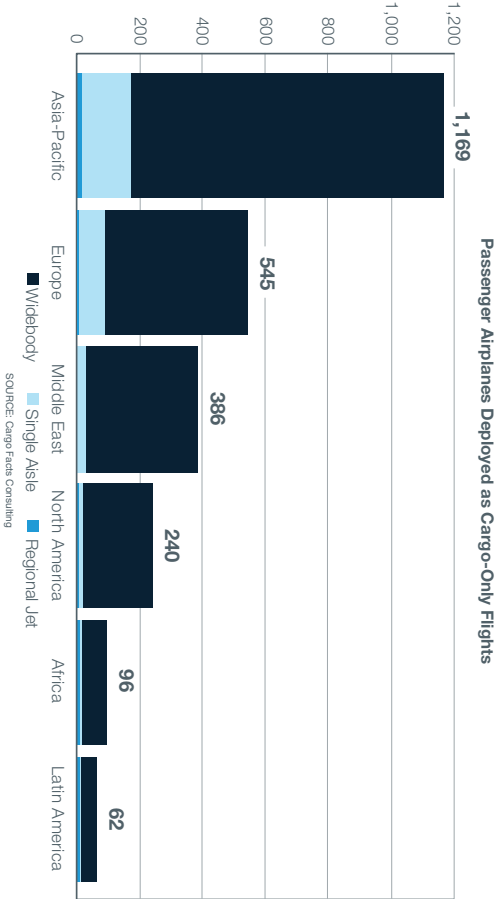
Major Reduction of Passenger Service Is Creating High Demand for Freightler Capacity



Anticipated Economic Recovery Expected to Bolster Air Cargo Traffic Growth



Widebodies Account for Nearly 90% of Passenger Airplanes Used for Cargo-Only Flights



In addition, the urgent need to meet demands for transporting medical supplies to all regions in response to COVID-19 created a unique and unprecedented environment. The decline in air cargo capacity plus urgent demand for medical supplies led to a spike in yields to high double-digit levels in second quarter 2020. With these market conditions, freighter operators have been in a unique position to meet market demands that require a high level of speed, reliability and security, as only air cargo can do.

operated 2,500 passenger airplanes exclusively for cargo operations.

Through September, air cargo traffic was down 12%, rivaling declines in past recessions. In a normal year, this would translate to poor financial performance for air cargo operators. However, in 2020 almost a quarter of air cargo capacity has been lost. As a result of the constrained air cargo capacity, yields were up over 40% and overall air cargo industry revenues were up 16%.

With high air cargo yields and greatly reduced long-haul international networks, conditions have been favorable for many airlines to use some of their passenger widebody fleets for cargo-only operations to generate much-needed cash flow. These “freighters” have taken up some of the capacity shortfall and, even in some cases, have generated quarterly profits for carriers despite minimal passenger operations. As of the end of September, nearly 200 airlines have

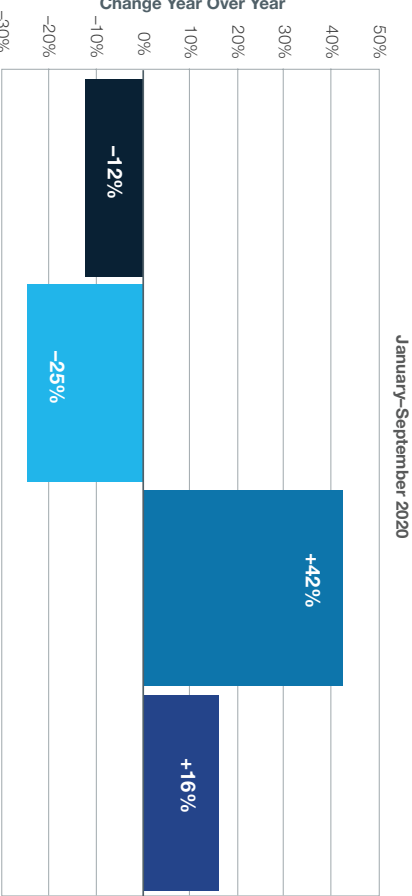
The 2020 World Air Cargo Forecast incorporates the near-term disruption to air cargo markets but does not assume the current dynamics of constrained widebody passenger belly capacity will continue into the long term. Long-haul widebody passenger traffic will return in the coming years, and air cargo will then reflect market dynamics much closer to what we have seen in the years prior to the COVID-19 disruption.

COVID-19 pandemic accelerating express and e-commerce market

In contrast to disrupted passenger markets, the higher-than-market-average growth seen in express markets over the last decade has increased during the COVID-19 pandemic. E-commerce, which was already growing at double-digit rates prior to the pandemic, has accelerated its impact on the air cargo market. Express carriers have fared well as a result of the market turmoil in 2020. Through the end of September,

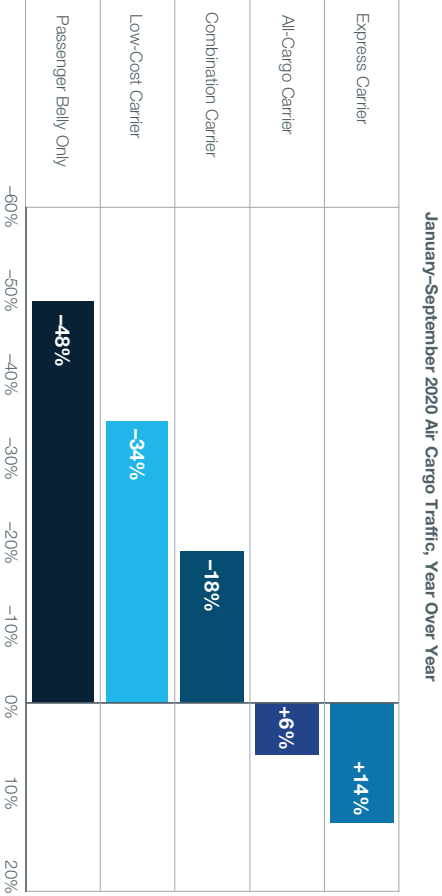
they had increased their traffic by 14%. All-cargo carriers, at 6%, are the only other air cargo business model to show growth. This forecast incorporates this continued structural growth and surge in demand that we have observed because of COVID-19. Another consideration of structural shifts affecting air cargo growth, and a topic of intense debate in recent years, is the trajectory

Constrained Cargo Capacity Is Driving Higher Yields and Revenue



SOURCE: IATA, Boeing

Dedicated Cargo Carriers Lead in Challenging Market Conditions



SOURCE: IATA, Boeing

of globalization on global supply chains. Geopolitical tensions and trade disputes have percolated and increased in many major economies around the world. Air cargo is highly sensitive to global industrial production output and worldwide manufacturing supply chains.

However, even prior to the COVID-19 pandemic, some shifting of supply chains was already occurring. China, the location of choice for many Western manufacturing companies during the past 20 years, had slowly lost its low-labor-cost advantage relative to other developing countries. As a consequence, some manufacturing has moved away from China to other Asia-Pacific countries in the past few years. However, the movement of supply chains, depending on the complexity of the product, can take years to implement. The magnitude of air cargo imports from China to the United States, for example, is nine times that of the next Asia-Pacific country. This further highlights the current dominance of China as a manufacturing source and supplier. Early indications show trends

toward diversification of supply chains, rather than onshoring, to lessen risk.

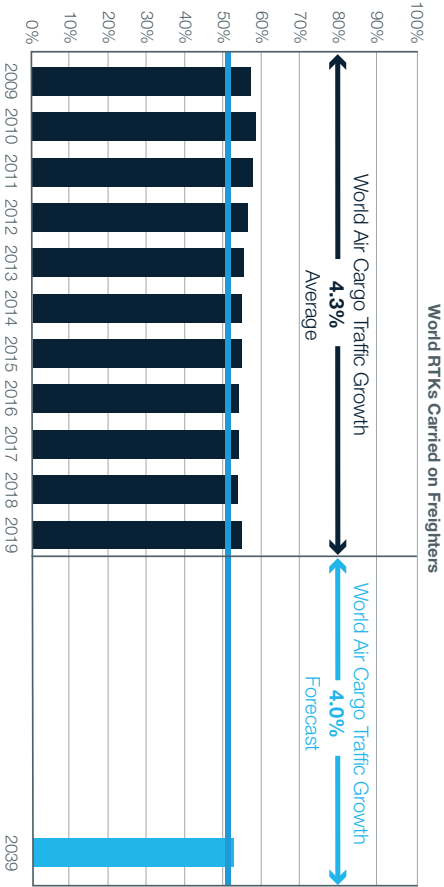
Developments in other modes of freight transport may affect air cargo industry growth. The maritime industry, which transports almost 90% of world merchandise trade, has experienced significant market disruption over the past decade. Several years of overcapacity and weakening trade led to collapsing yields. Ultra-large containerships (those vessels with more than 15,000 20-foot equivalent units of capacity) introduced by the major shipping operators contributed to the overcapacity as trade slowed. In the past five years, the industry has seen consolidation of players, reduced capacity growth and firming yields. While normally the maritime sector is not a competitor to air cargo, the changing nature of container shipping may benefit the air cargo sector. Containership operator capacity discipline, plus manufacturers seeking to de-risk their supply base and disperse manufacturing sites into lower-cost Asia-Pacific regions, may lead to the increased use of air cargo.

Importance of main deck freighters

In addition to the long-term trend of dedicated freighters carrying more than 50% of global air cargo traffic despite growing widebody passenger fleets, the COVID-19 pandemic has highlighted the importance of main-deck freighters in our global air transportation system. While increasingly capable passenger widebody airplanes have helped the air cargo industry grow during the past decade, dedicated freighters are anticipated to continue to comprise at least 50% of the world air cargo traffic carried. There are several key reasons for freighter preference in

air cargo flows: 1) Most passenger belly capacity does not serve key cargo trade routes; 2) twin-aisle passenger schedules often do not meet shipper timing needs; 3) freight forwarders prefer palletized capacity, which is not available on single-aisle aircraft; 4) passenger bellies cannot serve hazardous materials and project cargo, a key sector in air cargo flows; and 5) payload-range considerations on passenger airplanes may limit cargo carriage, which decreases the likelihood that cargo will arrive at its destination on time.

Freighters Will Continue to Carry Over 50% of World Air Cargo Traffic



World air cargo traffic growth outlook

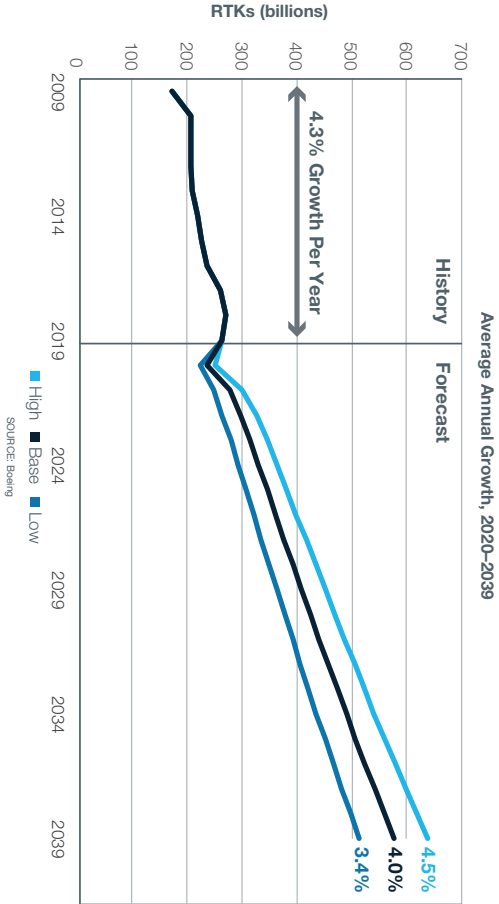
World air cargo traffic is forecast to grow at 4.0% per year over the next 20 years.

In terms of revenue tonne-kilometer (RTK) growth, air freight, including express traffic, is projected to grow at 4.1% while airmail will grow at a slower pace, averaging 1.7% annual growth through 2039. Overall, world air cargo traffic will more than double over the next 20 years, expanding from 264 billion RTKs in 2019 to 578 billion RTKs in 2039.

The Asia-Pacific region will continue to lead the world in average annual air cargo growth, with domestic China

and intra-East Asia and Oceania markets expanding 5.8% and 4.9% per year, respectively. Supported by faster-growing economies and growing middle classes, the East Asia-North America and Europe-East Asia markets will grow slightly faster than the world average growth rate. In the more established and mature trade flow between North America and Europe, growth will be below the world average growth rate.

World Air Cargo Traffic Will Grow 4.0% Per Year Over the Next 20 Years



Air Cargo Growth Rates Vary by Region

| Region | History 2009–2019 | History 2009–2019 | 2019 | Forecast 2020–2039 |
|-----------------------------|----------------------|----------------------|-------|-----------------------|
| World | 4.3% | | –3.0% | 4.0% |
| East Asia–North America | 3.1% | | –7.5% | 4.3% |
| Europe–East Asia | 4.2% | | –3.2% | 4.4% |
| Intra–East Asia and Oceania | 5.2% | | –5.4% | 4.9% |
| Europe–North America | 3.4% | | –4.7% | 2.3% |
| North America | 3.3% | | 3.2% | 2.6% |
| Domestic China | 4.9% | | 3.5% | 5.8% |
| Latin America–Europe | 3.9% | | –1.2% | 4.1% |
| Latin America–North America | 2.1% | | –3.6% | 2.6% |
| Africa–Europe | 2.8% | | 4.0% | 3.3% |
| South Asia–Europe | 4.1% | | 3.7% | 4.3% |
| Middle East–Europe | 4.8% | | 10.6% | 2.4% |
| Intra–Europe | 4.8% | | 6.0% | 2.3% |

SOURCE: IATA, EAO, ACI, AAPA, U.S. DOT, U.S. DDC, Eurostat, H.S. Market GFA, OAG, IAI, DGCA, FAI, Airline Reports, Airport Statistics, Boeing

Freighters and passenger lower-hold dynamics

There are two options for air cargo transport — dedicated freighters and passenger aircraft lower holds (also referred to as passenger belly capacity) — and each offers unique advantages. Freighters are particularly well suited for transporting high-value goods because they provide highly controlled transport, direct routing, reliability and unique capacity considerations (volume, weight, hazardous materials and dimensions).

These distinct advantages allow freighter operators to offer a higher value of service and generate nearly 90% of the total air cargo industry revenue. With the introduction of a new generation of widebody passenger airplanes with larger lower-hold capacity, more airlines are combining cargo transport with passenger operation to capitalize on additional revenue opportunities. Belly cargo space offers unique value on non-cargo routes by feeding dedicated freighter networks and providing new business opportunities for integrators. However, while lower-hold capacity in widebody airplanes serving long-haul missions has increased in recent years, several parameters can limit

the cargo operations in passenger aircraft. The reduced height of the lower deck can limit volumes. Different security standards and regulations may restrict commodities that can be shipped in passenger airplane lower holds. From a network standpoint, freighter routes are highly concentrated on relatively few trade lanes, especially in the world's two largest trade routes, East Asia–North America and Europe–East Asia.

In contrast, passenger networks are much broader and often include destinations where cargo demand is minimal. This difference in passenger and cargo traffic distribution explains the considerable load factor difference in belly space and freighters, which average approximately 30% and 75%, respectively over the last decade. In addition, range restrictions on fully loaded passenger aircraft and limited passenger service to major cargo airports make freighter operations essential. For these structural reasons, freighters are forecast to carry more than half of the world's air cargo for the next 20 years.



Freighter Cargo Load Factors Double That of Passenger Lower Holds

