

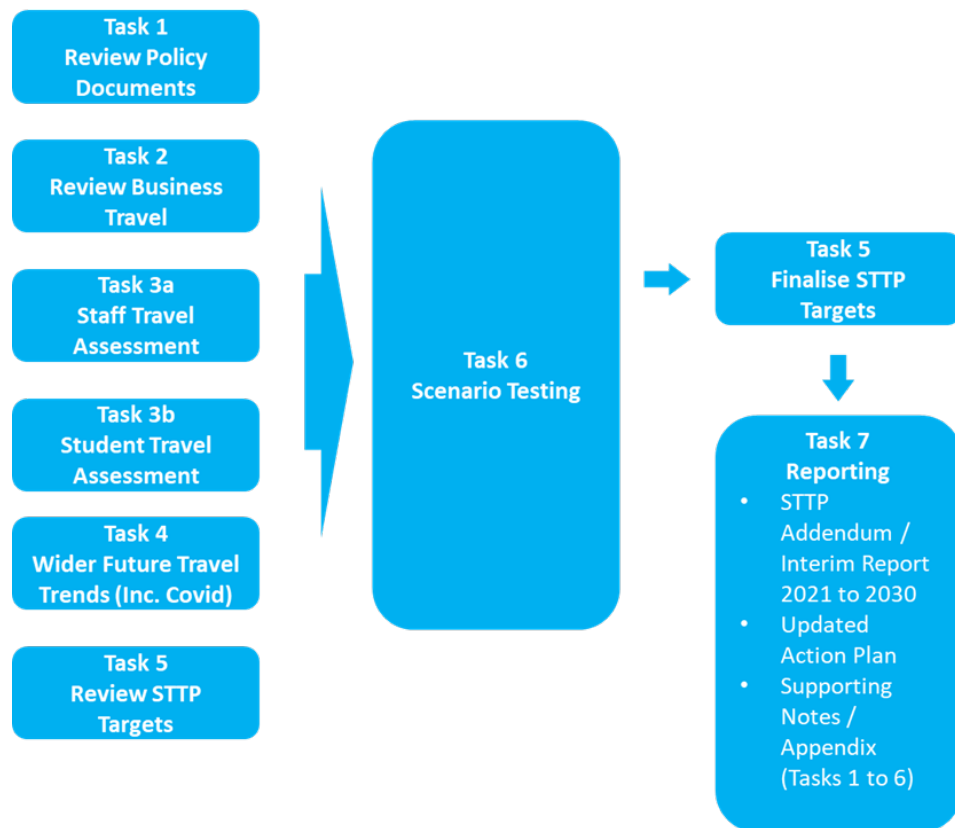
# TECHNICAL NOTE

**Job Name:** University of Glasgow Strategic Transport and Travel Planning – Emissions Targets  
**Job No:** 330610531  
**Note No:** T2  
**Date:** 12/10/2021  
**Prepared By:** R Mackenzie / G Scott  
**Subject:** Review of Business Travel

## 1 Introduction

On behalf of the University, Stantec is undertaking a set of tasks to provide considered and robust advice on how the University can reduce its carbon emissions associated with Transport related issues and to contribute to meeting the ambition to achieve carbon neutrality by 2030.

This note covers Task 2: Review of Business Travel. This is one of a number of tasks that are being delivered and are shown in the diagram below;



### DOCUMENT ISSUE RECORD

Technical Note No	Rev	Date	Prepared	Checked	Reviewed (Discipline Lead)	Approved (Project Director)
330610531	1.1-	21/06/21	R Mackenzie	G Scott		

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There are three main focusses of this note, namely to:

- Understand what impact the University's Guidance for Sustainable Business Travel for Staff policy might have on future travel patterns amongst staff and students that will feed into the scenario testing;
- Set the parameters of the scenario testing; and
- Outline what actions the University must take to meet policy aspirations for business travel by staff (to help identify actions for the Action Plan).

The key expectation set out by the UofG is to be ambitious and to determine options that will assist with reductions in the carbon footprint associated with business travel but also to challenge the convention and culture that exists in terms of why staff, students, and research staff travel – and indeed whether they need to travel as often as they do and what the reasons for their choice of modes are.

This is clearly a difficult subject as the reason for travelling is driven by different motivations. The University has a profile to maintain and is clearly a leader in many academic sectors and research fields that requires business travel on an international stage to ensure that they are keeping up to speed with changes in the market and to showcase research findings etc.

The baseline for business travel is assumed to be the data contained within Glasgow Green (The University of Glasgow's response to the climate emergency)<sup>1</sup>, as shown in Figure 1-1.

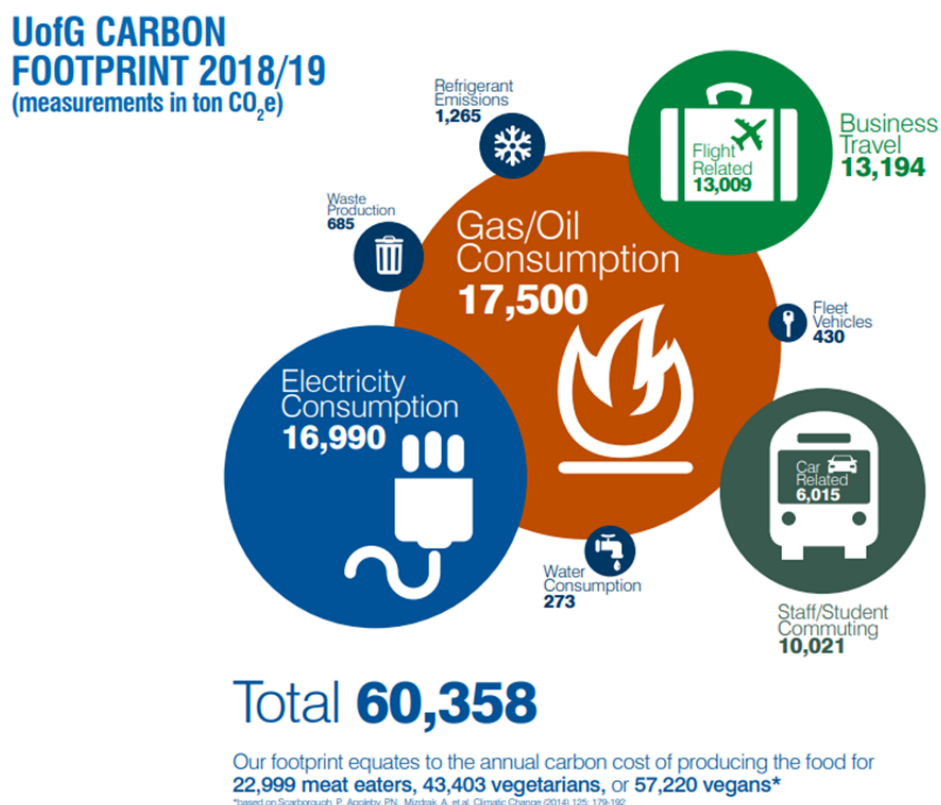


Figure 1.1 University Carbon Footprint 2018/19 (ton CO<sub>2</sub>e)

<sup>1</sup> [https://www.gla.ac.uk/media/Media\\_767316\\_smxx.pdfv](https://www.gla.ac.uk/media/Media_767316_smxx.pdfv)

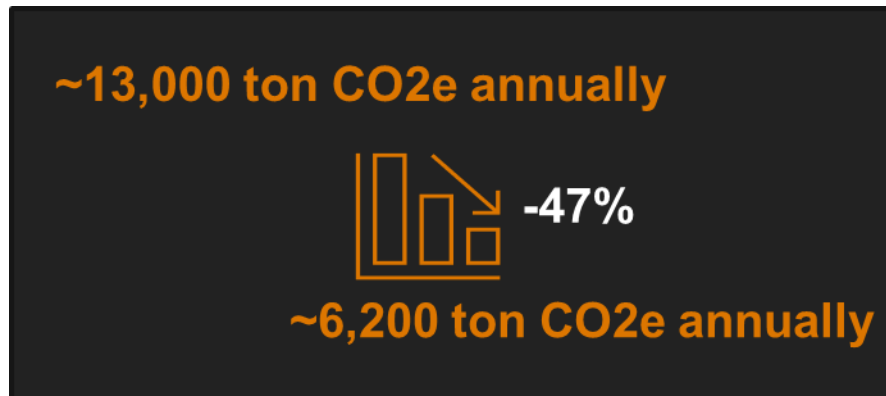
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Figure 1-1 shows that business travel accounted for a high proportion of the University's carbon emissions; 13,194 tonnes, with the vast majority flight related.

In November 2019 a UN Environment Programme (UNEP) report warned that

*"Unless global greenhouse gas emissions fall by 7.6 per cent each year between 2020 and 2030, the world will miss the opportunity to get on track towards the 1.5°C temperature goal of the Paris Agreement".*

With this in mind the University is seeking to achieve at least a 7.6% reduction in carbon emissions annually, which equates to around a 51% (or more) reduction between 2020 and 2030.



### Key Points:

- Scenario Testing: the scenario testing will assume that the target is to reduce business travel carbon emissions by the equivalent of 7.6% per year to 2030, as identified by the UN Environment Programme, an overall of 51% on 2020 emission levels.

## 2 Changing Landscape

This note has to be considered in light of the changing patterns of travel that have emerged as a result of the global pandemic (please also refer to 'Task 4 – Wider Travel Trends'). As such, there is an element of forecasting in the future that will be required to predict whether travel choices and confidence in travelling will be impacted in the short, medium, and long term, due to a high number of variables and difficulty in predicting the rates of change and importantly the influences dictated by human behaviour, confidence, and choice.

To understand this issue, it is considered important to set out the context of potential travel impacts in the next 4 years (up to 2025 – short term) and then a further 5 year horizon to 2030 (medium term).

There are a number of national and local policies that have been introduced in recent years that have been prepared to either reduce travel by private car, encourage a shift to active or more sustainable travel modes and importantly being more environmentally aware. All of these policies have an ambition to reduce carbon emissions.

### 2.1 Short-term Impacts

In the short term, the position in terms of business travel will most likely be reactionary to the progress made with regards to the vaccination programme associated with the Covid-19 pandemic. The level of protection afforded by vaccinations in destination countries will be the key determinant in terms of whether travel is permitted, or advised. Whilst this is the case it is appears likely that a risk-based approach will be undertaken at national level (through government advice) and then at

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employer level (through specific HR advice within the UofG) and finally will rely on personal risk assessments at an individual level.

The data provided by the UofG's appointed travel agents show very clearly the impact of the lockdown in March 2020 where the number of people travelling fell dramatically. The data shows there were 7,131 international flights for business in 2018/19, 3,955 in 2019/20 and 113 in 2020/21.

If international borders open up again then the question will be if and how quickly will the levels of business travel return to 2018/2019 levels. It is expected that it will be gradual in the short-term as confidence in travelling will discourage some trips from taking place and alternative approaches taken – such as, video conferencing.

### 2.2 Medium-term Impacts

In the period from 2025 to 2030 there will likely be a steady increase in the demand for business travel albeit at a lower level than in 2018 / 19. To ensure that this doesn't take place there has to be an acceptance that certain interventions will be required to suppress demand.

A review by McKinsey in America found that after the 2008 recession international business travel took five years to fully rebound, compared with a recovery of leisure travel within 2 years. If this pattern is repeated in the UK, then it will be the medium term that starts to show any changes.

This needs to be considered at the same time as technological advancements and alternative fuel advancements with the premise being that people will always need to travel but should be encouraged to do so in a climate crisis aware and environmentally friendly manner.

A study by IdeaWorks, and reported by the Wall Street Journal<sup>2</sup>, contains a detailed look at the long-term impacts Covid-19 could have on business travel. It concludes that between 19% and 36% of airlines' business traffic base will not return to the skies, see Figure 2-1

The study breaks down the reasons people have travelled for business, assesses the effects of technology, work at home changes and overall risk tolerance, and validates this with a wide range of industry and travel experts. As a result, this study claims to be robust and more complete than any other one done since the pandemic began.

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<sup>2</sup> <https://www.forbes.com/sites/benbaldanza/2020/12/01/new-study-estimates-up-to-36-of-airline-business-travel-wont-return/>

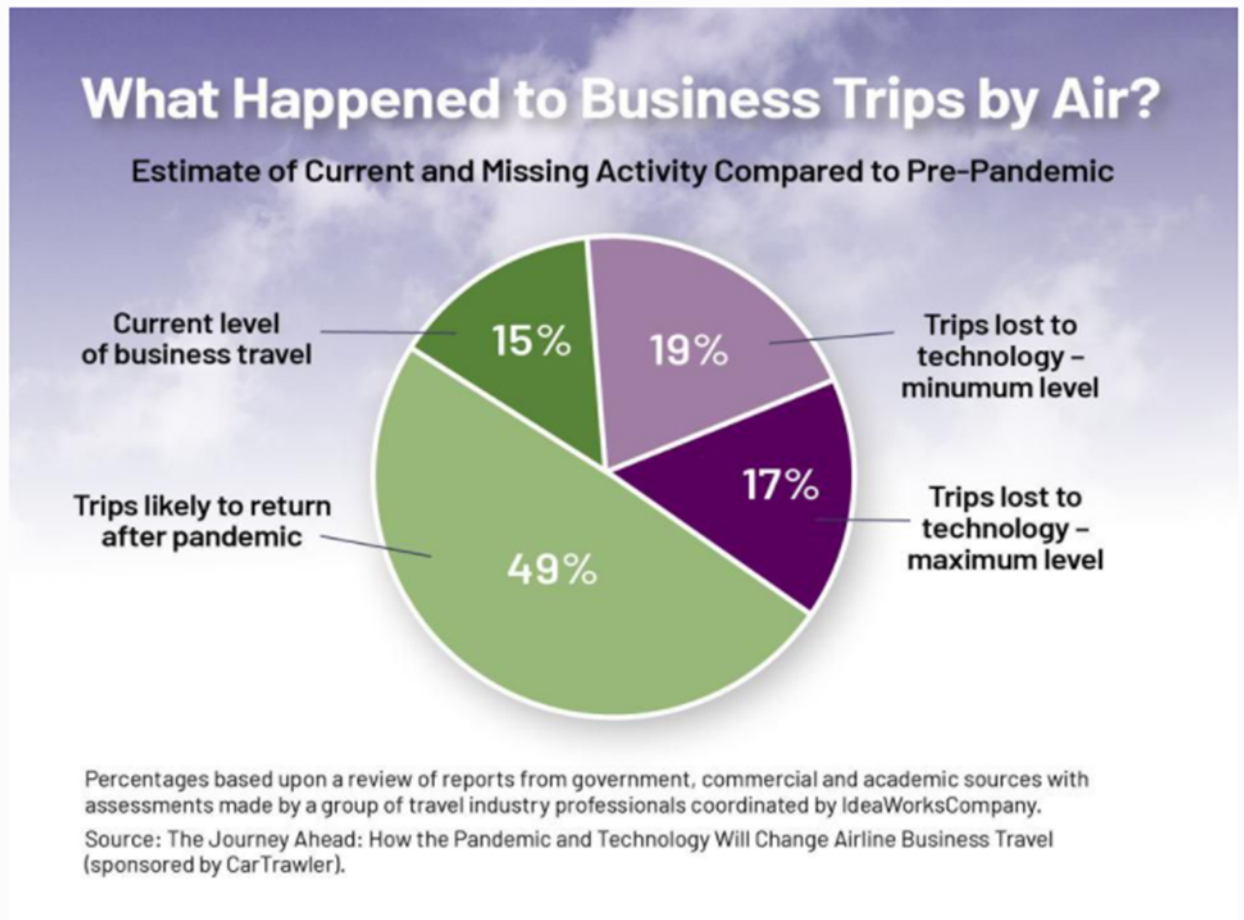


Figure 2.1 Covid Long Term Impact on Business Trips by Air

Based on Figure 2-1, an assumption can be made that around 25% of pre-covid business trips by air could be removed and replaced by technology (video conferencing).

The findings of this study are backed up by others which suggest that:

*“Business travel will take longer to recover, and even then, we estimate it will only likely recover to around 80 percent of pre-pandemic levels by 2024.”<sup>3</sup>*

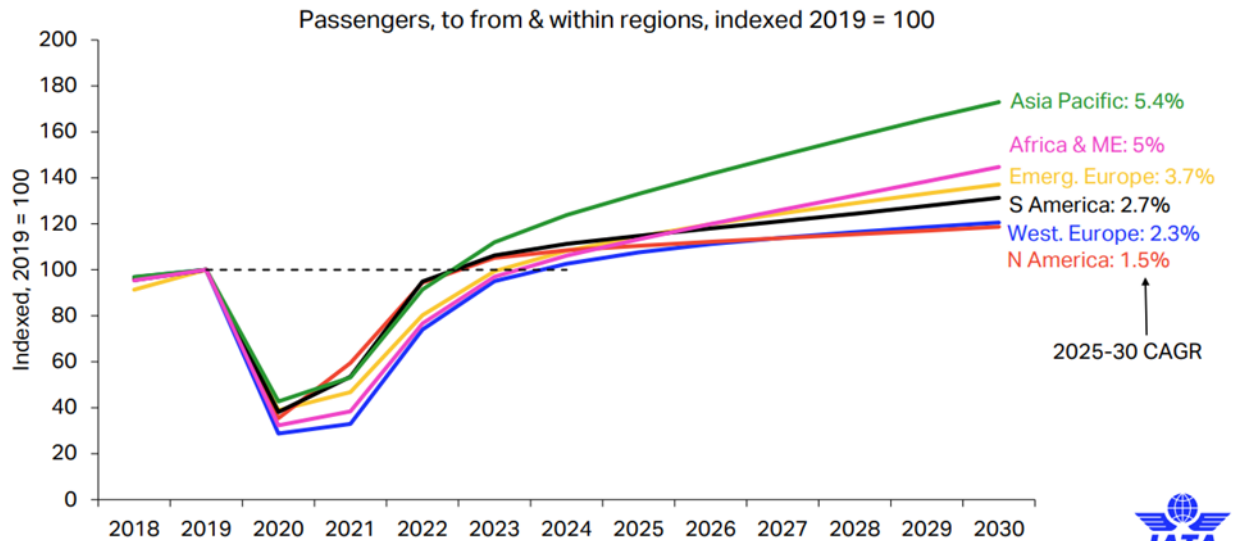
The International Air Transport Association (IATA) claim that an almost full recovery of air travel is in prospect<sup>4</sup>, although this does not separate out flights for business. They do note that different markets will recover at different paces and the recovery profile is dependent on restrictions, vaccination, and risk aversion.

For the UK (and US) they predict a gradual recover to full pre-covid levels by 2023/24 with some growth thereafter (around 10%); see Figure 2-2

<sup>3</sup> <https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/back-to-the-future-airline-sector-poised-for-change-post-covid-19>

<sup>4</sup> [PowerPoint Presentation \(iata.org\)](#)

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Source: IATA Economics using data from Tourism Economic/IATA Air Passenger Forecast, April 2021.

Figure 2.2 IATA Air Passenger Forecast

Based on the above research a business travel recovery profile has been developed to inform the scenario testing, it assumes the following:

- University business travel by air returns to 75% of pre-covid levels by 2023/24
- Beyond 2023/24, University business travel by air grows by 2% per year (if not limited)

A summary is presented in Figure 2-3 below, and variations of this profile can be tested.

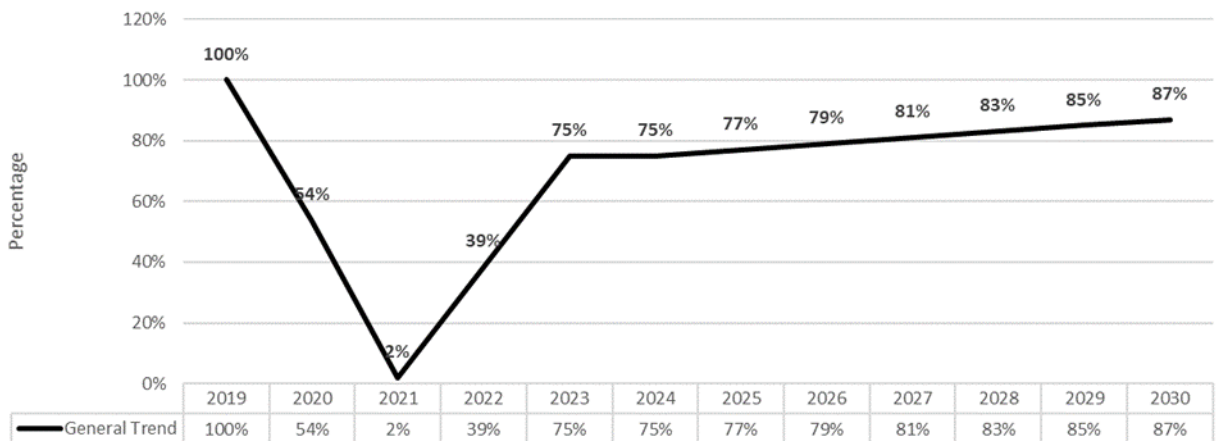


Figure 2.3 University Business Travel Forecast for Scenario Testing

### Key Points:

- The scenario testing will assume that University business travel by air returns to 75% of pre-covid levels by 2023/24 and that beyond 2023/24, University business travel by air grows by 2% per year (if not limited).

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### 3 Relevant Background & Data

To assist in understanding the trends and habits of business travel the following information was provided by UofG and then analysed by Stantec to generate a Power BI (excel based) assessment of the data.

- Business Air Travel data 2018-19
- Travel Agent 'raw' data sets for
  - 2018-19
  - 2019–20
  - 2020-21

The excel-based Power BI tool is effective in cross analysing large datasets as well as being able to forecast changes, in carbon emissions, over time from the existing base information provided. This enables scenarios to be tested; such as, removing all domestic flights and transferring them all or in part to rail. The Power BI tool also allows for a measure of the monetary elements associated across schools and services within the University.

To enable better understanding of this data we have used Power BI as a tool to help to compare and visualise what has been provided. As part of this review, we have shared this information by demonstration to the client group and will continue to use this data for future monitoring and evaluation purposes. The tool can be updated annually and used to monitor / track progress over time.

#### Key Points:

- Scenario Testing: The Power BI tool developed to analyse business travel will be used to test different future scenarios. It is recommended it is updated annually to monitor progress.

### 4 Key Findings – High-level Summary

The key issues relative to the shared data are summarised below. It should be noted that this is not a comprehensive review of the data but simply to set out the headlines in terms of trends over time.

- The data was made available from 2018 to date (annualised)
- There previously used to be 2 no. travel agents providing data (this is now one)
- The data provided is only looking at flights – international and domestic
- There is information on domestic rail travel.
- It is known that some people do not use the University's corporate Travel Agent and therefore no detailed data on their journeys is available for the purpose of this review. The pandemic has seriously impacted the ability to travel (so data beyond Feb 2020 is not considered to be representative)
- The data from before March 2020 is more typical of business travel behaviour

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- Available technologies have been increasingly employed to replace business travel such as Zoom or MS Teams.
- Video conferencing and Wi-Fi enabled solutions are not available worldwide and therefore developing countries may have particular issues.
- Some commercial business & consultancies have already banned domestic flights in an effort to improve their environmental credentials.

Figure 4-1 provides a summary of the general changes that have occurred over time, which is also represented in what?

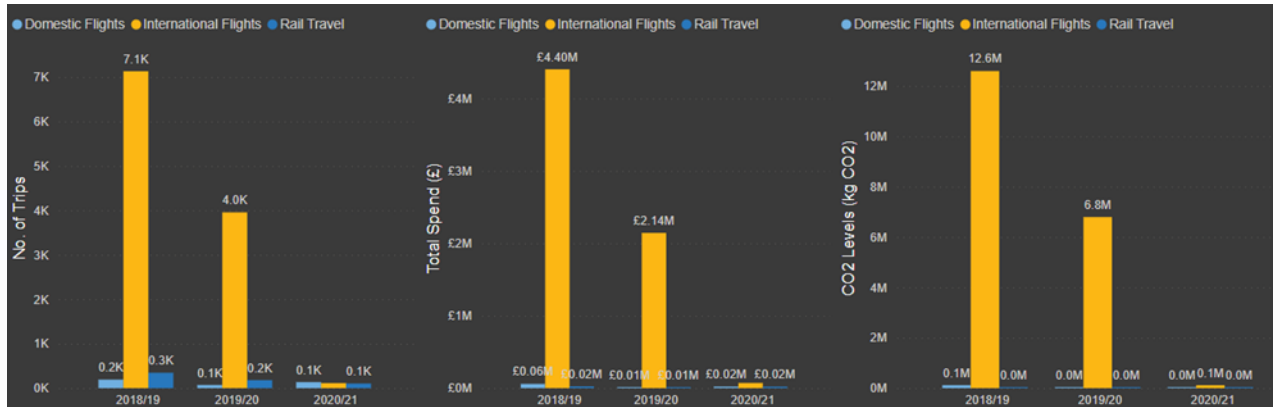


Figure 4.1 Business Travel Summary Data

Figure 4-1 demonstrates that international flights account for the vast majority of trips, cost and carbon emissions associated with University’s business travel.

Figure 4-2 shows the main destinations for international business flights, with the thickness of the lines relative to the number of journeys.



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Figure 4.2 International Travel Destinations Overview

Figure 4-2 shows that there are a wide range of destinations across the world where University staff travel to. In terms of carbon emissions, flights to Asia account for around 5,700 tonne kg, Europe is around 5,200 tonne, North America is around 4,500 tonnes, Africa is around 2,300 tonne and Oceania around 1,000 tonne and South America around 750 tonnes.

Figure 4-3 shows the passenger count for air travel by College, and other University units across 2018/19 to 2022/21.

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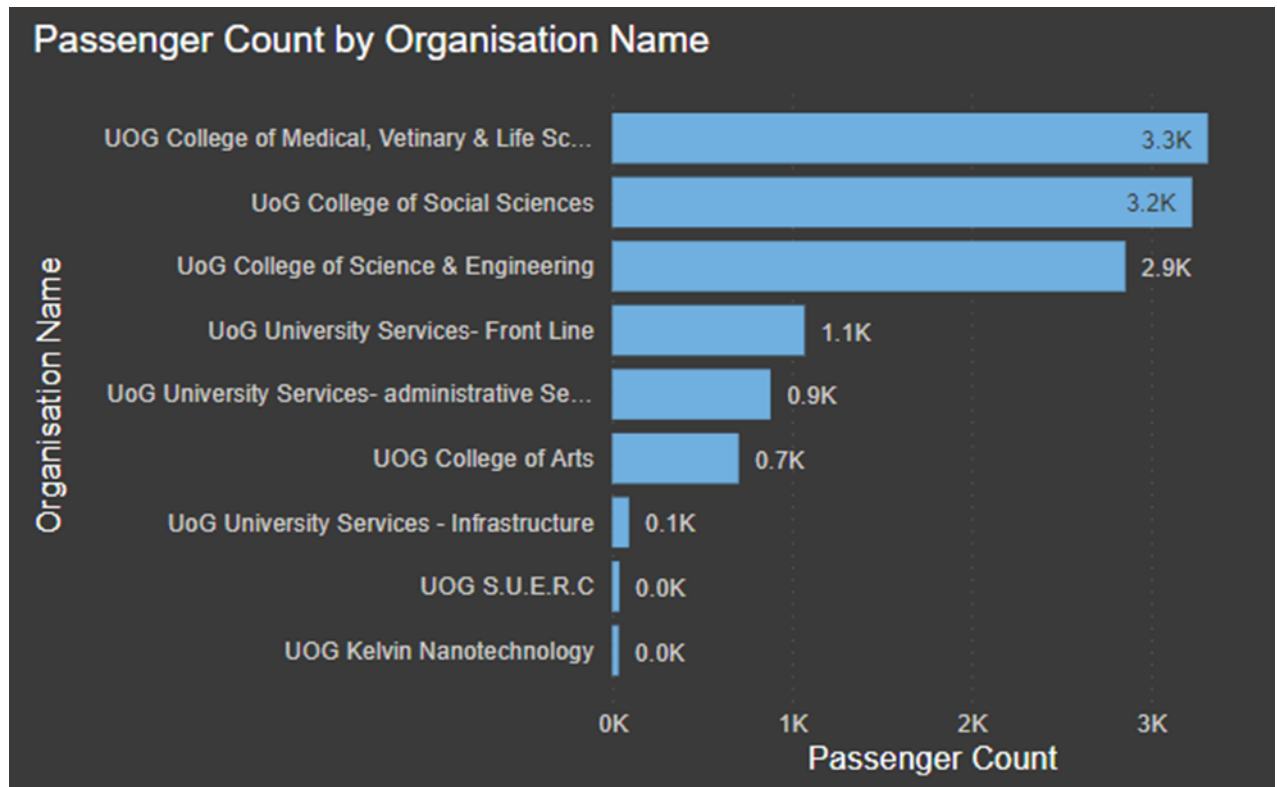


Figure 4.3 Passenger Count by College / University Unit

Figure 4-3 shows that there are large discrepancies in passenger numbers between the different Colleges / University unit although there are, of course, different numbers of staff within each.

Other key points are:

- The University expenditure on business travel is significant, particularly for international flights
- The number of flights varies across the different Colleges / unit
- Domestic business travel accounts for a very small proportion of business air travel carbon emissions
- In terms of booked cabin classes for 2019-20, around 66% of flights are economy, 28% business, 5% premium economy and 1% first class

## 5 Review of Guidance for Sustainable Business Travel for Staff

### 5.1 Suitability

Guidance for Sustainable Business Travel for Staff has been produced (and is published on the UofG website). Stantec have reviewed the guidance and identified the following key comments:

- The document has no apparent version control. It is essential that this is provided to understand when this was produced and what will influence policy and direction in amended versions in the years ahead.

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- Within the scope it is recommended that the definition of 'business travel' is amended to include reference to 'sustainable'. It is the sustainable element that is important in respect of this guidance. This is required to ensure that the reader understands the need to promote sustainability and how this relates to carbon reduction targets.
- The policy context should be set out first, followed by the action plan and then this guidance. This helps to set out what has been set, what actions there are and how this guidance fits with them.
- Links to all relevant documents should be provided.
- In terms of the global context this should also mention COP26 and the 'national context' in Scotland. Particular reference to the National Transport Strategy should also be made to demonstrate the link between transport and net zero / carbon reduction.
- On page 2 there is reference to 20% reductions by 2020/2021 but no indication of what the current levels are i.e. what is it reducing from? There should also be high-level explanation of the timeframe that are set over manageable horizons such as 5 year blocks (up to 2025 short term and 2025 – 30 medium term).
- This sections also needs to demonstrate an understanding of why UofG employees are travelling and how important that has been in terms of profile, research, establishing relationships, charity etc.
- The references to targets could pull in some of the headline information about targets. We also need to include reference to modal transfer and acknowledge that international trips have very few alternatives, domestic flights could transfer to rail and local trips could be better managed to soften environmental impacts e.g., active travel, where possible.
- On page 3 the increased emissions information can be updated (or supplemented from Power BI outputs) to bring this up to date and to show the impacts of the pandemic. The flights shown across a map of the world could be used to demonstrate the volume of trips and destinations.
- We could add in from the most recent data some information broken down by schools / departments. Consideration should be given in respect of Figure 2 in relation to the information on 'fleet and grey fleet' given the very small numbers and inability to read in the bar chart.
- On page 4 there is reference to COVID reductions helping in terms of net-zero emissions but this can't be relied upon and could be short-lived. References to potential bounce-back should be considered.
- The target reduction in tons should state the same percentages to match previous information. If transport is 22% at 13,194 tons what does that become in 2029-30, or does it stay at 22% overall and reduce 7.5% year-on-year?
- In the Achieving our target section it is recommended that the reference to seniority is removed. This implies that it is only senior people that undertake business travel. Are these actions or recommendations? If it is setting out a process, then this could be a flow chart style instead?
- In terms of action 3 how does the measure of time come into the decision-making process? Staff will always mention that they choose their mode because of convenience or time savings. So, if it suggested that nobody travels domestically and a high number of transfers by train are required to get to London does this imply that a shift to rail is the obvious solution? Depending on the time of the outgoing international flight it is likely that

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sleeper trips by train would be the only option. This then forces a significant amount of time – either out of work or away from home – or both.

- On page 5 to support these actions the University will.....introduce a requirement to use the appointed travel agent for booking all trips, in line with the most sustainable method of travel. Could this be incentivised so that points / rewards are achieved by accepting a longer journey.
- It is not clear why there is emphasis on the funding and grant application routes. This sounds as if there would be acceptability of travel, if the costs for travelling are covered from elsewhere. It should be that the application process for requesting funding is more likely to be secured if sustainable credentials are proven.
- In terms of Staff Actions – it is considered that this include the use of the travel agents as being mandatory. There should also be a reference in this section regarding approval to travel – line management approval. Is this possible at all levels or would some senior staff approve their own travel? The last bullet needs to explain why business and first class have higher carbon costs – simply due to more square footage per person being occupied in relation to economy class?
- Would the university consider allowing staff to combine business trips with leisure trips? If for example a holiday was bolted on to a business trip a process would have to be drawn up to understand how that would operate – including who foots the bill, insurance cover etc. Whilst this could be possible it may not be a very inclusive option, if only senior staff are seen to benefit. On the other hand, it might reduce the number of ‘personal’ flights that are made on top of business flights.
- The examples on page 6 should be re-named as ‘Alternative travel arrangement examples’ There is no need for Example 1 to 8 as a sub-heading. Consideration should be given to the title being the initiative – i.e., for Example 1 – it could read ‘Data Sharing – Tanzania’, Example 2 – ‘Sleeper trains / digital interviews – Glasgow to London’ etc. Consideration should also be given to reducing the number of examples to around 4 or 5 instead of 8.
- In terms of implementation & monitoring on page 7 this needs to be linked to timescales. There is reference to January 2021 – has this started? If not, this needs to be updated and information about yearly targets included and perhaps milestones, such as 2025 and 2030. The second bullet suggest that each school, institute, and service may consider working groups, communications, and evaluation. What if they don’t – can this be clearer or controlled centrally? Will templates be provided to them?
- The Sustainable Travel Decision Aid could be referred to as ‘Decision Maker’ rather than Aid. The references to Tyndall Centre are 7-8 years old – is there any evidence that suggests what they have done works or is it simply to suggest that this provides the foundation for the decision to travel?
- There could be some information relative to timescales / planning. Ideally the decision to travel can be made easier with improved lead-in times. This implies good planning and visibility of the need to travel however, which might not always be available.
- There could be references that are aligned with the monitoring reasons to travel that are outlined prior to the example on page 9. This could set out the purpose of a journey is a key consideration in terms of the ‘need’ to travel. It is considered that the purpose of travel decision could be built into a 3 stage process;
- personal (application / permission)
- line manager (approval & sign-off) &

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- travel agent (in line with sustainable guidelines).
- The example on page 9 could also include profile raising as an example. It is possible that the maintaining relationship would apply across all staff levels.

### 5.2 Long-term Impact on Carbon Emissions

The guidance as it stands will unlikely have a significant impact on the decisions to travel unless there are other control measures put in place. The obvious intervention could be to introduce a sign off by line managers to ensure staff have approval to approach the travel agent to book a trip. The line manager might also need to work to a target – either the number of journeys or financial (driven by budgets) or governed by a defined process.

It is necessary to set targets for reductions that are achievable. Simply applying a 7.5% year-on-year reduction is unlikely to generate positive results without positive promotion or enforced process driven changes. Instead, a percentage reduction by 2025 and then 2030 is considered more appropriate. It is likely that greater benefits will be derived in the second period from 2025 to 2030 as the agenda for carbon reduction is more widely discussed and to allow behaviour changes to take place. The report by Arup in Jan 2020 titled Carbon forecasting study sets the scene for the setting of 'net zero' targets by 2045 and ultimately 2050. This timescale is beyond what we have considered in this review, but reference is made to business travel as outlined below;

*“It is assumed that the University begins to address increases in business travel and especially air travel, by developing and introducing policies to reduce the number of flights. A modelling assumption has been made that flight numbers reduce by 3% between 2019 and 2035 and the stabilise at that 2035 level.”*

It is clear that there is no distinction made between domestic flights and international flights and that a flat rate reduction of 3% of all flights is proposed. It is evident that there are a number of commercial businesses that are banning domestic flights for their employees. Whilst this is a commendable policy it is clear that there are two impacts that this may have on the UofG. The first is that some of the domestic flights are part of longer international travel decisions (the current percentage / number cannot be identified but should be in the future). Employees may choose to fly to London for onward travel internationally whilst others may fly to Amsterdam which is a major hub initially before flying to other continents.

The reality of a domestic flying ban is that employees on international flights would inevitably either revert to train travel or choose to fly direct or via Amsterdam. This is one of the main reasons why the process for governing the decision to fly has to be tightened up. If people move from air to rail there is still a carbon emission saving from changing mode, but there is also another key measure which is 'value of time'. This is discussed later as a behavioural issue.

Importantly the report also states that *“There are also forecasts which could see significant reductions in emissions from flights, arising from improved aircraft technology and from the use of alternative lower carbon fuels, but these are not incorporated in the modelling above. These could reduce the residual footprint significantly.”*

Whilst new technology could evolve there is no measure or weighting in respect of the potential savings that has been calculated. Indeed, if there are savings in respect of technology or fuel types these could be offset (especially in the short-term) by the increases in staff numbers. The conclusions of the Arup report relative to business travel was simple in that *“business travel is managed to achieve reductions in flights and other business travel mileages”*.

## 6 Levels of Intervention

To address the issues associated with the decision to travel, a full understanding of the reasons why staff travel is required. To try and address this the UofG has tried to define a summary of the

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main reasons for business travel. This is considered below in respect of the analysis of the data provided by the University travel agent However, before that is analysed it is important to set out the current context under which travel arrangements are currently made.

There is only a limited level of control on the travel choices made by staff to attend courses, conferences and arrange international visits for research and business purposes and this is generally budget driven. The ticket type staff use is also mostly driven by budget and, for example, they can upgrade to first class if they get a good deal or use private air miles.

It is considered that if there are to be any significant impacts in terms of reducing the number of flights then there has to be a tightening up of the process. The decision to travel should be a 3 stage process whereby individuals have a role, line managers should have an approval role and the contracted travel agent has a booking mechanism in place which would guide the booker to the most sustainable mode combination for the journey.

The existing guidance as it stands is unlikely to impact greatly on the decision to travel. In fact, the referencing to business travel and sustainable business travel should be the one and the same thing. No business travel should be carried out unless there are checks and balances in place in view to the University's carbon reduction commitment. This should not be considered as being an administrative or bureaucratic intervention but a process driven by environmental considerations first and foremost.

## 7 Business Travel Reporting Spreadsheet

To assist with this review, the UofG provided a spreadsheet that summarises the position with respect to business air travel, rail travel, destinations, college comparisons and an outline example of reasons associated with both domestic and international travel. The information is presented as 3 years of historical information (2017/18, 2018/19 and 2019/20). It is important to ensure that whatever tool is used that it must be capable of looking back and forecasting forward and to improve the level of understanding and to ensure robust monitoring can take place relative to target setting.

The current spreadsheet has the following tabs of information;

- Comparison by year
- Destinations
- College Comparison
- Reasons for non-domestic travel
- Reasons for domestic travel

In order to analyse the raw data in a more efficient manner Stantec created a 'Power BI' tool to assist in understanding the number, frequency, and variations across multiple years and to be able to cross refer over variable datasets and importantly to graphically represent the data as mapped images.

It is recommended that the UofG adapt their approach to the control of data and consider this as a monitoring & evaluation tool and carbon calculator. The front end of this would be the Power BI file which would hold all the raw data and then the tabs should be capable of looking back and forecasting forward. This could be set up to allow the data to transfer seamlessly from the raw data and will allow certain variables to be introduced. It is considered that this should be limited to fluctuations in staff numbers initially to ensure that the forecasting position is as simple as possible (perhaps by creating a sliding scale of change / variation).

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The number of employees generally appears to be increasing across the four colleges with the most significant increases noted in the College of Medical, Veterinary & Life Sciences and the College of Science & Engineering. The Colleges of Art and Social Science appear to only show marginal changes whereby University Services have seen employee numbers drop between December 2019 and December 2020.

It is considered that, in terms of understanding the overall picture, that all Colleges and University Services should be reported separately. The Power BI will allow transparency across all individual groups, although for the purposes of target setting, having four Colleges and University Services is considered a sound approach.

To consider the optimum method of reporting it is recommended that assessment should be undertaken at the following levels;

- UofG wide
- Colleges – separately
- University Services

The important factor is to ensure that there is a reporting mechanism that understands the discrete differences between Colleges and University Services. It is also vitally important to ensure that the sample data that has been used (01/08/20 – 15/12/20) to inform the analysis is representative. For example, the College of Social Science and Science & Engineering both don't appear to show any domestic flights in this period.

It is also clear that the number of flights is an important measure but it may be that some Colleges will report fewer flights but account for higher carbon emissions due to distances to their destination and flight class booked.

In terms of the reasons for domestic and non-domestic air travel it is agreed that this is reported by all University, then across the four Colleges and the University Service separately. Additional reasons for travel should be added to the drop-down list in the booking system, for example, profile raising, marketing or charitable trips. This should be mandatory, and the list should be carefully considered to ensure it allows staff to choose the most appropriate reason (rather than just picking one which is closest).

## 8 Behavioural Issues

The current Business Travel Guidance does not include a mandatory requirement to peruse the services of the University corporate Travel Agent.

This may result in the following issues -

1. There are a number of journeys booked through online platforms and the cost then reclaimed using the University travel expenses procedure. The University has only limited control over the choices made by staff who book in this way. There are potential issues with travel insurance, safety of the traveller and data accounting, resulting from this practice.
2. Individual employees can potentially accumulate air miles that are accrued from business travel but are used for personal gain. This is also true for the Travel Agent portal currently.
3. Both booking practices allow the traveller to exercise personal choice and to book a preferred airport or air operator. This could influence both the cost of the flight but also the distance travelled. This could be an issue if the booking is a two-legged journey whereby

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there may be a preference to fly from say Glasgow to London Heathrow, as opposed to a direct flight out from Manchester.

- 8.1.1 In relation to this being scrutinised it should be mandatory for all employees to use the appointed travel agent for all booking of flights, with only exceptions given for particular circumstances. The Travel Agent bookings allow data collection of reasonable quality, and the University will work with the appointed Travel Agent to improve their booking portal to guide booking choices in view of the University's policies and carbon emission reduction ambitions.
- 8.1.2 It should also be noted that if the University decided to ban domestic flights, for example, then this would not result in a blanket saving in terms of CO2 emissions. Some of the flights may transfer to rail (although value of time may be an issue) or they may simply shift to another country.
- 8.1.3 Another key behavioural issue to consider is the impact in respect of changed travel habits, higher acceptance of online meeting tools, and confidence in travelling. Employees may be less prepared to travel at all after Covid-19. Currently, it is unclear if employees will opt to travel less or for shorter journeys, perhaps choose direct flights only and not the transfer implications of two-legged journeys, and to what extent air travel will be replaced by online meetings. It is difficult to be certain about these personal choices and therefore it is recommended that a process-driven solution is introduced instead.

## 9 Scenario Testing

- 9.1.1 To set out the correct scenarios to test it should be made clear that this review is a desk-top review only and that no knowledge of how each school operates has been taken into account. It is also pertinent to point out that the contractual arrangement with the Travel agent has not been considered nor have any views of any employees been sought.
- 9.1.2 There are a number of scenarios that need to be tested – all of which need to be measured in respect of the ability to reduce carbon emissions. The initial obvious scenarios are;
- Ban all domestic flights
  - Ban all domestic flights and revert to rail
  - Reduce carbon emissions from international flights by a fixed percentage year-on year; at least 7.6%<sup>5</sup> based on 2018/19<sup>6</sup>
  - Ban all domestic flights, revert to rail, and reduce international flights by 7.6%

Figure 9.1 Business Travel Scenario Testing

	CO2e Tonnes Saved per Annum	CO2e Tonnes Saved 2021/22 to 2029/30
Ban all domestic flights	135	1,214
Ban all domestic flights and revert to rail	113	1,018
Reduce carbon emissions from international flights by a fixed percentage year-on year; at least 7.6% based on 2018/19	6,067	54,605
Ban all domestic flights, revert to rail, and reduce international flights by 7.6% annually	6,180	55,623

<sup>5</sup> 7.6% to match the UNEP target: <https://www.unep.org/news-and-stories/press-release/cut-global-emissions-76-percent-every-year-next-decade-meet-15degc>

<sup>6</sup> The last year for which a full dataset is available



## TECHNICAL NOTE

# 10 Summary

## 10.1 Scenario Testing

The key assumptions for scenario testing are shown in the table below.

<b>Scenario Testing</b>	
1	The scenario testing will assume that the target is to reduce business travel carbon emissions by the equivalent of 7.6% per year to 2030, as identified by the UN Environment Programme, an overall of 51% on 2020 emission levels.
2	The scenario testing will assume that University business travel by air returns to 75% of pre-covid levels by 2023/24 and that beyond 2023/24, University business travel by air grows by 2% per year (if not limited). Variations of this recovery can be explored.
3	The Power BI tool developed to analyse business travel will be used to test different future scenarios. It is recommended it is updated annually to monitor progress.

# 11 Recommended Actions

The key potential actions are shown in the table below.

<b>Stantec Recommendation for UofG Action</b>	
1	Expand and further develop the Guidance for Sustainable Business Travel for Staff to <ul style="list-style-type: none"> <li>- include inter-campus/local business travel;</li> <li>- ban First Class flights on all occasions;</li> <li>- give policy guidance on when business class air travel is acceptable;</li> <li>- clearly communicate a mode hierarchy and expectations for carrying out local business travel (to discourage 'grey fleet' and taxi use);</li> <li>- through policy and purchasing controls ensure business travel bookings are made through the Travel Agent portal, and adapt expenses procedures accordingly (to allow non-local travel claims only in exceptional, agreed or justified circumstances);</li> <li>- make the guidance mandatory</li> <li>- Update Business Travel Policy</li> </ul>
2	Update University expenses procedures to <ul style="list-style-type: none"> <li>- decrease the rate of re-imburement for 'grey fleet'</li> <li>- introduce control on data quality of 'grey fleet' claims</li> <li>- adapt to allow non-local travel claims only in exceptional, agreed or justified circumstances</li> </ul>
3	Adapt University travel agent booking portal to make travel by rail the default for domestic travel (with the exception of connecting international flights)