GENERAL AVIATION AIRFIELDS STUDY

Final Report

Department for Transport

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Contents

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1. Introduction & Background

The Purpose of this Report

York Aviation was commissioned by the Department for Transport (DfT) in late 2020 to undertake research into the economic impact of General Aviation (GA) airfields, building on previous studies that examined the economic impact of GA in the UK (2015) and the network of GA airfields in the UK (2018).

The Brief was to:

- develop an initial basic typology of GA airfields, based on information contained in the airfields database that York Aviation assembled as part of the work for the Department in 2018 on the GA network of airfields, as well as new engagement with GA airfields;

- contact a selection of representative airports from each category and develop case studies;

- consider what evidence the findings from the case studies provide in terms of the local economic impacts of GA airfields.

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York Aviation is a specialist air transport consultancy focussing on airport operations and planning, demand forecasting, strategy, and management. We offer a broad range of services to airports, airlines, local and national governments, economic development organisations, and other parties with an interest in air transport. Our team is a mixture of experienced air transport professionals and economists.

York Aviation has wide experience in General Aviation, having been commissioned in 2014 by the DfT to undertake a study into the economic value of GA in the UK, which informed the Government's General Aviation Strategy published in March 2015. In January 2018, we were appointed by the DfT to undertake a further study concerning the identification and characteristics of a strategic network of GA aerodromes in the UK. Our final report was published alongside the Government's recent Aviation 2050 consultation in December 2018. We have also undertaken studies at numerous general aviation airfields around the UK including Gloucestershire Airport, the UK's busiest GA airfield, and Farnborough Airport, one of the UK's premier Business Aviation (BA) airports.

Structure of this Report

We have structured the remainder of this report as follows:

- in Section 2, we provide the context for this analysis in terms of the Government's GA Strategy and objectives and previous research in the sector;

- in Section 3, we consider a typology for GA airfields in the UK and set out characteristics of airfields within this typology based on the information available within the GA airfields database and discussions with case studies;

- in Section 4, we set out the case studies undertaken;

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- in Section 5, we consider what the case studies can tell us about the local economic impact of GA airfields;

- in Section 6, we outline our conclusions from this analysis.

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2. The Context for this Research

Introduction

In this section, we have set out some key context for this research. It sets out the UK Government's objectives for GA, a definition of the sector and also sets out some of the key findings of relevance from previous research into the GA sector.

The Government's General Aviation Strategy (2015)

The Government published a General Aviation Strategy in March 2015, the first time such a specific government strategy relating to the General Aviation (GA) sector had been published. The Strategy sets out the Government's vision for GA in the UK being:

"the best place in the world for GA as a flourishing, wealth generating and job producing sector of the economy". General Aviation Strategy, page 8, March 2015

Economic research into GA commissioned by the Government in support of the Strategy that was undertaken by York Aviation estimated that the total economic impact of GA on the UK economy is around £3 billion of Gross Value Added with more than 38,000 jobs supported.

The Strategy addresses a wide range of issues relating to GA and makes a number of commitments, but it also recognises that the sector is experiencing pressures from a number of angles, not least from the need to find sites for new housing development, noting that:

"Airfields may often be located on substantial areas of land that may not be particularly profitable to operate and the owners may well see them as good development opportunities for the construction of new houses. Of course, it is for the owner of land to decide what to do with their property, within the law." General Aviation Strategy, page 30, March 2015

The Strategy goes on to note that the Government has issued planning guidance about aerodromes to planning authorities, with reference to Section 104(f) of the National Planning Policy Framework, so that the network of these sites is considered within Local Plans and taken into account in future planning decisions. This planning guidance states that:

"Aviation makes a significant contribution to economic growth across the country, including in relation to small and medium sized airports and airfields (aerodromes). An aerodrome will form part of a larger network. Local planning authorities should have regard to the extent to which an aerodrome contributes to connectivity outside the authority's own boundaries, working together with other authorities and Local Enterprise Partnerships as required by the National Planning Policy Framework. As well as the National Planning Policy Framework, local planning authorities should have regard to the Aviation Policy Framework, which sets out Government policy to allow aviation to continue making a significant contribution." https://www.gov.uk/guidance/transport-evidence-bases-in-plan-making-and-decision-taking

This policy support for GA was reinforced in Aviation 2050: The Future of UK Aviation (2018), which provided a specific focus on supporting the GA sector:

"The government aims to ensure that there are appropriate and proportionate policies in place to protect and support General Aviation (GA) and its contribution to GDP and jobs. The government recognises that the needs of GA have to be seen in the wider context of civil and military aviation. In areas such as the use of airspace and the allocation of slots it is important to balance the needs of private flying, commercial GA and scheduled

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aviation, so that all classes of aviation are properly and proportionately considered and the benefits GA can be supported." Page 149

Definition of General Aviation

Before considering a typology for GA airfields and, indeed, the local economic value of these airfields, it is important to be clear as to what is included within GA. GA is an integral part of the UK aviation sector: more than 95% of all aircraft on the UK register are engaged in GA activity. Throughout this study, we use the commonly agreed definition of general aviation, which encompasses all private flying, together with all commercial flying that is neither military aviation nor scheduled commercial air transport. Importantly, the definition includes Business Aviation. This definition is consistent with that used by Government. This definition, by exclusion rather than inclusion, helps to demonstrate the breadth and diversity of the sector. By way of example, we have listed below some of the flying activities that fall under the definition of GA:

- business aviation (BA);
- pleasure flying of light aircraft and helicopters;
- gliding;
- microlights;
- hot air balloons;
- parachuting;
- model aircraft flying;
- hang gliding;
- emergency service flying activities.

Previous Research into GA

The GA sector in the UK is in an interesting position in terms of research. It has been the subject of a survey by the DfT in 2020 and also two major studies by York Aviation for DfT 2015 and 2018 and it was also the subject of an extensive suite of studies undertaken by Professor Terry Lober, again for the DfT, in the mid-2000s. However, it remains a sector where 'hard' data and information is difficult to come by.

The first York Aviation study was undertaken in 2015 and examined the economic value of the GA sector in the UK. It identified that the total economic footprint of UK based GA flying to the UK economy in 2013 was around £1.1 billion. This value was driven primarily by organisation-owned aircraft, which account for around £782 million of this value. Privately owned aircraft account for a substantially smaller but significant £270 million. The research did also consider the economic value of GA airfields as a key supply chain sector. It identified that GA activity at UK aerodromes supported around 9,700 jobs and around £401 million in GVA. This impact was believed to be largely subsumed within the overall estimate of the economic footprint of the GA sector. In addition, the study estimated that GA related aircraft manufacturing accounted for around £1.3 billion in GVA in 2013 and supported approximately 28,400 jobs, driven primarily by Bombardier in Northern Ireland. Wider economic impacts arising from the use of GA aircraft for business air travel and the additional connectivity this offers over either commercial air transport or surface modes, were estimated at around £815 million per annum from Business Aviation.

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York Aviation's 2018 research considered issues around the definition of a strategic network of GA airfields across the UK. It identified that defining a strategic network of GA airfields is a highly complex issue. The network is, in reality, a number of networks within the UK serving different GA sub-sectors, which have different features and needs. This issue is further complicated by the fact that the performance of the network is not ultimately about individual airports but about the functioning of the whole in terms of its ability to provide access to GA services at capable airfields. It did, however, set out two approaches to assessing the network of GA airfields, one that focussed on the performance of the network as a whole, which considered the coverage of the population by the network for different GA services, and an approach that considered the contribution of individual airfields to the network, which assessed fundamental capability, the facilities on offer, population coverage and competition. Also, importantly from the perspective of this work, the study did draw together what is probably the most comprehensive database of GA airfields, their features and activity at them that is available. An updated version of this database has been central to undertaking this work. The database has been reviewed for accuracy in relation to facilities and has been updated with some further information on navaids, information on numbers of based aircraft drawn from Aerodata, information on aircraft weight categories taken from G-INFO and additional information on specialist functions.

In undertaking this assignment, it is also important to highlight the previous work undertaken by Professor Terry Lober in 2004 and, specifically, the research undertaken into a categorisation of GA airfields. Professor Lober used a cluster analysis to try to identify categories of airfields based on around 25 parameters. These parameters included a wide range of information about the infrastructure and services available at airfields, alongside demographic information and movement information. The process identified six categories:

- Category A – included regional airports such as Manchester and Birmingham that service the commercial sector as well, but also included Farnborough;

- Category B - these were major GA Aerodromes (such as Biggin Hill) that generally did not service the commercial scheduled sector. All were CAA licensed and most had hard surfaced runways with ATC and navigational aids, maintenance and fuel facilities and a relatively large number of resident aircraft. Many also had resident training schools;

- Category C - these were described as 'developed GA Aerodromes' and included aerodromes such as Wellesbourne and Turweston. Many were licensed and around half had grass runways but had fewer facilities than Category B aerodromes;

- Category D - these were described as 'basic GA Aerodromes' and included aerodromes such as Bagby and Eshott. Generally, this category was similar to Category C but with even less infrastructure and less evidence of usage. Many of these aerodromes were operated by clubs and many were used by gliders or microlights;

- Category E - these were described as 'developed airstrips' and included aerodromes, such as Yearby, and were generally unlicensed grass strips in rural areas with few facilities;

- Category F - these were very basic farm strips airstrips, such as Pear Tree Farm, with a short grass runway, few if any facilities, and were usually privately owned.

Professor Lober acknowledged the difficulties inherent in such a categorisation, given the paucity of data available and the significant diversity in the GA community. As we have commented previously, in many ways the information base to work from now is in fact worse, reflecting the increasing time and cost pressures on airfields and issues around central data collection on GA activity. Hence, this work has had to revisit how to categorise airfields and the information that might be available.

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Together, these previous studies have provided a useful background for this work. They have provided an insight into the economic value of GA in the UK, particularly the economic value of Business Aviation, and detailed previous analysis of the GA airfield network. This research has then taken forward how to consider categorisation in a simplified way that is manageable within the current information context.

Why is this Study Being Undertaken Now?

The wider context for this assignment is the impact of COVID-19 on demand in the aviation sector and the implications for airports and airfields across the UK. In relation to GA, the Department is seeking to better understand how GA airfields contribute against the Government's broader objectives for the aviation sector, namely:

- Promoting a global and connected Britain, delivering connectivity, trade and investment and supporting key sectors including tourism;

- Levelling-up the whole UK, through connectivity, investment, employment, skills and opportunities;

- Strengthening ties within the Union through air links;

- Enabling strong sector competition – ensuring UK aviation remains competitive at home and abroad;

- Providing critical infrastructure to support essential public services and functions, including enabling coordinated response to short term crises such as COVID-19.

These broader objectives have framed our approach in this study, in particular to the identification of appropriate representative airfields for case study analysis.

The Extent of the GA Network

Prior to examining the local economic role of airfields further and the approach to categorisation, it is worth considering the UK's GA airfield network in terms of its size and spread. **Figure 2.1** illustrates the location of nearly 400 GA airfields across the UK about which a reasonable level of information is known. These have been classified into the categories, as we go on to discuss below. It shows the significant extent of the GA airfield network but also, perhaps, identifies its weakness. While there are airfields spread across the UK, there is a clear concentration in the Midlands and South, which may ultimately mean that some areas are better served than others or that some areas are more at threat from the well documented closure pressures on GA airfields than others.

Figure 2.1: GA Airfields in the UK
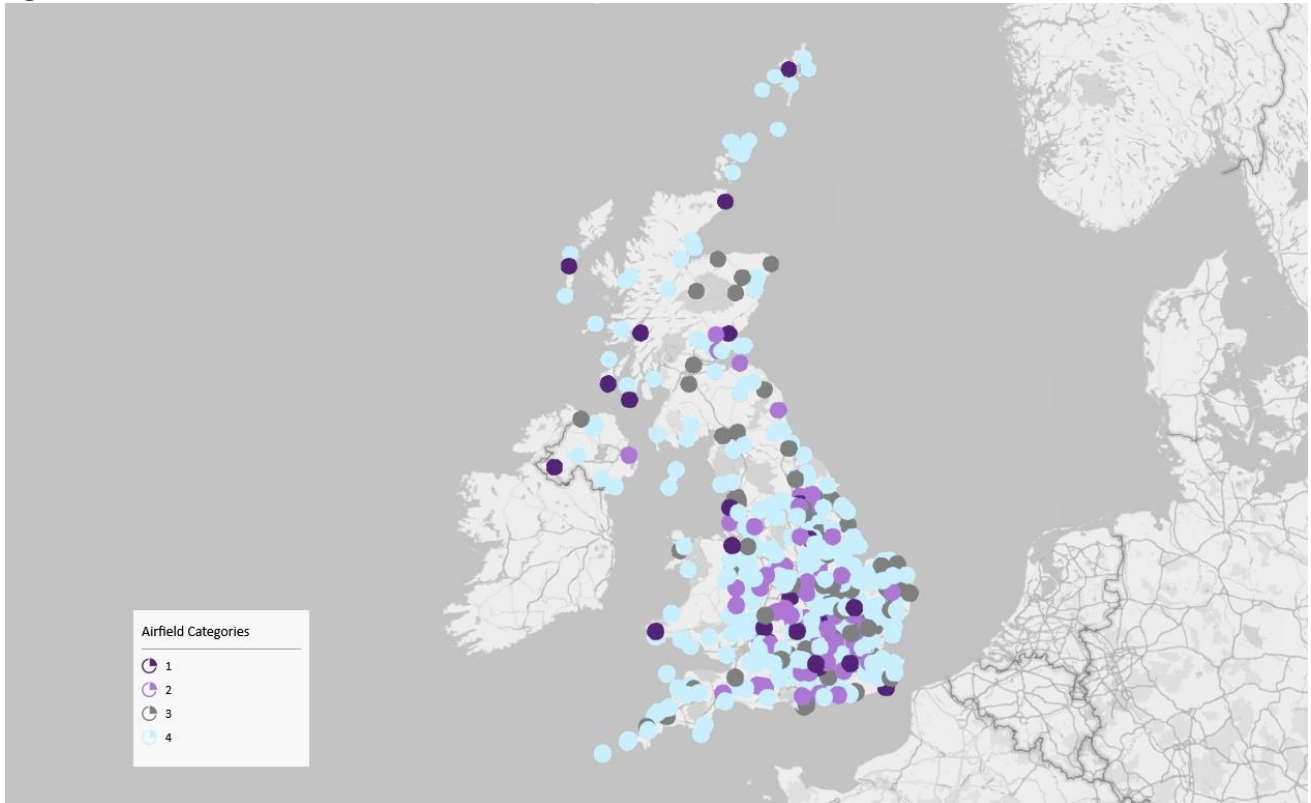
3. Developing a Typology of Airfields

Introduction

In this section, we set out a typology of GA airfields in the UK. A typology is, ultimately, intended to provide a systematic classification of the types of something according to their common characteristics. For GA airfields, this is a particular challenge from a number of perspectives. The combination of capturing the diversity of the GA sector and the different types of airfield used, alongside the generally limited level of consistent, publicly available information means that we have necessarily had to take a relatively high-level approach.

Identifying a Typology

The aim within this study was to be able to group the roughly 400 general and business aviation airfields in the database, about which there is a reasonable level of information available, into broad categories that reflect their economic and social impact. This is so that the Department will be able to understand the likely role that any of the airports and airfields in the database play according to their category. It would still, of course, be necessary to undertake more specific research into the role of any individual airfield, if specific cases were to be examined or should financial support be sought, given the wide diversity even within specific types of airfields.

Ideally, we would create a typology based on the number and type of aircraft movements at a particular airfield, alongside an assessment of infrastructure, facilities and broader services, but there is no single source of data that can provide movement data information for all airfields in the UK as the CAA Airport Statistics data covers only a limited number of larger GA or BA airfields, such as Biggin Hill and Gloucestershire. For the vast majority of airfields, no publicly available data on aircraft movements exists and, in a few cases, records are not kept even by the airfield itself. Nor is there a central source of comprehensive data about infrastructure, facilities and services at individual airfields.

We have had to, therefore, consider what information we did have (or could obtain) which would act as a reasonable proxy for the relative economic value of a general aviation airfield and enable a broad typology to be identified. Broadly, this information base can be described as follows:

- the database of GA airfields compiled as part of the 2018 GA Strategic Network study;

- Pooley's Flight Guide, which provides consistent information across a comprehensive list of airfields in relation to infrastructure and facilities, albeit the latter is somewhat limited in detail;

- the G-INFO database of UK registered aircraft held by the CAA, alongside other datasets, which provides significant detail on aircraft types and weights;

- Aerodata Quantum Plus is a sophisticated database developed for aviation enthusiasts, photographers and researchers. It combines detailed information on aircraft records, airfield information and UK air maps to provide an invaluable picture of GA activity in the UK and, indeed, further afield. The database is supported by a staff of 20 researchers that help to ensure that the data is accurate and up to date.

In combination, these sources provide a detailed but not perfect view of the GA market in the UK. For instance, even in combination, it is still not possible to know the number of movements at every single airfield.

Despite these limitations, we have used the available data to set out a simple but useable typology and explain how the different data sources are used in combination to classify airfields within the database for the purpose of this study.

The Rationale for a Typology

The starting point for the typology is to consider the airfield requirements for the segment of GA that drives a large part of its economic contribution to the UK economy, namely Business Aviation. The updated assessment of the economic value of GA, set out in the 2018 GA Strategic Network report, suggested that Business Aviation accounted for around £1.7 billion out of the £2.0 billion contribution of GA flying.

Runway length, type (grass or paved), and associated navigational aids are an important consideration for most Business Aviation users as this sector places considerable importance on being able to land at a licensed airport or airfield in less than perfect weather conditions. Hence, Business Aviation users tend to require a licensed airport with an 'instrument runway' (i.e. one with navigational guidance procedures or ground-based navigational aids). There is a strong argument that those airports/airfields that accommodate Business Aviation aircraft in this way are likely to have a significantly greater economic impact than those that support few or no Business Aviation aircraft. Airfields which have these key features are, therefore, the first category within the typology.

However, once we consider other types of airfields, the runway length, whilst still an important consideration, becomes just one of several other factors that go to make up the airfield's usability and potential economic importance. These other factors (for which some information does exist covering the complete range of airfield types) include:

- the number (and potentially the type) of aircraft based at an airfield;
- the availability of training, fuel, maintenance, and hangarage.

We were able to obtain information about the number of based aircraft at various airfields via the Aerodata Quantum Plus database, which we have been able to incorporate into our analysis.

Some information about training, fuel, maintenance, and hangarage is also available but is less reliable. Pooleys Flight Guide, for example, gives an indication of whether hangarage exists at an airfield, but this could be a single small hangar or a range of larger hangars, and no indication of occupancy or availability of hangar space is given. Training facilities could be leisure oriented or could extend to commercial training. While maintenance could be very basic for light aircraft or could be available for a range of larger aircraft types. Including all these other factors in a refined typology also potentially creates problems in that a wide range of categories would have to be identified (e.g. airfields with training but no maintenance, airfields with training but no hangarage, airfields with hangarage but no training etc.) which would be confusing and would not necessarily be a reliable indication of the economic role.

We believe, therefore, that the number of based aircraft at an airfield is the identifiable criterion most likely to provide a proxy indication of the size and relative economic value of an airfield. This will give a reasonably good indication of the extent of an airfield's usage and, incorporating information about the type of based aircraft, the nature of usage. Of course, airfields with a high number of based aircraft are also very likely to have training facilities, maintenance and hangarage as well. Similarly, airfields with few or no based aircraft are likely to have few or no such facilities.

Below, we have set out a definition of each category and information on numbers of airfields, locations, facilities, nature of based aircraft and coverage of the UK population.

Category 1

This category would be for airports and airfields with instrument runways that are at least capable of taking Business Aviation light jets, but which may also, in some cases, facilitate smaller GA aircraft as well. These airfields are likely to have the greatest economic impact, and/or the potential for increased economic impact depending on the level of Business Aviation and ancillary activity they attract. These airfields would all be licensed and have:

- A hard-surfaced runway of 1,200 metres or more (i.e. Code 3 or above)
- Navaids or RNAV (ILS, GNSS approaches) and lighting

These airports/airfields are also likely to have full ATC and maintenance facilities. While it is common for such airfields to offer basic GA pilot training, not all do. It will often depend on the extent of focus on Business Aviation activities. In some cases, but not all, there will also be Fixed Base Operator (FBO) facilities available.

The database of GA airfields developed through York Aviation's 2018 research and refined through this study, suggests that there are 25 Category 1 airfields across the UK. These are shown in **Figure 3.1**.

Figure 3.1: Map of Category 1 Airfields

Category 1 GA airfields in the database are distributed across the UK but there is a clear preponderance in the Greater South East (see **Figure 3.2**). There is also a significant number of Category 1 airfields in Scotland. However, it should be recognised that those in Scotland are often in reality small commercial airports in the Highlands and Islands rather than pure GA airfields.

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Figure 3.2: Number of Category 1 GA Airfields by UK Country and Region
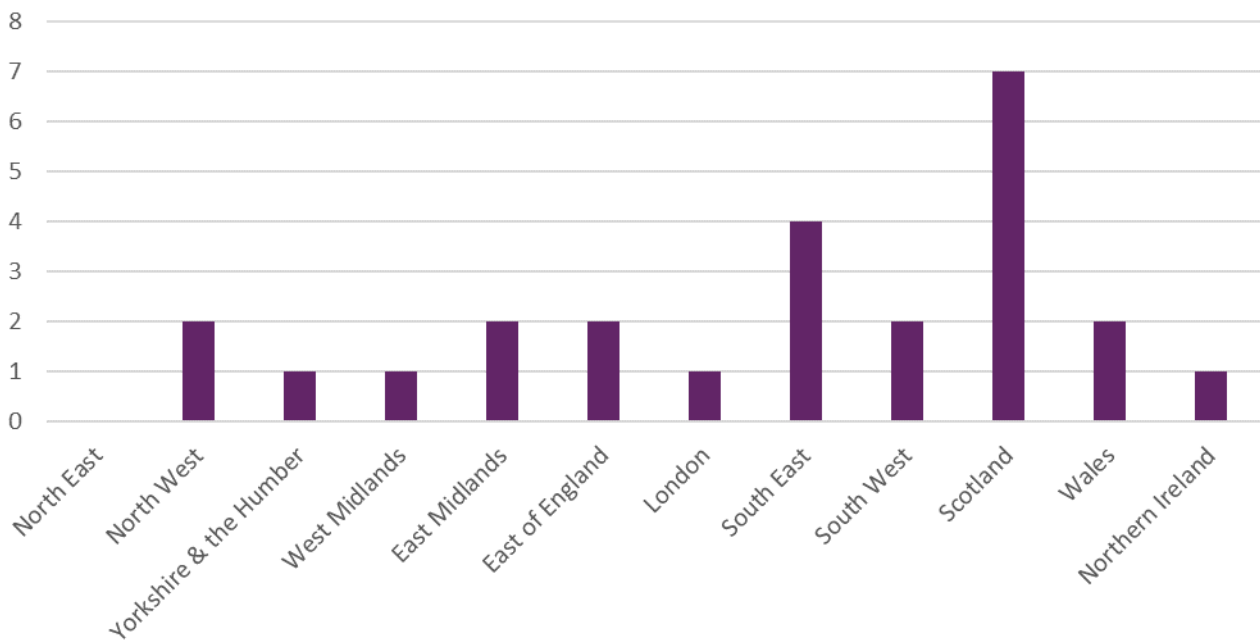
The database has also been used to provide some information on the aircraft based at Category 1 airfields. On average, there are 64 aircraft based at a Category 1 airfield. The data extracted from the Aerodata database has been used to link into the G-INFO database to provide some insight into the nature of aircraft at Category 1 airfields based on weight category, albeit this is limited to G-registered aircraft. The results are shown in **Figure 3.3**. Common aircraft in each weight category include:

- 1 kg to 750 Kg – Pegasus Quantum microlights, Robinson R22 helicopters, Schleicher gliders, Skyranger ultralight aircraft, Cameron hot air balloons, Piper Cub aircraft and Jabiru UL-450;

- 751 kg to 5,700 kg – Piper Cherokee light aircraft, DeHavilland Tiger Moth light aircraft, Cessna 152 light aircraft, Robinson R44 helicopters, Grob G115 light aircraft and Cessna 172 light aircraft;

- 5,701 kg to 15,000 kg – Sikorsky S-92 helicopters, Cessna 550 / 560 Citation light jets, Learjet 45 and Jetstream 41 aircraft;

- 15,001 kg to 50,000 kg – Embraer 135, Bombardier Global Express, Saab 2000, Dassault Falcon and Gulfstream GV.

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Figure 3.3: Breakdown of Aircraft by Weight Class at Category 1 Airfields (G-registered aircraft only)
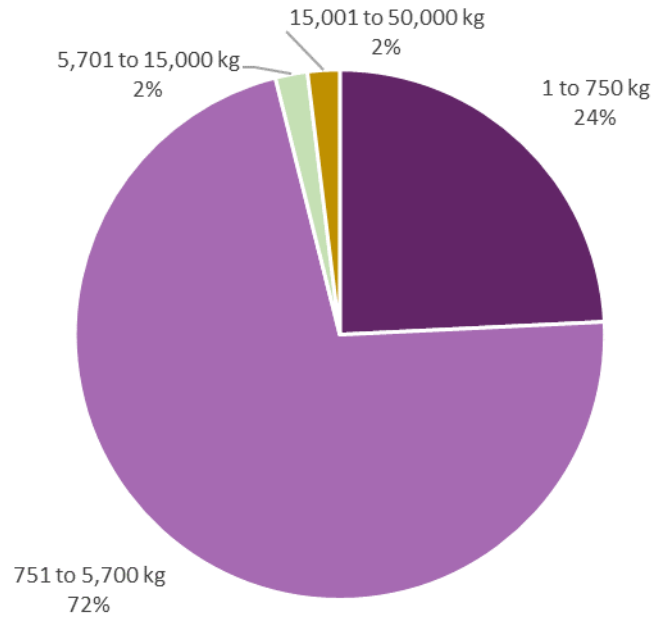
This suggests that light aircraft, as defined by the 1 kg to 750 kg and 751 kg to 5,700 kg categories, are the dominant types at Category 1 airfields. However, there is a clear propensity towards the heavier 751 kg to 5,700 kg aircraft at Category 1 airfields. There are a minority of complex aircraft operating at these airfields on average. However, it is important to be aware that there remains a significant range in character even within this category, and that this is not likely to be reflective of major Business Aviation airfields, such as Farnborough or Biggin Hill. It is also important to note that the fact that the analysis is only based on G-registered aircraft is likely to be biasing the results for this category as many business jets, in particular, are not UK registered and, hence, will not show up in this analysis. We have not been able to adjust for this issue and, hence, it is important to be aware of it.

Figure 3.4 summarises the proportion of Category 1 airfields in the database offering various services and facilities based on the information held within the database. This suggests that around 25% offer training of some form, 71% have maintenance facilities, 42% offer hangarage and 96% have fuel sales.

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Figure 3.4: Percentage of Category 1 Airfields Offering Various Services and Facilities
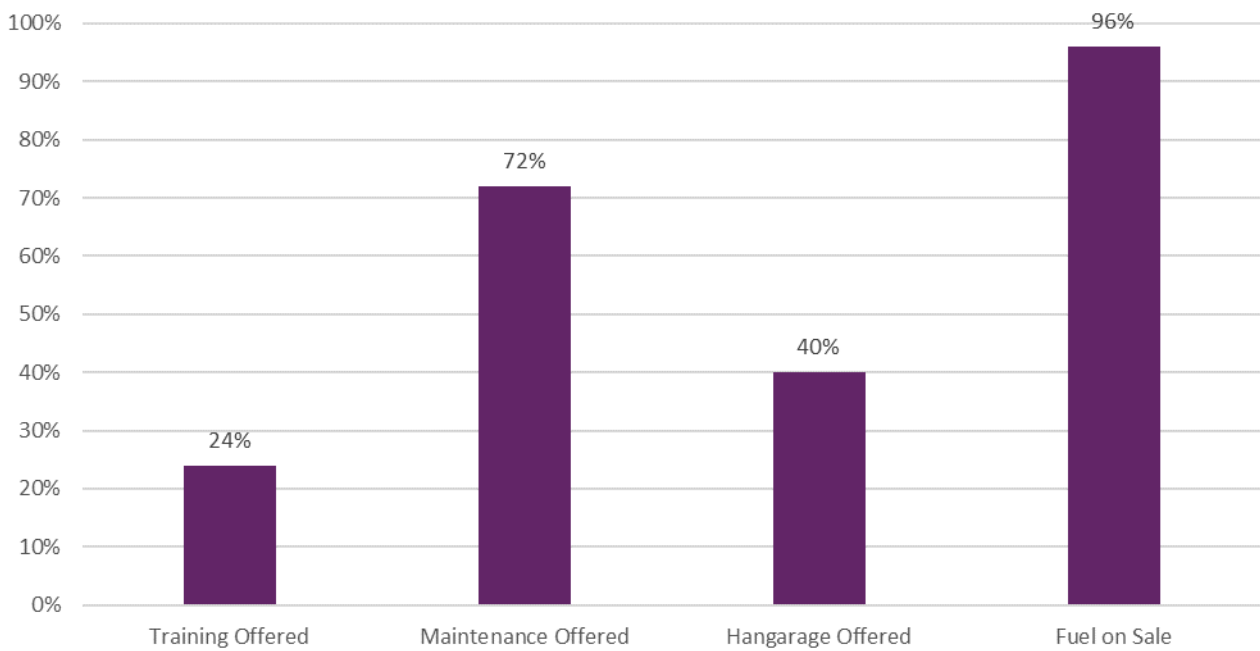
Source: York Aviation GA Airfields database.

Overall, these Category 1 airfields are likely to be the primary drivers of the economic value of GA in the UK given the role that they play in supporting Business Aviation activity in the UK, which in turn is the most economically valuable sector of GA. However, even within the category, there are significant variations in activity levels. The larger, more active airfields within the category will drive overall value.

The Category 1 network is, however, relatively small, albeit that it is of course supported by Business Aviation offerings at the UK's commercial airports. Currently, around 54% of the UK's population live within 35 miles of a Category 1 airfield, 35 miles being identified in the 2018 GA Strategic Network Study as being approximately equivalent to one hour's drive time in much of the UK. This was felt by consultees in that study to be a reasonable threshold time for access to GA services in general.

Category 2

Airfields in this category would have 50 or more based aircraft. Many are likely to support occasional business-related air taxis and helicopters, including emergency services flights. They will generally have a substantial level of flight training, maintenance and hangarage. This category would also cover some airfields with grass runways, but which are still substantial GA airfields. In many ways, this group might be seen as the 'backbone' of the GA network in the UK.

The GA airfields database suggests that there are 57 Category 2 airfields spread across the UK (see **Figure 3.5**). The map suggests a clear of concentration of these airfields in the southern half of the country with concentrations in the Greater South East and the Midlands.

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Figure 3.5: Map of Category 2 Airfields
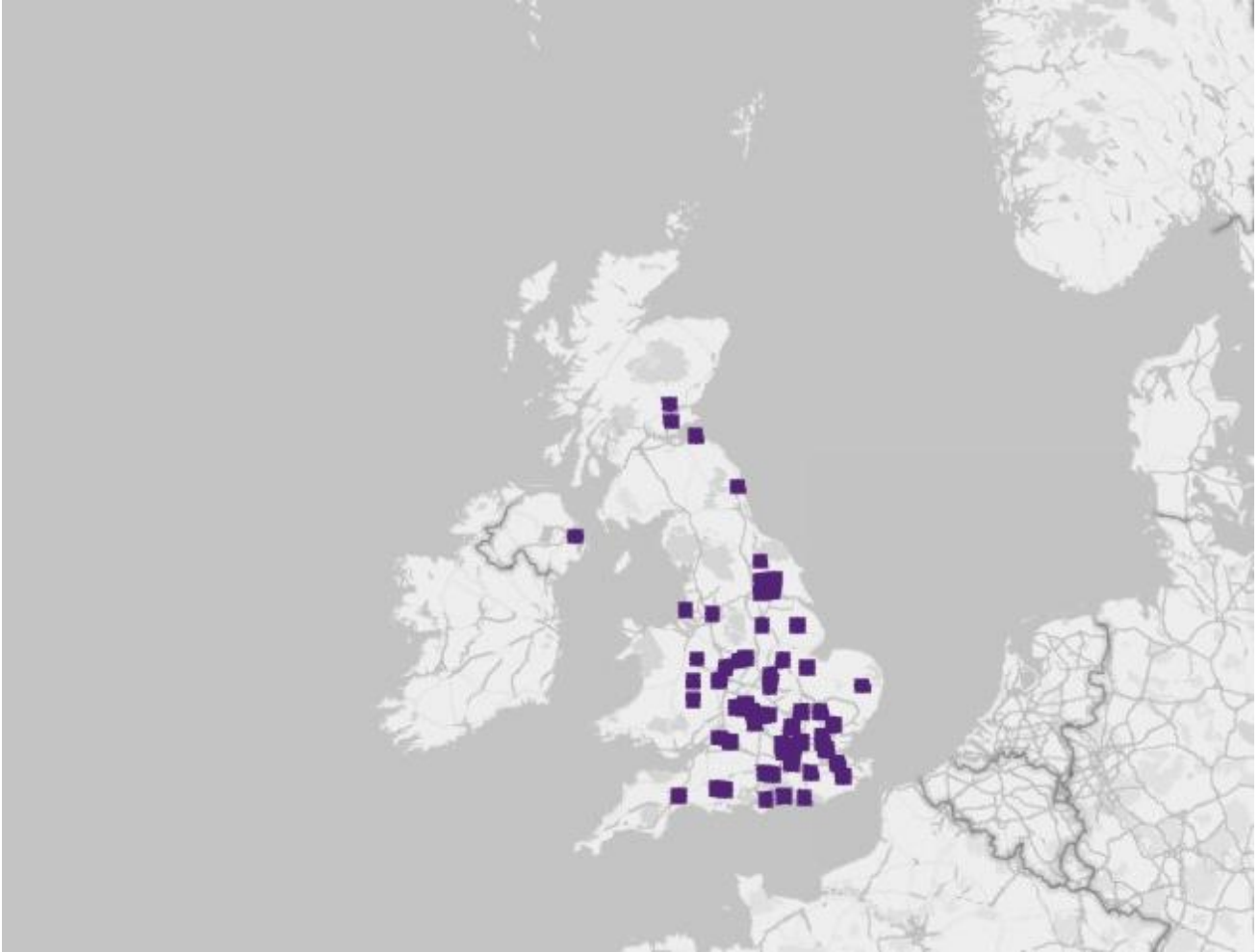
This pattern is reinforced by **Figure 3.6**. This shows that there are 14 Category 2 airfields in the South East, 9 in the East Midlands and 8 in both the West Midlands and East of England. However, there are only 8 in total across the North East, North West and Yorkshire & the Humber. Coverage in the Scotland, Wales and Northern Ireland is also very limited and there are few Category 2 airfields in the South West.

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Figure 3.6: Number of Category 2 GA Airfields by UK Country and Region
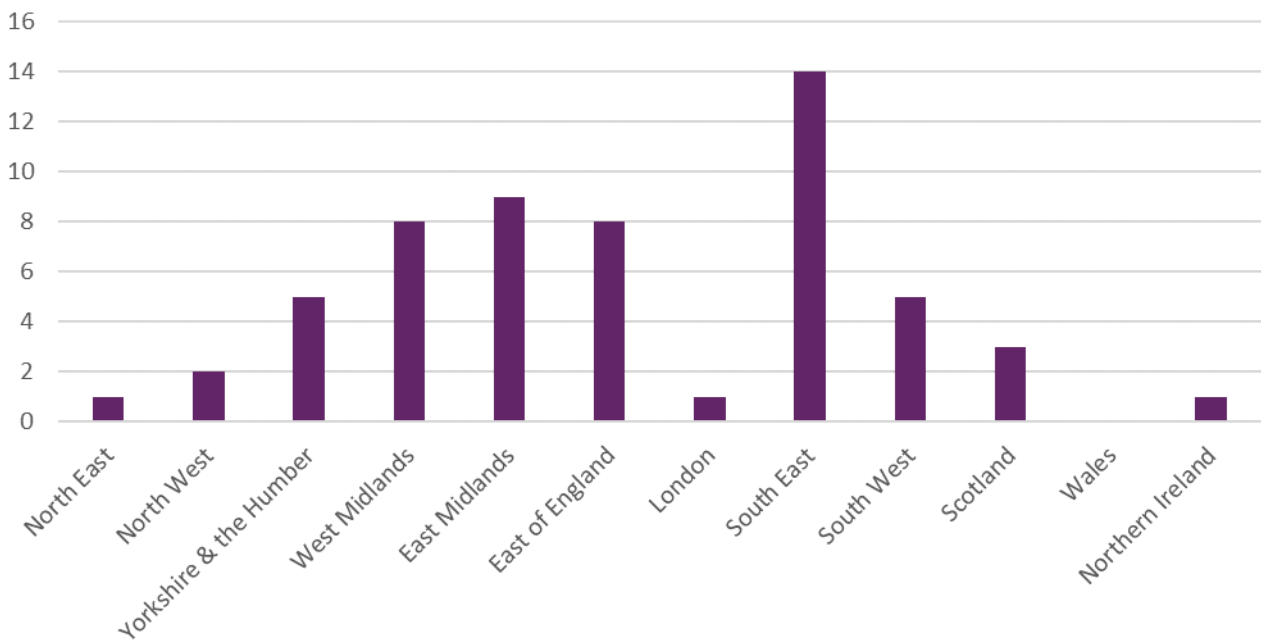
The average Category 2 airfield in the database has around 95 based aircraft, substantially more, in fact, than Category 1 airfields. However, this may simply be an indicator of their importance to private flyers and also the presence of flying clubs and pilot training. Unsurprisingly, light aircraft dominate the based aircraft presence at Category 2 airfields. However, unlike at Category 1 airports, the 1 kg to 750 kg class is the dominant weight category as shown in **Figure 3.7**.

Figure 3.7: Breakdown of Aircraft by Weight Class at Category 2 Airfields (G-registered aircraft only)

751 to 5,700 kg
43%

1 to 750 kg
57%
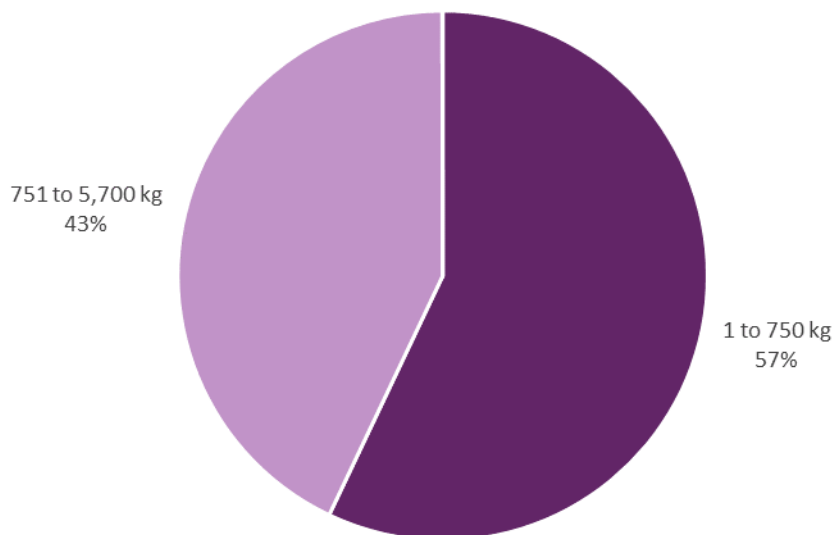
Figure 3.8 summarises the proportion of Category 2 airfields in the database offering various services and facilities based on the information held within the database. This suggests that around 21% offer training of some form, 67% have maintenance facilities, 26% offer hangarage and 84% have fuel sales.

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Figure 3.8: Percentage of Category 2 Airfields Offering Various Services and Facilities
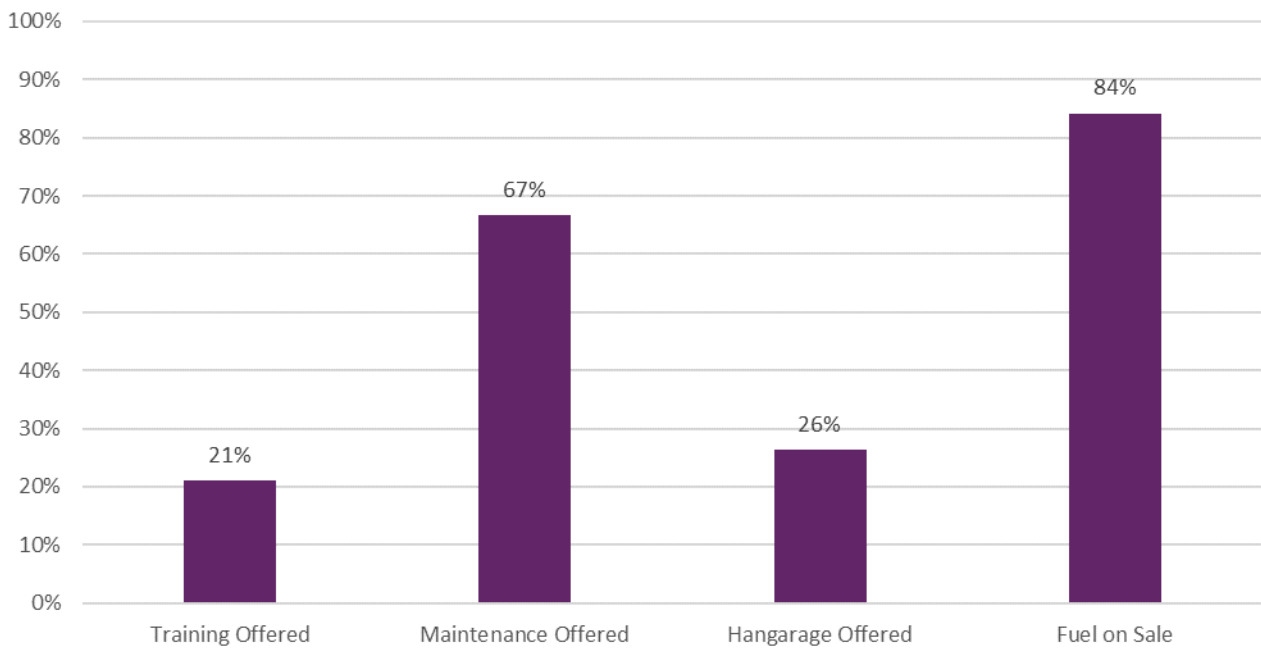
Source: York Aviation GA Airfields database.

Category 2 airfields are widely spread across the UK and are perhaps the core of the leisure flying network. There is, however, a noticeable concentration in the southern half of the country, with access to such airfields substantially more limited elsewhere. Currently, around 82% of the UK's population live within the threshold criterion of 35 miles of a Category 2 airfield.

Category 3

Airfields in this category would have between 20 and 50 based aircraft and are also likely to have some measure of flight training, albeit generally at a basic (PPL) level. Most will also have some maintenance and hangarage, although this is likely to be limited. They are, in many ways, similar to Category 2 airfields but obviously smaller and with less extensive facilities. There is a substantial number of these airfields, the database suggests 69, across the UK. Again, it is possible to see a clear concentration in the southern part of the UK, with a particular focus in the Greater South East (see **Figure 3.9**).

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Figure 3.9: Map of Category 3 Airfields

Figure 3.10 confirms this position. 20 of the 69 airfields in Category 3 are located in the East of England and a further eight in the South East. Numbers elsewhere are, again, considerably lower, with Wales and Northern Ireland having only one Category 3 airfield each.

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Figure 3.10: Number of Category 3 GA Airfields by UK Country and Region
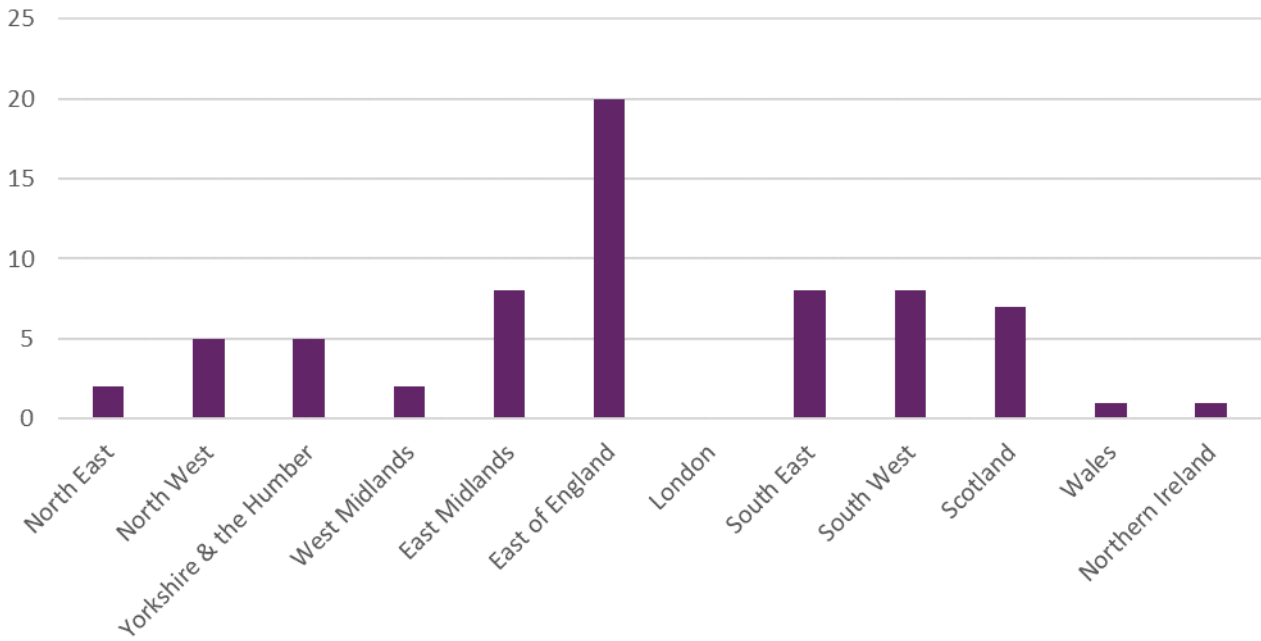
On average, there are around 30 aircraft based at Category 3 airfields in the database, with smaller light aircraft dominating these numbers (based on G-registered aircraft only). This can be seen in **Figure 3.11.** It is noticeable that the dominance of 1 kg to 750 kg aircraft is increased in Category 3 compared to Category 2.

Figure 3.11: Breakdown of Aircraft by Weight Class at Category 3 Airfields (G-registered aircraft only)
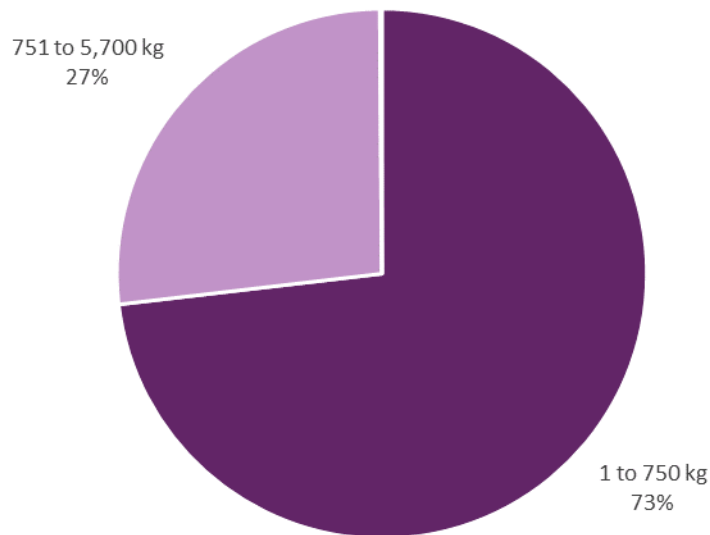
Figure 3.12 summarises the proportion of Category 3 airfields in the database offering various services and facilities based on the information held within the database. This suggests that around 28% offer training of some form, 39% have maintenance facilities, 33% offer hangarage and 64% have fuel sales.

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Figure 3.12: Percentage of Category 3 Airfields Offering Various Services and Facilities
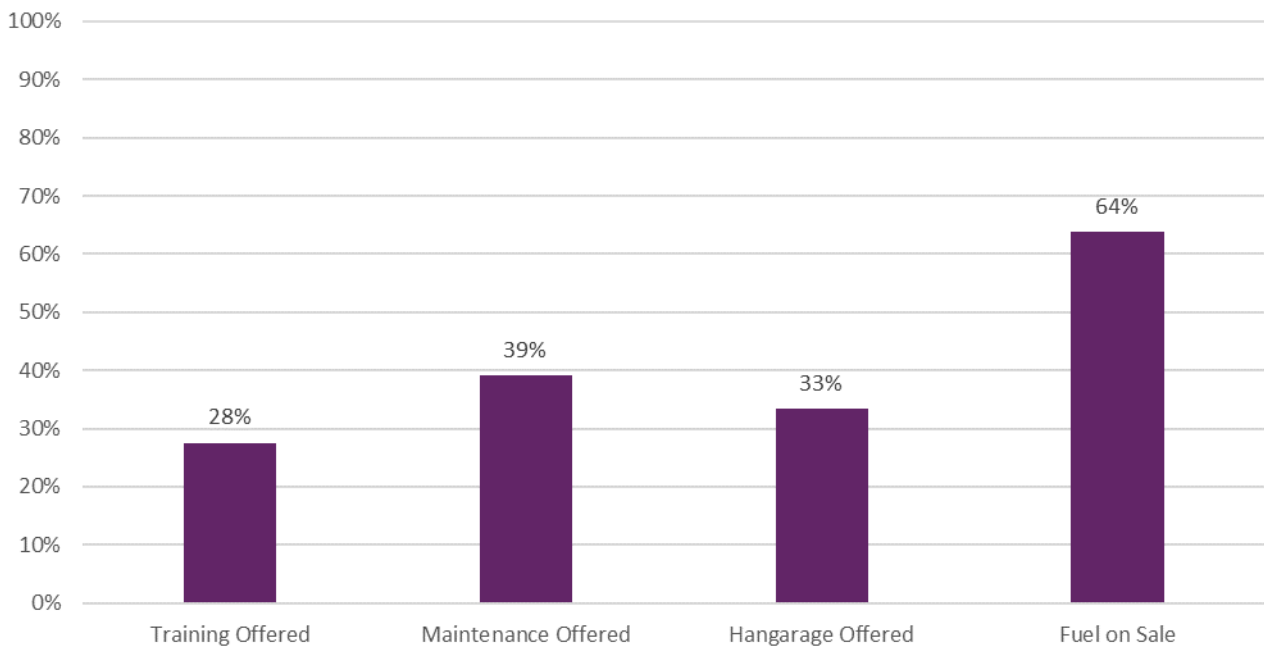
Source: York Aviation GA Airfields database.

Overall, Category 3 airfields play an important role in the network, expanding the coverage of GA facilities across the UK, primarily for leisure flying. While their facilities are more limited than Category 2, with the exception of the proportion offering training, they still provide access to GA flying and offer the broader social benefits associated with this. Currently, around 82% of the UK's population live within 35 miles of a Category 3 airfield.

Category 4

Airfields in this category have fewer than 20 based aircraft or none at all. They are likely to have very limited or basic facilities. Most farm strips, for example, will fall into this category.

These airfields are likely to have much lower employment levels and, in some cases, they do not employ anyone but are run by enthusiasts or volunteers. They could, nonetheless, still form an important part of the GA network, especially if located far from other GA airfields (e.g. in the North East or the far South West). Some are unusable in winter due to waterlogging of the, often, grass runways.

Category 4 airfields are by far the most numerous airfields across the UK. The database compiled as part of this work identifies 243 Category 4 airfields (see **Figure 3.13**).

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Figure 3.13: Map of Category 4 Airfields
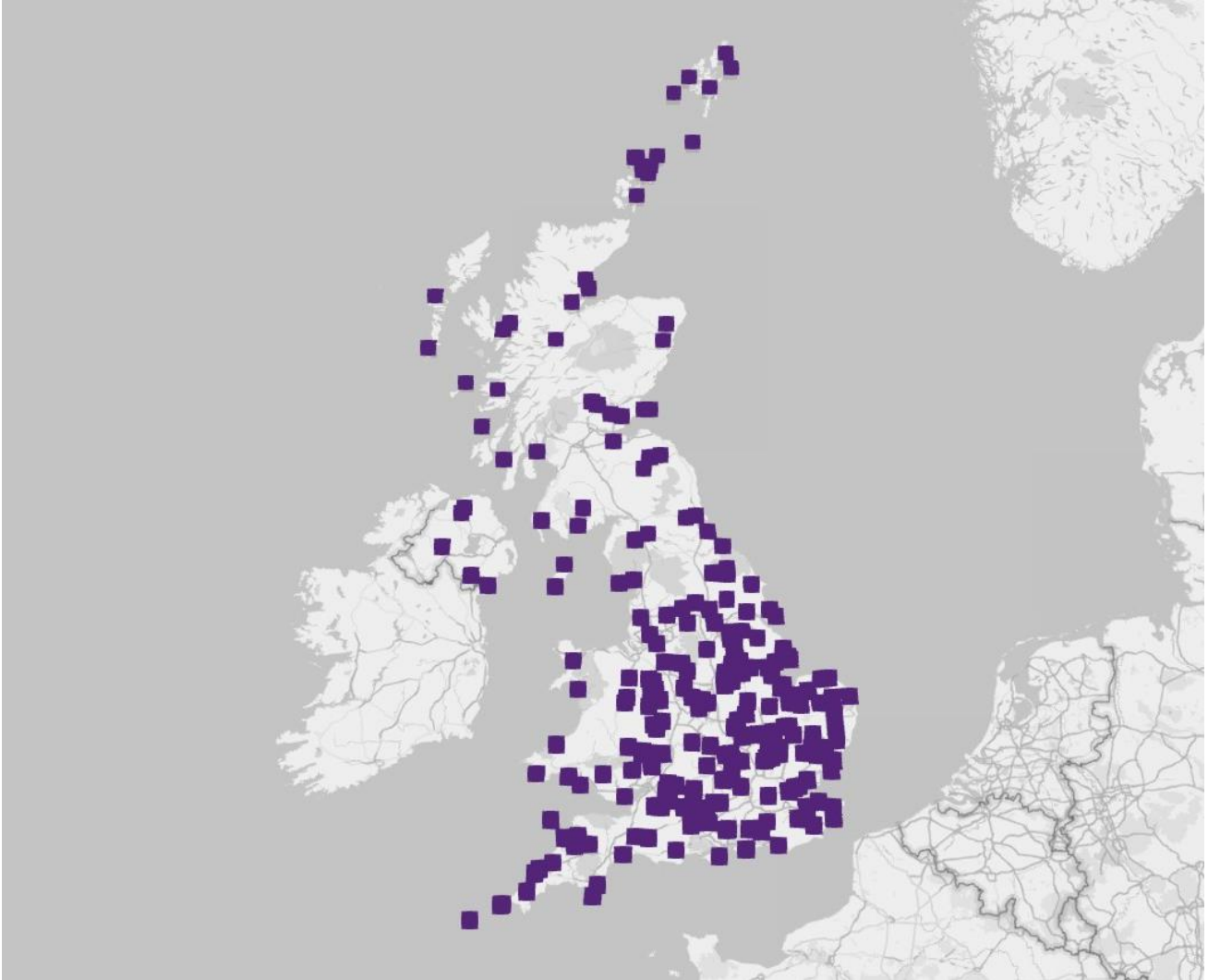
Given the sheer number of such airfields, coverage across the UK is perhaps less of an issue than for the other categories. However, there is still a southern bias in coverage, with a particular concentration again in the Greater South East and the Midlands. The most 'underserved' parts of the UK would appear to be parts of Scotland, the North West and the North East. This is borne out by the nation and region data shown in **Figure 3.14**, albeit the number of Category 4 airfields in Scotland does not, perhaps, reflect their concentration in certain areas of the country.

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Figure 3.14: Number of Category 4 GA Airfields by UK Country and Region
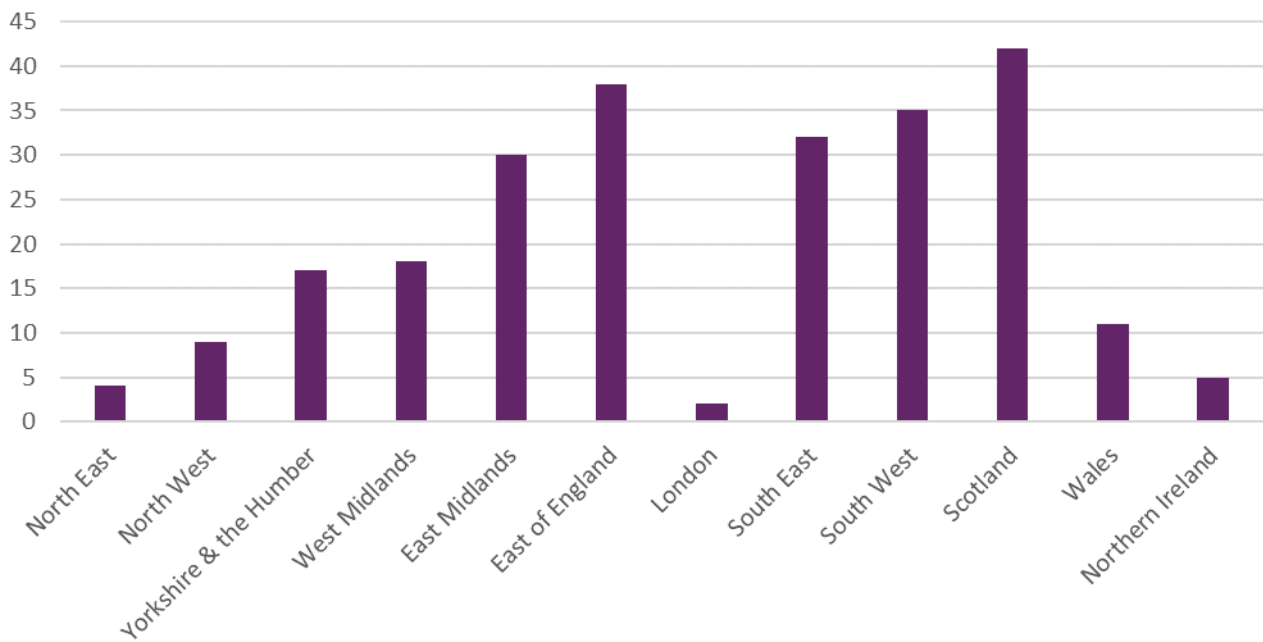
The average number of based aircraft at Category 4 airfields in the database is around 5, substantially below the threshold for the category, reflecting the much smaller nature of these airfields. Again, the aircraft types are heavily dominated by the lightest weight category (see **Figure 3.15**).

Figure 3.15: Breakdown of Aircraft by Weight Class at Category 4 Airfields (G-registered aircraft only)
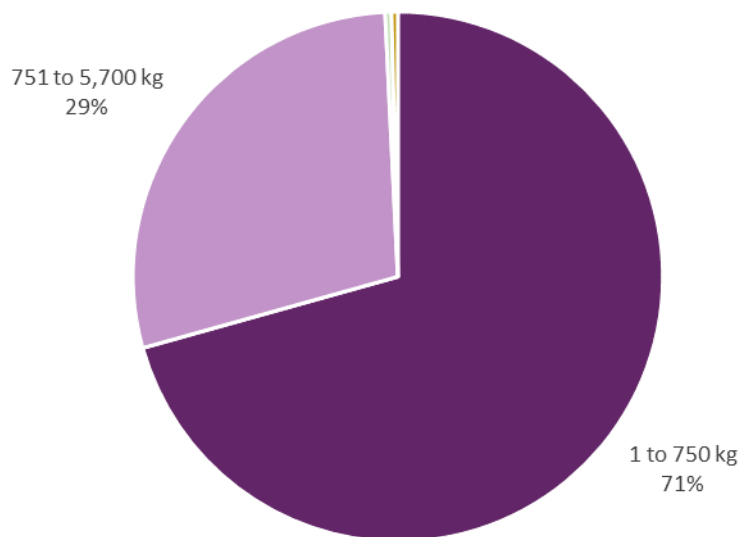
Figure 3.16 summarises the proportion of Category 4 airfields in the database offering various services and facilities based on the information held within the database. This suggests that around 26% offer training of some form, 12% have maintenance facilities, 16% offer hangarage and 29% have fuel sales.

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Figure 3.16: Percentage of Category 4 Airfields Offering Various Services and Facilities
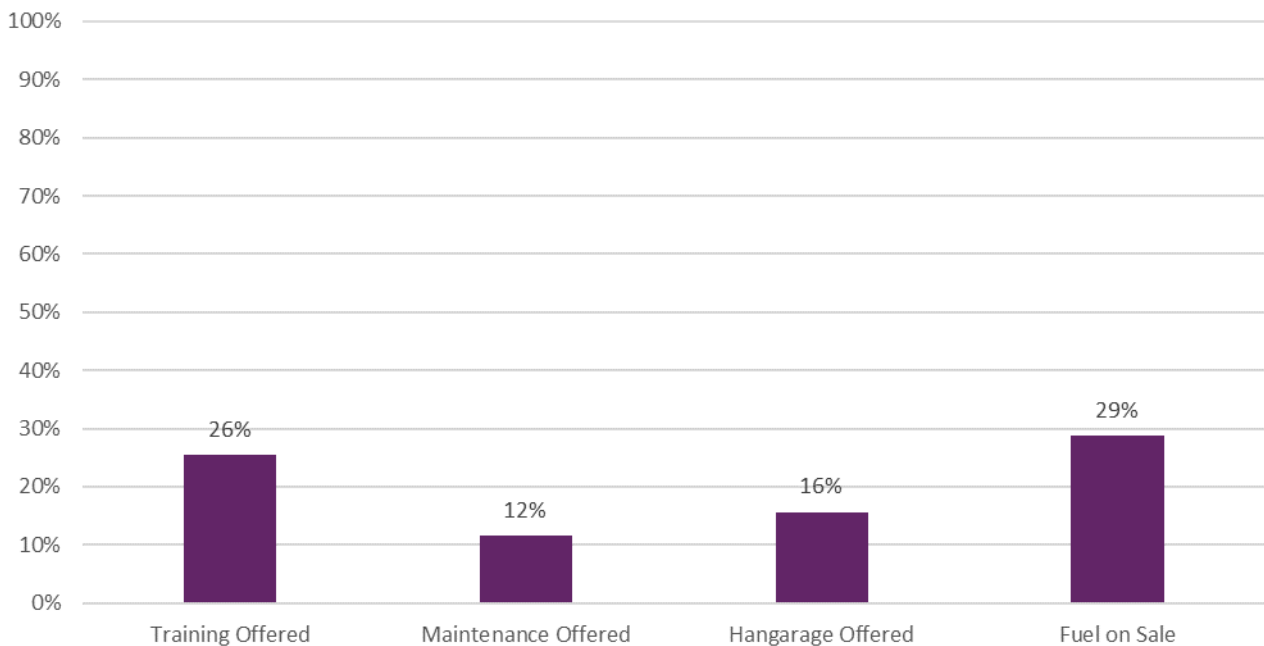
	Training Offered	Maintenance Offered	Hangarage Offered	Fuel on Sale
	26%	12%	16%	29%

Category 4 airfields are by far the most numerous in the UK. They are substantially smaller than those in other categories in the main, with more basic facilities. However, again, they do play an important role in providing coverage for the network and allowing access to leisure GA flying with the social benefits that that entails. Currently, around 96% of the UK's population live within 35 miles of a Category 4 airfield.

Specialist Category

In addition to the individual categories described above, the typology also considers the specialist role that particular airfields play for different parts of the GA sector. These airfields do not sit outside the main categorisation described above but, within the database, include a 'flag' that marks them as having particular significance. The database currently notes the following list of specialisms:

- Heliports;
- Parachuting sites;
- Hang Gliding sites;
- Microlight sites;
- Glider sites;
- Heritage sites.

The identification of specialist sites has largely followed that undertaken through our 2018 analysis of the strategic network, using sites identified by particular GA associations and using our existing knowledge to identify particular specialisms. This has been supplemented, in this analysis, by the addition of a number of heritage sites identified by a review of air museums and similar sites around the UK. It should be recognised that, in all cases, the coverage is not likely to be exhaustive but should provide a reasonable picture across the UK.

The distribution of these specialist sites is set out in **Figure 3.17**. They are found throughout the UK, but in line with the distribution of GA airfields generally, there is some concentration in the Greater South East and in the Midlands.

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Figure 3.17: Map of Specialist Sites across the UK

The economic impact of such sites is likely to be highly variable and would have to be considered on an individual basis. For instance, a major aviation museum may have a significant economic impact through its ability to support local jobs, while a small but important site for microlights may have a very limited impact in this economic sense.

Conclusions

The process described above has identified four broad categories of GA airfields. Category 1 focusses on airfields that are, prima facie, likely to be those that are most attractive to Business Aviation operators and, hence, given the importance of Business Aviation in driving the economic value of the sector, are likely to be the key drivers of local economic impact. The remaining three categories reflect GA airfields that are likely to be more focussed towards leisure flying and we have sought to classify these in terms of the number of based aircraft, which acts as a proxy for the likely level of activity at the site.

York Aviation

4. General Aviation Airfield Case Studies

Introduction

In this section, we set out the findings from 15 case studies of GA airfields from around the UK. The case studies have been undertaken alongside the development of the typology to aid in its development and also to provide 'real life' examples of the breadth of size and activity at GA airfields and the ways in which they generate economic impact. These case studies have been informed by desk research and in-depth discussions with representatives from each of the airfields, who have approved their inclusion in this report.

An Assessment Framework for the Case Studies

The case studies have been guided by an assessment framework, developed in conjunction with the DfT, that links the Government's strategic objectives to its wider aviation objectives and then includes measures that are appropriate to considering the ways in which GA airfields contribute to these objectives. Some of these measures are quantifiable (e.g. the number of movements or jobs) but others are qualitative (e.g. environmental initiatives or links with local schools). The broad aim of this assessment framework was to identify how representative examples of different types of GA airfield from the typology set out in the previous section contribute to the government's wider strategic objectives. These representative examples could, therefore, provide a broad indication of how other airfields in the same categories in the database may similarly contribute to these strategic objectives.

There are, however, two important caveats that should be borne in mind in relation to the assessment framework:

- the assessment framework helps to provide a general picture of the case study airfields and, by extension, airfields of the same type. However, as we have discussed above, GA airfields are hugely diverse and, as a result, any attempt to generalise will inevitably have flaws. Hence, it would still, of course, be necessary to undertake more specific research in order to give a more complete picture of an individual airfield's particular situation and characteristics, should some form of intervention be sought or required. Airfields under threat of closure, for example, should be examined in more detail;
- it is important to note that whilst the assessment framework provides some indication of an airfield's relative contribution to strategic objectives and economic value, it does not necessarily indicate how important it is to the GA network. For example, an airfield in close proximity to others of an equivalent type may be less of a loss to the network than one which is relatively isolated. The broader context in which any particular airfield is operating is of great importance in understanding its role and potential economic value.

It should also be noted that the case studies were undertaken during periods of heavy restrictions on general aviation flying activity resulting from the COVID-19 pandemic. Quantifiable data such as the level of aircraft movements relate to the calendar year 2019, but many airfields made comments on the difficulties they faced as a result of the restrictions imposed and we have included these comments in the case studies.

The linkages between Government strategic objectives, wider aviation objectives and the information sought from GA airfields is set out below in **Table 4.1**.

Table 4.1: Case Study Assessment Framework Strategic Objective and Information Linkages

Strategic Policy	Wider Aviation Objective	Measures
Location and Connectivity	Providing a global and connected Britain and strengthening ties within the Union	Runway (physical) length and type
		Licensed status and RFFS Category
		Aircraft Movements (2019)
		Navaids/lighting
		Common Aircraft Types
		Parking/Hangarage
		Based Aircraft
		Purpose of flights (leisure/training/business/corporate?)
		Fuel availability and type
		Maintenance
		Competing Airfields
		UK Population within 35 miles
Contribution to Local Economy	Levelling-up the whole of the UK	Direct Jobs on site
		Number of businesses on site
		Engagement with local community (e.g. Consultative Committee or similar)
		Community facilities provided, or events held
Skills	Levelling-up the whole of the UK Enabling strong sector competition	Training availability and qualification types
		Number of flight training organisations
		Connections with local schools or universities/apprenticeships.
Emergency Services/Critical Infrastructure	Providing critical infrastructure	Use by the emergency services (e.g. NPAS or Air Ambulance or HM Coastguard)
		Use by emergency medical flights
		Use of the airfield related to the Covid-19 pandemic (e.g. PPE, ventilators etc.)?
		Lifeline or critical flights (e.g. carrying important supplies or connecting with a key destination) or otherwise economically important
		Use by the military
Innovation/ Environment	Enabling strong sector competition	Has the airfield or its tenants had any involvement with environmental projects (e.g. green initiatives, de-carbonisation)?
		Has the airfield or its tenants had any involvement with new technology (e.g. drones, electric aircraft, prototype aircraft testing?)
Other factors		Other material factors: ‒ growth plans ‒ impact of Brexit ‒ impact of Covid-19 ‒ threats to the business

The Case Studies

A sample of 30 GA airfields was approached to take part in the study and provide case study information. From this group, 15 case studies were finally completed. The potential case studies were selected to try to provide a strong geographic spread across the UK and also to provide a balance of representation across the emerging categories in the typology. It should be noted that there is one case study that is slightly different: Cheshire Flyers, a large flying club, operated until recently from Arclid Green airfield, which has now closed. The club is looking for a new home base, but this case study has been included to demonstrate the challenges that can face users in the event of airfield closures.

The 15 case studies completed are shown in **Figure 4.1**.

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Figure 4.1: Map of Case Study Locations and Categories
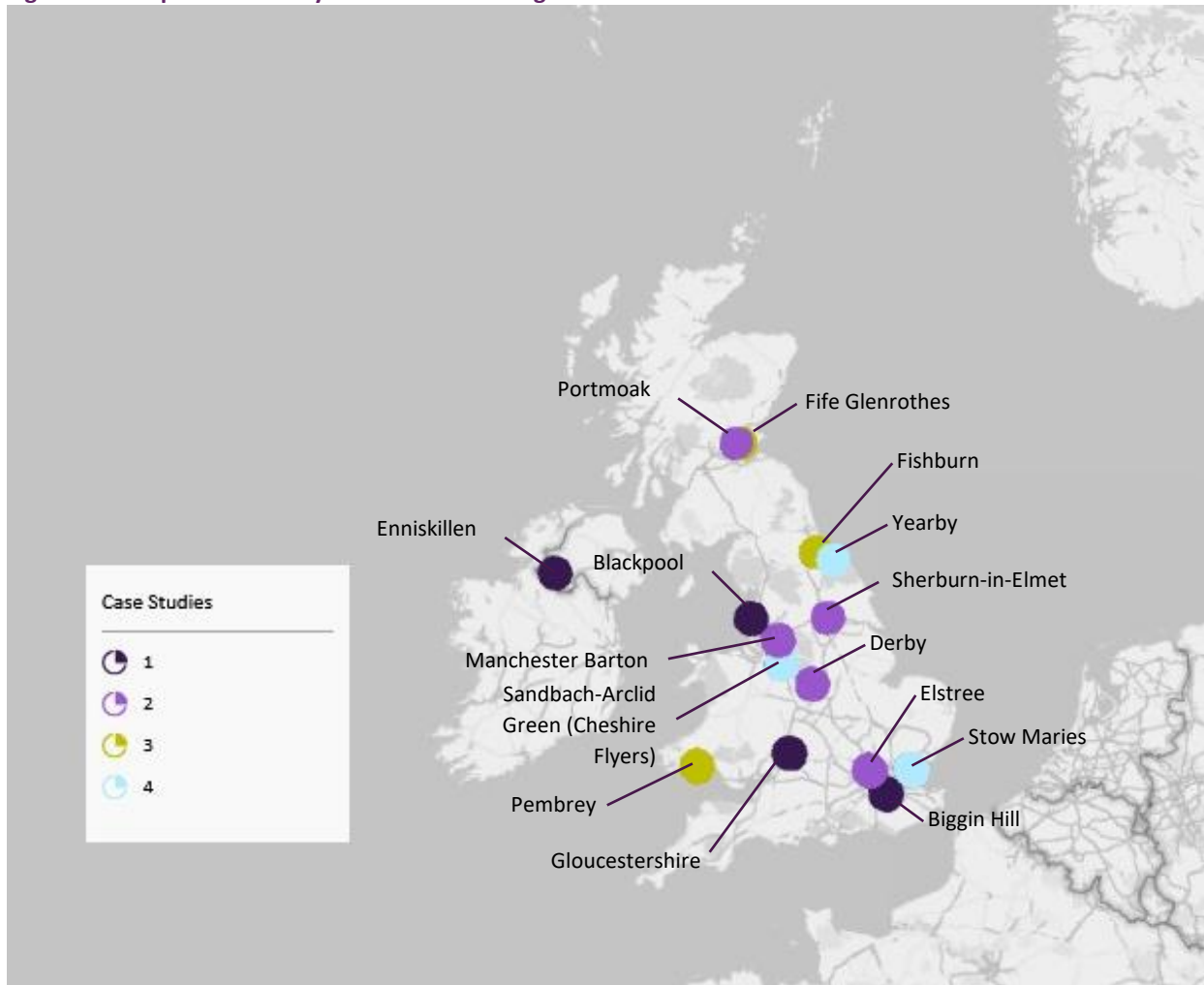
In summary, the 15 case studies completed are as follows:

- Category 1: Biggin Hill, Blackpool, Gloucestershire, and Enniskillen;
- Category 2: Derby, Elstree, Manchester Barton, Portmoak, and Sherburn-in-Elmet;
- Category 3: Fife Glenrothes, Fishburn and Pembrey;
- Category 4: Sandbach-Arclid Green (Cheshire Flyers), Stow Maries, and Yearby.

We set out each of the case studies below by Category.

York Aviation

Category 1 Airfield Case Studies

London Biggin Hill Airport

Located in the London Borough of Bromley, 12 miles from the centre of London, Biggin Hill is a dedicated Business Aviation airport and home to over 70 commercial and aviation activities, 60 business jets and over 150 other private aircraft and helicopters. The airport has an illustrious history having played a major role during the Battle of Britain. Today, it is a designated UK Port of Entry with full time Border Force support and what is believed to be more Business Aviation maintenance facilities than any other airport in Europe.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	Runway 03/21 1,806m asphalt.	UK AIP
	Licensed Status/ RFFS Category	Licensed. RFFS Cat 6.	CAA
	Aircraft Movements (2019)	39,390	CAA Statistics
	Navaids/lighting	ILS/DME Runway 21	UK AIP
	Common Aircraft Types	Fixed wing and helicopters, from light aircraft (e.g. PA28) to large executive jets.	Website
	Parking/Hangarage	All parking at Biggin Hill is on hard standing. All hangars are full or occupied. There is circa 800,000 sq ft of hangar and office space on the airport site.	Airport management
	Based aircraft	Approx 65 based business jets, 20 helicopters, and around 70 light aircraft.	Airport management
	Purpose of flights	Approx 42% air taxi and Business Aviation, 38% private flights, 20% aero club.	CAA Statistics
	Fuel Availability/Type	Avgas, Jet A1 and Sustainable Alternative Fuel (SAF) available from 1st April 2021	Airport management
	Maintenance	Extensive. There are 11 MROs on the site, providing everything from line to full base maintenance; included in this is a fully compliant paint shop and interiors shop for new and refurbished interiors for all aircraft types including airliners.	Airport management
	Competing Airfields	Farnborough is the most similar but Biggin Hill has a very different business model. Biggin Hill and Farnborough account of over 55% of all Business Aviation traffic to	Airport management

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
		London. Luton and Stansted are the two large commercial airports with Business Aviation that Biggin Hill competes with.	
	UK Population within 35 miles	11,400,376	York Aviation
Contribution to Local Economy (levelling up the whole of the UK)	Direct Jobs on site	1,460 (of which 160 employed by the Airport company)	Airport management
	No of businesses on site	65	Airport management
	Engagement with local community	The airport has a publicly available noise and track keeping system that is part of a suite of tools used to remain transparent to the community. This is all encompassed in the Noise Action Plan agreed with the Borough in 2015. In addition, the London Borough of Bromley has an airport monitoring officer who is in very regular contact with airport management to ensure that the noise action plan is adhered to.	Airport management
	Community facilities/events	The airport sets out to build a trusted relationship with its local communities, encourage an open dialogue to seek an understanding of issues important to the community and how we can work together for the benefit of the community as a whole.	Airport Community Website https://biggin-yourairport.co.uk/
Skills (levelling up, enabling strong sector competition)	Training/Qualifications types	PPL, IR, and some CPL	Airport management
	No. of flight training organisations	One - EFG Flying School	Airport management
	Connections with local schools or universities	The airport works with Bromley College, who it is partnering with to build an aviation college nearby. In addition, the airport works with East Surrey College in recruiting apprentices. Additionally, tenants are also using Stansted Aviation College for apprenticeships.	Airport management
Emergency Services (providing critical infrastructure)	Use by emergency services	The emergency services make regular use of the airport.	Airport management
	Emergency medical flights	On a daily basis from all over the world.	Airport management
	Use during Covid-19 pandemic	The airport was used to ferry COVID samples around the world for testing and research, moving patients and moving engineers and scientists. The airport was also used to transport PPE.	Airport management
	Lifeline or critical flights	The airport is used for the transportation of critical organs and other lifesaving items.	Airport management
	Military use	Frequent government and VIP flights from all nations. The most well-known of late was supporting the President of the United States visit with their helicopter VIP transport section Marine One. The airport supports SO2, SO15 on operations bringing people in and out of the country. It also supports the NCA on a weekly basis for deportation flights.	Airport management

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	The airport is signed up to the airport carbon accreditation scheme what is an International scheme overseen by ACI in Europe North America and Africa.	Airport management
	New technology or initiatives	The airport has signed an MOU and NDA with a global leader in the Urban Air Mobility sector and hope to announce the partnership in Q1 2021.	Airport management
Other factors	Other material factors including: ‒ growth plans ‒ Impact of Brexit ‒ Impact of Covid-19 ‒ threats to the business	Like all airports, Biggin Hill has been affected by COVID-19 although it remained fully open and operational throughout, and as such was used to ferry COVID samples around the world for testing and research, moving patients and moving engineers and scientists. The airport was also used to transport PPE. There is a chance Brexit will affect the airport due to the barrier for non-UK based operators being able to fly into the UK at short notice due to permits etc. and as such not bothering to come to the UK. Brexit is seen by most of the airport's customers as very negative and as such they have been setting up offices in Europe and moving the HQ there and the UK is now a satellite. The Airport has a range of infrastructure improvements in the pipeline including: • replacing the terminal and control tower; • a new three bay 737 paint hangar; • a new hotel; • Bombardier's European MRO in Q1 2022; • upgrading all taxiways to Code C; • progressing a GPS overlay on RWY 21; • replacing the ILS with a new one in Q2 2021; • more hangar space in the next 24 months - some 60,000 sq. ft for biz jet parking. The airport is also working up a plan with Heritage England to revive 30 acres adjoining the airport which was the RAF officer selection centre. This has been derelict since 1987.	
	Other comments	Biggin Hill drew attention to the Business Aviation community's response to the July 2017 call for evidence from the Department for Transport (DfT) in drafting 'Beyond the Horizon, the Future of UK Aviation'. This proposed a more up to date definition of 'Business Aviation' that recognises that it is mainly a commercial aviation activity being operated under an AOC or part NCC, so GA policy should be divided into Business Aviation and private flying and each segment accorded the attention they merit based on economic sustainability and benefit to the UK economy.	Airport management

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
		Biggin Hill also drew attention to the concept of 'reliever airports', with particular reference to its application within the New York airport system. Under this system, commercial airports would be designated for use by commercial flights operating to a schedule, while airports such as Biggin Hill, Farnborough and Oxford would be designated for use by Business Aviation. Smaller GA airports would also have a role, which would encompass ad hoc light aircraft charters, flying training, and private flying.	

Blackpool Airport

Situated on the Fylde Coast in the North West, Blackpool Airport lies at the centre of the Blackpool Airport Enterprise Zone and is a hub for business, medevac and general aviation, offering aircraft handling, parking, engineering and refuelling services, flight and instrument training as well as executive lounge and crew briefing facilities. The Airport also serves the oil and gas platforms on the 'Energy Coast'.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	10/28 1,869m asphalt. 13/31 974m asphalt (currently out of service for repairs).	UK AIP
	Licensed Status/ RFFS Category	Licensed. RFFS Cat 3 moving to Cat 4 and higher on request.	Airport management
	Aircraft Movements (2019)	36,289	CAA Statistics
	Navaids/lighting	ILS DME Runway 28, NDB , RNAV (GNSS) approach available to Runway 28. Currently no radar but considering sourcing a feed.	UK AIP/airport management
	Common Aircraft Types	Light training aircraft, light twins, helicopters, corporate jets.	Airport management
	Parking/Hangarage	Parking is available but all hangars are currently full, with demand exceeding supply.	Airport management
	Based aircraft	Approx 100	
	Purpose of flights	Approx 75% aero club, training, or private. Approx 5% business and corporate Approx 15% offshore helicopters.	CAA Statistics
	Fuel Availability/Type	JetA1 and Avgas - all types.	UK AIP
	Maintenance	Available for both helicopters and fixed wing.	Airport management
	Competing Airfields	Potentially Manchester/Liverpool for some Business Aviation.	Airport management
	UK Population within 35 miles	2,753,947	York Aviation

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Contribution to Local Economy (levelling up the whole of the UK)	Direct Jobs on site	Approx 150 (mix of full, time, part time, and contract workers).	Airport management
	No of businesses on site	Approx 15	Airport management
	Engagement with local community	Consultative Committee.	Airport website
	Community facilities/events	Annual Air Show (cancelled in 2020 due COVID-19).	Blackpool Council website
Skills (levelling up, enabling strong sector competition)	Training/Qualifications types	PPL and some CPL.	Airport website
	No. of flight training organisations	Up to 9 at present	Airport management
	Connections with local schools or universities	The airport has a close connection with Fylde College and is hoping to set up an Aviation Academy in due course. The local Air Cadets are based at the airport. The airport is also looking at the possibility of taking on up to 4 new staff under the Kickstart programme	Airport management
	Use by emergency services	North West Air Ambulance has 1 aircraft based at the airport BLK operating 6 to 7 sorties per day. NPAS have 24 hour access to the airport for fuel. HM Coastguard also use the airport for fuel stops.	Airport management
Emergency Services (providing critical infrastructure)	Emergency medical flights	Occasional medical evacuation (medevac) flights.	Airport management
	Use during Covid-19 pandemic	The airport was used to ferry a few items of PPE/ventilator parts in the early stages of lockdown - a small group of pilots formed a group volunteering for such flight logistic support. The airport stayed open throughout the lockdowns to ensure a full service could be maintained to support the offshore gas platforms. The airport generally incurred additional operating losses of between £65 and £80k per month as a result of staying open without GA/Executive revenues, with movements less than 25% of normal.	Airport management
	Lifeline or critical flights	Helicopters operate for NHV serving oil and gas platforms on the Energy Coast year-round.	Airport management
	Military use	RAF Valley use Blackpool Airport for pilot training. Occasional heavy RAF aircraft training.	Airport management

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	Lancashire Energy HQ is located on the site, offering training and career development in the energy industry, including sustainable energy sources. The airport is hoping to have a solar farm on the site at some future stage.	Airport management Lancashire Energy HQ Website
	New technology or initiatives	The airport has recently been approached by a firm developing VTOL electric aircraft technology, albeit in need of funding.	
	Other material factors including: ‒ growth plans ‒ Impact of Brexit ‒ Impact of Covid-19 - threats to the business	The airport is adjacent to the Blackpool Airport Enterprise Zone (EZ) and both are mutually supportive of each other. The Airport incurred operating losses as a result of staying open during the lockdown without GA/Executive revenues - movements at less than 25% of normal levels.	Airport management
Other factors	Other comments	The Airport is facing some key challenges in the near future, in terms of funding replacement infrastructure and maintenance.	Airport management

Gloucestershire Airport
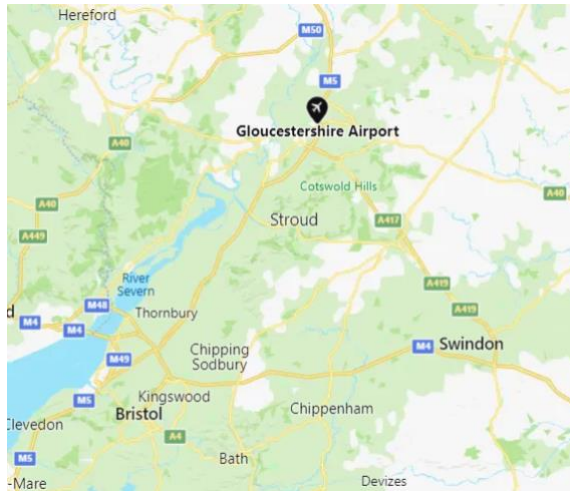
Gloucestershire Airport (Staverton) is located between Gloucester and Cheltenham, close to the M5, and is the largest (by aircraft movements) general and Business Aviation airport in the UK.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway Length and Type	3 asphalt runways (1431m, 988m, 799m) and 1 grass runway (304m)	UK AIP
	Licensed Status/RFFS Category	Licensed. RFFS Cat3 with Cat 4&5 on request and Cat 6 by prior arrangement	UK AIP
	Aircraft Movements (2019)	74,500	UK CAA Stats
	Navaids/lighting	ILS to one runway; lighting on runway 09/27 only	UK AIP/Airport management
	Common Aircraft Types	268 different aircraft types in 2019. Common types include: Piper Cherokee/Warrior Robinson R22; Cessna 152 & 172; DA-42 Twin-star; Euro-copter EC135; Augusta 109 Beech 200 King Air; Cessna Citation Bravo; Cessna Citation 4	Airport Management
	Parking/Hangarage	Full hangarage	Airport Management
	Purpose of flights	Business 3%; test/training/aero club 75% (includes helicopter maintenance testing); Private 18%; Others 3%	CAA Stats
	Fuel Availability/Type	Avgas, JetA1 and UL91	Airport Management
	Maintenance	Multiple facilities: RGV Aviation / Aeros – small prop through to light jet Helicopter - Babcock Helicopters, Specialist Aviation Services (SAS)	Airport Management
	Competing Airfields	Kemble and Oxford on a regional basis, but also have a lot of nationally orientated activities for which Gloucestershire competes with other airports.	Airport Management

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
	UK Population within 35 miles	1,562,306	York Aviation
Contribution to Local Economy (levelling up the whole of the UK)	Direct Jobs on site	380+ aviation related	Airport Management
	No. of businesses on site	Around 30 (aviation related).	Airport Management
	Engagement with local community	Consultative Committee meets quarterly. Green Policy – recently reviewed and renewed.	Airport Management
	Community facilities/events	Post-COVID-19 – will restart open days. Previously provided small conference room for hire, looking at this in the future again. Weston Aviation have conference facilities. Fly2Help – charity based on site.	Airport Management
Skills (levelling up, sector competition)	Training/Qualifications	Flight Training through to CPL/ATPL. Some simulators for type ratings. Fire and ATC Training and considering airside ops training.	Airport Management
	No. of flight training organisations	5	Airport Management
	Connections with local schools or universities	Part of the Fly2Help network, which engages with local schools. Tenants offer apprenticeships.	Airport Management
Emergency Services (providing critical infrastructure)	Use by emergency services	Two of the UK's largest providers of Air Ambulance and NPAS services have their national base at the airport for all maintenance and some training. However, no aircraft operate the local Air Ambulance or Police Helicopter services from Gloucestershire.	Airport Management
	Emergency medical flights	Airport management were not aware of any currently but may have operated in the past.	Airport Management
	Use during Covid-19 pandemic	One Exec Jet Operator was providing services to move equipment and ventilator related activities.	Airport Management
	Lifeline or critical flights	n/a	Airport Management
	Military Use	Military have increased movements recently and undertake training (in particular ILS touch and go's) and refuelling. Occasionally receive transport aircraft associated with army bases in the region, including visiting foreign military aircraft or charters.	Airport Management
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	The Airport publishes and maintains a Green Policy which is monitored by the Airport Consultative Committee. In addition, there is development and research of electric aircraft taking place on site. The Airport is currently in discussion with a company looking to set up regional connectivity using electric aircraft flights with Gloucestershire Airport as a central hub.	Airport Management
	New technology or initiatives	Electric aircraft development - Skyborne have 2 electric aircraft and are looking to start drone training.	Airport Management

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
	Other material factors: ˗ growth plans ˗ impact of Brexit ˗ impact of Covid-19 ˗ threats to the business	Covid-19 has led to huge drop in fuel sales, revenues, partial closure during core lockdown. Commercial flying schools have been able to keep flying during second lockdown but growth plans of tenants now delayed. Brexit – Cargo and HMRC designation / aviation security issue. Eel exports and Weston, as well as LJC flower market. Due to demise of commercial airlines the airport is looking for an increase in Business Aviation. Flying shack café is now out of business. Reports of serious downturn in demand on tenants. Lower demand for office space development. Cost of infrastructure – runway refurbishment, ATC/Radar equipment needs replacement.	Airport Management
Other factors	Any other comments?	Poor cashflows and expense of operating in the sector. Many companies around the airfield would be at risk if Gloucestershire were to close as no immediate local alternatives for them.	Airport Management

Enniskillen (St. Angelo) Airport
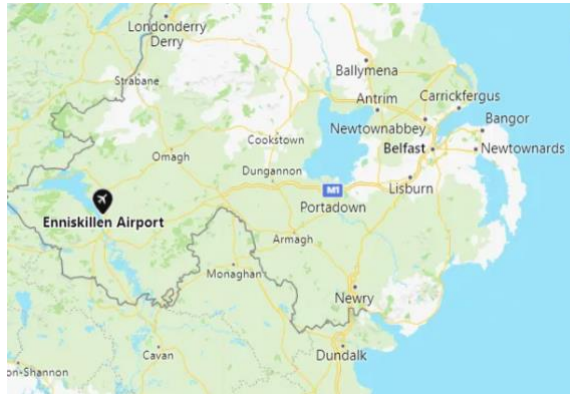
Enniskillen (St. Angelo) Airport is situated three miles North of Enniskillen town, on the shores of Lough Erne, Co. Fermanagh, Enniskillen is one of only five licensed airports in Northern Ireland, serving the general and business aviation market.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	Asphalt 1,225m with parallel taxiways.	Airfield management/AIP
	Licensed Status. RFFS Category	Licensed. RFFS Cat 2 and Cat 3 on remission.	Airfield management
	Aircraft Movements (2019)	2,720	Airfield management
	Navaids/lighting	No navaids - runway edge lights and PAPIs.	AIP
	Common Aircraft Types	50% fixed wing and 50% helicopters – majority are single engine prop and about 2% of the fixed wing being twin props and light jets – no gliders.	Airfield management
	Parking/Hangarage	Hangars, but very limited space, perhaps for 1 additional aircraft. There is a possibility of third party interest in building more hangarage.	Airfield management
	Based aircraft	7	Airfield management
	Purpose of flights	80% training, 18% leisure, 2% business	Airfield management
	Fuel Availability/Type	Avgas and Jet A1	Airfield management
	Maintenance	2 helicopter maintenance companies	Airfield management
	Competing Airfields	None locally - more cooperation between airfields than competition.	Airfield management
	UK Population within 35 miles	32,365	York Aviation
	Direct Jobs on site	35 total (10 aviation related)	Airfield management
	No of businesses on site?	9 total (5 aviation related)	Airfield management

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Contribution to Local Economy (levelling up the whole of the UK)	Engagement with local community	No local committee, but the airfield has never had any complaints.	Airfield management
	Any community facilities provided, or events held?	In a normal year, the airport sees a couple of fairly major air shows as well as fly in's, sports events, races on the runway, and lots of car events. These form major sources of income. No events in 2020 due Covid-19.	Airfield management
Skills (levelling up, enabling strong sector competition)	Training/Qualification types	PPL and CPL	Airfield management
	No. of flight training organisations	1 helicopter and 1 fixed wing	Airfield management
	Connections with local schools or universities	Heli maintenance company (Sloan) have a training link with a local college – 2 apprentices at present	Airfield management
Emergency Services (providing critical infrastructure)	Use by emergency services	Good relationship with air ambulance, and medical flights for organ transfers and repatriations. Medical flights and HM Coastguard sometimes use the airfield to take on fuel.	Airfield management
	Emergency medical flights	Local hospital is 5 mins away and the airfield is often used – usually in middle of night – by King Airs or helicopters.	Airfield management
	Use during Covid-19 pandemic	Not to date.	Airfield management
	Lifeline or critical flights	None other than those cited above.	Airfield management
	Military use	Military use for training. Defenders and Islanders mainly, based at Belfast doing touch and go's.	Airfield management
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	n/a	Airfield management
	New technology or initiatives	n/a	Airfield management
	Other material factors: ‑ growth plans ‑ impact of Brexit ‑ impact of Covid-19 ‑ threats to the business	About a 75% reduction in traffic since March. No events due to COVID-19, with a significant cut in income. The business would have liked to have seen more support from government to weather the storm. Brexit is a significant concern particularly for training schools and pilots who cross the border. They are in unknown territory with no solid information from government on what will happen in 2021. Planning resurfacing of runway access roads, looking at upgrade to fuel installation to reduce costs.	Airfield management

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Other factors	Any other comments?	The airfield is looking to establish a GNSS approach, but this needs to be affordable and expects to need government grant to fund this. Business jets want it but have to use other airfields. Recent business flight had to divert due to weather and couldn't use Enniskillen so had to divert. There is a £250 grant from CAA to use-tracker 24 for ADS-B which is useful. General Aviation Reports (GARs) have been causing an issue more recently as pilots are deterred from flying across the border because of the extra hassle of filling out the report prior to flights. Border Force have come down hard on pilots for not logging the reports before a flight.	Airfield management

Category 2 Airfields

Derby Airfield

Derby Airfield is situated 7 miles southwest of Derby in the East Midlands, Derby Airfield is a privately-owned licensed grass airfield and the home of Derby Aero Club and Flying School. Derby Airfield acts as a 'Fixed Base Operator' (FBO) with the added benefit that the airfield is owned and operated by the same family (Jones) using their company Airspeed Aviation Ltd. Very few airfields are operated directly by their owners and as such those airfields' owners act as landlords simply providing land and buildings for their aviation (and non-aviation) tenants. Derby Airfield is one of the newest 'greenfield' CAA licensed aerodromes in the UK, having won landmark planning permission after full public inquiry in 1991 to use previously agricultural land for aerodrome purposes.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	05/23 547m grass 10/28 453m grass 17/35 594m grass	UK AIP
	Licensed Status. RFFS Category	Licensed. RFF 'Special' Category.	Airport management
	Aircraft Movements (2019)	c. 18,000	Airport management
	Navaids/lighting	n/a	Airport management
	Common Aircraft Types	Fixed wing aircraft. Circa 90% single engine piston, with the remainder twin engine piston.	Airport management
	Parking/Hangarage	Grass parking, two hangars available, with plans progressing for a third hangar.	Airport management
	Based aircraft	51. Up to 6 passing through for maintenance or modification.	YAL estimate
	Purpose of flights	Approx 75% flying training Approx 15% private flying Approx 10% maintenance related	Airport management
	Fuel Availability/Type	Avgas 100LL	Airport management
	Maintenance	Maintenance is a major part of the airfield's business. CAA M3 Approval, EASA Part M (incl. sub-parts F and G). The airfield is a certified installer and dealer of Garmin avionics systems.	Airport management

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
		European agents for Power Flow Systems for fuel consumption reduction. Also K&N low loss induction filters. Engine overhaulers to zero time. Heavy airframe repairs.	
	Competing Airfields	Limited competition with Donair Flying Club at East Midlands Airport. Tatenhill Aviation at Tatenhill in Staffordshire.	Airport Management
	UK Population within 35 miles	4,580,987	York Aviation
Contribution to Local Economy (levelling up the whole of the UK)	Direct Jobs on site	12 jobs, of which 5 are part time. Lots of volunteers.	Airport management
	No of businesses on site	2	Airport management
	Engagement with local community	Consultative Committee as part of a section 106 agreement works well. Management recommends that all airfields should introduce a consultative committee involving local organisations and councils.	Airport management
	Community facilities/events	The airfield occasionally hosts ground-based events such as lectures and tours for the Royal Aeronautical Society (RAeS). Also, the "Cool Aeronautics" initiative for young persons.	Airport management
Skills (levelling up, enabling strong sector competition)	Training/Qualification types	PPL, LAPL, tailwheel & complex type differences training, night, IR(R), aerobatic certification.	Airport website and Airport management
	No. of flight training organisations	1 – Derby Aero Club, which is owned by the Airfield itself. Also accommodates Vintage Flying in Tiger Moths during the summer season.	Airport management
	Connections with local schools or universities	The airfield has visits from local primary and secondary schools, and a wide range of youth clubs (Scouts, Brownies etc.). The airfield hosted a placement student from a local FE college as part of their studies for one day per week and is very keen for such partnerships to be expanded. The airfield is often used by universities in the East Midlands to test prototypes, concepts, etc. and is open to allowing local students the opportunity to gain hands-on experience as part of post-16 education.	
Emergency Services (providing critical Infrastructure)	Use by emergency services	NPAS use the Airfield semi-regularly as a waiting place in between callouts. The Air Ambulance practices at the airfield occasionally.	Airport management
	Emergency medical flights	No	Airport management
	Use during Covid-19 pandemic	No	Airport management
	Lifeline or critical flights	The facilities can cater for such services and the flying school has experienced professional pilots with twin-engined aircraft available at very short notice to fly anywhere.	Airport management
	Military use	RAF occasionally use the airfield for helicopter training.	Airport management

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Innovation/Environment enabling strong sector competition	Environmental projects or initiatives	The airfield has 50 ha of manicured grass and a wooded area which absorbs CO2. The on-site fuel bowser is solar powered. Solar PV panels planned for SW facing hangar roofs up to 125kW. Battery storage developments planned for charging EVs and electric hybrid aircraft.	Airport management
	New technology or initiatives	The airfield is often used for the research and development of an electric vertical take-off and landing (eVTOL) small aircraft (NeoXcraft by VRCO Ltd., which is based at an Enterprise Zone in Derby). The airfield is used by local universities that have been testing battery storage and charging technologies. A new 15,000 sq ft hangar (for which a planning application is currently being prepared) is primarily intended for use by small R&D firms to benefit from the controlled airfield environment to satisfy safety risks not otherwise associated with urban locations.	Airport management
Other factors	Other material factors: ₋ growth plans ₋ Impact of Brexit ₋ Impact of Covid-19 ₋ threats to the business	Brexit implications are uncertain, but the airfield's supply chain of aircraft components largely originates from US based companies such as Cessna and Piper. Considerable growth plans limited only by the availability of development funding. On site 'hangar homes' in focus. as well as housing on non-operational areas. The airfield and the on-site aero club (also owned and operated by the airfield) had to suspend flight training during national lockdowns. Staff associated with flight training were furloughed. Flooding may be the most significant threat to the business. The airfield had been flooded several times, which has resulted in damage to offices and other operational buildings, including aircraft hangars, where hangared aircraft have had to undergo additional maintenance checks. The airfield expressed some frustration with the Environment Agency appraisal process for flood defence schemes that allegedly gives less precedence to 'non-residential/farmland' areas.	Airport management
	Any other comments?	The Airfield believes that airfields should be entitled to the same Permitted Development Rights as larger airports and farmers. They believe that without such rights, or even the recognition of small to medium sized airfields within national planning policy guidance, their growth is hindered. The owners have been forced to fight four public inquiries in order to pursue their aviation ambitions. This has been a huge diversion of substantial professional fees and associated management resource. Planning permission aspects have been the overriding negative key factor in the growth of Airspeed Aviation. The Airfield has requested government assistance in drafting waiver forms for pilots in training so the aero club would have no liability if a pilot contracted Covid-	Airport management

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
		19, but this has not been forthcoming. The airfield is looking for more government support for the GA sector and suggested an aerodrome owner should sit on the airfields working group of the APPG-GA. The airfield believed all corporate helicopters should be mandated to carry ADS-B equipment, as they often fly around the vicinity at a low level and are a safety concern as they are undetectable electronically unlike most GA aircraft which benefit increasingly by the actions of the CAA in making electronic conspicuity grants available. Air Traffic Overview and Management (ATOM) is already in use at Derby Airfield. A Certificate of Approval (CoA) is expected from HMRC/UKBF to allow direct international flights to continue post Brexit. This is a new procedure that facilitates BF activity (blanket CoAs were subsequently issued in Dec 2020).	

London Elstree Aerodrome

Elstree is situated to the east of Watford in Hertfordshire. Elstree is one of London's busy licensed GA airfields and is owned and operated by Aldenham Aviation LLP/Montclare Shipping Company Ltd. It offers flying training in fixed and rotary wing and sees a good proportion of business-related flights as well as training and leisure.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	08/26 651m asphalt	Airport management
	Licensed Status. RFFS Category	Licensed. RFFS 'Special' Category.	Airport management
	Aircraft Movements (2019)	c. 45,000	Airport management
	Navaids/lighting	Low intensity runway edge lighting	UK AIP
	Common Aircraft Types	Single engine piston aircraft (64%), twin engine piston aircraft (6%), turbine aircraft (4%), piston engine helicopters (18%), turbine engine helicopters (8%)	Airport management
	Parking/Hangarage	Grass parking is only available to visitors as hardstanding is occupied. All hangars are fully occupied.	Airport management
	Based aircraft	148	
	Purpose of flights	Leisure 5%; Training 60%; Business 35%	Airport management
	Fuel Availability/Type	Available – Jet A1 and Avgas	Airport management
	Maintenance	On-site fixed-wing M3 CAA approved facility, rotary maintenance is currently being established	Airport management
	Competing Airfields	Denham, North Weald, Wycombe, and Battersea Heliport	Airport management
	UK Population within 35 miles	12,040,687	York Aviation

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Contribution to Local Economy (levelling up the whole of the UK)	Direct Jobs on site	153, of which 121 are aviation related.	Airport management
	No. of businesses on site	21, of which 3 are non-aviation related.	Airport management
	Engagement with local community	Consultative committee and 24-hour dedicated complaints telephone line.	Airport management
	Community facilities/ events?	No events other than providing facilities for Aerobility (a flying charity supporting aspiring aviators with physical and mental disabilities)	Airport management
Skills (levelling up, enabling strong sector competition)	Training/Qualification types	PPL, IR, CPL (for both fixed and rotary wing)	Airport management
	No. of flight training organisations	9 (7 of which are fixed wing and 2 of which are rotary wing)	Airport management
	Connections with local schools or universities	Apprentices and interns are employed by various entities on site.	Airport management
Emergency Services (providing critical infrastructure)	Use by emergency services	Regular visits from NPAS and Air Ambulance.	Airport management
	Emergency medical flights	On a regular basis.	Airport management
	Use during Covid-19 pandemic	The airfield remained open during COVID-19 related lockdowns to provide support to NPAS and Air Ambulance – this was at a cost to the airfield.	Airport management
	Lifeline or critical flights	n/a	Airport management
	Military use	Military use the airfield for training purposes.	Airport management
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	The airfield is supporting carbon reducing initiatives. Initially through the use of photovoltaic technology (solar) for the generation of electricity. Solar power will be used to support new infrastructure necessary for electric powered training aircraft. The airfield plans to replace older AGL and lighting within general communal areas with LED technology.	Airport management
	New technology or initiatives	One on-site 'resident' entity operates drones for commercial work.	Airport management

| Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Other factors	Other material factors: – growth plans – Impact of Brexit – Impact of Covid-19 – threats to the business	The airfield remained open throughout the COVID-19 pandemic to support emergency services operations, which was at great cost to the airfield. Brexit effects are currently unknown, but the airfield believes there may be issues if on-site training organisations have difficulty in obtaining EASA compliance in the future. The airfield is concerned about increasing regulatory load (red tape) and the consequent rising cost implications. New hangars and parking areas for rotary aircraft are required, but financial constraints are preventing the construction of such facilities.	Airport management
	Any other comments	The airfield is an important centre for Business Aviation and is open to such flights on a 24 hour basis. At the time of consultation, the airfield was in the process of applying for funding from the Airfield Development Fund. The airfield believed any funds awarded would help ensure the airfield's long term viability and may assist with various energy reduction projects.	Airport management

City Airport and Heliport Manchester

City Airport and Heliport Manchester, also known as Manchester Barton, is situated in the City of Salford five miles from Manchester City Centre, City Airport was Manchester's original airport and the first municipal airfield in the UK to be licensed by the (then) Air Ministry. It is now a busy general aviation hub and heliport, serving a wide variety of users including the Police and Air Ambulance.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	4 grass runways, longest is 641m. City Airport is also a 24/7 Heliport (the heliport is not part of the licensed area but is included in the wider site safety management).	Airport manager
	Licensed Status. RFFS Category	Licensed. RFFS Cat 1 and Cat 2 on remission.	Airport manager
	Aircraft Movements (2019)	48,000 (approx. 34,000 fixed wing)	Airport manager
	Navaids/lighting	Portable lighting is provided for emergency services helicopters when using the airfield at night	Airport manager
	Common Aircraft Types	Light aircraft, microlights (both types), helicopters, occasional PC12 Single Engine Turboprops.	Airport manager
	Parking/Hangarage	All hangars are full and there is a waiting list. New hangar opened at start of 2020.	Airport manager
	Based aircraft	90 including 6 helicopters	Airport manager
	Purpose of flights	Mostly training and leisure but some business related, especially helicopters	Airport manager
	Fuel Availability/Type	Avgas and Jet A1	Airport manager
	Maintenance	Westair (fixed wing)	Airport manager
	Competing Airfields	None locally	Airport manager
	UK Population within 35 miles	5,388,614	York Aviation

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Contribution to Local Economy (levelling up the whole of the UK)	Direct Jobs on site	130 on site	Airport manager
	No. of businesses on site	15	Airport manager
	Engagement with local community	Consultative Committee, but few noise complaints.	Airport manager
	Community facilities/events	Lots of public events on site including café open to general public, children's play area, Facebook community. Meeting rooms hired out.	Airport manager
Skills (levelling up, enabling strong sector competition)	Training/Qualification types	PPL/LAPL/IR	Airport manager
	No. of flight training organisations	5 flying schools on site	Airport manager
	Connections with local schools or universities	No apprenticeships at the moment but actively considering.	Airport manager
Emergency Services (providing critical infrastructure)	Use by emergency services	Main base for NPAS. North West Air Ambulance has 2 based helicopters (3rd is at Blackpool). Coastguard sometimes comes in for fuel.	Airport manager
	Emergency medical flights	Some hospital transfers.	Airport manager
	Use during Covid-19 pandemic	Some PPE transfer.	Airport manager
	Lifeline or critical flights	See above for emergency services flights. Airport remained open for helicopter pipeline inspection flights. Media Helicopters (e.g. BBC/Sky News) use the airfield when there is anything significant in the region that is newsworthy.	Airport manager
	Military use	Military helicopter (Chinook and Pumas) training takes place and occasional training flights from RAF Shawbury on nav exercises. The airport has also supported larger military training activities in the region (e.g. an exercise involving a burst dam).	Airport manager
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	General and office business initiatives to reduce waste etc.	Airport manager
	New technology or initiatives	Some drone trials with NATS (electronic conspicuity) and ADS-B trials.	Airport manager
Other factors	Other material factors: ‒ growth plans ‒ Impact of Brexit ‒ Impact of Covid-19 ‒ threats to the business	Covid-19 has had an adverse impact with staff restructure required. Brexit impact is unclear at present. Airport is protected in the Local Plan and considering possible runway lengthening, heliport expansion, and fuel installation improvement. Ambition for a hard-surfaced runway in the longer term.	Airport manager
	Any other comments	The Airport is owned by Peel Investments who have other property interests in the area and there are potential synergies with these.	Airport manager

Portmoak Airfield (Scottish Gliding Centre)
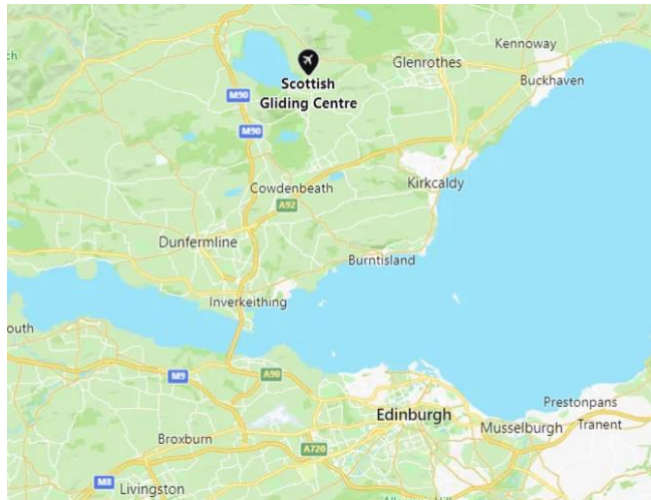
Portmoak (Kinross) Airfield in situated around 20 miles south of Perth, Scotland, and is the home of the Scottish Gliding Centre, the largest gliding club in Scotland. It should be noted that although this airfield is included in Category 2 on the basis of the number of based aircraft on the site, it would be flagged in the database as a Specialist Site being dedicated to glider activity.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	900m Grass	Scottish Gliding Centre
	Licensed Status. RFFS Category	Unlicensed. No RFFS.	Scottish Gliding Centre
	Aircraft Movements (2019)	Powered a/c 2,077; Gliders 8,186; Self-Launchers Approx 354; Total 10,617	Scottish Gliding Centre
	Navaids/lighting	n/a	Scottish Gliding Centre
	Common Aircraft Types	Gliders, Touring Motor Gliders (TMG), light aircraft.	Scottish Gliding Centre
	Parking/Hangarage	Grass parking – hangarage for members and currently full.	Scottish Gliding Centre
	Based aircraft	67	Scottish Gliding Centre
	Purpose of flights	Leisure and training	Scottish Gliding Centre
	Fuel Availability/Type	UL91	Scottish Gliding Centre
	Maintenance	Glider workshop only	Scottish Gliding Centre
	Competing Airfields	Ballado, Perth, Fife.	Scottish Gliding Centre
	UK Population within 35 miles	1,571,811	York Aviation

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Contribution to Local Economy (levelling up the whole of the UK)	Direct Jobs on site	3 plus 2 catering (when this resumes)	Scottish Gliding Centre
	No. of businesses on site	None	Scottish Gliding Centre
	Engagement with local community	The airfield works with a Local Community Council and with Sports Scotland.	Scottish Gliding Centre
	Community facilities/events	An Open day was held in 2019 – the first for over 15 years. The plan is to have an 'open doors' event every other year.	Scottish Gliding Centre
Skills (levelling up, enabling strong sector competition)	Training/Qualification types	Glider and TMG training as per the British Gliding Association (BGA) syllabus	Scottish Gliding Centre
	No. of flight training organisations	One – Scottish Gliding Centre	Scottish Gliding Centre
	Connections with local schools or universities	The airfield is looking into this possibility and would like to get involved, but Covid-19 stopped progress. The airfield already provides practical help/flying as part of the degree course in aeronautics for Strathclyde University. Edinburgh University Gliding Club and St Andrews University Gliding Club both operate on the airfield.	Scottish Gliding Centre
Emergency Services (providing critical infrastructure)	Use by emergency services	Occasional	Scottish Gliding Centre
	Emergency medical flights	n/a	Scottish Gliding Centre
	Use during Covid-19 pandemic	n/a	Scottish Gliding Centre
	Lifeline or critical flights	n/a	Scottish Gliding Centre
	Military Use	Military have requested use in the past, but the airfield was unable to assist due to the weight of equipment and the local community impact. ATC have operated a week's course on the airfield in the past.	Scottish Gliding Centre
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	n/a	Scottish Gliding Centre
	New technology or initiatives	The airfield allows some drone flights by arrangement only when glider flying is not taking place. There are multiple electrically propelled aircraft on the site.	Scottish Gliding Centre

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Other factors	Other material factors: ‐ growth plans ‐ Impact of Brexit ‐ Impact of Covid-19 ‐ threats to the business	The airfield has seen a reduction in income as well as flight training as a result of Covid-19. Brexit is a concern and an unknown. Being a rural business, the airfield does have environmental and locational challenges, yet it also brings a large number of visitors into the area for both training and leisure. There is an ambition to establish collaborative partnerships that would reach further into the community, subject to funding availability.	Scottish Gliding Centre

Sherburn-in-Elmet Airfield

Sherburn in Elmet Airfield, the home of Sherburn Aero Club, is situated around 17 miles east of Leeds in North Yorkshire. It is CAA licensed and has two grass and one tarmac runway, used predominantly by light aircraft and helicopters for leisure and training purposes.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	1 Tarmac 799m 2 Grass 793m and 585m	Airfield manager and Pooleys
	Licensed Status. RFFS Category	Licensed. RFFS 'Special'.	Airfield manager
	Aircraft Movements (2019)	45,000	Airfield manager
	Navaids/lighting	Pilot controlled lighting and PAPIs.	Airfield manager
	Common Aircraft Types	95% Single Engine Piston fixed wing plus some helicopter twins.	Airfield manager
	Parking/Hangarage	Hangars are 95% full.	Airfield manager
	Based aircraft	90	Airfield manager
	Purpose of flights	60% training; 40% private and leisure. Small level of business use.	Airfield manager
	Fuel Availability/Type	Avgas and Jet A1 and UL91.	Airfield manager
	Maintenance	Sherburn Engineering provides light aircraft maintenance.	Airfield manager
	Competing Airfields	Leeds East is very close but has a different business model and aims to attract Business Aviation.	Airfield manager
	UK Population within 35 miles	3,302,721	York Aviation

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Contribution to Local Economy (levelling up the whole of the UK)	Direct Jobs on site	40 to 50	Airfield manager
	No. of businesses on site	10	Airfield manager
	Engagement with local community	The airfield has a Community Liaison Director and holds meetings with local councillors with agreed procedures.	Airfield manager
	Community facilities/events	The airfield holds numerous open days such as the 'Veteran &Vintage' days, Candle Lighters, Air Races etc. 10 to 20 events are held per year.	Airfield manager
Skills (levelling up, enabling strong sector competition)	Training/Qualification types	LAPL, PPL, CPL, fixed wing & helicopter.	Airfield manager
	No. of flight training organisations	4	Airfield manager
	Connections with local schools or universities	Work experience & local training organisation for staff development.	Airfield manager
Emergency Services (providing critical Infrastructure)	Use by emergency services	Both NPAS and the Air Ambulance use the airfield and also for flight training (practical and classroom). Royal protection slight and terrorist drills occasionally.	Airfield manager
	Emergency medical flights	Infrequent.	Airfield manager
	Use during Covid-19 pandemic	The airfield has acted as a flu vaccination centre. Defibrillator on site, first aid courses held.	Airfield manager
	Lifeline or critical flights	See above	Airfield manager
	Military Use	Yes, Queen's Flight has used the airfield. Also used for refuelling and nav aids training (NDB, GNSS).	Airfield manager
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	n/a	Airfield manager
	New technology or initiatives	Some test flights of new aircraft have taken place in the past.	Airfield manager
Other factors	Other material factors: – growth plans – Impact of Brexit – Impact of Covid-19 – threats to the business	Brexit is a concern for the airfield, with changes in licensing, training, fuel, flying in & out of Europe and the change from EASA regulations. Planning applications around the airfield pose a threat to safeguarding. Legal costs of fighting such applications are high and unexpected costs affect the airfield's small financial reserves.	Airfield manager
	Any other comments	Business Rates increases are an issue for the airfield. Recent re-valuation has increased costs fourfold. The airfield is aiming to gain status of Community Amateur Sports Club (CASC) which would provide rates relief.	Airfield manager

Category 3 Airfields

Fife (Glenrothes) Airport

Fife (Glenrothes) Airport is situated in Glenrothes, north of Edinburgh. Fife Airport is one of Scotland's most popular general aviation airfields. Tayside Aviation, one of the UK's leading flying schools, has an operating base at the airport, which is also home to Skydive St Andrews and Fife Flying Club.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	700m asphalt	Pooleys/confirmed by Airfield Manager
	Licensed Status. RFFS Category	Unlicensed.	Airfield manager
	Aircraft Movements (2019)	2,000 to 3,000 in 2019	Airfield manager's estimate
	Navaids/lighting	n/a	Airfield manager
	Common Aircraft Types	All fixed wing in 2019, but helicopters in 2020. Approximately 90% are single engine piston. 10% microlight (although many are moving to base at Balado) and others. In 2020, 3 helicopter operators have located at Fife (Skyhook helicopters (Heli lifting), a training operator and a business/taxi type operation. A helicopter engineering and maintenance company is now based at the airport.	Airfield manager
	Parking/Hangarage	Mostly hardstanding parking but grass parking is available. 6 hangars (4 for fixed wing secure storage, and 1 each for parachute and helicopter operators) Limited space available.	Airfield manager
	Based aircraft	20 fixed wing aircraft and 3 helicopters	Airfield manager

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
	Purpose of flights	30% leisure, 35% training and 35% parachute flights	Airfield manager
	Fuel Availability/Type	Avgas 100LL	Airfield manager
	Maintenance	No fixed wing, but one helicopter maintenance company.	Airfield manager
	Competing Airfields	Cumbernauld has a similar operation and customer base.	Airfield manager
	UK Population within 35 miles	1,475,399	York Aviation
Contribution to Local Economy (levelling up the whole of the UK)	Direct Jobs on site	Fife Airport Ltd has moved its daily airfield operation to Tayside Aviation in the last month. Tayside have 4 people on site on a daily basis, helicopter companies have 5-6 and parachute company has 3-4 at weekends. Restaurant was closed at the start of the pandemic so there are currently no non-aviation employees on site, but Tayside have stated they will look to bring a café or restaurant back next year.	Airfield manager
	No. of businesses on site	Edinburgh Uni have a research aircraft hangared and use it throughout the year for high altitude atmosphere testing, Tayside Aviation, 4 Heli companies, Sky Dive St Andrews (parachute flights). No non-aviation companies	Airfield manager
	Engagement with local community	Some local residents have raised issues about some activities and any complaints are dealt with directly.	Airfield manager
	Community facilities/events	Open days are held for flying club/training. Scots Guards Gala – 1 or 2 events a year.	Airfield manager
Skills (levelling up, enabling strong sector competition)	Training/Qualification types	Tayside Aviation does PPL and parts of IR and CPL in conjunction with their operation at Dundee.	Airfield manager
	No. of flight training organisations	One	Airfield manager
	Connections with local schools or universities	Tayside Aviation has links with Kinross High School link to space programme out of Kinross. Aerospace Kinross brin students to the airfield for education days.	Airfield manager
Emergency Services (providing critical Infrastructure)	Use by emergency services	n/a	Airfield manager
	Emergency medical flights	Very rarely.	Airfield manager
	Use during Covid-19 pandemic	n/a	Airfield manager
	Lifeline or critical flights	n/a	Airfield manager
	Military Use	n/a	Airfield manager
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	n/a	Airfield manager
	New technology or initiatives	n/a	Airfield manager

| Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Other factors	Other material factors: – growth plans – Impact of Brexit – Impact of Covid-19 – threats to the business	The airfield has had to fight to remain open for the last 15 years, but this is the first year that major changes to the business have had to be made and the future is uncertain. GA (specifically leisure flyers) is fundamentally not high value in terms of airfield income, and it has been difficult for the airfield to raise income from other sources. The airfield is expecting demand for PPL and other training to drop going forward. The parachute activity has struggled too. However, Fife Council has been encouraging in keeping the aviation business going. The airfield would like to look at redeveloping the business to make it more flexible and resilient to change and impacts like Covid-19. The airfield is Interested in the possibility of aviation business advice from the government grant to help drive the business forward.	Airfield manager

Fishburn Airfield

Fishburn Airfield is located in County Durham near the village of Sedgefield, Fishburn Airfield is an unlicensed grass strip, but also one of the North East's main GA airfields.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	Grass (08/26) 790m	Airfield management
	Licensed Status. RFFS Category	Unlicensed.	Airfield management
	Aircraft Movements (2019)	No records kept	Airfield management
	Navaids/lighting	n/a	Airfield management
	Common Aircraft Types	80% to 90% fixed wing single engine piston (SEP). Some helicopters (none based), some twin props (none based).	Airfield management
	Parking/Hangarage	Extensive hangars (T hangar design) and building is ongoing with 3 new hangars going up at the moment with space for more.	Airfield management
	Based aircraft	50	Airfield management
	Purpose of flights	Majority leisure, no training, occasional helicopters for fuel and occasional NPAS	Airfield management
	Fuel Availability/Type	Avgas 100LL. Looking at JET-A1 installation but need to find reasonably priced tank.	Airfield management
	Maintenance	One supplier - MG Aero Engineering	Airfield management
	Competing Airfields	Bagby and Eshott to some degree, but sufficiently far away not to be a threat	Airfield management
	UK Population within 35 miles	2,578,835	York Aviation

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Contribution to Local Economy (levelling up the whole of the UK)	Direct Jobs on site	11	Airfield management
	No. of businesses on site	2	Airfield management
	Engagement with local community	No formal links, but no major problems with noise.	Airfield management
	Community facilities/events	A couple of based users known as the 'aircraft restoration group' do an annual 'wings and wheels' event, but it was cancelled this year. Annual scooter rally with music/bands (also cancelled this year). The Aviator Bistro is open to the general public.	Airfield management
Skills (levelling up, enabling strong sector competition)	Training/Qualification types	n/a	Airfield management
	No. of flight training organisations	n/a	Airfield management
	Connections with local schools or universities	None at the moment although local colleges do ring up asking about placements.	Airfield management
Emergency Services (providing critical Infrastructure)	Use by emergency services	Not regularly. Occasional NPAS helicopter calls.	Airfield management
	Emergency medical flights	n/a	Airfield management
	Use during Covid-19 pandemic	n/a	Airfield management
	Lifeline or critical flights	Three Pipeline Inspection Service companies (helicopters) call in for fuel frequently.	Airfield management
	Military Use	n/a	Airfield management
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	n/a	Airfield management
	New technology or initiatives	n/a	Airfield management
Other factors	Other material factors: ‑ growth plans ‑ Impact of Brexit ‑ Impact of Covid-19 ‑ threats to the business	Brexit has had no effect so far. Covid-19 has had a minor impact due to reduced fuel sales and cancelled events.	Airfield management
	Other comment	Note that this airfield is unusual in being relatively new – opened in 1995.	Web searches.

Pembrey Airport
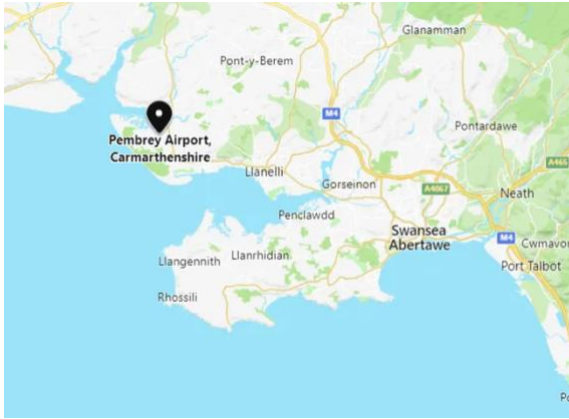
Pembrey Airport is situated in Camarthenshire, Wales, around 20 miles west of Swansea. Pembrey Airport was a former RAF airport that was privately purchased in 1994, restored and transformed into a busy licensed GA facility that offers private, commercial, and chartered air taxi flights, boosting the local economy and attracting inward investment. The airport also continues to serve the military with training and refuelling options.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	Concrete 797metres	Pooleys
	Licensed Status. RFFS Category	Licensed. RFFS Cat 1 and Cat 2 by arrangement.	Airport owner/AIP
	Aircraft Movements (2019)	12,000 (est.)	Airport owner
	Navaids/lighting	PAPIs, NDB, DME.	Airport website
	Common Aircraft Types	Light aircraft, helicopters, twin turboprops (King Air) and a range of military types.	Airport owner
	Parking/Hangarage	Limited.	Airport owner
	Based aircraft	n/a	
	Purpose of flights	Leisure, training, and military. Air taxi operations (South Western Airlines) to various UK destinations.	Airport owner
	Fuel Availability/Type	Jet A1 and Avgas 100LL	Airport owner
	Maintenance	Maintenance is available.	Airport owner
	Competing Airfields	Swansea and Haverfordwest are close	Airport owner
	UK Population within 35 miles	540,821	York Aviation

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Contribution to Local Economy (levelling up the whole of the UK)	Direct Jobs on site	4 full time 6 part time (7 FTEs)	Airport owner
	No. of businesses on site	No information.	
	Engagement with local community	n/a	
	Community facilities/events	Busy restaurant with a seating capacity of 86 makes a useful profit contribution.	Airport owner
Skills (levelling up, enabling strong sector competition)	Training/Qualification types	PPL	Airport owner
	No. of flight training organisations	Cambrian Flying School (fixed wing aircraft) and Pro-flight Helicopters both operate from Pembrey	Airport owner
	Connections with local schools or universities	None reported.	
Emergency Services (providing critical Infrastructure)	Use by emergency services	Yes. Police, Air Ambulance, Ministry of Defence.	Airport owner
	Emergency medical flights	n/a	
	Use during Covid-19 pandemic	No but see additional remarks below.	Airport owner
	Lifeline or critical flights	Power Helicopters monitor the electricity supply network throughout the whole of the UK, PDG Helicopters monitor the gas supply lines throughout the country, Castle Air are contractors to the Forestry Commission.	Airport website
	Military Use	Pembrey specializes in providing services to the military which include logistics and refuelling. Military trained personnel can provide out of hours refuelling which may include night-time operations with rotors running.	Airport owner
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	n/a	
	New technology or initiatives	n/a	
Other factors	Other material factors: ‒ growth plans ‒ Impact of Brexit ‒ Impact of Covid-19 ‒ threats to the business	The airport saw a 90% reduction in air traffic during the lockdown. The airport remained 'on call' during the lockdowns for support to the Electricity Board, Network Grid, Coast Guard, Air Ambulance, and the Police. The Airport would have liked to see more government support.	Airport Owner

Category 4 Airfields

Cheshire Flyers (Sandbach-Arclid Green)

Cheshire Flyers is an active large flying club with around 100 members based in Sandbach and the surrounding areas of Cheshire and Staffordshire. Already one of the largest microlight flying clubs in the UK, it also welcomes members from all areas of general aviation. For many years, members of the club operated, with planning permission, from Arclid Airfield, near Sandbach, but were forced to vacate this site in 2019 in favour of a quarrying operation. The flyers now operate from several temporary sites and are currently seeking planning permission to operate from a new site they hope could provide a more permanent facility.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	Grass – 450m	Chief Flying Instructor (CFI)
	Licensed Status. RFFS Category	Arclid was an unlicensed airfield.	CFI
	Aircraft Movements (2019)	9,200 approx.	CFI
	Navaids/lighting	n/a	CFI
	Common Aircraft Types	3-axis (or fixed-wing) microlight types as well as flex-wing or weight-shift type.	CFI
	Parking/Hangarage	12 aircraft permitted in hangars	CFI
	Based aircraft	12	CFI
	Purpose of flights	Primarily leisure and training – very occasional business use	CFI
	Fuel Availability/Type	None	CFI
	Maintenance	Engine & Airframe	CFI
	Competing Airfields	Few other airfields in Cheshire are suitable for use by Cheshire Flyers	CFI
	UK Population within 35 miles	4,439,202 (of Arclid)	York Aviation
	Direct Jobs on site	2 jobs are associated with the flying club (not necessarily located on site)	CFI

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Contribution to Local Economy (levelling up the whole of the UK)	No. of businesses on site	1 (i.e. the flying club in this case)	CFI
	Engagement with local community	The club worked closely with the local authority to ensure minimum disturbance to local residents and there were very few noise complaints.	CFI
	Community facilities/events	Annual fly-in, neighbours invited	CFI
Skills (levelling up, enabling strong sector competition)	Training/Qualification types	NPPL (M)	CFI CFI
	No. of flight training organisations	One flying club with training provision.	CFI
	Connections with local schools or universities	n/a	CFI
Emergency Services (providing critical Infrastructure)	Use by emergency services	The Police used Arclid on occasions.	CFI
	Emergency medical flights	n/a	CFI
	Use during Covid-19 pandemic	n/a	CFI
	Lifeline or critical flights	n/a	CFI
	Military Use	The military have requested occasional rotory landings.	CFI
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	n/a	CFI
	New technology or initiatives	n/a	CFI
Other factors	Other material factors: ‒ growth plans? ‒ Impact of Brexit? ‒ Impact of Covid-19 ‒ threats to the business?	The case of Cheshire Flyers highlights a region of the UK where there are few airfields with facilities for light general aviation flying, which makes the preservation of available and potential sites relatively more important than some other regions. The kind of opportunities to fly afforded by a club such as this are relatively less expensive than some other routes to commercial and professional flying and it was noted that some pilots starting out in microlight aircraft have gone on to become professional pilots. The social aspect of the club and its wider value as a community sports and leisure activity is also an important consideration that should be noted.	CFI

Stow Maries Aerodrome

Stow Maries (Great War Aerodrome) is situated to the south-east of Chelmsford and west of Maldon in Essex. Stow Maries Great War Aerodrome is the only known WW1 aerodrome to survive largely intact and is a major visitor attraction and a Grade II* listed site. As an airfield, it is used predominantly by heritage aircraft. It is managed by a charitable trust, supported by an army of volunteers, and has significant natural heritage and educational value.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	Runway 02/20 640m (grass) Runway 15/33 550m (grass)	Airport management
	Licensed Status. RFFS Category	Unlicensed.	Airport management
	Aircraft Movements (2019)	c. 1,500	Airport management
	Navaids/lighting	n/a	Pooleys
	Common Aircraft Types	Visiting or resident aircraft restricted to single-engine fixed wing due to planning permissions. Historic and modern aircraft resident.	Airport management
	Parking/Hangarage	Grass parking for visiting aircraft. Open and covered hangarage available for single engine fixed wing aircraft.	Pooleys and airport management.
	Based aircraft	Display and residential aircraft. Heritage visitors.	Airport management
	Fuel Availability/Type	Available – Avgas 100LL	Airport management
	Maintenance	n/a	Airport management
	Competing airfields	n/a (but see Other Comments below)	
	UK Population within 35 miles	2,889,013	York Aviation

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Contribution to Local Economy (levelling up the whole of the UK) Contribution to Local Economy (levelling up the whole of the UK)	Direct Jobs on site	1 part time role, 5-10 volunteers for aviation related functions, c. 110 volunteers for non-aviation related functions	Airport management
	No. of businesses on site	Two (incl. aerodrome business itself)	Airport management
	Engagement with local community	Consultative Committee	Airport management
	Community facilities/events	Typically, four 'flying event days' per annum. 180 strong Community volunteer programme. Education program for long term isolation sufferers and certified adult learning schemes.	Airport management
Skills (levelling up, enabling strong sector competition)	Training/Qualification types	n/a	Airport management
	No. of flight training organisations	n/a	
	Connections with local schools or universities	The airfield hosts schools (from early years to high school) and clubs (such as Scouts) for tours, and a monthly club for ages 8-14 with a focus on STEM related activities.	Airport management and airport website
Emergency Services (providing critical Infrastructure)	Use by emergency services	Regular training visits from Essex Police.	Airport management
	Emergency medical flights	n/a	Airport management
	Use during Covid-19 pandemic	n/a	Airport management
	Lifeline or critical flights	n/a	Airport management
	Military Use	Occasional training visits from the military (6 Sqn AAC, RAF Wattisham).	Airport management
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	The aerodrome falls into various schemes (Grade II* listed status, Natural England zones on site) that place an onus of stewardship on the aerodrome to protect and enhance of the natural environment, which includes the protection of rare bird and native owl species.	Airport management
	New technology or initiatives	The aerodrome manager expressed the view that there would be difficulty in testing or training given the site's Grade II* listed status and local planning restrictions. However, a drone business is resident on site and undertakes instruction and training.	Airport management

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Other factors	Other material factors: ‒ growth plans ‒ Impact of Brexit ‒ Impact of Covid-19 ‒ threats to the business	The aerodrome has not experienced any impacts from Brexit to date. The aerodrome (and the integral visitor attraction) closed during Covid-19 related lockdowns. The first lockdown saw the site lose 91% of its income. Staff were furloughed where possible and all aviation activity stopped. Donations from the public and the hosting of air events helped reduce the financial deficit. The aerodrome stated that support from both the heritage sector and aviation sectors must be forthcoming to ensure its viability.	Airport owner
	Any other comments	Stow Maries' primary function is to restore and renovate on-site WWI buildings, with the airfield representing a secondary yet interlinked component of the business. Stow Maries receives c. 90% of its revenue from visits to the WWI exhibitions, with the remainder coming from pure aviation activities (i.e, landing fees from visiting aircraft). The airfield manager made it clear that despite aviation related activities forming a small part of its revenues, visitors are drawn to the attraction by the aviation related components. Given this, the airfield sees itself in competition with heritage railway museums rather than competing with other GA airfields.	Airport management

Yearby Airstrip

Yearby Airstrip this site is a small, privately owned farm strip located near the village of Yearby, North Yorkshire, around 8 miles east of Middlesbrough. It is used by light aircraft, including aerobatic aircraft and, occasionally, helicopters.

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Location and Connectivity. (Providing a global and connected Britain and strengthening ties within the Union)	Runway (physical) Length and Type	640 metres (grass)	Pooleys and confirmed by operator
	Licensed Status. RFFS Category	Unlicensed.	Pooleys and confirmed by operator
	Aircraft Movements (2019)	No records are kept but estimated to be fewer than 1,000.	Airstrip operator
	Navaids/lighting	n/a	Airstrip operator
	Common Aircraft Types	Light single engine piston (SEP) although helicopters operate also and the occasional twin prop.	Airstrip operator
	Parking/Hangarage	One hangar, which is full.	Airstrip operator
	Based aircraft	5 based aircraft, privately owned.	Airstrip operator
	Purpose of flights	Mainly leisure, including aerobatics - as a base for some local people owning aircraft, although the airfield is also used by jockeys attending nearby Redcar Racecourse and has been occasionally used by private individuals for business purposes.	Airstrip operator
	Fuel Availability/Type	n/a	Airstrip operator
	Maintenance	n/a	Airstrip operator
	Competing airfields	The airfield is close to Teesside Int. Airport, but the operator does not see this as competition.	Airstrip operator

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
	UK Population within 35 miles	1,139,661	York Aviation
Contribution to Local Economy (levelling up the whole of the UK) Contribution to Local Economy (levelling up the whole of the UK)	Direct Jobs on site	None – all work is voluntary.	Airstrip operator
	No. of businesses on site	Adjacent farm, but not aviation related.	Airstrip operator
	Engagement with local community	The operator reports that the local community have shown support for the airfield. No significant noise issues.	Airstrip operator
	Community facilities/events	Occasional 'fly in' (where visiting pilots are invited to fly in and meet up).	Airstrip operator
Skills (levelling up, enabling strong sector competition)	Training/Qualification types	n/a (although one private owner is a qualified instructor)	Airstrip operator
	No. of flight training organisations	n/a	Airstrip operator
	Connections with local schools or universities	n/a	Airstrip operator
Emergency Services (providing critical Infrastructure)	Use by emergency services	Operator reports that NPAS has used the airfield, but this is "very rare".	Airstrip operator
	Emergency medical flights	n/a	Airstrip operator
	Use during Covid-19 pandemic	n/a	Airstrip operator
	Lifeline or critical flights	n/a	Airstrip operator
	Military Use	Occasional military helicopter but "very rare".	Airstrip operator
Innovation/Environment (enabling strong sector competition)	Environmental projects or initiatives	n/a	Airstrip operator
	New technology or initiatives	n/a	Airstrip operator

Strategic Policy/Objective	Measures	Responses/Data	Source of Information
Other factors	Other material factors: – growth plans – Impact of Brexit – Impact of Covid-19 – threats to the business	The adjacent farmer is the landowner but has no direct interest in aviation. The airstrip is leased and operated by Yearby Airstrip Trust and a local retired aerobatic pilot on a voluntary basis. For several years there was a threat to the airstrip from a planning application to build wind turbines to the west of the strip, which would have effectively made the airstrip unusable as they would have posed a threat to aircraft stability in the circuit. There was significant local opposition to the wind turbines and by contrast significant support for the airstrip. The planning application was eventually withdrawn.	Airstrip operator

Summary of the Case Studies

The case studies contain a considerable amount of information regarding each airfield in terms of the infrastructure and facilities available. In order to assist in comparison across the airfields and indeed categories, we have summarised below some of the key information.

Figure 4.2 shows the estimated number of aircraft movements at each of the case study airfields. Although there is clearly variation within the categories, this demonstrates that movements are generally lower at the smaller airfields. It is also worth noting that movement numbers at the Category 1 and Category 2 airfields are fairly similar in many cases. The differentiating factor here is perhaps more the type of flights rather than the number.

Figure 4.2: Aircraft Movements at Each Case Study Airfield
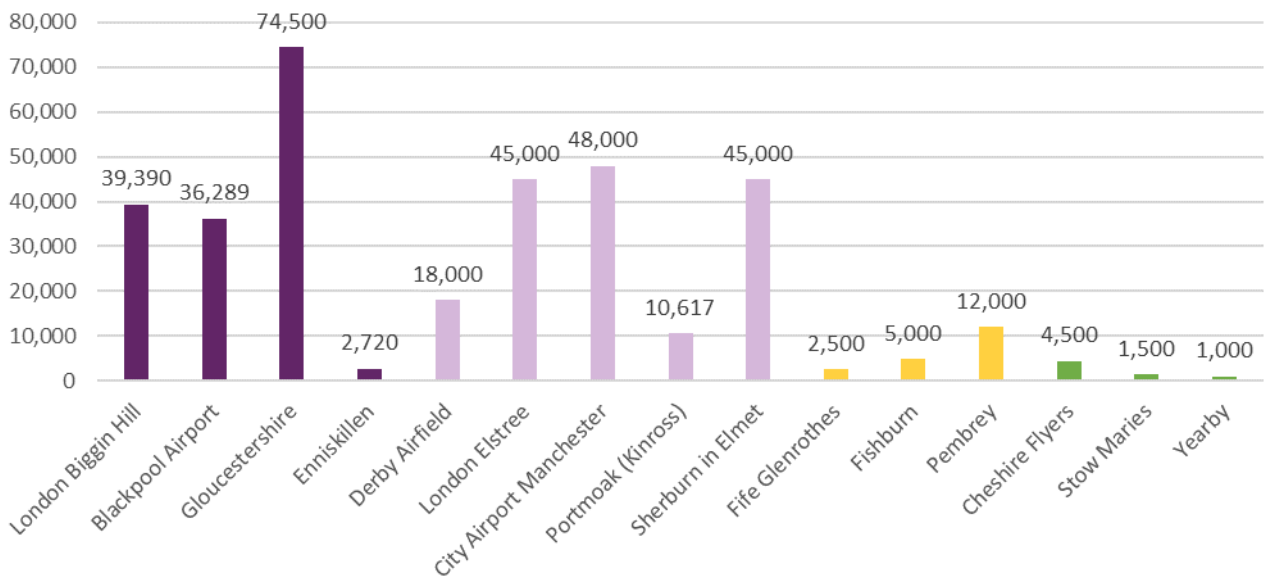
Source: Case Study Interviews. Includes estimated data.

Figure 4.3 shows that the Category 1 airfields have the longest runways, but in Categories 2 to 4, there is greater similarity, albeit Category 4 airfields do seem to have slightly shorter runways on average.

York Aviation

Figure 4.3: Maximum Runway Length at Each Case Study Airfield in Metres
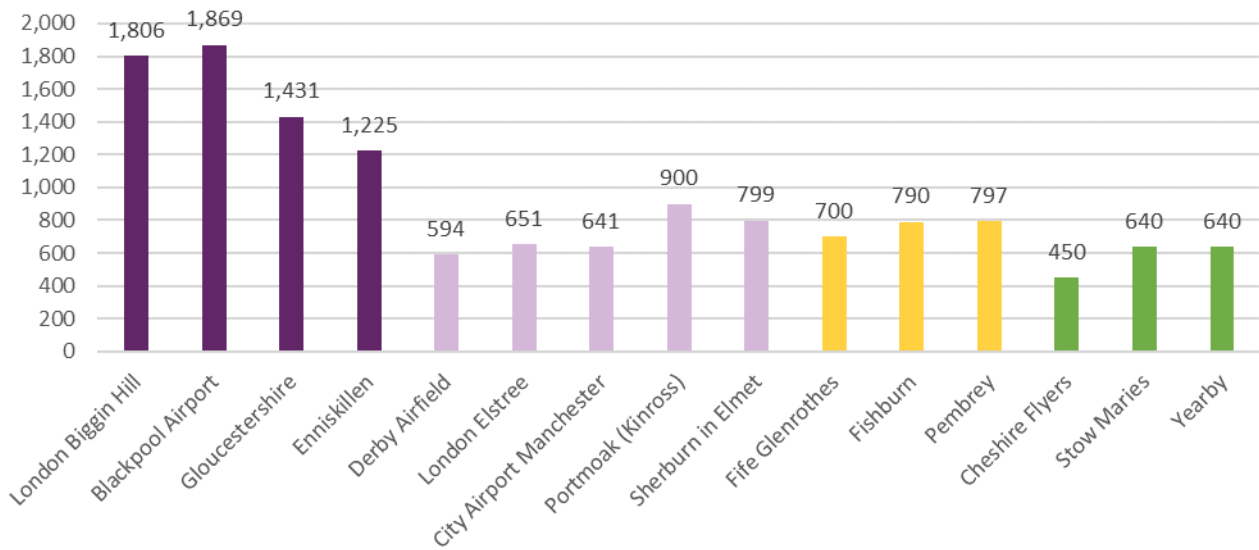
Figure 4.4 shows the number of aircraft based at each of the case study airfields. Again, it shows a declining trend through the categories. However, as this is a determinant of the categorisation this is not surprising.

Figure 4.4: Number of Based Aircraft by Case Study Airfield
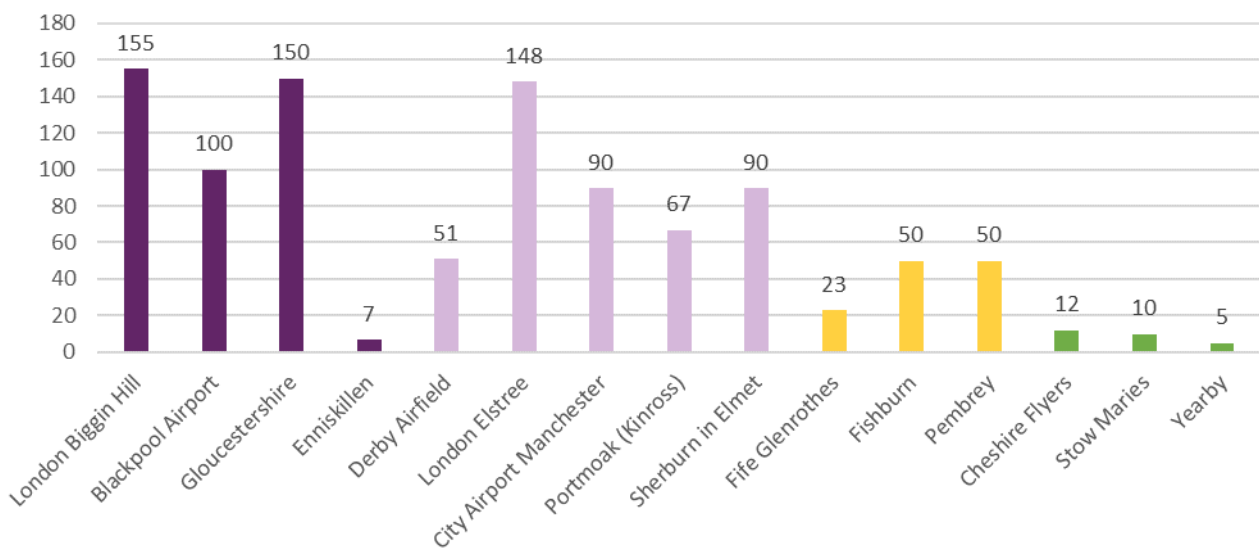
Figure 4.5 shows the number of jobs supported at each of the case study airfields. It shows that employment tends to be concentrated in the Category 1 and 2 airfields. By the far the largest airfield in terms of employment supported is London Biggin Hill. Employment at smaller airfields tends to be relatively limited; they are often supported by volunteers.

York Aviation

Figure 4.5: On-Site Employment Supported by Case Study Airfields
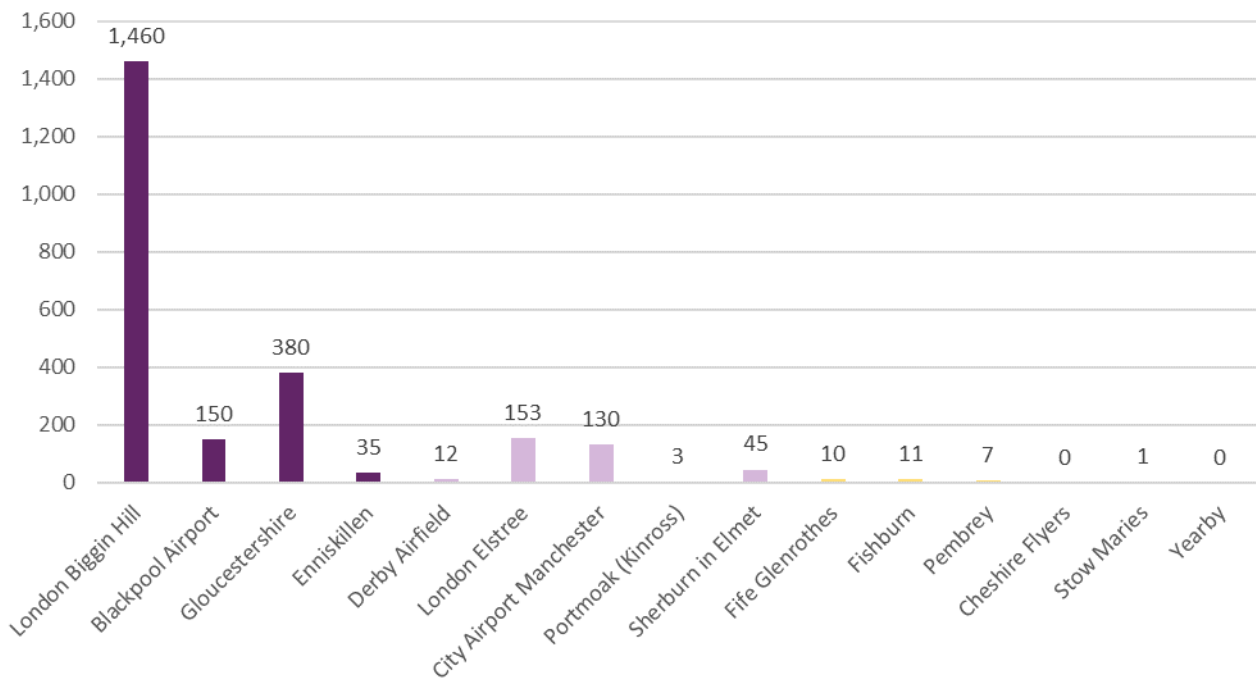
Figure 4.6 shows the number of companies based at each of the case study airports. This follows a similar pattern to employment. The airfields with larger numbers of companies on site tend to be in Categories 1 and 2. However, there are small clusters of companies at the Category 3 airfields, Fife Glenrothes and Pembrey.

Figure 4.6: Number of Companies Based at Case Study Airfields
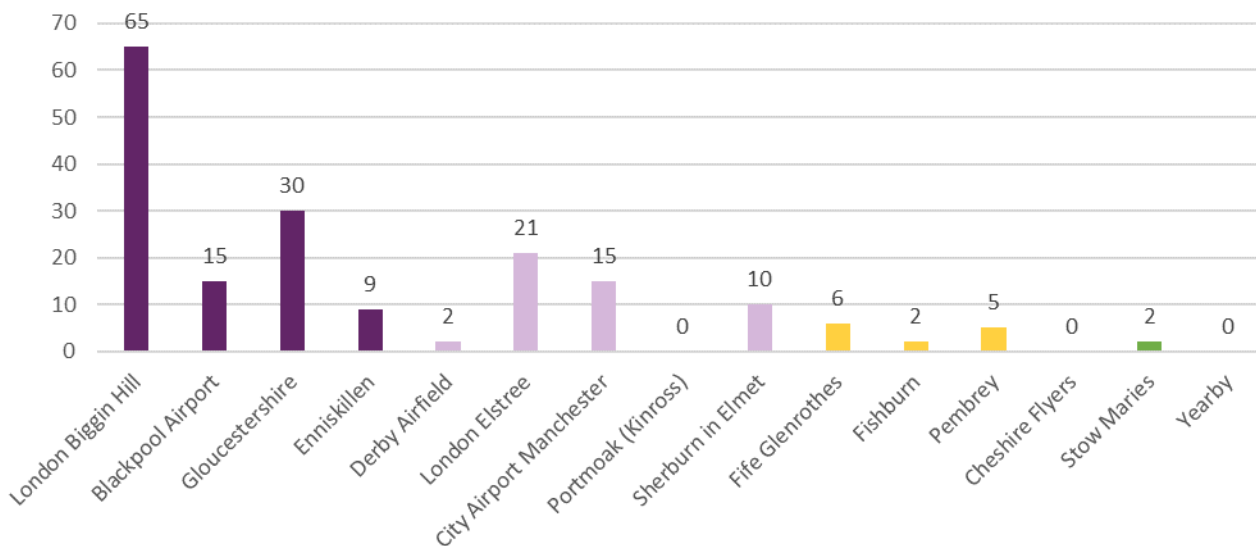
Finally, in **Table 4.2** we have summarised the facilities available at each of the airfields to enable comparison. As would be expected, Category 1 airfields tend to have the most facilities, while smaller airfields tend to have fewer. However, it is worth noting that the differences between Category 2 and Category 3 can be fairly limited.

York Aviation

Table 4.2: Comparison of Facilities at Case Study Airfields

Airfield Name	Category	Licensed	Navaids	Lighting	Fuel	Maint.	Training
London Biggin Hill	1	Yes	Yes	Yes	Yes	Yes	Yes
Blackpool Airport	1	Yes	Yes	Yes	Yes	Yes	Yes
Gloucestershire	1	Yes	Yes	Yes	Yes	Yes	Yes
Enniskillen	1	Yes	No	Yes	Yes	Yes	Yes
Derby Airfield	2	Yes	No	Yes	Yes	Yes	Yes
London Elstree	2	Yes	No	Yes	Yes	Yes	Yes
City Airport Manchester	2	Yes	No	Yes	Yes	Yes	Yes
Portmoak (Kinross)	2	No	No	No	Yes	Yes	Yes
Sherburn in Elmet	2	Yes	No	Yes	Yes	Yes	Yes
Fife Glenrothes	3	No	No	No	Yes	Yes	Yes
Fishburn	3	No	No	No	Yes	Yes	No
Pembrey	3	Yes	Yes	Yes	Yes	Yes	Yes
Cheshire Flyers	4	No	No	No	No	No	Yes
Stow Maries	4	No	No	No	Yes	No	No
Yearby	4	No	No	No	No	No	No

5.   What Do the Case Studies Tell Us?

Introduction

In this section, we consider what the case studies can tell us about the local economic impact of GA airfields. Again, it should be emphasised that the case studies provide a general overview of the role that an airfield in any given category might play. The case studies are, however, a relatively small sample in relation to each category. The role any individual airport might play could be quite different. We have focussed on examining the case study airfields' contributions under the broad headings within the assessment framework picking out key indicators in each case. Where the information being described is available from the airfields database, data from this broader sample of airfields is also presented.

Location and Connectivity

Below, we have considered the extent to which different categories of GA airfields contribute towards supporting connectivity across the UK and, indeed, further afield.

Figure 5.1 provides an overview assessment of the runway capability of the various case study airfields in terms of the length of runway and the surface. It should be noted that this represents the longest or most capable runway at airfields with multiple runways. It is unsurprising that Category 1 airfields, given the focus of the typology, have substantially the longest runways on average and that these are all hard surfaced. This enables them to handle larger, more complex aircraft and provide substantial national and international connectivity. It is, however, interesting to note the extent to which airfields in the other categories have similar runway length on average, suggesting that they can all play a similar role in supporting connectivity across the UK. However, while hard surfaced runways are relatively common across the case studies in Categories 2 and 3, all Category 4 case study airfields had grass runways. This will, ultimately, limit aircraft types that can use these airfields and the extent to which they can be used all year round and in all weather conditions.

In comparison to all the airfields in the database, the case studies tend to have slightly shorter runway lengths. In terms of the runway surfaces, the case studies are, in the main, reasonably representative of the airfields in the full database. The exceptions are Category 3, where hard runways are over represented in the case studies, and Category 4, where there are a number of airfields in the main database that have hard runways.

York Aviation

Figure 5.1: Runway Capability by Category for the Case Study Airfields and All Airfields

Runway Length (metres)

■ Case Studies ■ All Airfields

Runway Surface (% with Hard Runway)

Source: Case Study Interviews and Airfield Database.

York Aviation
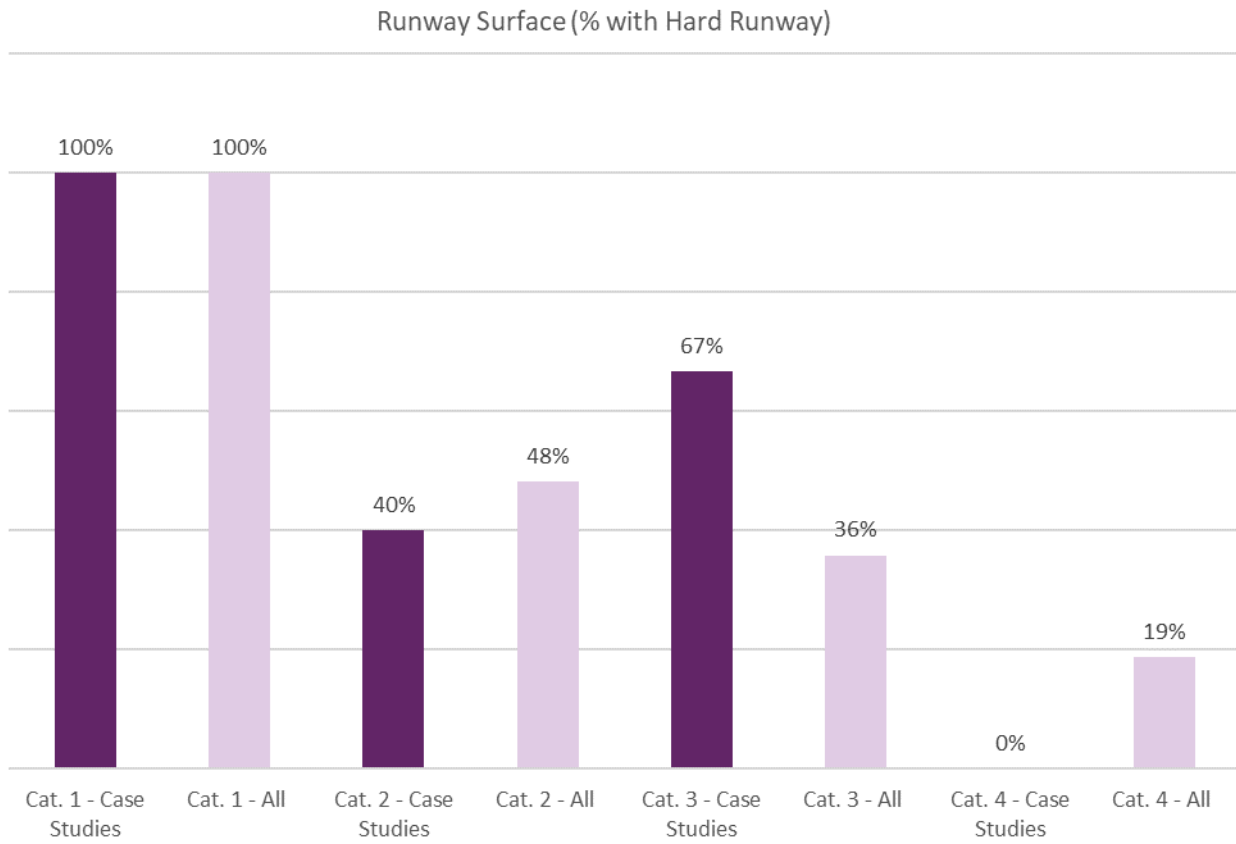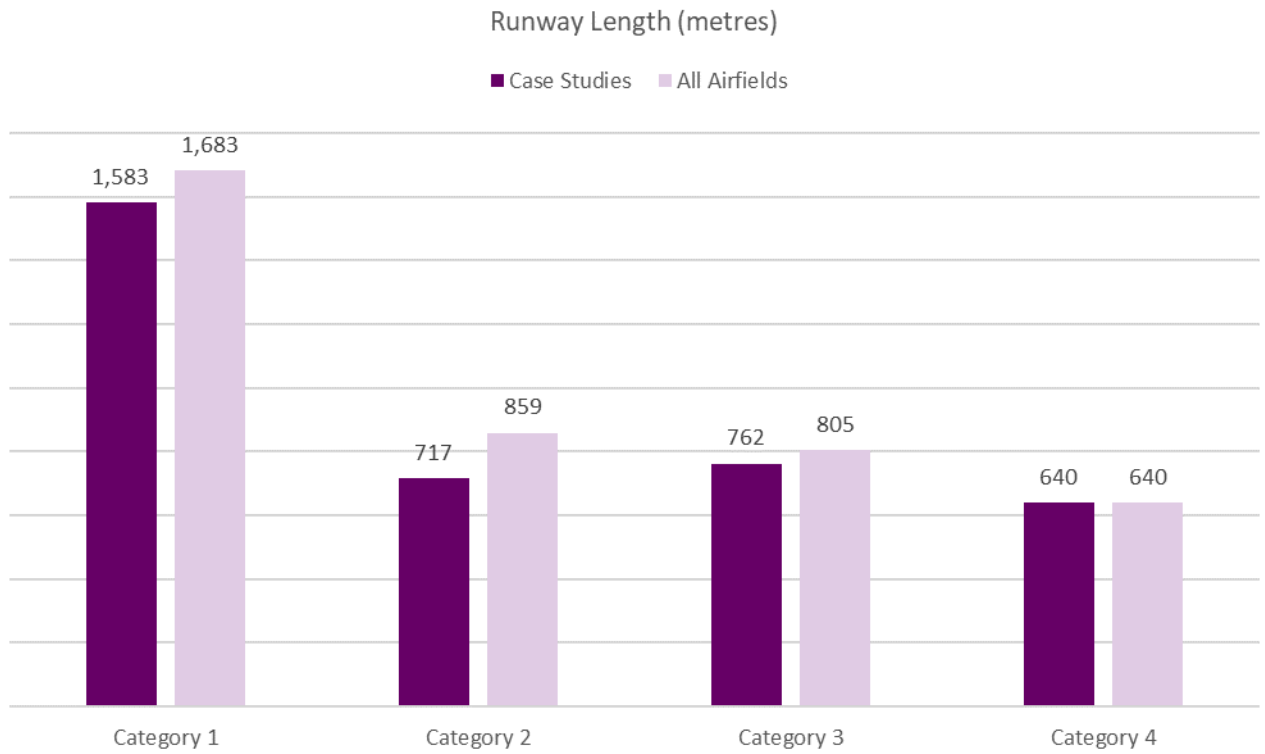
Figure 5.2 considers the extent of connectivity offered by the different case study airfields in terms of the typical volume of activity, as measured by aircraft movements. It is quite noticeable here that Category 1 and 2 case study airfields are substantially busier than Category 3 and 4 case study airfields. Category 1 and 2 case study airfields both typically handle in excess of 30,000 movements per annum, compared to less than 10,000 at the Category 3 and 4 case study airfields. It should be noted that movement data is not available in the main database.

Figure 5.2: Average Number of Aircraft Movements at Case Study Airfields by Category
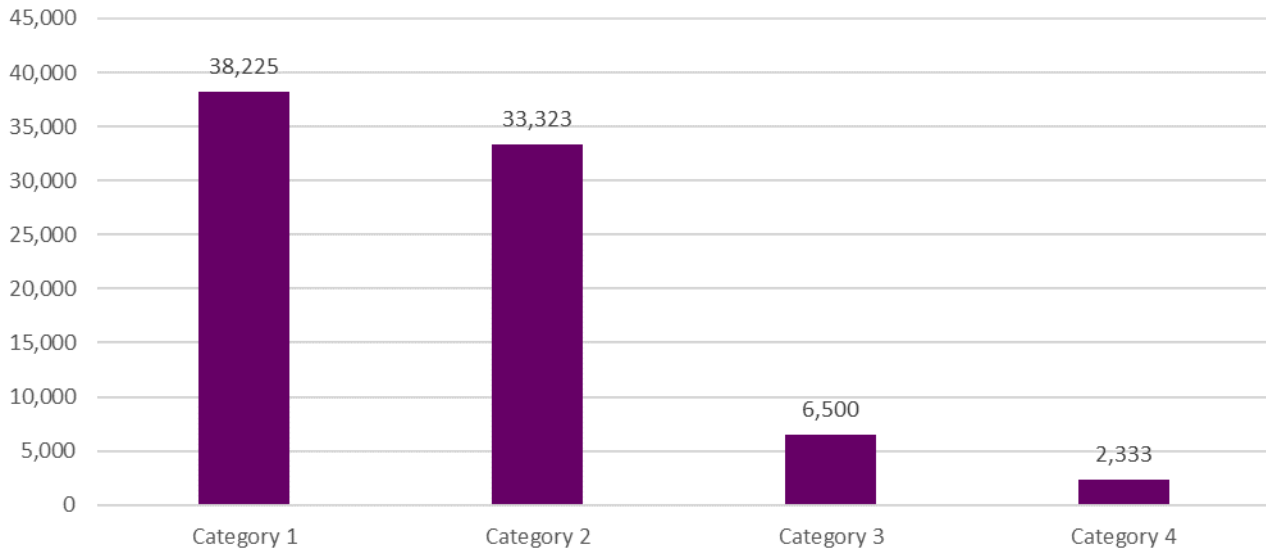
Source: Case Study Interviews.

Figure 5.3 examines the level of flying activity in each of the GA airfield categories from a slightly different perspective. It shows the average number of aircraft based at the case study airfields in each category. For comparison, it also provides the same information for all airfields from the main database.

Across all the airfields in the database, Category 2 airfields tend to have the highest number of based aircraft, with Category 1 airfields having the second highest number on average. This perhaps reflects that Category 1 airfields may have fewer, larger aircraft or, in some cases, are relatively smaller in terms of activity than some Category 2 airfields. Categories 3 and 4 both have smaller numbers of based aircraft on average, reflecting the use of the number of based aircraft as one of the determinants of category.

For the case study airfields, Categories 1 and 2 are reversed. This likely reflects the diversity within the categories and the relatively small sample size in the case study group. However, overall, the relative similarity in the number of based aircraft at Category 1 and 2 airfields perhaps again suggests that it is not so much the level of flying that is the key distinguishing feature between these two but the type of flying. It should also be noted that the Category 3 case study airfields still have over 40 aircraft based on average, which is not an insignificant number, articulating their importance in supporting GA connectivity across the UK.

York Aviation

**Figure 5.3: Average Number of Based Aircraft by Category at Case Studies and All Airfields**
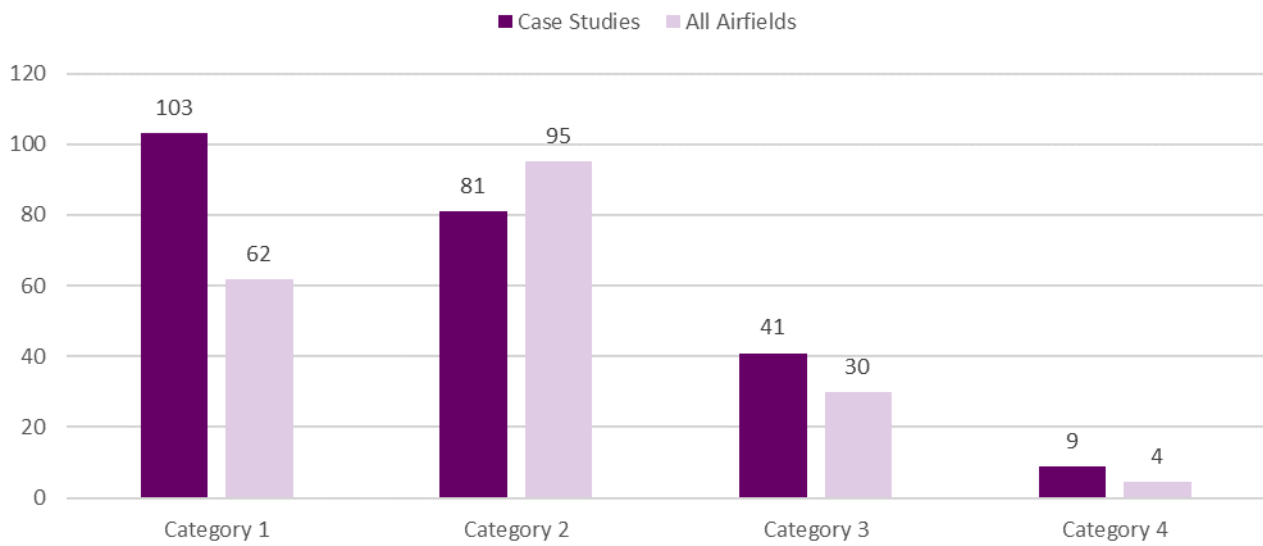
Source: Case Study Interviews and Airfield Database.

Figure 5.4 examines the connectivity offered by the different categories of GA airfields from the perspective of the purpose of flights based on the discussions with the case studies. It should be recognised that this is based on a subjective judgement following discussions with the individual airfields. However, it does provide an indication of the nature of usage.

At the outset, it should be said that we would not characterise the overall quantity of flying activity at any of the airfields as mainly business related. At all the case study airfields there is a significant leisure flying component. In relation to Category 1 case study airfields, we would suggest around 75% are mixed usage, with significant components of business and leisure related activity. This falls significantly in Category 2 and 3 case study airfields, where, although there are some airfields with a significant level of business-related activity, leisure usage is dominant. At the Category 4 case study airfields, leisure related activities were dominant in all cases.

Figure 5.4: Nature of Airfield Usage by Category at Case Study Airfields
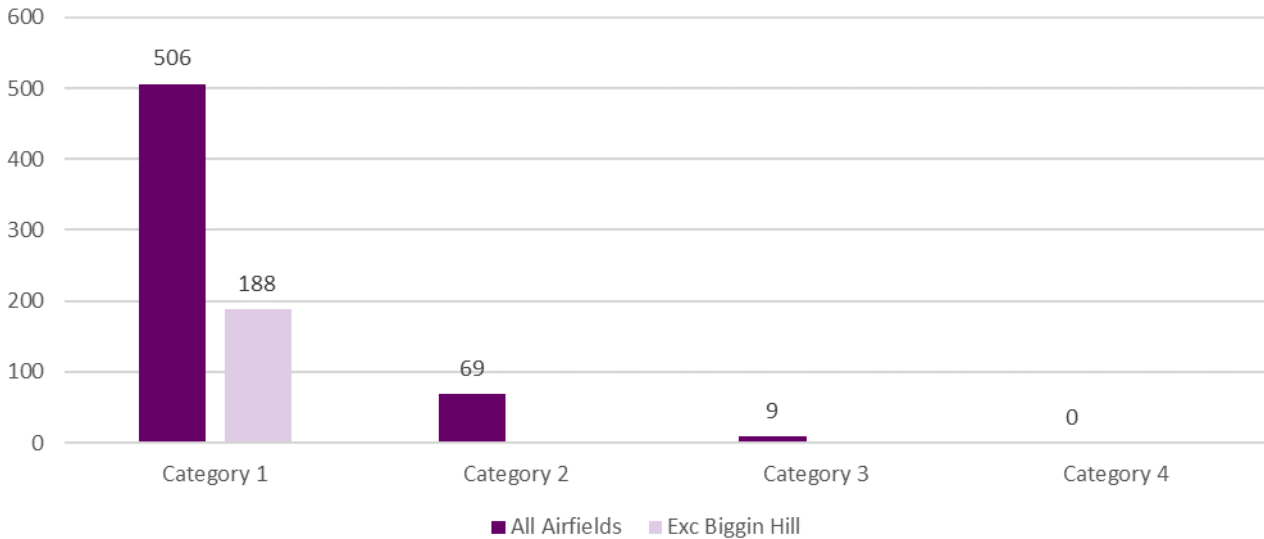

Source: Case Study Interviews.

York Aviation
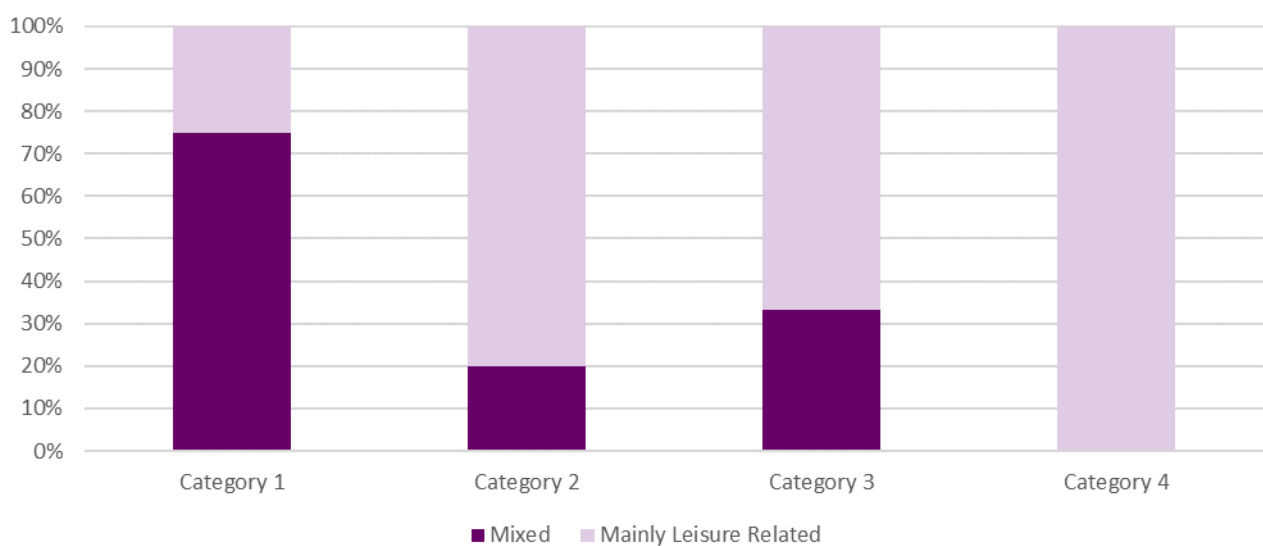
Contribution to Local Economy

In addition to the role that they play in supporting connectivity, GA airfields also support their local economies through providing employment and by acting as centres for other economic activity. **Figure 5.5** shows the average number of jobs on-site at the case study airfields by category.

**Figure 5.5: Average Number of Direct Jobs at Each Case Study Airfield by Category**

Source: Case Study Interviews.

It is immediately noticeable that the Category 1 and 2 case study airfields have a substantially greater number of people employed on-site on average. This, ultimately, reflects the extent of flying operations and the range of other activities located at the airfield, such as FBO's, training and maintenance activities.

The Category 1 employment average at the case studies is heavily skewed by Biggin Hill, which has a significant number of ancillary services on-site, notably a major maintenance facility and significant Business Aviation related services. Excluding Biggin Hill, Category 1 case study airfields average around 188 employees on-site. Category 2 case study airfields are also often notable employment centres, with an average of 69 jobs on-site. This, again, reflects the extent of ancillary services on offer. Category 3 and 4 case study airfields have significantly fewer employees on-site. In fact, Category 4 case study airfields are often run by volunteers.

Figure 5.6 shows the relationships between the number of direct on-site jobs at each of the case study airfields and both aircraft movements and the number of based aircraft. This clearly demonstrates the relationship between the size of the airfields, via either measurement, and the number of direct jobs on-site. However, again, it is possible to see the large number of jobs on-site at Biggin Hill skewing the relationships to some degree. Also, while there is clearly a strong positive relationship, there is also substantial variation, reflecting the diversity in activity at GA airfields. The R^2 statistic shown on each graph provides a basic guide as to the 'goodness of fit' of the trendlines shown in each case. The higher the R^2 statistic, the better the fit.

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Figure 5.6: Relationship Between Direct Jobs and Movements and Based Aircraft at the Case Study Airfields
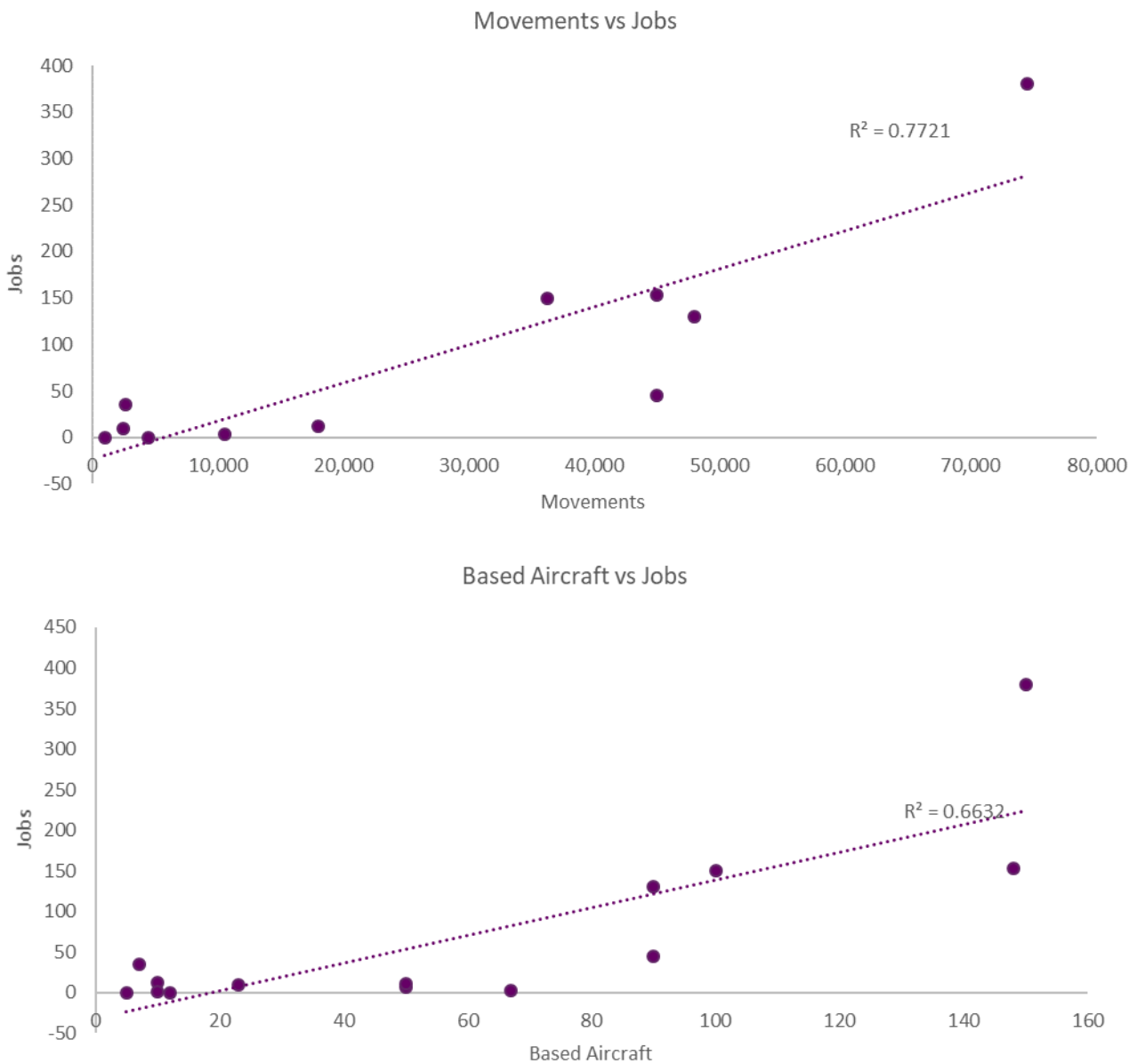

Note: Excludes Biggin Hill.

Source: Case Study Interviews.

Figure 5.7 examines the average number of business located at the case study airfields in each category. Again, the Category 1 results are skewed by Biggin Hill, which has 65 businesses located on site. If Biggin Hill is excluded from the analysis the average number of businesses on-site reduces to 18. Otherwise, the average number of on-site businesses reduces as you move down the categories. Category 4 case study airfields typically only have one business based on-site. This suggests that, certainly in Categories 1 to 3, airfields do play a role in providing a focus for economic activity in their local economies. The types of activity supported include maintenance companies, flight training organisations, and small catering operations.

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Figure 5.7: Average Number of Related Businesses at Case Study Airfields by Category
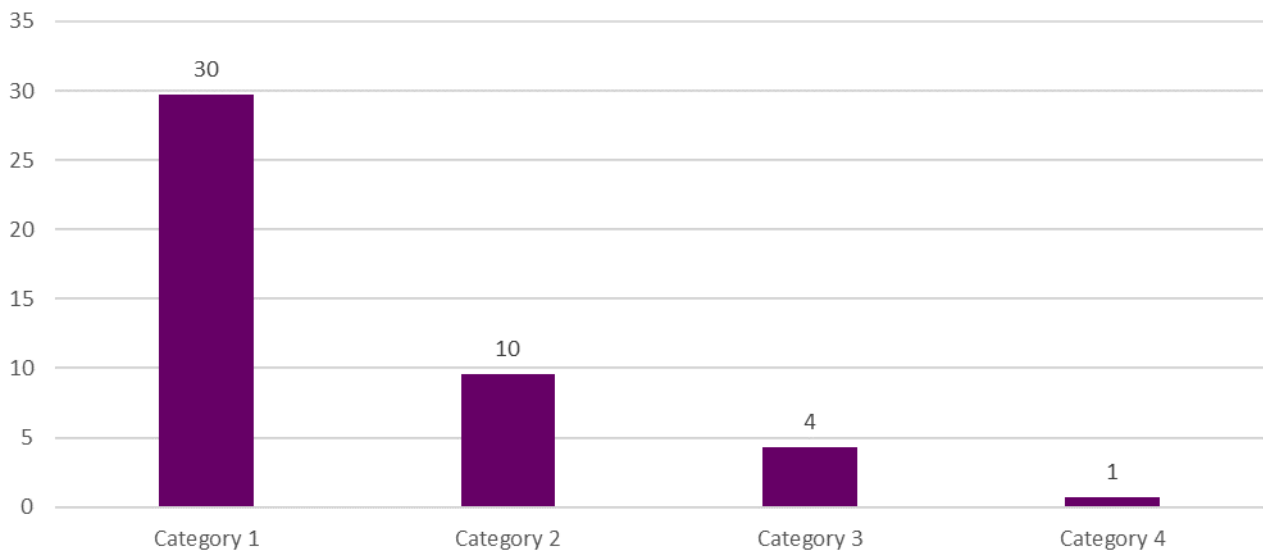
Source: Case Study Interviews.

Skills

GA airfields do, in many cases, provide access to training in some form, ultimately contributing to the UK skills agenda. **Figure 5.8** shows that all of the case study airfields in Categories 1 and 2 offer training, while 66% of Category 3 case study airfields offer training. This reduces to 33% of Category 4 case study airfields, but this still remains a contribution to skills development. It should be noted that, while some information on training is included within the full database, it is unclear how accurate this is and, hence, a comparison has not been included here.

Figure 5.8: Availability of Flight Training by Airfield Category for Case Study Airfields

Source: Case Study Interviews.

All the Category 1 case study airfields offer both Private Pilot Licence (PPL) and Commercial Pilot Licence (CPL) training. For Category 2 and 3 case study airfields, there is a smaller proportion of airfields offering CPL compared to PPL, but again there are airfields offering CPL in both categories. None of the case studies in Category 4 offered either type of training (see **Figure 5.9**).

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Figure 5.9: Training Availability by Licence Type and Airfield Category for Case Study Airfields
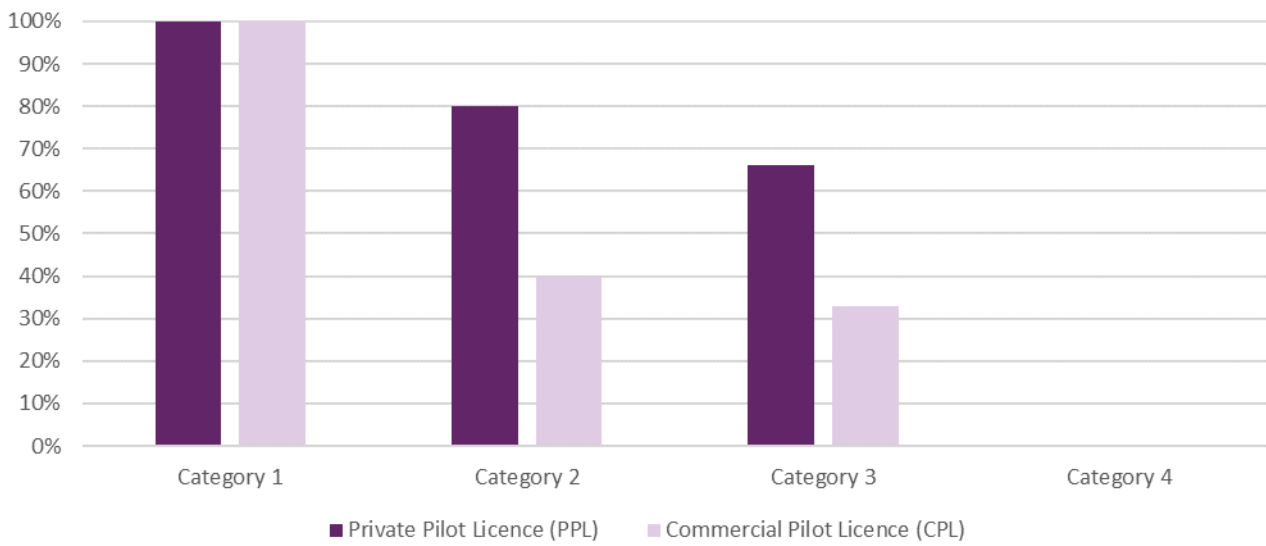

Note: While the Cheshire Flyers case study identifies that it provides training, this is specific to microlights and not full PPL.

Source: Case Study Interviews.

In addition, the case study airfields often have links with local educational institutions. These links range from providing school and college visits, to work placements and internships, through to apprenticeships with companies on-site. **Figure 5.10** shows the extent of these links by airfield category. All Category 1 airfields have links to local educational institutions and 80% of Category 2 airfields have such links. A third of case studies in Categories 3 and 4 had links with local educational institutions.

**Figure 5.10: Engagement with Local Educational Institutions by Category for Case Study Airfields**

Source: Case Study Interviews.

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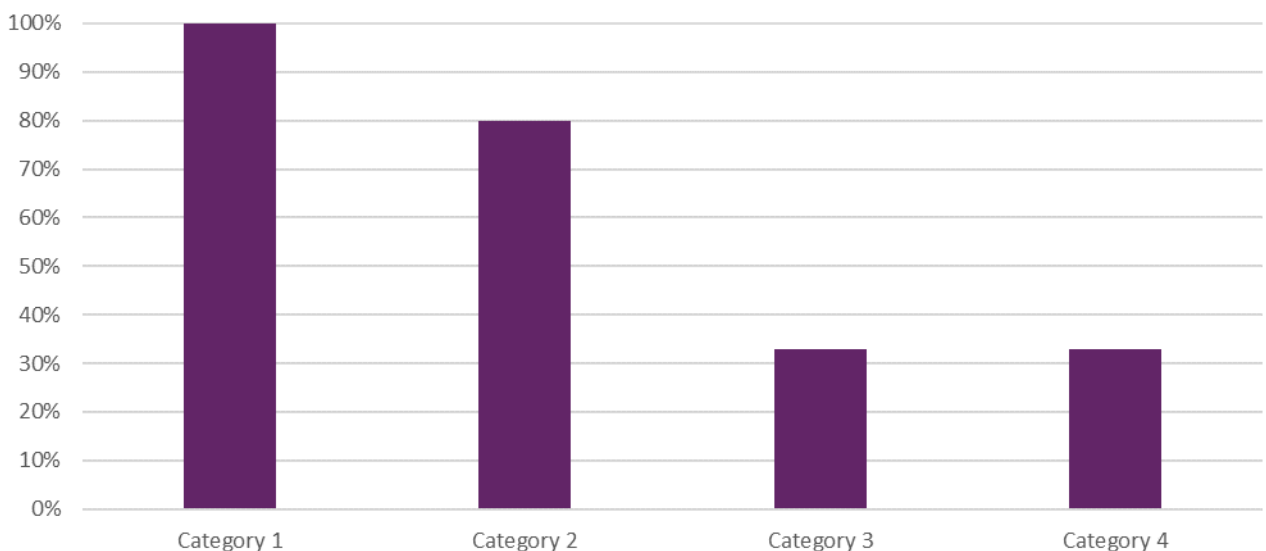
## Emergency Services / Critical Infrastructure

Figure 5.11 illustrates the use of case study airfields by emergency services (e.g., Air Ambulance, NPAS – National Police Air Service). All categories of the case study airfields were found to be used by the emergency services on a regular basis, with 100% of airfields in Categories 1 and 2 reporting regular usage, and 33% of Category 3 and 4 airfields reporting regular usage. It should be noted that regular in this context is an interpretation made by individual airfields. Some Category 1 and 2 case study airfields, such as Blackpool and City Airport and Heliport Manchester, are operational bases for NPAS or Air Ambulance services.

**Figure 5.11: Case Study Airfields Regularly Used by Emergency Services by Airfield Category**
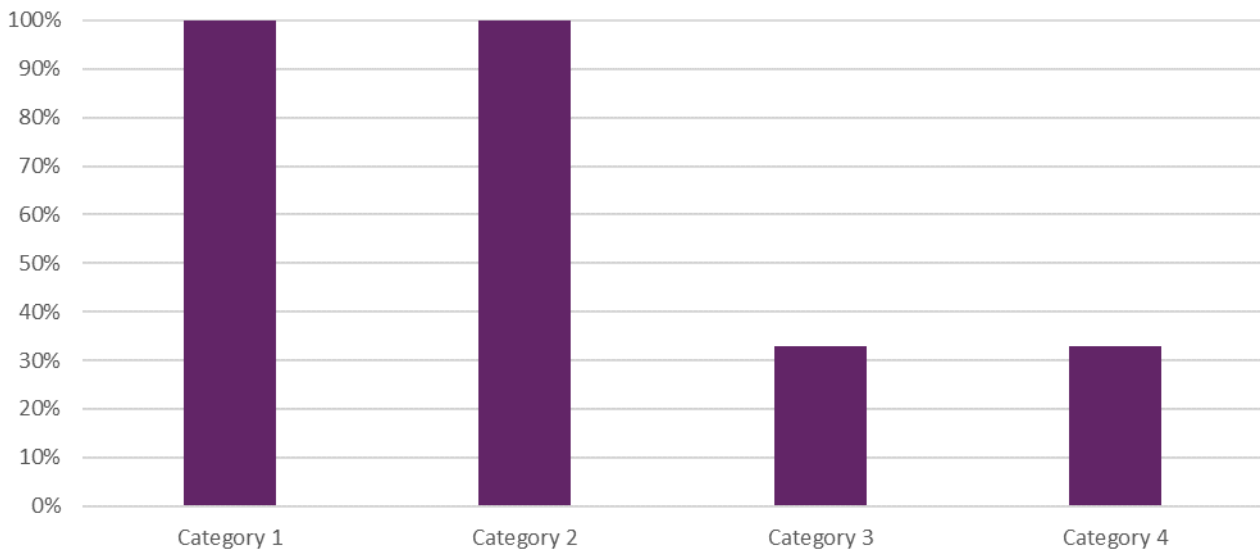
Source: Case Study Interviews.

Some of the case study airfields are used by 'lifeline' services, which, for example, may carry important supplies, provide connections to economically important destinations, or even assist in the maintenance of vital infrastructure. The use of airfields by lifeline services is presented in **Figure 5.12** below. Category 1 case study airfields generally reported that lifeline services primarily carried organs for transplant and other lifesaving items, in addition to facilitating some connections to oil and gas platforms at sea. Category 3 case study airfields were used by helicopters inspecting vital gas pipelines or electricity power supplies.

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Figure 5.12: Case Study Airfields Regularly Used by Lifeline Services by Airfield Category
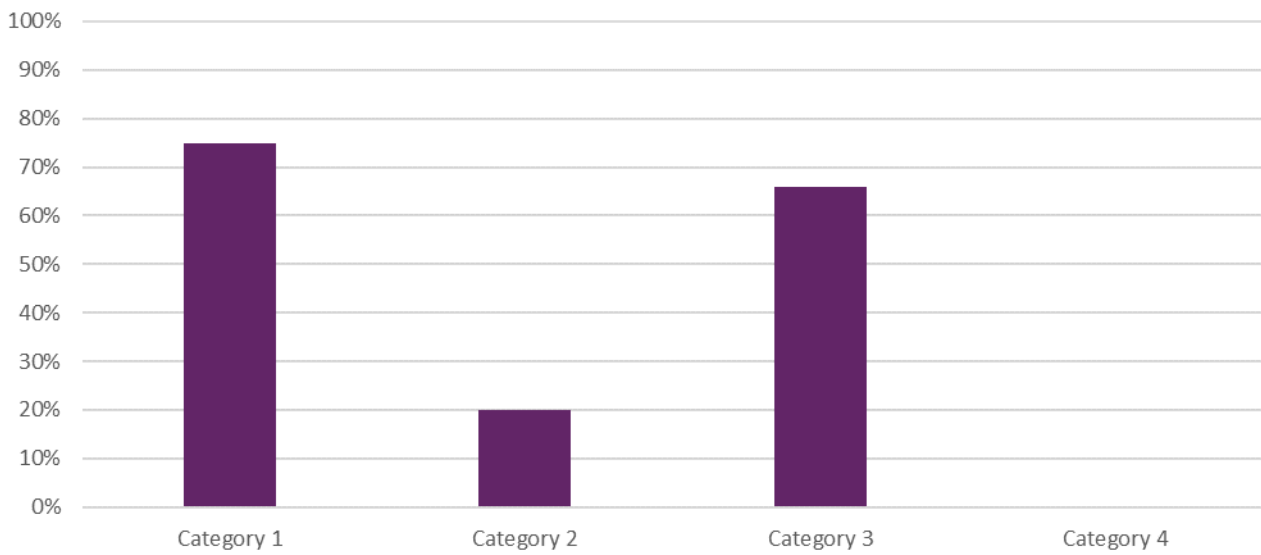
Figure 5.13 presents the proportion of case study airfields by category that reported regular use by Medevac (medical evacuation) flights. These are flights carrying a sick or injured person to a medical facility, for example from an accident while on holiday abroad to a hospital in the UK. It was found that 100% of Category 1 case study airfields regularly handled medical evacuation flights, falling to 60% of Category 2 case study airfields. None of the Category 3 and 4 case study airfields regularly handled such flights.

Figure 5.13: Case Study Airfields Regularly Used by Medical Evacuation Flights by Airfield Category

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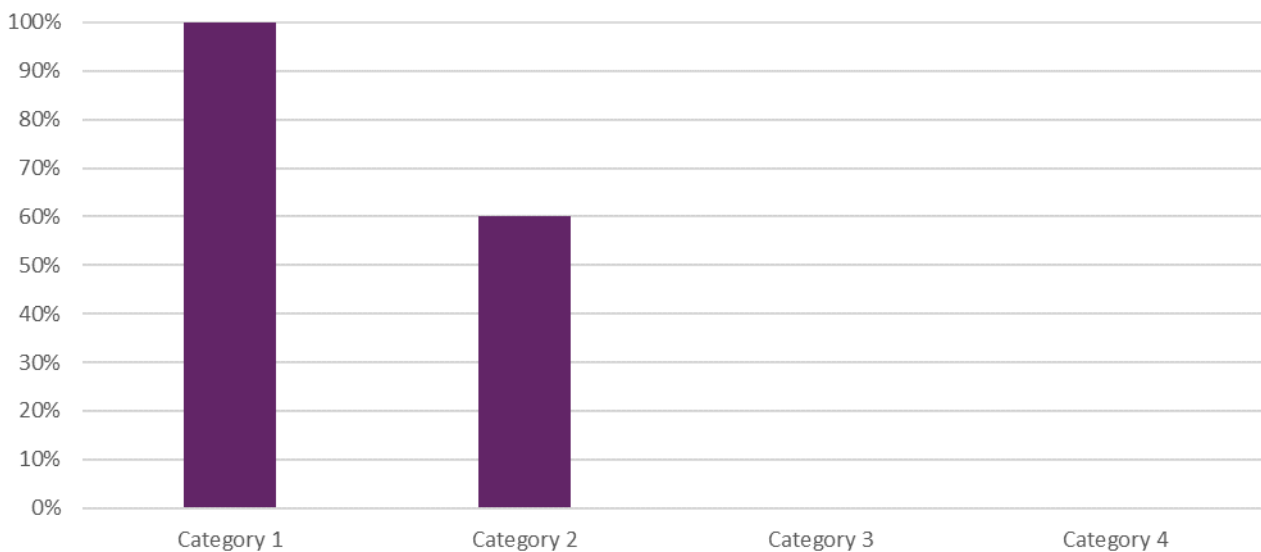
Innovation/Environment

Figure 5.14 illustrates the proportion of case study airfields by category that cited involvement in environmental initiatives. The types of initiatives that case study airfields were involved in spanned from the development of on-site solar farms to power buildings and facilities across the airfield, to schemes to reduce waste to landfill. 75% and 60% of Category 1 and 2 case study airfields respectively had an involvement in environmental initiatives. No Category 3 airfields reported involvement in such schemes, but 33% of Category 4 airfields did participate in such schemes. However, it should be recognised that this may well simply be a function of the relatively small sample size.

Figure 5.14: Case Study Airfields Involved in Environmental Initiatives by Airfield Category
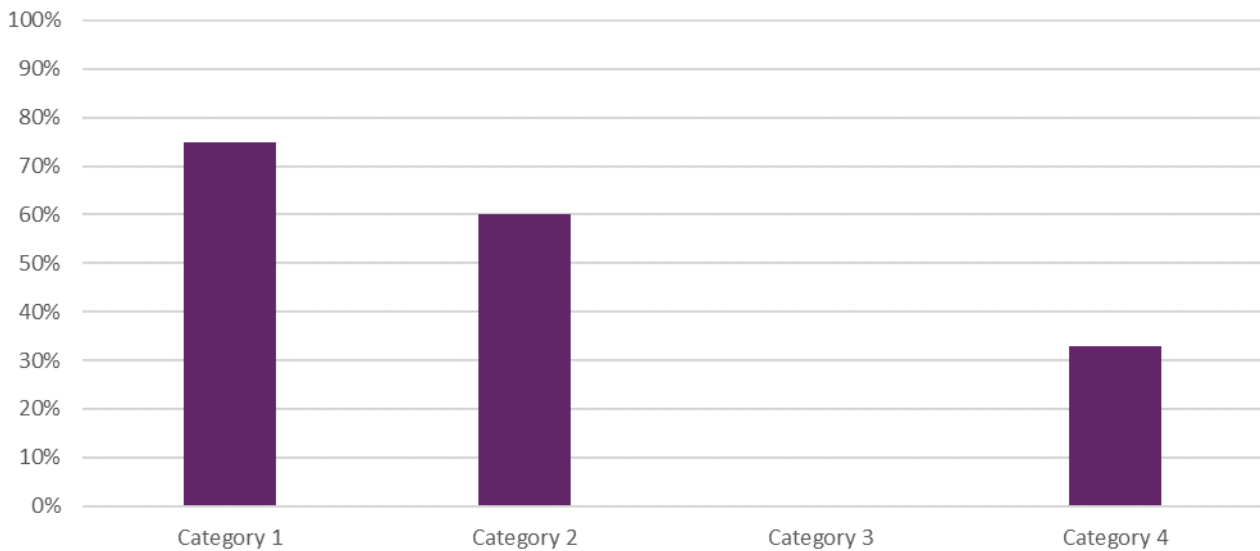
Source: Case Study Interviews.

75% of Category 1 case study airfields and 80% of Category 2 case study airfields facilitated the development of new technologies, as shown in **Figure 5.15**. This generally included the development of electric aircraft, where research and development firms seeking to produce electric aircraft utilised airfields for test flights or on-site hangars for manufacturing. In such cases, a clear overlap exists between involvement in environmental initiatives and facilitating new technologies. Category 3 and 4 case study airfields did not report any involvement with facilitating the development of new technologies. However, again, this may simply be a reflection of the relatively small sample size.

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Figure 5.15: Case Study Airfields Involved in Facilitating New Technologies by Airfield Category
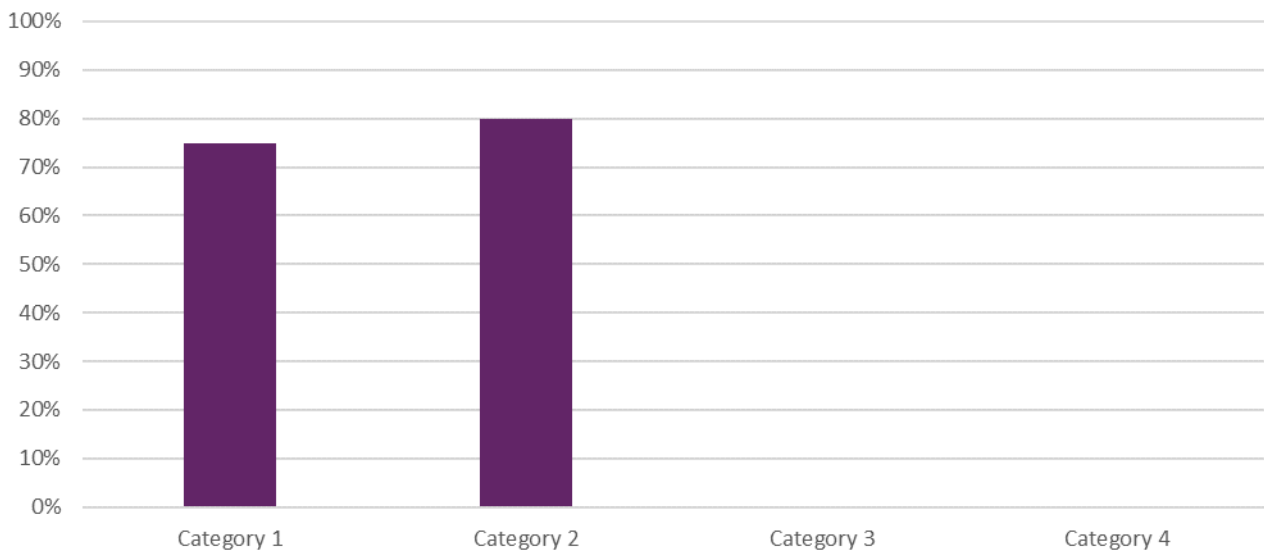
Source: Case Study Interviews.

Some case study airfields believed that drone operations, which had taken place at their airfield, were examples of facilitating new technologies.

Conclusions

Overall, based on the case studies, as would be expected, Category 1 airfields are likely to have by some margin the largest local economic impact amongst GA airfields and to make the largest contribution towards the Department's broader aims. It should, however, also be recognised that Category 2 airfields can be significant local assets. It should also be noted that that in some ways Categories 1 and 2 airfields are quite similar, for instance in terms of movements or based aircraft, but the higher level of facilities at Category 1 airfields enables them to focus more on Business Aviation, which helps to drive their economic value. While Category 3 airfields do appear to make a smaller contribution than Category 2 airfields, they still often have training facilities, some have links with local educational institutions and, in many ways, have fundamentally similar runway characteristics to Category 2 airfields. Category 4 airfields are less likely to have a significant impact on the local economy, but again there are those that offer training and many will provide some form of connectivity through their runway infrastructure. However, it should be recognised that the number of case study airfields covered in each category in the analysis is relatively small, and hence the messages that come out from this analysis should be considered in the round. Where possible, the full database has been used to strengthen the overall analysis.

As we have discussed previously, the categories are intended to provide a broad indication of potential economic value of different types and scales of GA airfields. It would clearly be necessary for a more in-depth assessment to be undertaken should specific issues in relation to a particular airfield arise.

Below, we have set out our conclusions from this analysis against the Government's core objectives, as set out above.

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Figure 5.16: Conclusions from Case Study Analysis against the Core Objectives

Strategic Policy	Wider Aviation Objective	Broad Conclusions for Case Studies
Location and Connectivity	Providing a global and connected Britain and strengthening ties within the Union	All the case study airfields support connectivity across the UK or have the potential to do so. The extent to which they can do so varies given the infrastructure available. Category 1 case study airfields clearly can provide services to a broader range of users and markets, although a number do focus particularly on Business Aviation users, but there are relatively fewer across the UK. Category 2 case study airfields can provide greater coverage and often have more movements and based aircraft, but capability is clearly lower, particularly in terms of facilities to support larger Business Aviation aircraft. Categories 3 and 4 case study airfields still provide connectivity, primarily around the UK, but again capability is often lower. All case study airfields clearly provide social connectivity and can provide access to remote or hard to reach areas.
Contribution to Local Economy	Levelling-up the whole of the UK	Category 1 to 3 case studies all support local employment and to at least some degree clustering of companies on-site. Unsurprisingly, Category 1 airfields are the most significant contributors, but Category 2 and 3 can also make an important contribution locally. Category 4 case study airfields tended to have very limited employment and / or other companies on-site. Most case study airfields had some community links and hence offered some social benefits but, unsurprisingly, these tended to commensurate with the size of the airfield, as recognised by its category.
Skills	Levelling-up the whole of the UK Enabling strong sector competition	All categories offer some form of flight training, but the type of qualification varies. The case studies suggest that, in truth, the bulk of flight training is undertaken at Category 2 and 3 airfields. This conclusion remains valid training for future commercial pilots. Many of the case studies in categories 1 to 3 also have links with local educational institutions, including supporting STEM activities or similar and offering apprenticeships.
Emergency Services/Critical Infrastructure	Providing critical infrastructure	Nearly all the case studies provide some form of support to emergency services activities or similar. Bases for NPAS or Air Ambulance were, however, generally at Category 1 or 2 case study airfields. In recent times, a number of case study airfields in categories 1 to 3 have supported the response to COVID-19 by facilitating movements of supplies of PPE and equipment.
Innovation/ Environment	Enabling strong sector competition	A number of the case studies were involved in environmental initiatives and this was spread across the categories. The exception was Category 3, where no airfields reported activity, but this may simply reflect the relatively small sample size. Participation in innovative technology projects at the case study airfields was focussed on categories 1 and 2. This is perhaps not surprising but again may be a function of the small sample size.

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6. Conclusions

The UK Government has provided strong policy support for the maintenance and development of the GA sector in the UK and previous research has identified that the sector makes a significant contribution to the UK economy. Even relatively small GA airfields can make an important contribution to the GA network by providing local flying facilities or support to the emergency services. It should, however, be noted that this economic value is primarily driven by Business Aviation activities, as was identified in York Aviation's research into the economic value of GA in the UK in 2015.

The GA sector is supported by a large and diverse network of airfields located across the UK. Previous research by York Aviation has identified that there may be around 900 active airfields across the country, although this figure is likely to be much higher. Very little is known about a significant proportion of these and many are thought to be very simple, basic 'farm strip' type airfields, sometimes operated under the 28 day rule, which allows flying activity to be undertaken for 28 days in a calendar year without planning permission. This research has identified just under 400 airfields where there is some information available, sufficient to support consideration of a broad typology that helps to understand the local economic impact of these airfields. It is, however, important to remember that data on even these airfields is often poor and severely limited, particularly in relation to the extent of activity.

For the purposes of considering the potential local economic impact of GA airfields, our analysis has identified four broad airfield categories. These can be summarised as follows:

- Category 1 - this category includes airports and airfields with instrument runways that are at least capable of taking Business Aviation light jets but which may also, in some cases, facilitate smaller GA aircraft as well. These airfields are likely to have the greatest economic impact;

- Category 2 - airfields in this category have 50 or more based aircraft. Many are likely to support occasional business-related air taxis and helicopters, including emergency services flights. They generally have a substantial level of flight training, maintenance and hangarage, but do not have the facilities required for larger Business Aviation aircraft. This category would also cover some airfields with grass runways but which are still substantial GA airfields;

- Category 3 - airfields in this category have between 20 and 50 based aircraft and are also likely to have some measure of flight training, albeit generally at a basic (PPL) level. Most also have some maintenance and hangarage, although this is likely to be limited. They are, in many ways, similar to Category 2 airfields but are smaller and with less extensive facilities;

- Category 4 - airfields in this category have fewer than 20 based aircraft or none at all. They are likely to have very limited or basic facilities. Most farm strips, for example, fall into this category.

In addition, we have identified a marker for airfields that play a specialist role in the network. These airfields do not sit outside the main categorisation described above, but within the database include a 'flag' which marks them as having particular significance. The database currently notes the following list of specialisms: heliports, parachuting sites, hang gliding sites, microlight sites, glider sites and heritage sites. There is a significant number of such airfields around the UK.

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Overall, as would be expected, Category 1 airfields are likely to have by some margin the largest local economic impact amongst GA airfields and to make the most substantial contribution towards the Department's broader aims. It should, however, also be recognised that Category 2 airfields can be significant local assets. While Category 3 airfields do appear to make a smaller contribution than Category 2 airfields, they still often have training facilities, and some have links with local educational institutions and share many similar runway characteristics with Category 2 airfields. Category 4 airfields are less likely to have significant impact on the local economy, but again there are those that offer training and many will provide some form of connectivity, particularly in remote locations where there are few alternative airfields and surface transport connections may be limited.

As we have discussed previously, the categories are intended to provide a broad indication of potential economic value and it would clearly be necessary for a more in-depth assessment to be undertaken should specific issues in relation to a particular airfield arise.

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ANNEX A – LIST OF REFERENCES

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ANNEX B – GLOSSARY

ACI	Airports Council International (trade body)
Airport/Aerodrome/Airfield	Larger facilities (such as Biggin Hill or Blackpool) tend to refer to themselves as airports, whereas the majority of general aviation facilities refer to themselves as airfields or aerodromes.
APPG-GA	All-Party Parliamentary Group on General Aviation
ATPL	Air Transport Pilot's Licence
CPL	Commercial Pilot's Licence
DME	Distance Measuring Equipment – a ground based navigational aid
EASA	European Union Aviation Safety Agency
FBO	Fixed Based Operator – a term used to describe a company that provides ground handling and other services to general and Business Aviation flights
GNSS	Global Navigation Satellite Systems
ILS	Instrument Landing System
IR	Instrument Rating
IR(R)	Instrument Rating (Restricted)
LAPL	Light Aircraft Pilot's Licence
MRO	Maintenance, Repair, and Overhaul
NATS	National Air Traffic Services
NDB	Non-Directional Beacon – a ground based navigational beacon
NPAS	National Police Air Service
PAPI	Precision Approach Path Indicator
PPL	Private Pilot's Licence
RNAV	Area Navigation (flying procedures using GNSS for navigation rather than ground-based equipment)
RFFS	Rescue and Fire Fighting Services

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