FUTURE AIRCRAFT MOVEMENTS

The content of this document was available throughout the statutory consultation period of 2nd January – 16th February 2024 online at www.blackbushеairport.co.uk/movements. It has been compiled into a document here for ease of reference, and remains available on the link above to the public.

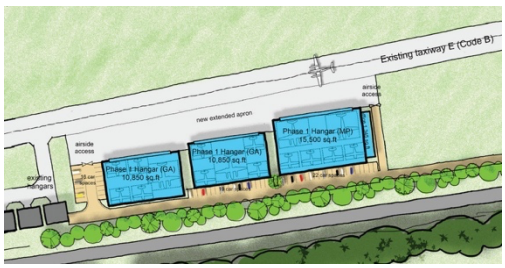
Blackbushe has set out our vision for the airport's future, which includes impressive new facilities. We know that one of the biggest concerns for local residents is the effect this might have on the numbers of flights and types of aircraft using Blackbushe in the future.

PHASE 1 OVERVIEW

The proposed Phase 1 developments are designed to cater for aircraft either already based at Blackbushe, or using the aerodrome regularly. This includes:

- Hangarage for up to 30 light piston aircraft, to be filled by a mixture of aircraft already based here, as well as some based elsewhere.
- Hangarage for 2-3 business jets that already use Blackbushe regularly, but are forced to position empty to other airports for hangar space.
- A maintenance facility for small piston aeroplanes, again to avoid the need for aircraft to fly away for maintenance.
- Hangarage / maintenance facility for helicopters, to replace the space and business lost in 2014 when Premiair went into administration.

In our view, and we will demonstrate this later on this page, these developments will not substantially increase the number of movements at Blackbushe. Whilst they target increasing the number of aircraft parked at Blackbushe, in some cases this will result in a reduction of movements, and data shows hangared aircraft fly infrequently.



PHASE 2 OVERVIEW

Phase 2 developments would be demand-led, they won't be built until Phase 1 has been filled. Primarily, Phase 2 focuses on increasing hangar space, as well as the provision of a new flying hub to upgrade the facilities of the based flying schools. Phase 2 hangarage might not be built for 5-10 years after Phase 1, but the flying hub would likely be built sooner.

LONG TERM FUTURE SCOPE

The longer term future scope looks over the next 10 to 20 years. We see Blackbushe as well placed geographically to service emerging aviation sectors, such as electric aircraft, and Electric Vertical Takeoff & Landing (EVTOL) aircraft for their development and maintenance. As this technology develops, these aircraft will ultimately replace many traditional piston or rotary aircraft, and will have a much quieter noise profile.

Whilst the amount of hangarage shown in the airport vision might look ambitious, this shows the future potential for the airport site. There is no desire to substantially increase the number of movements at Blackbushe or to dramatically shift the balance between light general aviation and executive aircraft.

This page sets out the history of movements at Blackbushe, as well as where we think the airport will move in the future.

THE BASICS - TERMINOLOGY

For those who aren't familiar or don't work in the aviation industry, we're aware that sometimes we use a lot of terms and acronyms, and not everyone might understand what they mean. We'll do our best to explain here:

AIRCRAFT CATEGORIES

LIGHT GENERAL AVIATION FIXED WING

This normally includes single engine piston (SEP) aircraft. These are identified by a small propellor on the nose of the aircraft.

They might be low wing as pictured above, or have a higher wing above the fuselage.

Twin engine piston aircraft have one propeller in each wing.

Most aircraft seat 2 or 4 people including a pilot. Some larger ones can seat 6.

They are typically used for flight training. Each year hundreds of pilots study at Blackbushe. Many of these go on to do courses to fly aircraft for the airlines.

These aircraft are powered by internal combustion engines that run on aviation gasoline (petrol).

Flights on this type have historically made up 81% of our annual movements. In recent years this has been more like 90%.

LIGHT GENERAL AVIATION ROTARY

Rotary means helicopter (the 'wing' rotates). These are smaller helicopters typically used for training. Most aircraft seat 2-4 people.

These aircraft are powered by internal combustion engines that run on aviation gasoline (petrol).

Flights on this type have historically made up 8% of our annual movements.

BUSINESS AVIATION ROTARY

These are larger helicopters which can seat more people, and are typically used for passenger transport.

Flights on this type have historically made up 11% of our annual movements, although this declined following the 2008 global recession where the based maintenance organisation collapsed.

Rotary aircraft have exposed mechanisms on top which make them susceptible to corrosion if not hangared.

TURBO PROPELLER AIRCRAFT (TURBO-PROP)

Turbo-prop aircraft come in different shapes and sizes. At the small end they include single engine aircraft, such as the TBM range or Piper M-Class.

A regular sight at Blackbushe are the Pilatus PC-12 aircraft and the twin-engine Turbo-Prop Kingair aircraft.

Aircraft of this type seat between 6 and 11 people including pilot(s). They are typically operated for passenger transport flights within the UK and Western Europe.

These aircraft are powered by turbine engines that run on kerosene jet fuel (diesel).

Flights on this type have historically made up 1% of our annual movements, although in recent years we've seen a shift from jets to turbo-props which are cheaper to operate.

JET AIRCRAFT

Business jets are the largest type of aircraft that use Blackbushe. They range from the small 4 seater Eclipse and Cessna Citation Mustang, up to the larger Falcon 7X.

The smaller 4 seat jets can operate in and out of Blackbushe for passenger transport.

However, bigger Cessna Citation jets, Embraer Phenom, and Dassault Falcon aircraft can only operate privately (that is, with their owners onboard). They can seat up to 16 people.

Many owners of business jets like to have them operated for passenger transport flights when they are not using them, to help with the cost of ownership. In such cases, Blackbushe isn't usually suitable for them.

Jet aircraft are powered by turbine engines that run on kerosene jet fuel (diesel).

Flights on this type have historically made up 2% of our annual movements, but contribute a much greater percentage of our revenue, which supports Light GA.

MOVEMENTS

Airports often talk about movements. A movement is a Takeoff, a Landing, or a Touch & Go (T&G). When training, pilots will often do 'circuits' where they take off, fly a lap around the aerodrome in our published circuit, and come in to land again. Each time they have landed, they re-apply the power, and takeoff again. This is called a Touch & Go, and is an essential part of training in learning to land an aircraft.

Our movement statistics count a takeoff, a landing, and a T&G as 1 movement. In addition, we have go-arounds. This is where an aircraft makes an approach but does not land. This could be due to a number of factors, such as weather, visibility, or something on the runway. Sometimes this may be a planned part of training, teaching pilots how to identify when an aircraft is not correctly configured for landing. Go-arounds are not counted as a movement.

BUSINESS / EXECUTIVE AVIATION

Business Aviation and Executive Aviation are used interchangeably as terms to describe small jet /turbo-prop aircraft, or turbine helicopters. We may use these terms interchangeably through our website or documentation. These aircraft are used both for business and leisure. As with all sectors of the aviation industry, there are typically more flights on weekends than on weekdays, just because such flights are described as "business aviation", does not mean they are restricted to Monday-Friday.

ACRONYMS

eVTOL - Electric Vertical Takeoff & Landing. An emerging industry sector focused on using electrically powered quadcopters to either open up new methods of transportation of goods and people, or to replace existing market segments.

BVLOS - Drone operations Beyond Visual Line of Sight.

GA - General Aviation

MRO - Maintenance and Repair Organisation. A company with appropriate licenses to conduct routine maintenance on aircraft or their engines.

OEM - Original Equipment Manufacturer. This means a manufacturer of aircraft. For example. Boeing or Airbus in the airliner world. For us, these organisations include Cessna/Textron, Pilatus, Leonardo, Airbus Helicopters and so on.

HISTORICAL MOVEMENT STATISTICS

This is our full data, broken down by aircraft category. Movements can fluctuate year on year for a variety of factors. For example:

- Movements fell sharply in 2009 from 2008 levels which was a result of the global recession.
- In 2012, the London Olympics and Jubilee celebrations resulted in huge areas of restricted airspace throughout the summer which impacted on our summer performance.
- Later, in 2014 the based helicopter maintenance operator, PremiAir, ceased trading, and the decline in business helicopter movements can be seen over the years previously.
- 2020 and 2021 were obviously affected by COVID-19 related lockdowns.
- By contrast, 2022 saw an increase in business jet movements which were a result of scheduled services at major airports being cut due to staffing shortages, resulting in a shift by passengers onto business aviation. We haven't seen this repeat of business jets in 2023 so far, but 2023 has been a strong year for light general aviation.
- Weather can have a big impact on our movement levels. Most of our movements come from light general aviation which operate to Visual Flight Rules (VFR). This means, low cloud, rain, strong wind, or other adverse weather can result in lower activity.

YEAR	LIGHT GENERAL AVIATION			BUSINESS AVIATION				TOTAL MOVEMENTS
	FIXED WING (AEROPLANES)	ROTARY (HELICOPTERS)	TOTAL	TURBO-PROP	JETS	HELICOPTERS	TOTAL	
2001	34,848 *(81%)*	3,328 *(8%)*	38,176 *(89%)*	872 *(2%)*	160 *(0%)*	3,778 *(9%)*	4,810 *(11%)*	42,986
2002	29,260 *(80%)*	2,160 *(6%)*	31,420 *(86%)*	780 *(2%)*	246 *(1%)*	4,138 *(11%)*	5,164 *(14%)*	36,584
2003	38,742 *(82%)*	2,560 *(5%)*	41,302 *(87%)*	832 *(2%)*	319 *(1%)*	4,954 *(10%)*	6,105 *(13%)*	47,407
2004	37,082 *(80%)*	3,040 *(7%)*	40,122 *(87%)*	499 *(1%)*	367 *(1%)*	5,323 *(11%)*	6,189 *(13%)*	46,311
2005	37,718 *(80%)*	2,429 *(5%)*	40,147 *(86%)*	497 *(1%)*	371 *(1%)*	5,892 *(13%)*	6,760 *(14%)*	46,907
2006	36,288 *(79%)*	1,948 *(4%)*	38,236 *(83%)*	498 *(1%)*	375 *(1%)*	6,957 *(15%)*	7,830 *(17%)*	46,066
2007	33,466 *(79%)*	968 *(2%)*	34,434 *(82%)*	582 *(1%)*	356 *(1%)*	6,857 *(16%)*	7,795 *(18%)*	42,229
2008	33,171 *(79%)*	1,113 *(3%)*	34,284 *(82%)*	660 *(2%)*	507 *(1%)*	6,522 *(16%)*	7,689 *(18%)*	41,973
2009	28,660 *(78%)*	2,085 *(6%)*	30,745 *(83%)*	410 *(1%)*	759 *(2%)*	4,914 *(13%)*	6,083 *(17%)*	36,828
2010	27,583 *(78%)*	1,636 *(5%)*	29,219 *(82%)*	346 *(1%)*	828 *(2%)*	5,122 *(14%)*	6,296 *(18%)*	35,515
2011	25,302 *(77%)*	1,406 *(4%)*	26,708 *(82%)*	448 *(1%)*	930 *(3%)*	4,650 *(14%)*	6,028 *(18%)*	32,736
2012	22,503 *(80%)*	1,155 *(4%)*	23,658 *(84%)*	346 *(1%)*	906 *(3%)*	3,364 *(12%)*	4,616 *(16%)*	28,274
2013	23,342 *(79%)*	3,985 *(13%)*	27,327 *(92%)*	313 *(1%)*	682 *(2%)*	1,308 *(4%)*	2,303 *(8%)*	29,630
2014	25,639 *(76%)*	6,198 *(18%)*	31,837 *(94%)*	337 *(1%)*	930 *(3%)*	798 *(2%)*	2,065 *(6%)*	33,902
2015	26,650 *(79%)*	5,859 *(17%)*	32,509 *(96%)*	366 *(1%)*	837 *(2%)*	165 *(0%)*	1,368 *(4%)*	33,877
2016	26,112 *(77%)*	6,331 *(19%)*	32,443 *(96%)*	291 *(1%)*	938 *(3%)*	237 *(1%)*	1,466 *(4%)*	33,909
2017	24,189 *(75%)*	6,488 *(20%)*	30,677 *(96%)*	306 *(1%)*	833 *(3%)*	274 *(1%)*	1,413 *(4%)*	32,090
2018	24,896 *(80%)*	4,861 *(16%)*	29,757 *(96%)*	302 *(1%)*	564 *(2%)*	339 *(1%)*	1,205 *(4%)*	30,962
2019	31,030 *(84%)*	4,309 *(12%)*	35,339 *(96%)*	347 *(1%)*	580 *(2%)*	596 *(2%)*	1,523 *(4%)*	36,862
2020	24,605 *(88%)*	2,294 *(8%)*	26,899 *(96%)*	237 *(1%)*	390 *(1%)*	518 *(2%)*	1,145 *(4%)*	28,044
2021	31,062 *(93%)*	890 *(3%)*	31,952 *(96%)*	447 *(1%)*	429 *(1%)*	595 *(2%)*	1,471 *(4%)*	33,423
2022	36,563 *(90%)*	1,953 *(5%)*	38,516 *(94%)*	876 *(2%)*	573 *(1%)*	880 *(2%)*	2,329 *(6%)*	40,845
2023	38,062 *(91%)*	2,279 *(5%)*	40,341 *(96%)*	575 *(1%)*	350 *(1%)*	749 *(2%)*	1,674 *(4%)*	42,015
AVERAGE	**30,529** *(80%)*	**3,147** *(8%)*	**33,676** *(89%)*	**499** *(1%)*	**591** *(2%)*	**3,229** *(8%)*	**4,320** *(11%)*	**37,996**

The average values here disregard 2020 and 2021 as both years were heavily affected by the COVID-19 pandemic and did not demonstrate representative data.

PEAK HISTORICAL MOVEMENTS

The movements of different types of aircraft have ebbed and flowed over the years. Up to 2014, executive rotary movements were much higher, and these fell away following the demise of PremiAir. We would certainly like to attract a hangar occupant with a similar operating model back to Blackbushe. Light GA Rotary was much busier from 2015-2019 when Phoenix Helicopter Academy were based at Blackbushe. Jet activity was at its highest in 2016 when we had a based business jet operator at Blackbushe. Light GA fixed wing movements have in 2023 finally reached their previous peak, but for many years were much lower.

The below table shows the peak movements for Blackbushe, had all market segments had their strongest year in the same year. This gives some insight as to the potential for movements at Blackbushe.

AIRCRAFT TYPE	PEAK ANNUAL MOVEMENTS	YEAR
Light GA Fixed Wing	38,472 *(71.7%)*	2003
Light GA Helicopters	6,488 *(12.1%)*	2007
Total General Aviation	45,230 *(83.8%)*	
Business Aviation Turbo-Props	876 *(1.6%)*	2022
Business Aviation Jets	938 *(1.7%)*	2016
Business Aviation Helicopters	6,957 *(12.9%)*	2006
Business Aviation Total	8,771 *(16.2%)*	
ALL MOVEMENTS TOTAL	**54,001**	

HANGARAGE MAKES BLACKBUSHE FINANCIALLY SUSTAINABLE

HANGARAGE LOST IN 2015

When the current owners bought the airport in late 2015, **circa 40,000 sqft of hangarage was lost** to the north of the airport within the BCA site as it was not included within the sale. Whilst the owners understood this meant the revenue of the airport would suffer, they took professional advice and had a reasonable belief that hangarage could be built within the licensed aerodrome within a few years. We of course knew this would first require resolving the long-standing common land status.

LARGE FINANCIAL LOSSES WITHOUT HANGARAGE

In the last year of ownership by BCA, the airport's **2015 loss was over £250,000**. Blackbushe required a lot of investment, and a new management team was brought in for 2018 as **the losses reached over £400,000 in 2017**. The new management team were aviation-focused, with experience within the industry. They immediately sought to increase revenues.

PURSUIT OF MOVEMENTS TO INCREASE REVENUE

Most airports have a strong base of rental incomes, whether that be from hangarage, office space, or from terminals which (at bigger airports) house shops, restaurants etc. **This rental income is consistent year-round**, and ensures the exposure of an airport to weather, or other external factors is managed. **Most other airports have 50% of their revenue from rent, at Blackbushe it was 10%.**

As hangarage income was not available to Blackbushe, the new management team have had to pursue other revenue streams. These are primarily from aircraft landing and parking fees, and fuel sales. This approach has encouraged growth in movements. **The pursuit of movements meant 2023 had 24% more than 2015**. This increase in movements is high-effort, requiring additional staffing and continued efforts to market Blackbushe to a wide range of market segments.

MOVEMENT GROWTH

The 24% growth since 2015 has mainly come from Light GA Fixed Wing, through the growth of the flying schools onsite. School aircraft are highly utilised, flying 400+ hours a year. These aircraft are on fixed price landing agreements, which often results in them paying around £2-£3 per landing.

By contrast, a Light GA Fixed Wing aircraft which is parked at Blackbushe and operated by **a single owner, might fly only 10-20 flights per year**. The owner will pay a monthly parking fee, and pay per landing, around £24 a time. Some Light GA Fixed Wings are operated by small groups up to 10 pilots who each own a share of the aeroplane. They might fly 40-80 flights per year, and again will usually pay per landing.

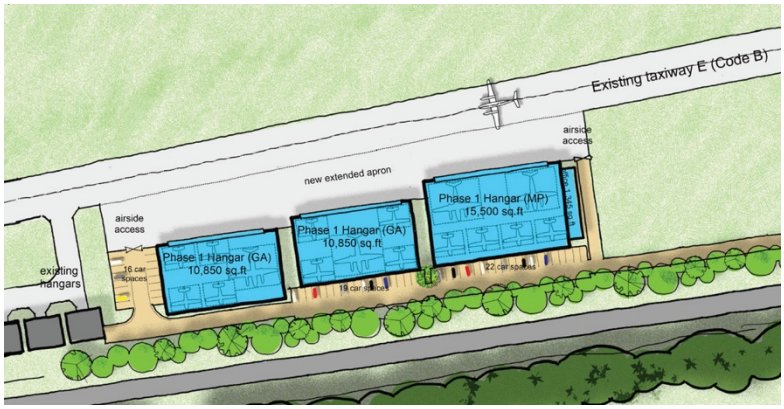
FUTURE TARGET CUSTOMERS

We are regularly approached by locally based pilots who want to put an aircraft at Blackbushe. But, as they fly infrequently, they want to keep their aircraft inside a hangar to protect it from corrosion when not in use. They end up putting their aircraft at other aerodromes such as Thruxton or Goodwood, who can offer hangarage, and driving back and forth to use them.

FUTURE MOVEMENT PROJECTIONS

PHASE 1A - DELIVERED WITHIN 12 MONTHS OF A SUCCESSFUL LAND EXCHANGE

Our Phase 1A hangarage seeks to create 30 hangar spaces for Light GA Fixed Wing aircraft, owned by individuals or small groups who fly infrequently. We project we will fill with a mixture of aircraft already based at Blackbushe, as well as those from other aerodromes.



MOVEMENTS FROM LIGHT GA HANGAR CUSTOMERS

If we were to fill these hangars on a 50/50 basis between existing and new customers, and assuming a new customer might fly on average 40 times per year (80 movements), this might result in **an increase of Light GA Fixed Wing movements of 1,200, or around 3% of our annual movements**.

This increase would come initially, but wouldn't increase further each year. It would however deliver a reliable income stream to the airport.

Within Phase 1A we also seek to create a 15,500 sqft hangar as a base for a Light GA maintenance organisation. This would primarily serve the 80+ aircraft already based at Blackbushe. An onsite maintenance facility would reduce the need for aircraft to fly elsewhere for maintenance, perhaps **eradicating around 800 movements per year** (based on data from 2019-2023). With a potential increase of 1,200, less the 800 movements saved, we see a net increase of 400 movements, **overall less than 1% of our average** annual movements.

PHASE 1B - DELIVERED WITHIN 2 YEARS OF A SUCCESSFUL LAND EXCHANGE

Phase 1B will consist of the new terminal, encompassing improved facilities for passengers, as well as a newer, bigger Pathfinder Cafe, Restaurant and Event Space. None of these facilities are expected to increase aircraft movements by any measurable quantity.

The Phase 1B 'flagship' hangar will be a 29,840 sqft space, potentially home to an OEM or MRO of executive helicopters. This would replace the organisation lost in 2015. Initially we anticipate they might require 50% of the space, but require room to grow. The other half of the hangar will be utilised to house small business jets that already use Blackbushe regularly.

MOVEMENTS FROM EXECUTIVE HELICOPTERS

Executive helicopters are a big market in the UK. Hangarage options in the London area are usually always full, and there is strong demand year-round. Helicopters have their main mechanical elements such as engines and gearboxes exposed on top of them, and are susceptible to corrosion damage if left outside. Owners prefer them to be hangared whenever they're not flying.

An OEM or MRO would initially want space for 6-8 helicopters. If undertaking maintenance work, we would expect these aircraft to change about once per week, as different maintenance tasks require different amounts of time. Based on 8 helicopters operating once per week, we estimate around **1,700 rotary movements annually** would be generated.

Executive helicopters benefit from different approach paths. The heli-lanes which follow the M3 means most would approach from the south, and would not come near to built up areas such as Yateley or Hartley Wintney.

Over time as an OEM or MRO establishes itself, movements might increase further. By way of comparison, when Premiair occupied 40,000sqft of hangarage in the early 2000's, total business rotary movements were around 6,000 per annum. Currently they are just under 900 per annum. A growth to 6,000 per annum could be reasonably expected, but we would expect it to take 5-10 years to reach this level.

MOVEMENTS FROM JETS & TURBO-PROPS

Blackbushe is limited by it's runway length, meaning only smaller jets and turbo-props can land at Blackbushe. There are no opportunities now or in the future to increase the runway length, and so any increase in movement numbers will be limited by this. It is not our aspiration to substantially increase business jet movements above the historical averages. It's expected **Jets & Turbo Props will be around 5% of our total movements**.

In 2022 we saw our busiest year on record for Jets and Turbo-Props. This was driven by external factors, business aviation as a whole within Europe saw an exceptionally strong year. This has fallen in 2023 as things have returned to normal, with Wingx reporting (https://wingx-advance.com/weekly-bulletin/european-market-stalling-us-trends-solid/) business aviation in Europe is down 13% year on year, and 3% behind 2019 (pre-covid).

During Phase 1 we will seek to attract 2-3 based business jets. These customers are already known to us and have expressed a desire to move here if there was hangarage. Currently the aircraft fly empty from locations where they are hangared such as Gloucester and Bournemouth to pick up the owners and passengers at Blackbushe. We estimate there are on average **84 movements annually (9%) for empty repositioning to/from hangarage** (based off 2019-2023 data). If the aircraft were based here, these movements would be eradicated. We therefore don't foresee a measurable increase for jets & turbo-props during Phase 1.

In 2022 (our busiest year for jets & turbo-props), we saw 1,449 fixed wing business aviation movements, on average 4 per day that we were open. Business jets and turbo-props based in hangarage fly less frequently than those used for charter work. As Phase 2 develops and more hangar space is created that might be occupied by business aviation, we expect each additional aircraft to be responsible for around 50 movements per year (one per week).

In 10 years when Phase 2 is built out and fully occupied, we anticipate business jet & turbo-prop movements might reach 1,500 per year, this would increase average movements from 4 per day to 4.5, and still remain less than 5% of the annual total.

FUTURE MOVEMENT INFLUENCERS

As a small GA aerodrome, it is very difficult to forecast movements. As we've outlined above, over 95% of our movements come from Light GA fixed wing, and movement levels for these over a year are heavily influenced by:

- Weather Conditions (low cloud, strong wind)
- Economic Factors (disposable income, global oil prices)
- Global demand for airline pilots (and so demand for training)

Movements of business aircraft (both fixed wing and helicopters) have historically been dependent on key operators based at the airport, who have come and gone.

FORECAST INCREASES WITH NO CHANGE

Even with no development, we can expect a modest increase in movements each year. Over the past 10 years at Blackbushe, this has been on average 4.3% per year.

INCREASES AS A DIRECT RESULT OF DEVELOPMENT

We have identified above the number of movements we expect to come directly from the occupants of new proposed hangarage. This might result in several thousand movements, most of which we would expect to come from the executive rotary segment.

INCREASES AS A RESULT OF A GENERAL IMPROVEMENT IN FACILITIES

Whilst we have ambitions to improve the facilities at Blackbushe for all market segments, it is very difficult to understand what impact this might have on movements from visiting aircraft. The runway length at Blackbushe naturally limits the numbers and types of business jets and turbo-props, so we do not forecast that there will be substantial increases in these types, and expect their movement levels to remain around 5% of our total annual movements.

INCREASES FROM NEW MARKET SEGMENTS

The aviation industry is pursuing new and innovative types of aircraft, including electric and hydrogen fuelled aircraft. New operational methods are also emerging including eVTOL and BVLOS operations. Blackbushe is well placed to provide homes to these start-up sectors, bringing high-skilled jobs to the Hart District. At this time it is not possible to predict what these movements volumes might look like.

THE UNDERLYING CONCERN - AIRCRAFT NOISE

When the local community talk about aircraft movements, generally the concern is actually the impact that noise increased movements might have on the local community. Blackbushe is not directly comparable to other local aerodromes. Each aerodrome has its own mixture of aircraft types, and the local geography and aircraft requirements will influence where aircraft fly, and crucially, over which areas.

For Blackbushe most of our movements are from Light GA Fixed Wing aircraft. The bulk of these are aircraft operating in the Blackbushe circuit, which is to the south of the aerodrome and avoids built up areas.

The rotary traffic that uses Blackbushe likewise operates in from the south, and is capable of operating approach routes that do not overfly any properties.

Business Aviation fixed wing traffic generally operates straight-in approaches from 3-4 miles away. To the west of Blackbushe, these aircraft are generally able to avoid Hartley Wintney and do not overfly built up areas.

We do not anticipate a significant increase in movements from business jets or turbo-props, or an adverse impact on the local population from noise. We also look forward to newer, quieter aircraft, as well as new operating methods as new technologies emerge.

The content of this document was retrieved from https://www.blackbusheairport.co.uk/movements on Monday 18th March 2024. The content of the website may be updated from time to time.