Local Airspace to London Oxford Airport

An ‘Area of Intense Aerial Activity’ (AIAA)

(incl. diagrams of aircraft holds, recoveries & the circuit – *a guide for local residents & neighbours*)

Prepared by J D Dillon-Godfray – January 2023.**V13**

Introduction

This slide/information pack is a consolidation of information relating to how and where aircraft fly in the vicinity of London Oxford Airport. It is updated regularly.

It is intended as a guide to our neighbours and those generally without knowledge of normal aviation practices and Rules of the Air, *it is not intended as any guide for pilots*.

For those having lived next to us for many years, or those contemplating moving into the area, it seeks to identify where one is most likely to see overflying aircraft and why.

Volume of traffic is not controlled by the airport, it is demand-led and often seasonal and weather-dependent. It is always the case that the fairer the weather, the higher the volume of traffic.

The airport's primary aim is to ensure the safety of the airspace for all users, first and foremost.

The *airport owns and operates no aircraft itself*, but plays host to pilot training schools, aircraft maintenance companies, business aircraft and air taxi operators, with aircraft from two seats to 150 seats. In essence we provide facilities, a runway and air traffic services from 06:00 to midnight.

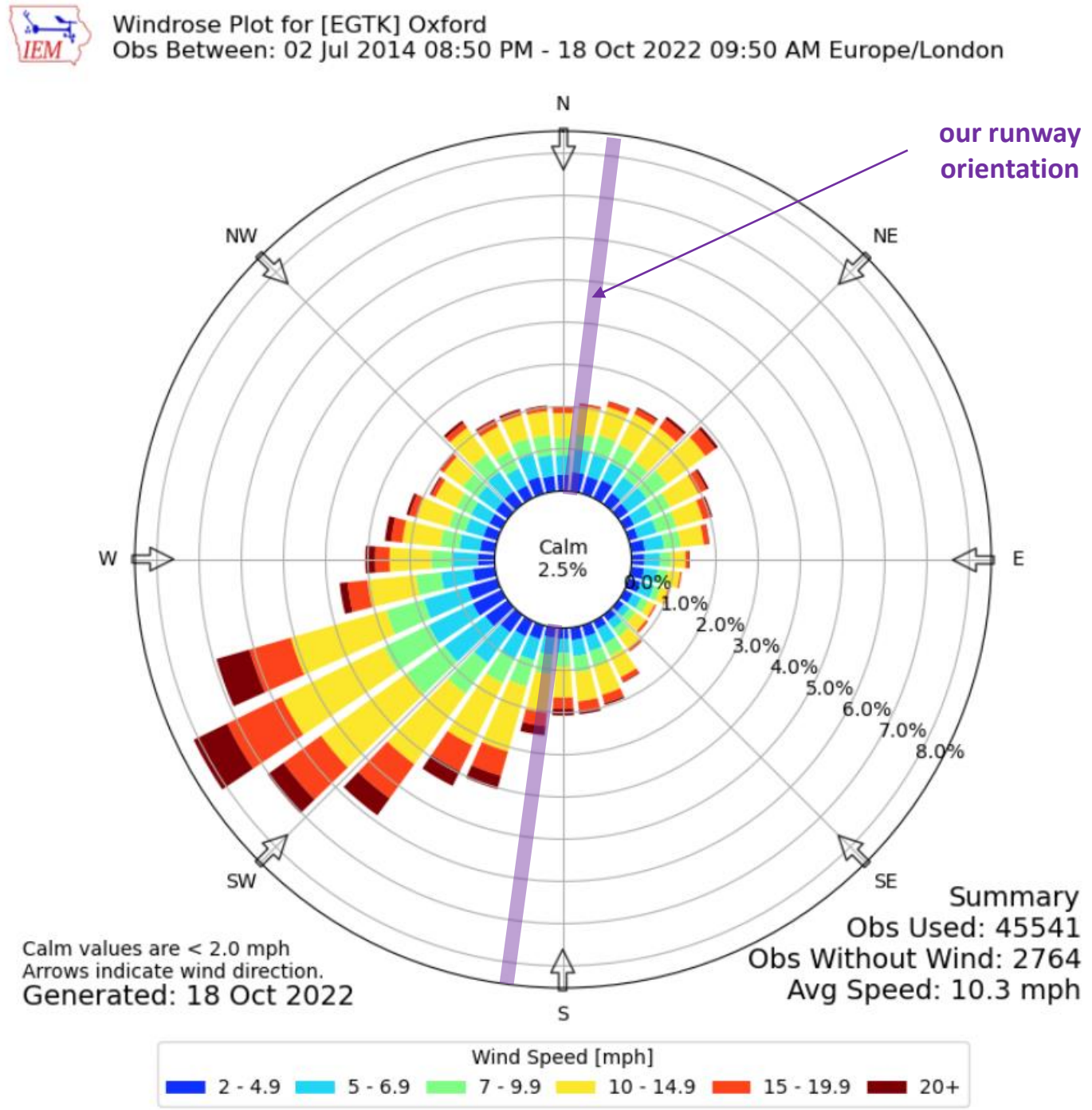
Wind Direction

Wind direction is key to which runway is being used - the aircraft's route on arrival or departure and also how noise might be carried on a given day in the local area

The diagram opposite shows the average annual trends for wind direction at Oxford and strength of those winds

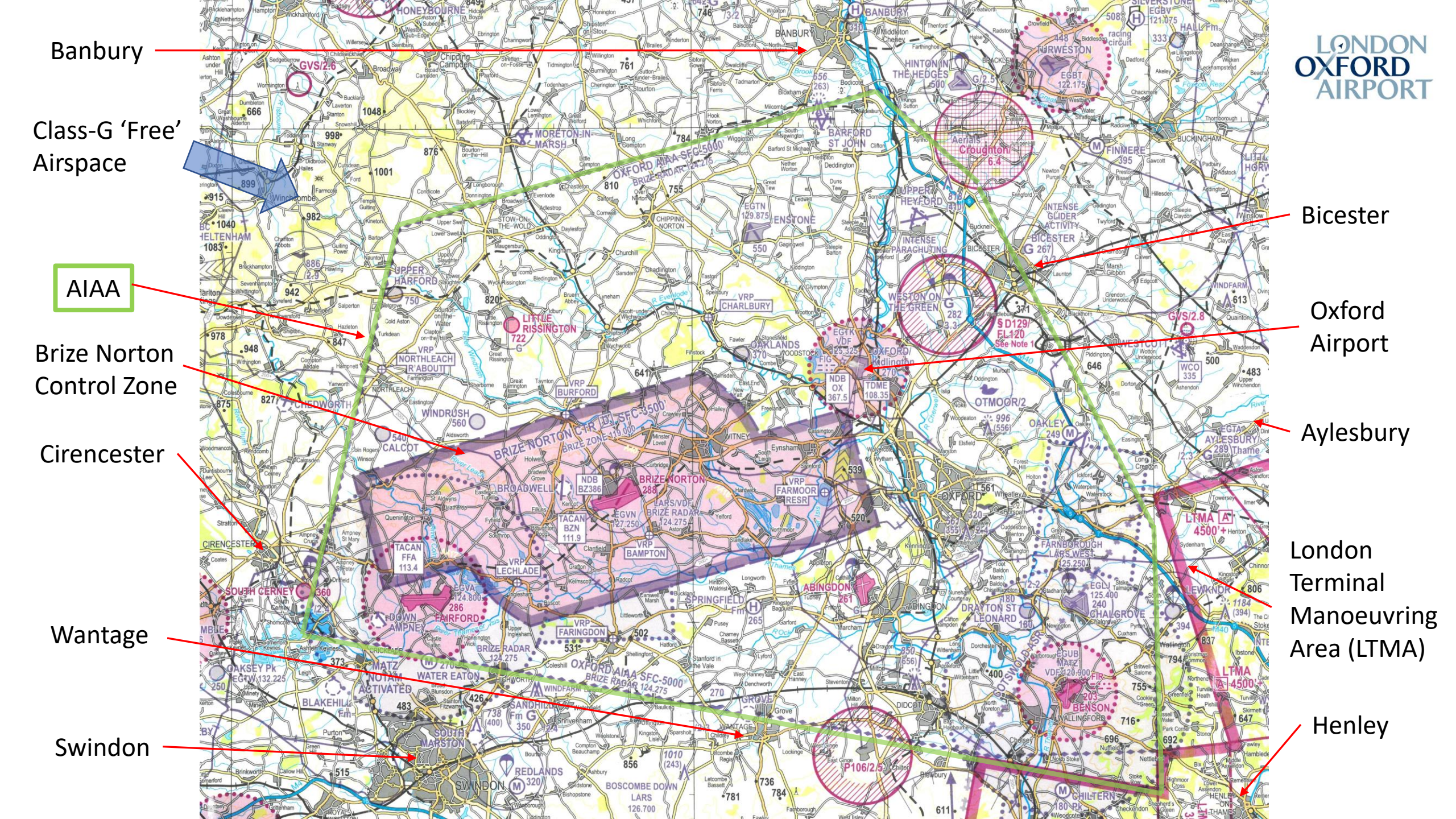
70% or so of the time traffic will fly in from the north and depart to the south

On-airport noise is heard more by say Thrupp than Bladon due to the prevailing wind direction

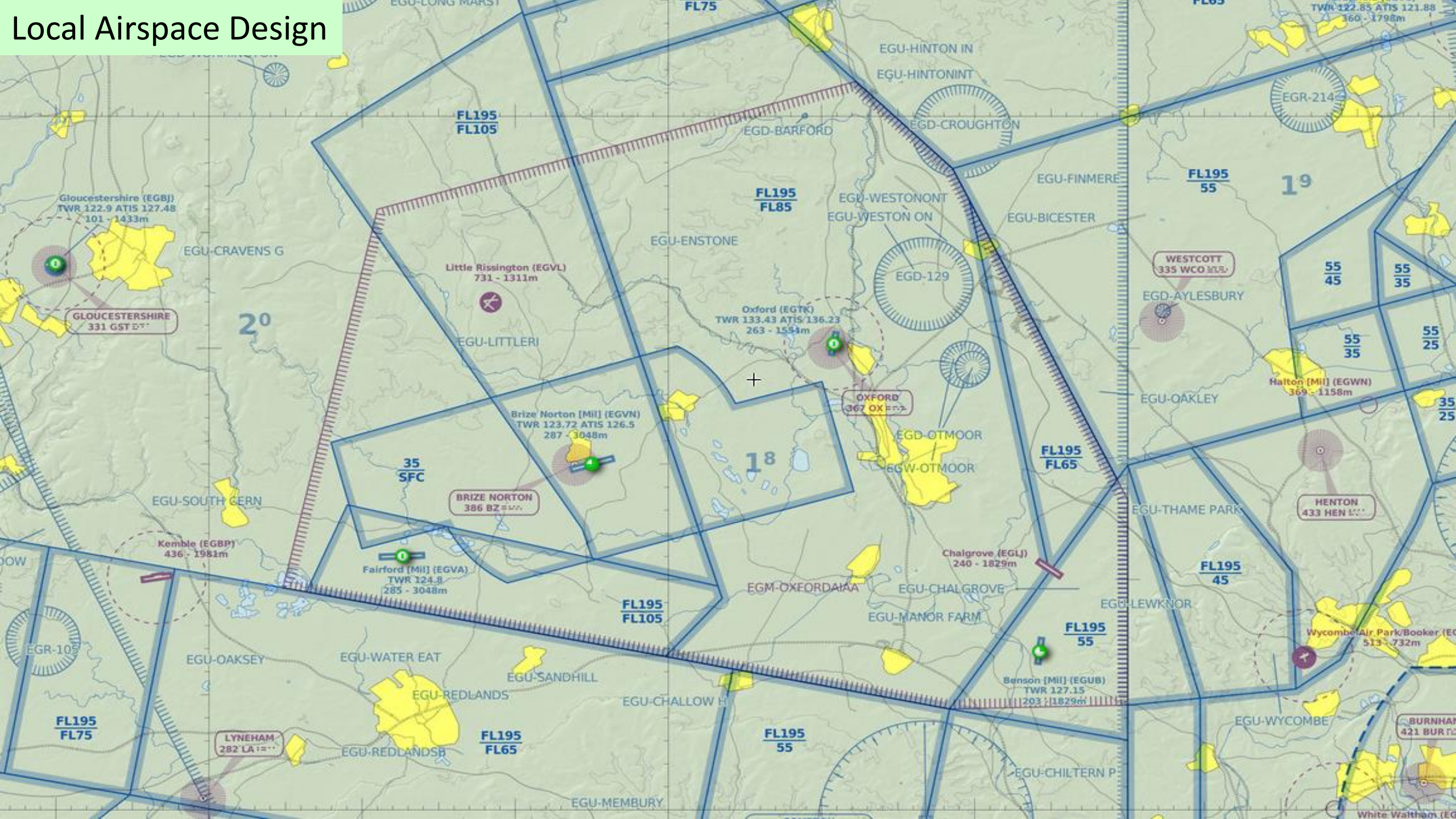


Local Airspace Configuration and other Airfield Locations

LONDON OXFORD AIRPORT


Banbury
Class-G ‘Free’ Airspace
AIAA
Brize Norton Control Zone
Cirencester
Wantage
Swindon
Bicester
Oxford Airport
Aylesbury
London Terminal Manoeuvring Area (LTMA)
Henley
LONDON OXFORD AIRPORT

Local Airspace Design

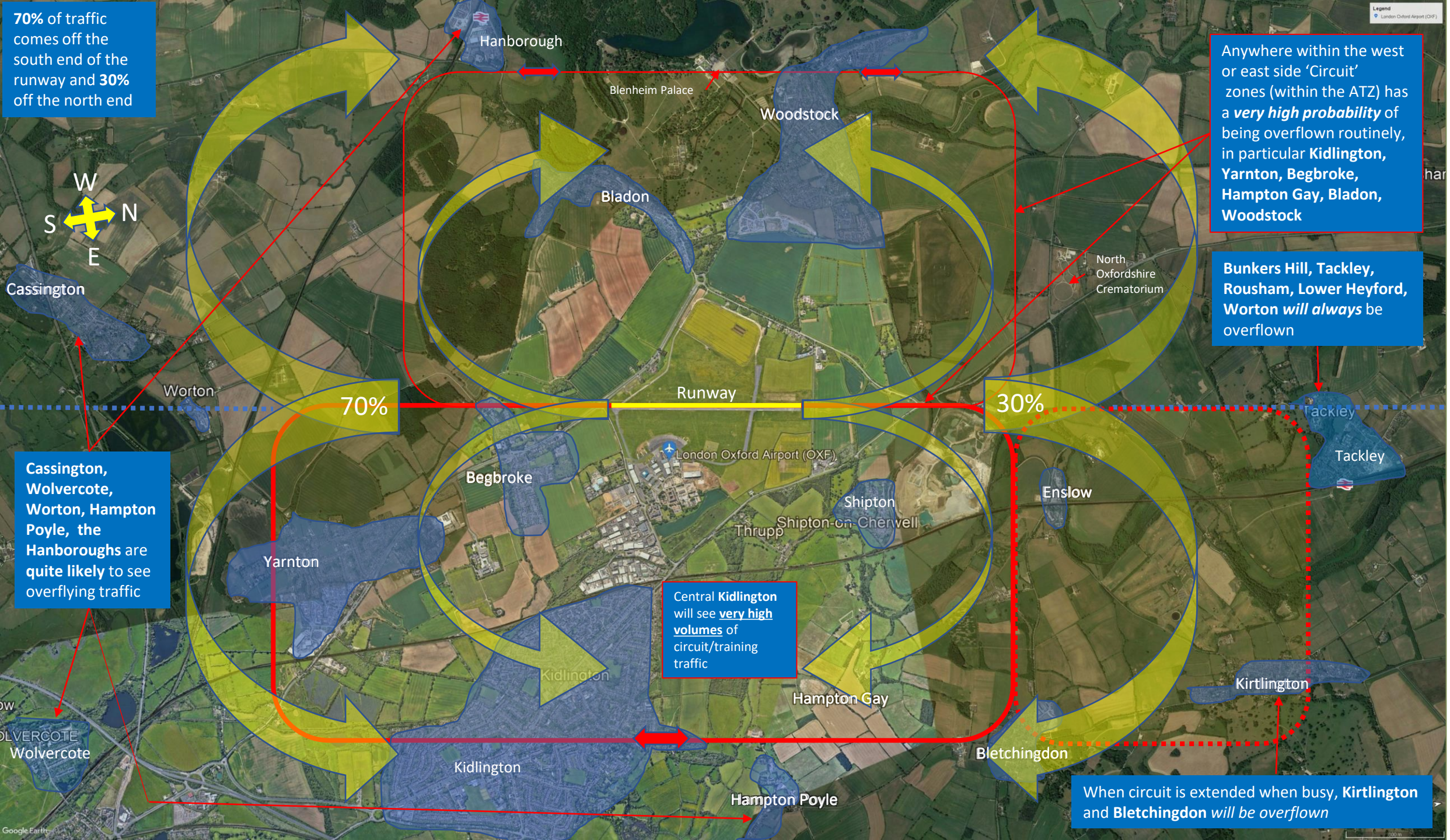


Oxford Air Traffic Zone (ATZ) & Local Procedures (Flight Paths)

LONDON OXFORD AIRPORT

Immediate vicinity of airport

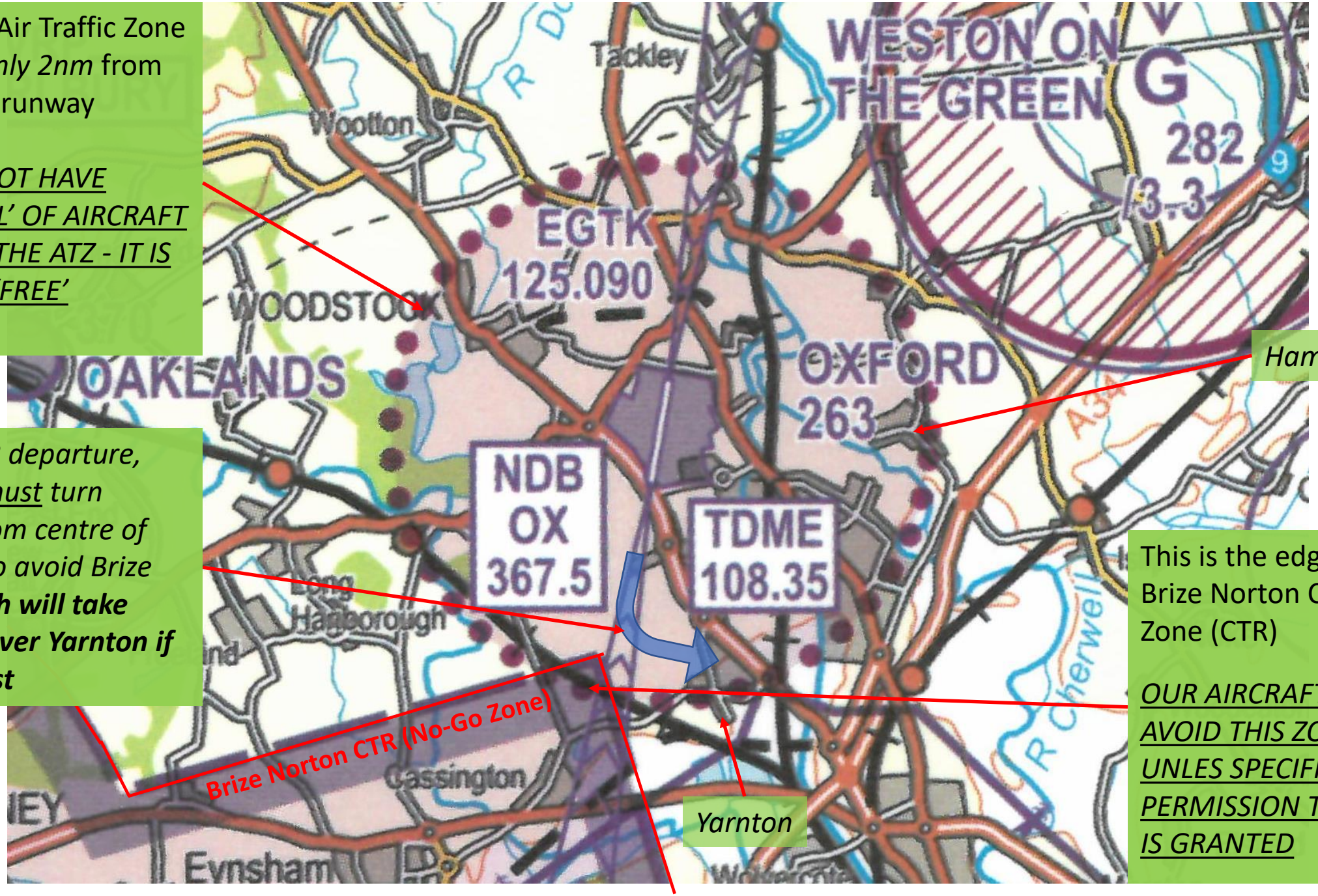
LONDON OXFORD AIRPORT


70% of traffic comes off the south end of the runway and **30%** off the north end
W
S
N
E
Hanborough
Blenheim Palace
Woodstock
Bladon
Cassington
Worton
Runway
70%
30%
London Oxford Airport (OXF)
Begbroke
Yarnton
Shipton
Shipton-on-Cherwell
Thrupp
Enslow
Tackley
Kidlington
Hampton Gay
Kirtlington
Bletchingdon
Wolvercote
Hampton Poyle
North Oxfordshire Crematorium
Anywhere within the west or east side 'Circuit' zones (within the ATZ) has a ***very high probability*** of being overflown routinely, in particular **Kidlington, Yarnton, Begbroke, Hampton Gay, Bladon, Woodstock**
Bunkers Hill, Tackley, Rousham, Lower Heyford, Worton *will always* be overflown
Cassington, Wolvercote, Worton, Hampton Poyle, the Hanboroughs are **quite likely** to see overflying traffic
Central **Kidlington** will see **very high volumes** of circuit/training traffic
When circuit is extended when busy, **Kirtlington** and **Bletchingdon** *will be overflown*

Airport's Air Traffic Zone (ATZ) is *only 2nm* from centre of runway

<u>WE DO NOT HAVE 'CONTROL' OF AIRCRAFT BEYOND THE ATZ - IT IS CLASS-G 'FREE' AIRSPACE</u>

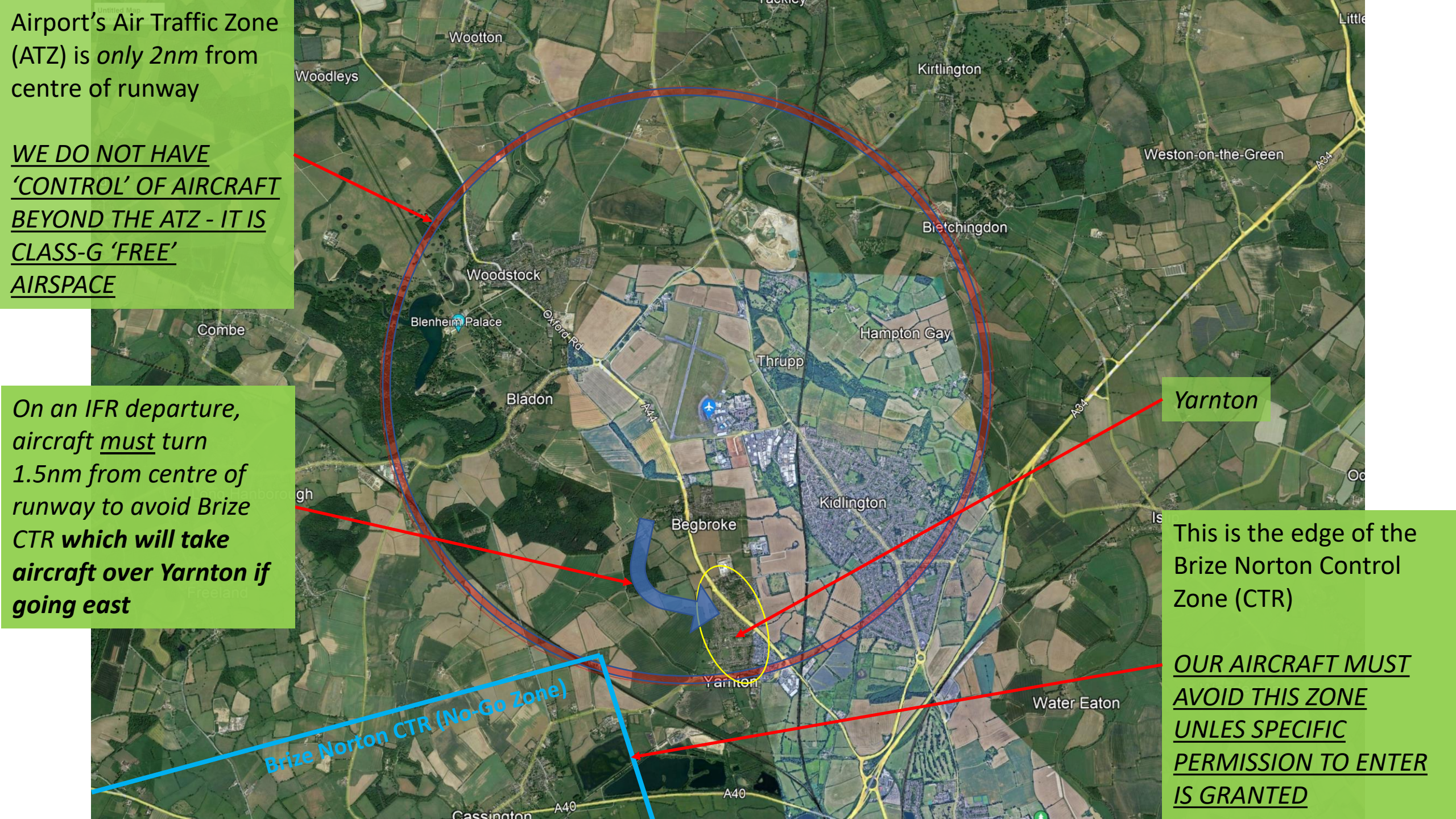
On an IFR departure, aircraft <u>must</u> turn 1.5nm from centre of runway to avoid Brize CTR ***which will take aircraft over Yarnton if going east***



Hampton Poyle

This is the edge of the Brize Norton Control Zone (CTR)

<u>OUR AIRCRAFT MUST AVOID THIS ZONE UNLES SPECIFIC PERMISSION TO ENTER IS GRANTED</u>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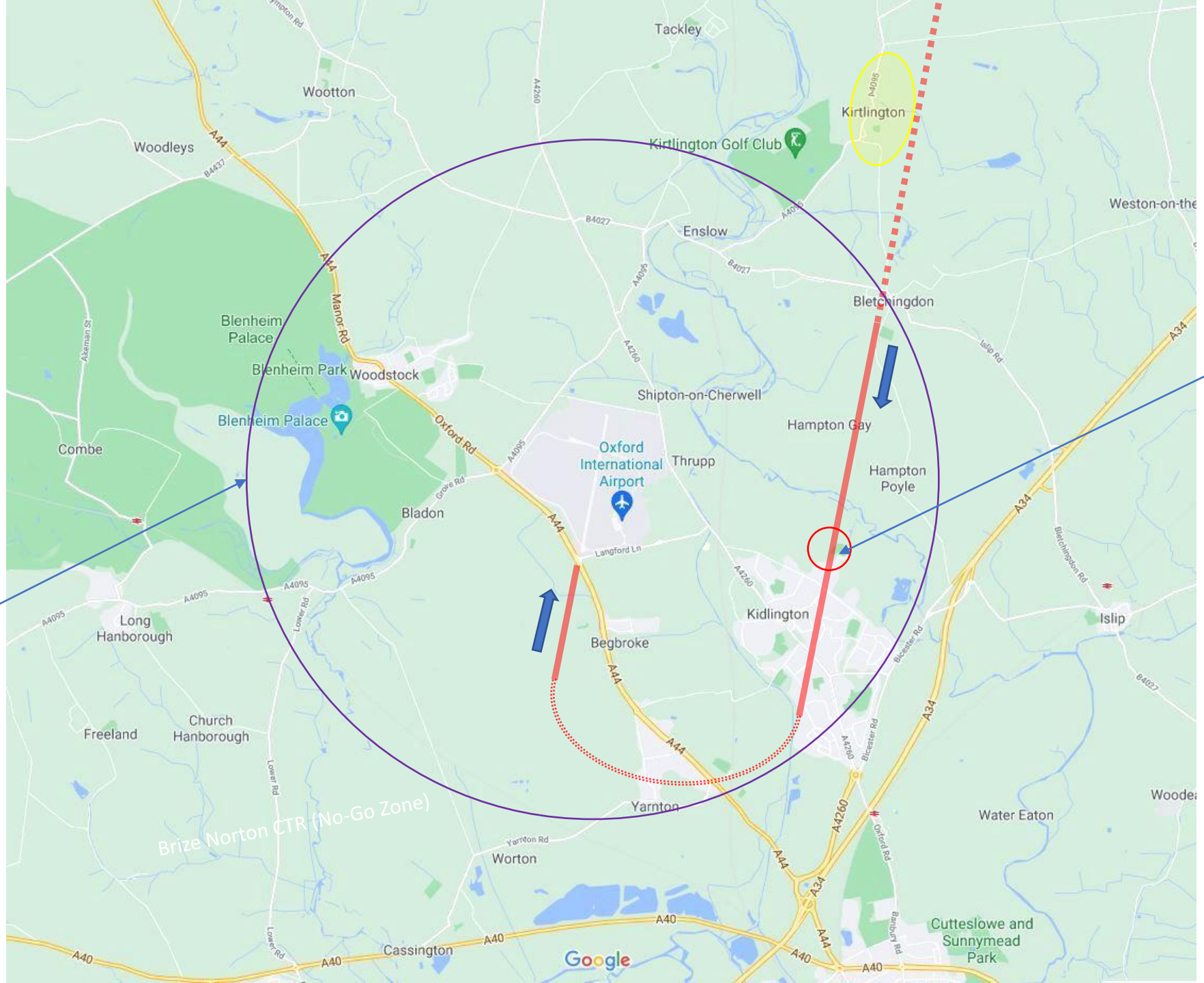
Yarnton
This is the edge of the Brize Norton Control Zone (CTR)
OUR AIRCRAFT MUST AVOID THIS ZONE UNLES SPECIFIC PERMISSION TO ENTER IS GRANTED
Brize Norton CTR (No-Go Zone)
Wootton
Woodleys
Kirtlington
Weston-on-the-Green
A34
Bletchingdon
Woodstock
Blenheim Palace
Oxford Rd
Combe
Hampton Gay
Thrupp
Bladon
A44
Kidlington
Begbroke
Yarnton
Water Eaton
A40
Cassington

When Runway 01 is in use, an aircraft doing a VFR landing having come in from the north will come into the ATZ and then turn within the ATZ to land which will bring them over **Yarnton**

Airport's Air Traffic Zone (ATZ)

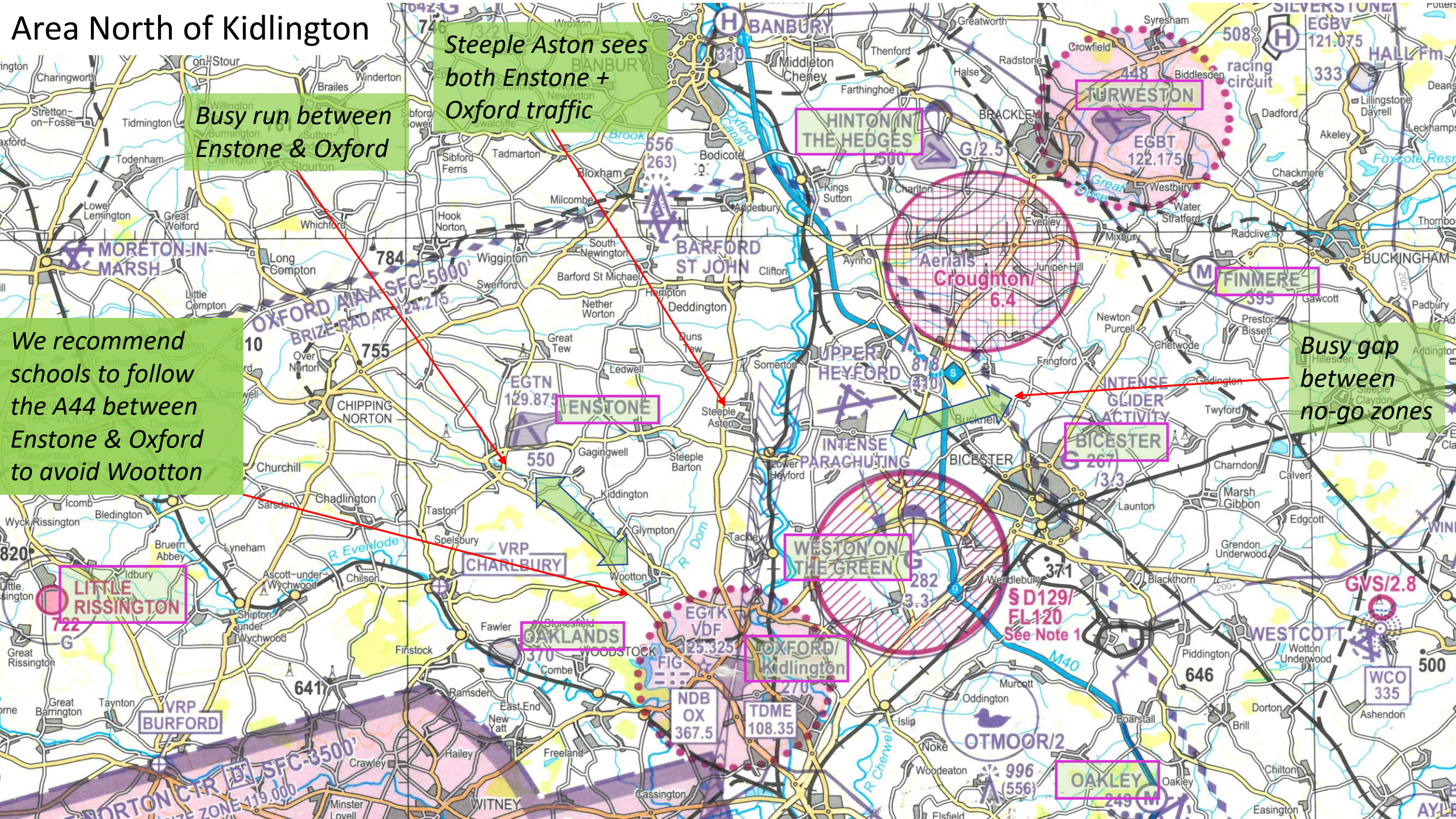
St. Mary Church

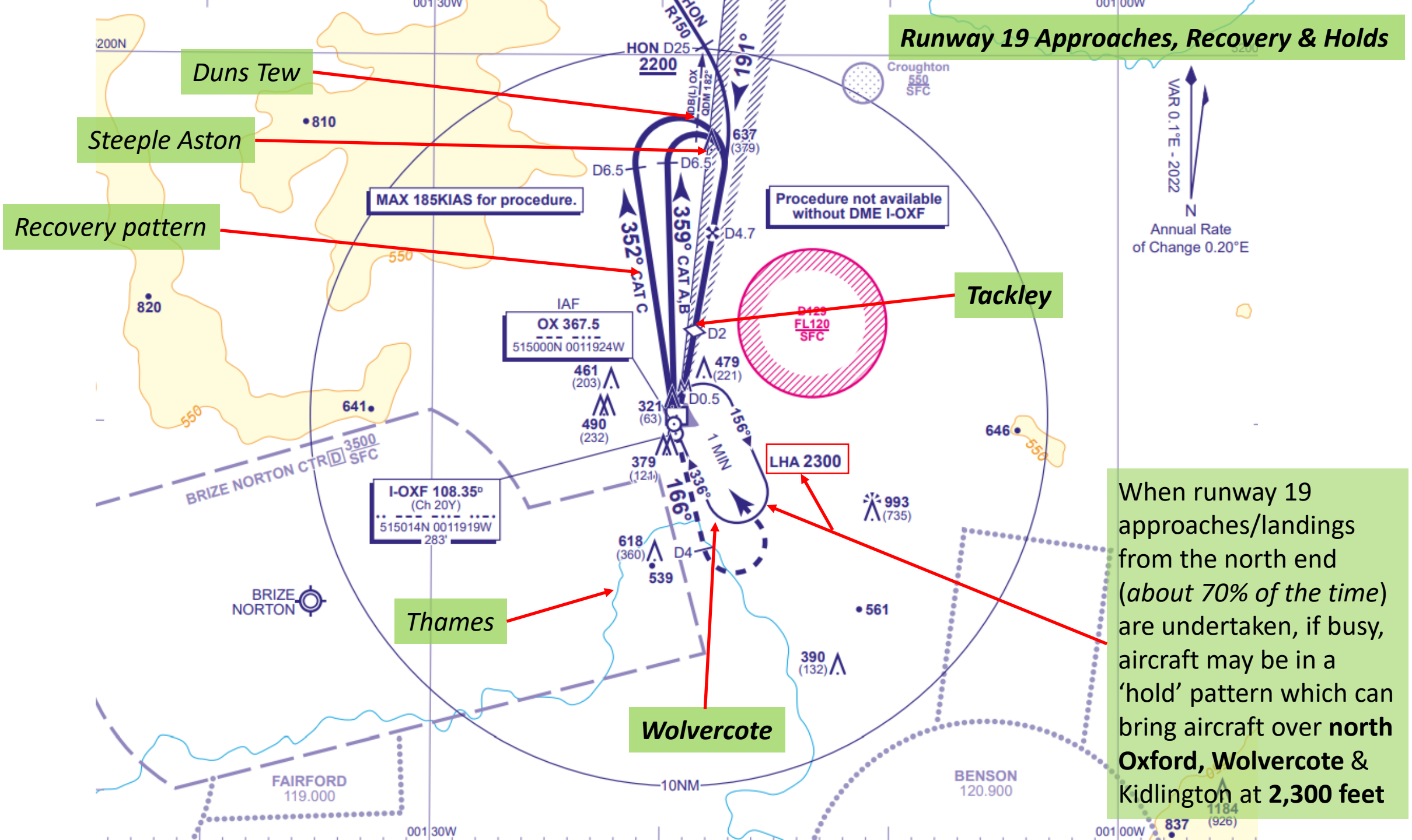


Area to the North of the Airport

LONDON OXFORD AIRPORT

Area North of Kidlington




Runway 19 Approaches, Recovery & Holds
Duns Tew
Steeple Aston
Recovery pattern
Tackley
Wolvercote
Thames
When runway 19 approaches/landings from the north end (*about 70% of the time*) are undertaken, if busy, aircraft may be in a 'hold' pattern which can bring aircraft over **north Oxford, Wolvercote** & Kidlington at **2,300 feet**
MAX 185KIAS for procedure.
Procedure not available without DME I-OXF
LHA 2300
HON D25
2200
191°
352° CAT C
359° CAT A,B
166°
156°
1 MIN
IAF
OX 367.5
515000N 0011924W
I-OXF 108.35D
(Ch 20Y)
515014N 0011919W
283'
D6.5
D4.7
D2
D0.5
D4
BRIZE NORTON CTR D 3500 SFC
FL120 SFC
Croughton 550 SFC
VAR 0.1°E - 2022
N
Annual Rate of Change 0.20°E
BRIZE NORTON
FAIRFORD 119.000
BENSON 120.900
10NM
001 30W
001 00W

When runway 19 approaches/landings from the north end (*about 70% of the time*) are undertaken, aircraft join the instrument approach (ILS) typically around six miles or further out from the runway, where they will be at around 1,700 feet

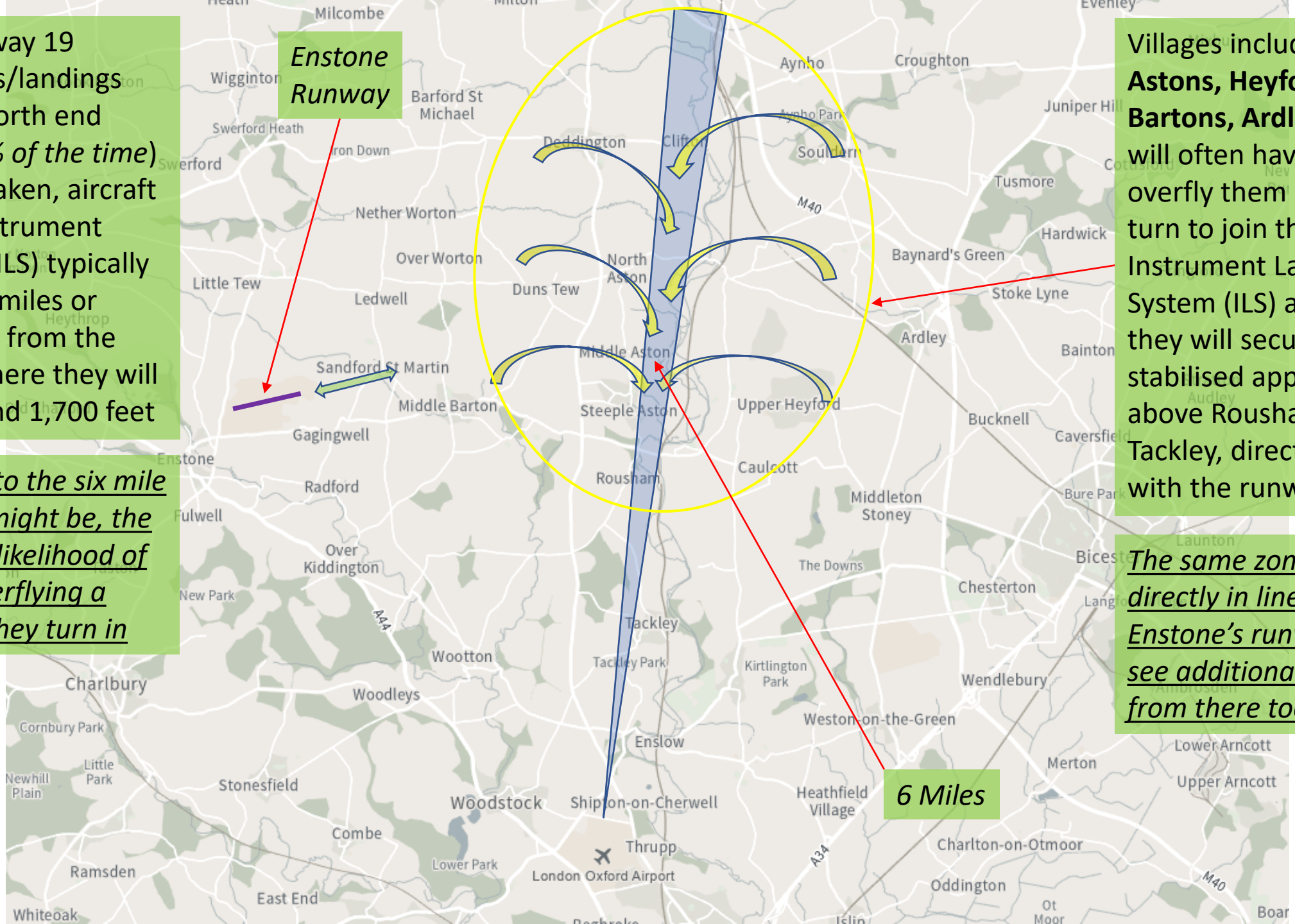
Enstone Runway

<u>The closer to the six mile point one might be, the higher the likelihood of aircraft overflying a village as they turn in</u>

Villages including the **Astons, Heyfords, Tews, Bartons, Ardley, Fritwell** will often have aircraft overfly them as they turn to join the Instrument Landing System (ILS) after which they will secure a stabilised approach above Rousham and Tackley, directly in line with the runway

<u>The same zone is directly in line with Enstone's runway so will see additional traffic from there too</u>

6 Miles



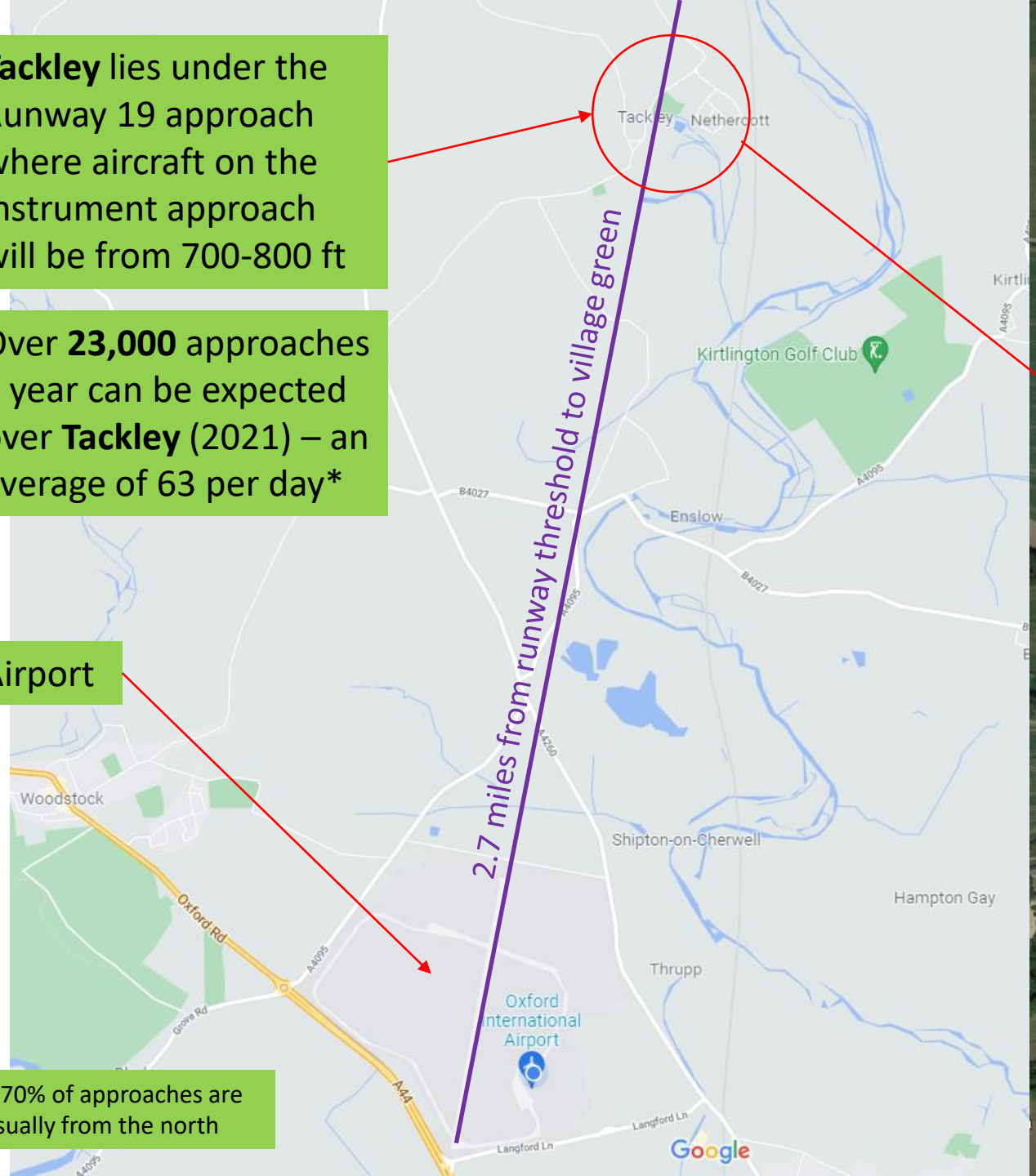

Duns Tew
North Aston
Middle Aston
Somerton
Heyfords
Steeple Aston
Rousham
Caulcott
All these villages have a high likelihood of being overflown as aircraft turn in to join the final approach to the runway

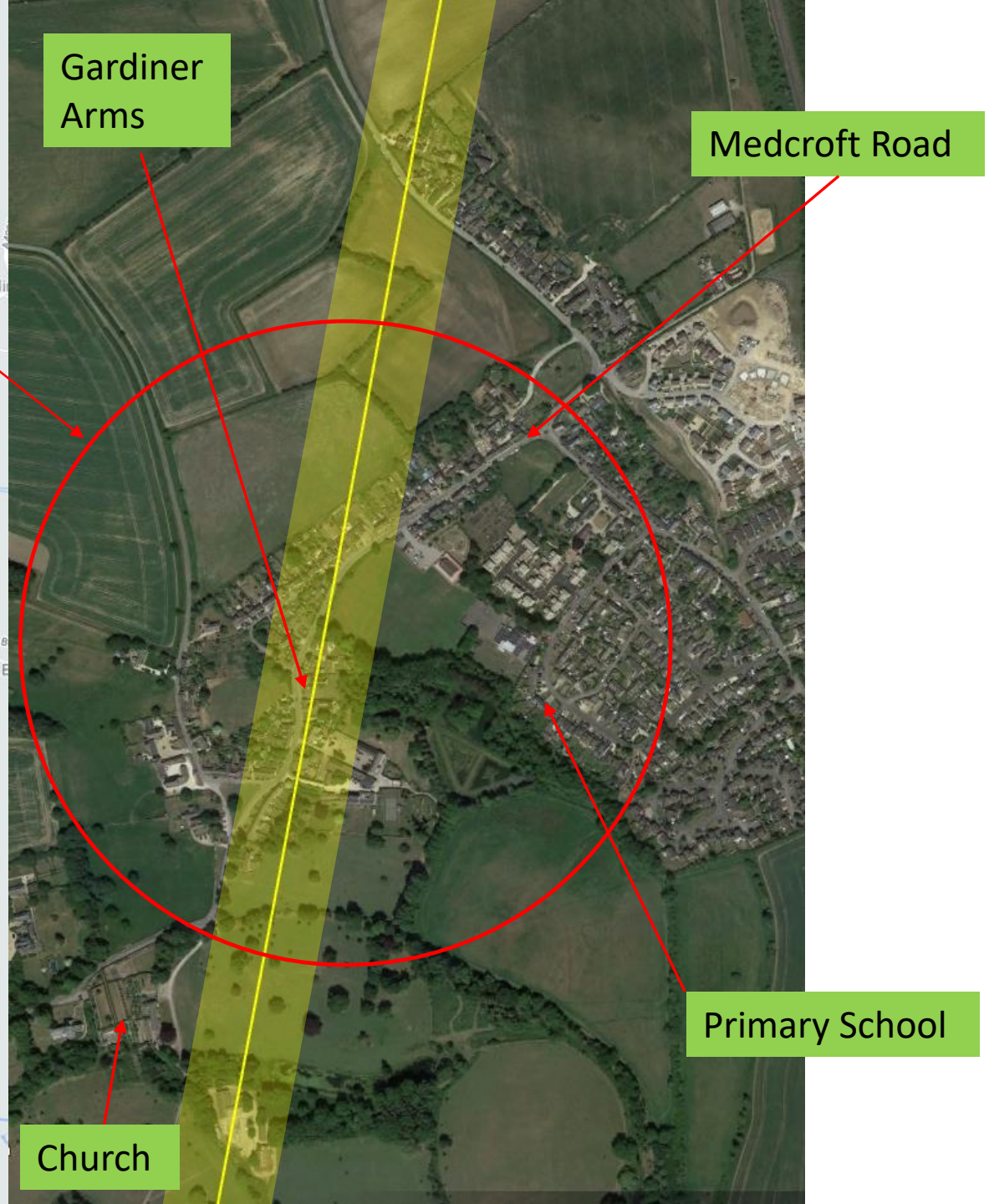
Tackley lies under the Runway 19 approach where aircraft on the instrument approach will be from 700-800 ft

Over **23,000** approaches a year can be expected over **Tackley** (2021) – an average of 63 per day*

Airport

* 70% of approaches are usually from the north

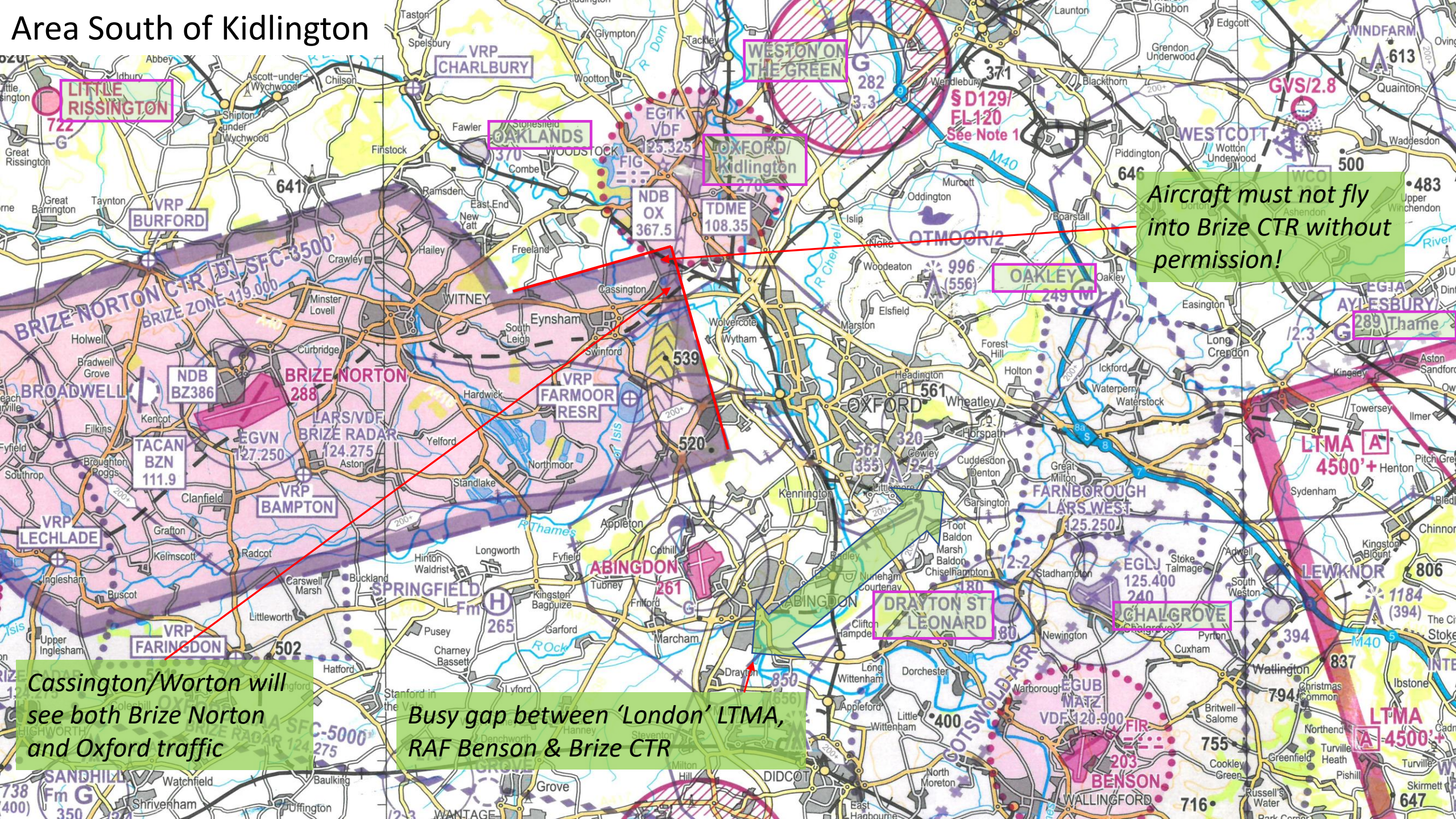




Area to the South of the Airport

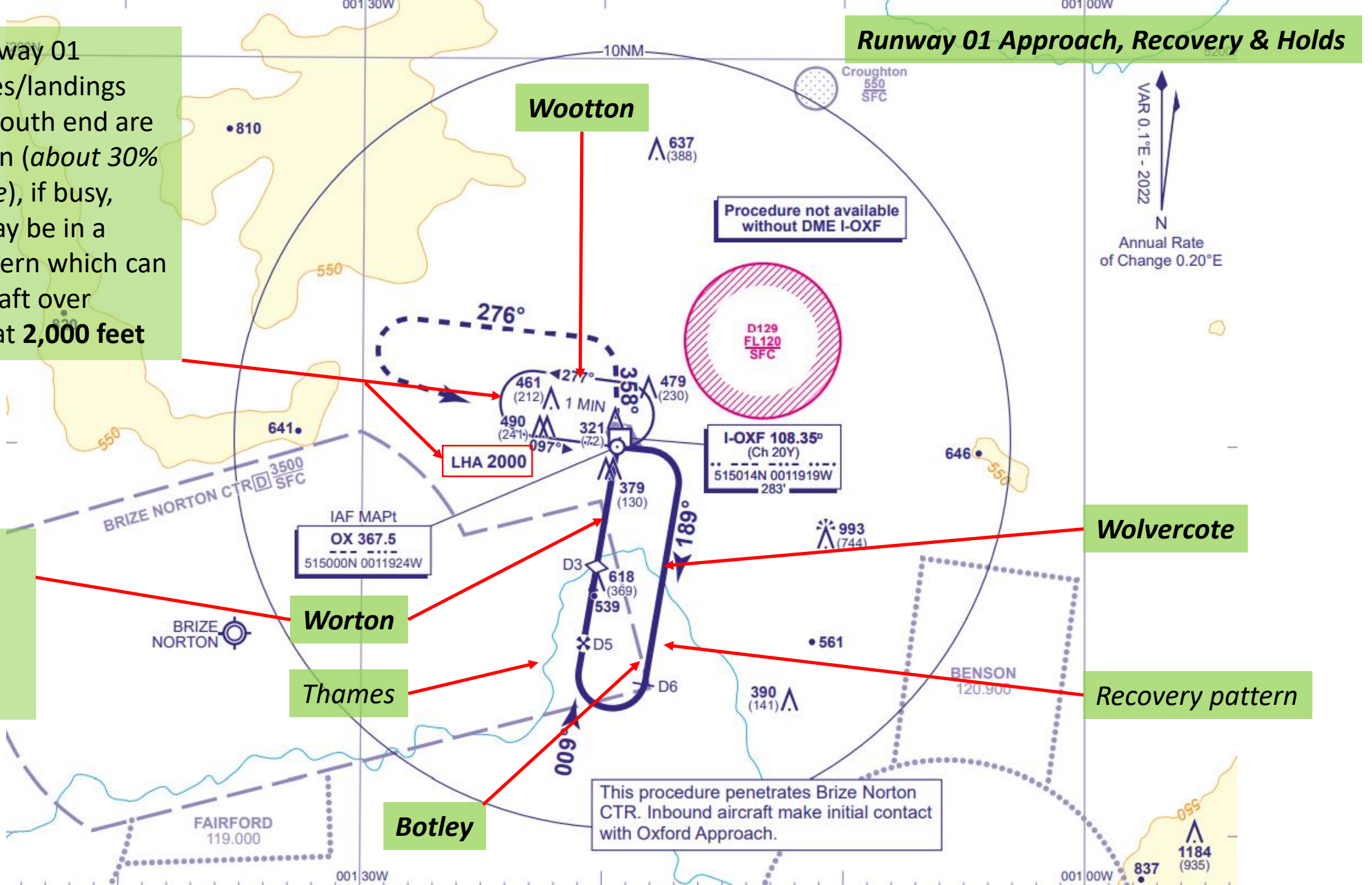
LONDON OXFORD AIRPORT

Area South of Kidlington



Runway 01 Approach, Recovery & Holds

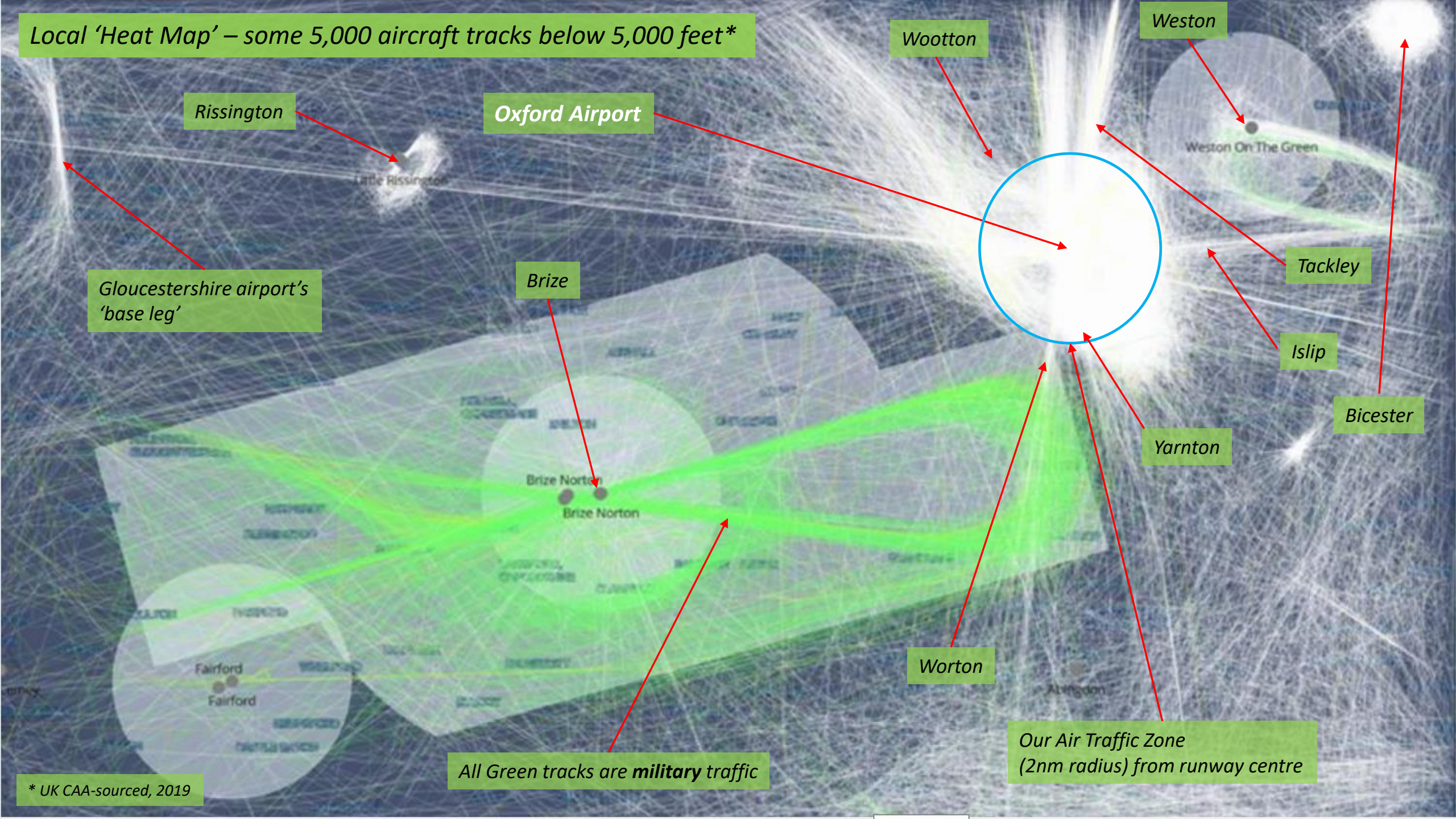
When runway 01 approaches/landings from the south end are undertaken (*about 30% of the time*), if busy, aircraft may be in a 'hold' pattern which can bring aircraft over **Wootton** at **2,000 feet**



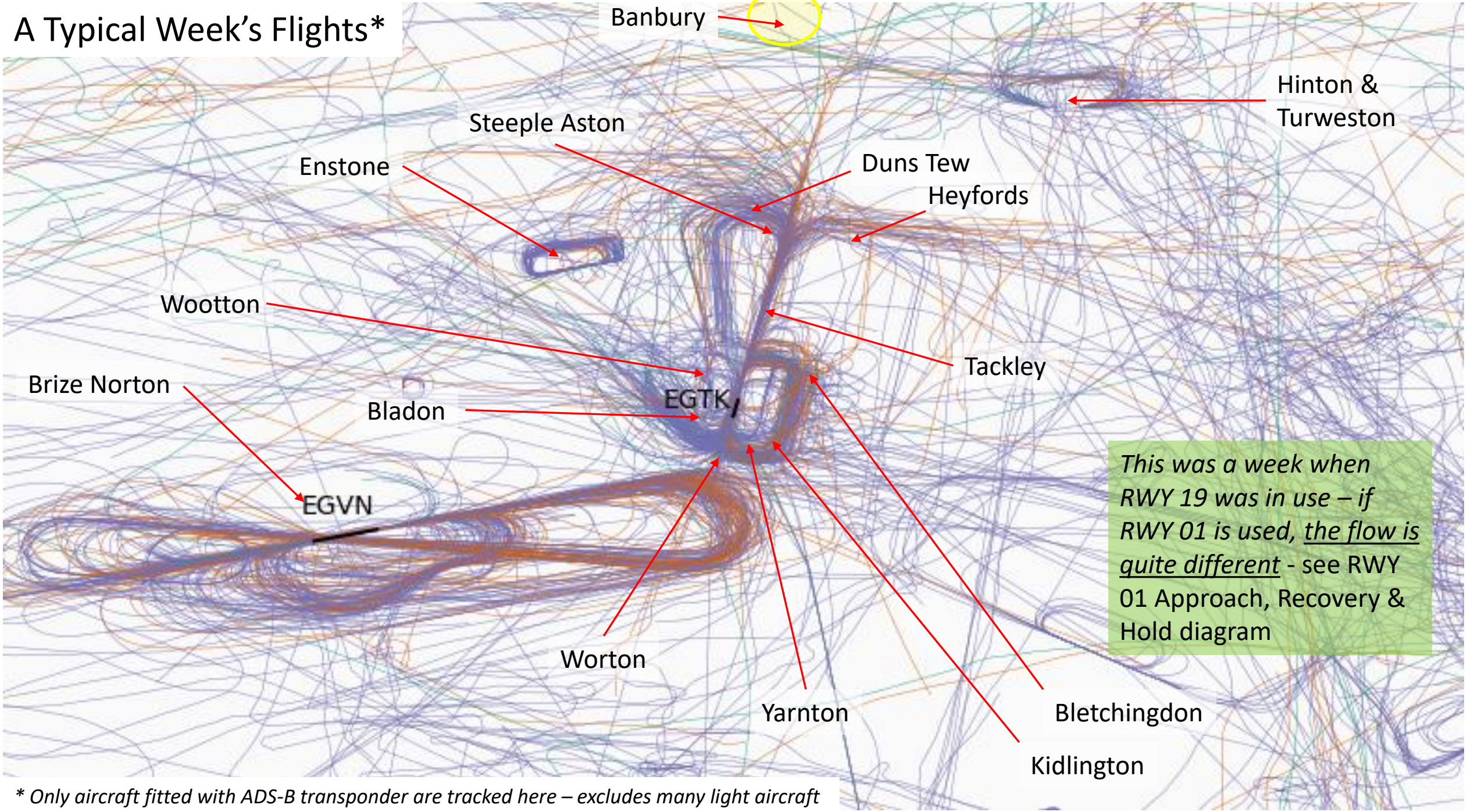
Worton is directly under the southern approach

Local Airspace Air Traffic ‘Heat Maps’ – Traffic Density

LONDON OXFORD AIRPORT


Local 'Heat Map' – some 5,000 aircraft tracks below 5,000 feet*
Wootton
Weston
Rissington
Oxford Airport
Weston On The Green
Little Rissington
Tackley
Gloucestershire airport's 'base leg'
Brize
Islip
Bicester
Brize Norton
Yarnton
Worton
Fairford
All Green tracks are military traffic
Our Air Traffic Zone (2nm radius) from runway centre
* UK CAA-sourced, 2019

A Typical Week's Flights*

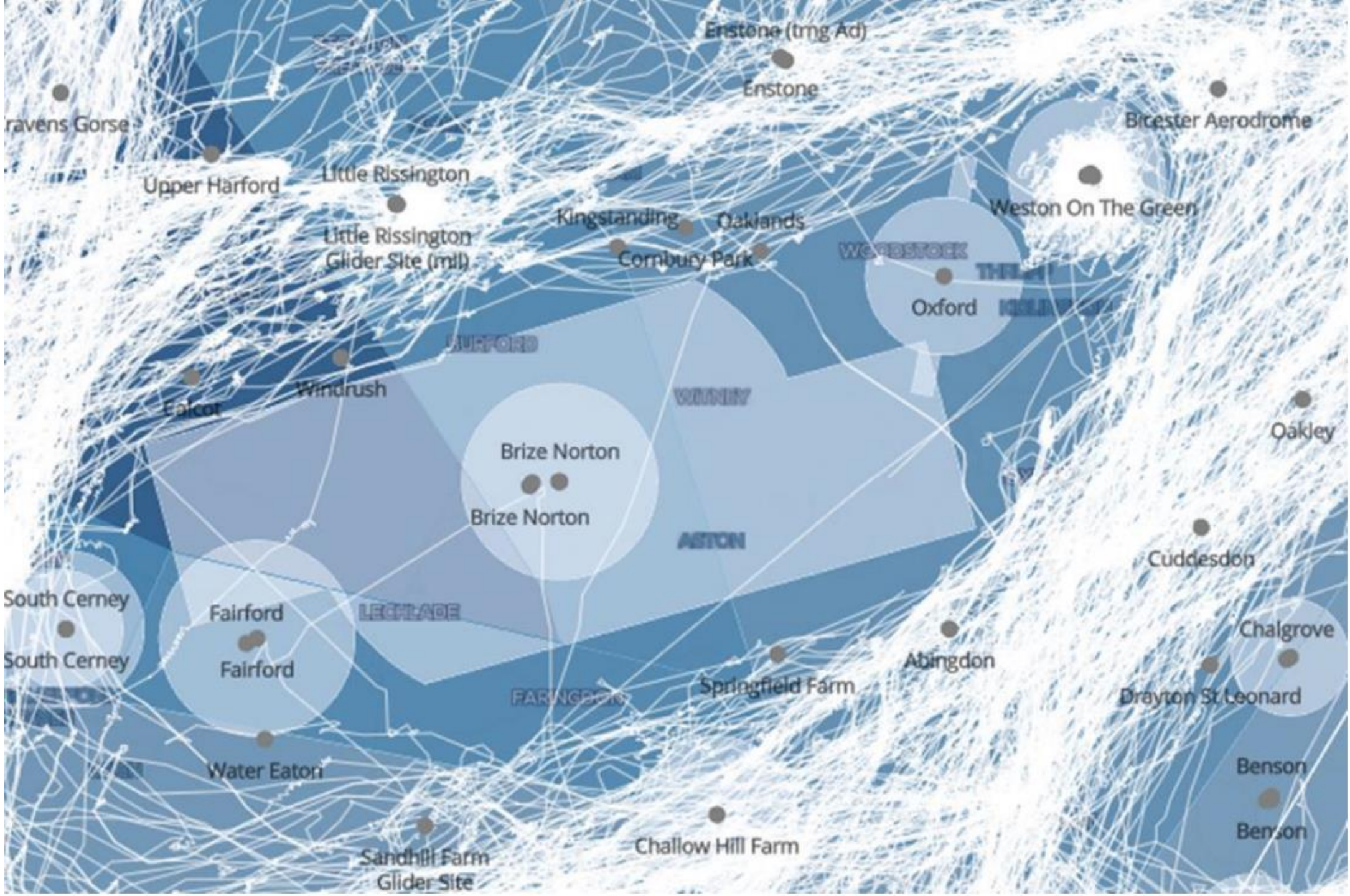


** Only aircraft fitted with ADS-B transponder are tracked here – excludes many light aircraft*

Tracking of **glider** flights only, over a ten day period, mid-summer, below 5,000 ft.

*Shows general avoidance of Oxford **ATZ** and Brize **CTR** (controlled / safeguarded airspace)*

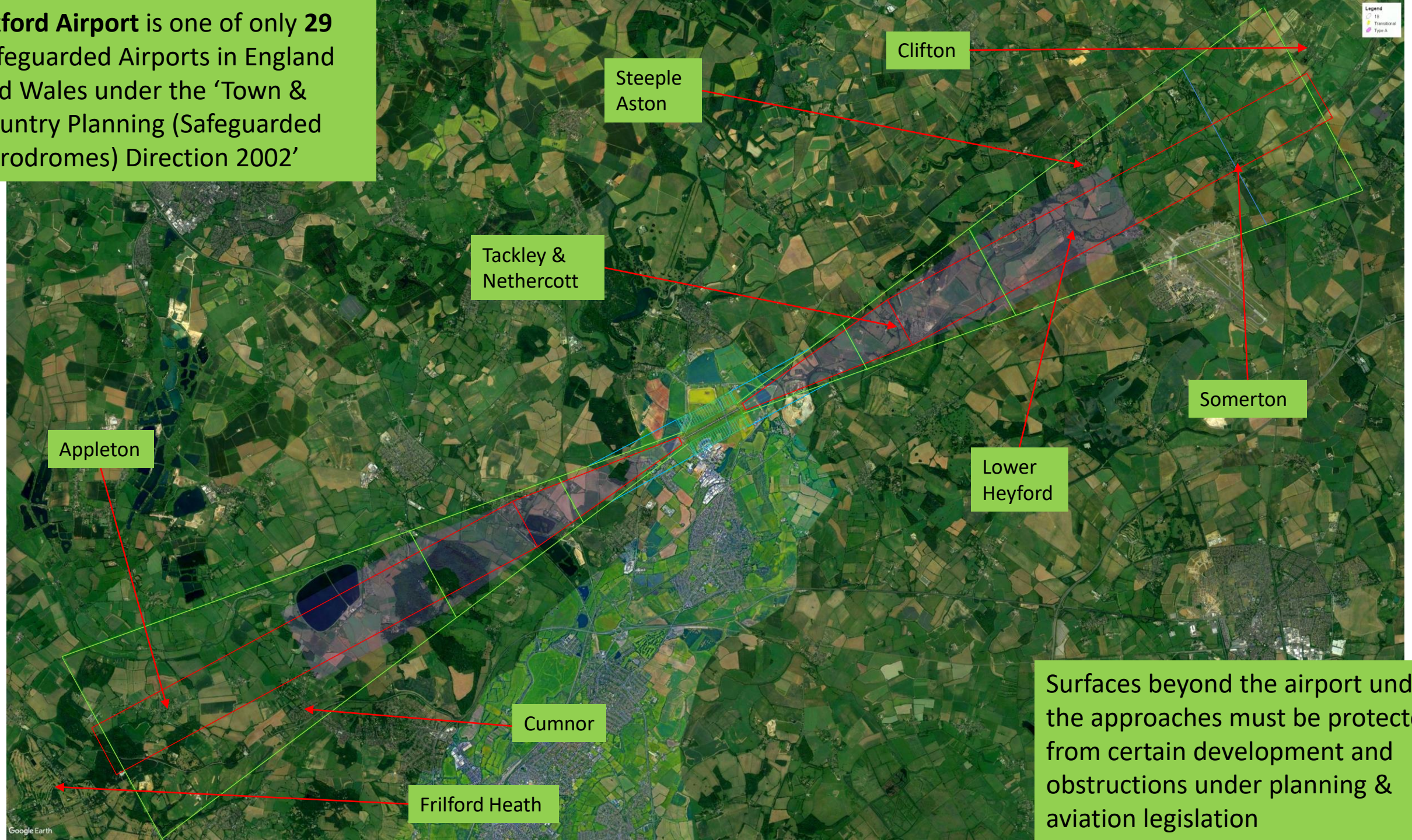
Source - CAA



Oxford Airport Safeguarding

LONDON OXFORD AIRPORT

Oxford Airport is one of only **29** Safeguarded Airports in England and Wales under the 'Town & Country Planning (Safeguarded Aerodromes) Direction 2002'



Surfaces beyond the airport under the approaches must be protected from certain development and obstructions under planning & aviation legislation

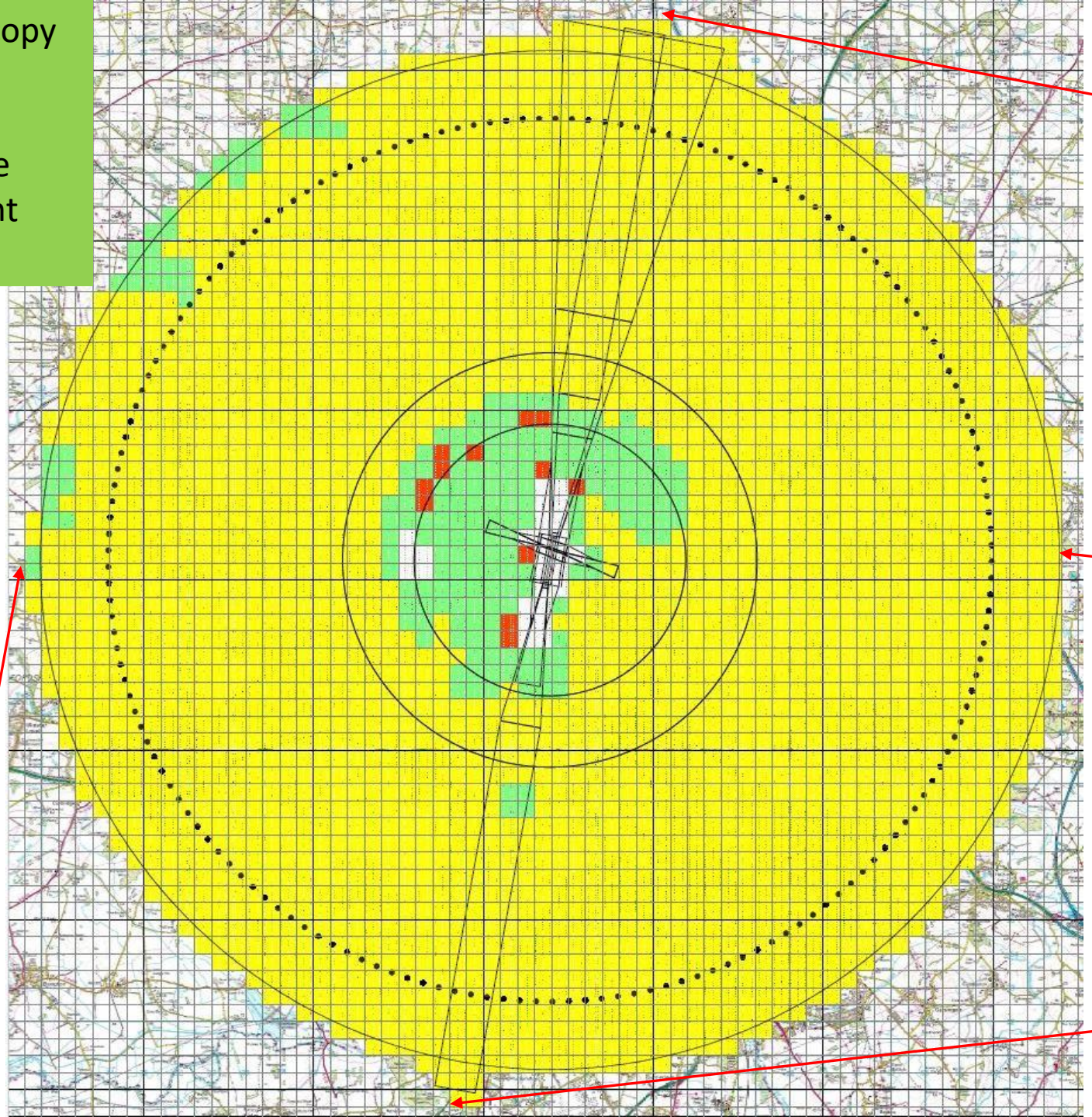
The local authorities hold a copy of the Oxford Airport **Safeguarding Map**. Any development under this zone needs checking against height limits & other criteria

All Development

Anything above 10m (32.8 ft.)

Anything above 15m (32.8 ft.)

Anything above 45m (147.6 ft.)



Clifton & Souldern

Arncott

Tubney Woods

Leafield

London Oxford Airport is a nationally 'Safeguarded Airport' under the Town & Country Planning Safeguarded Aerodromes Direction 2002 (one of only **29** in England and Wales).

These airports are selected on the basis of their importance to the national air transport system and are therefore officially safeguarded, in order to ensure that their operation and development are not inhibited by '*buildings, structures, erections or works which infringe protected surfaces, obscure runway approach lights or have the potential to impair the performance of aerodrome navigation aids, radio aids or telecommunication systems; by lighting which has the potential to distract pilots; or by developments which have the potential to increase the number of birds or the bird hazard risk.*'

In order to determine the safety implications of a planning application for a development within the **approach, take-off or circuit areas of an aerodrome**, a safeguarding process is established with all the relevant local planning authorities

Proposed Local Housing Development

LONDON OXFORD AIRPORT

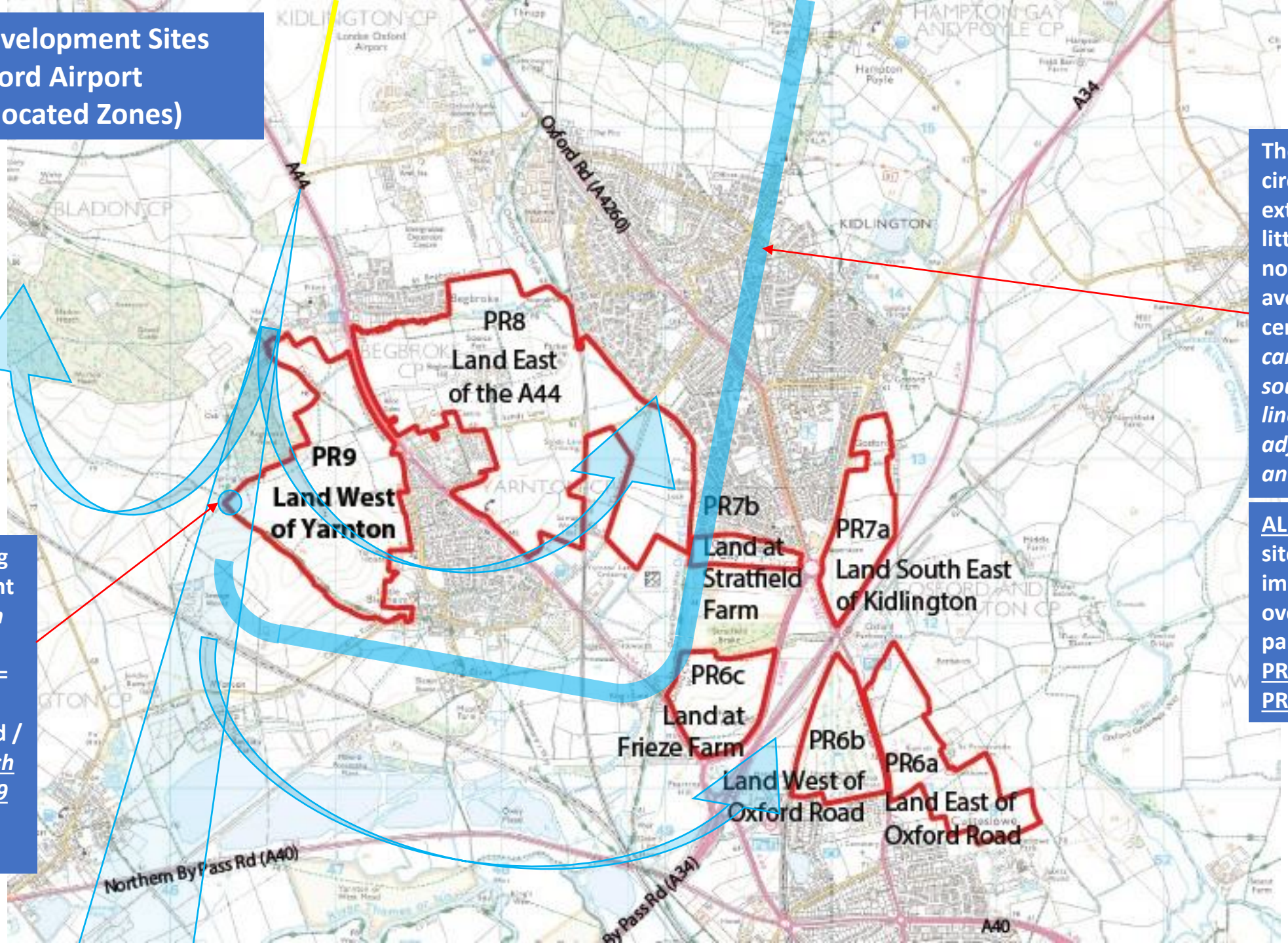
London Oxford Airport is in close proximity to a number of proposed and formally 'allocated' development sites for both housing and commercial buildings.

These include sites southeast of Woodstock, the vicinity of Begbroke, Yarnton and Kidlington. To date, proposals for up to 4,400 new houses in this area, north of Oxford, have been tabled.

All will be impacted by airport-related activity to varying degrees.

The following slides show in a little more detail how they may be affected.

Proposed Development Sites South of Oxford Airport (Cherwell Allocated Zones)



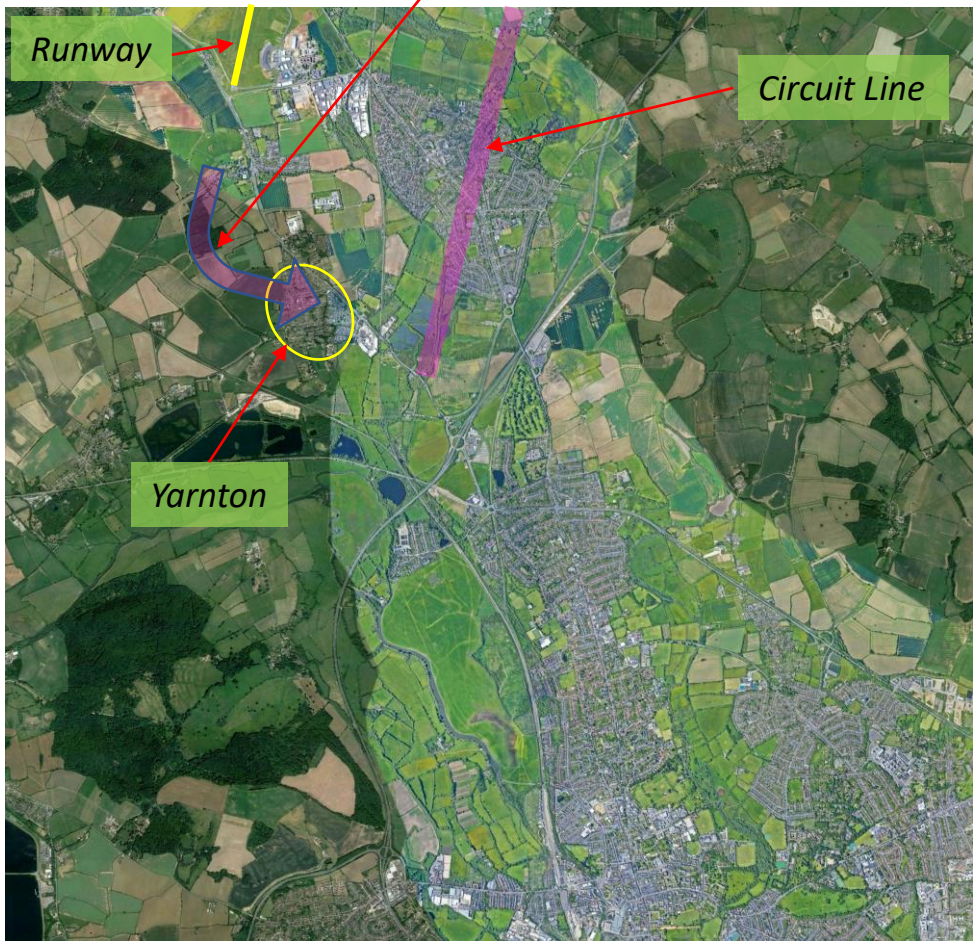
The airport circuit pattern is extended south a little further than normal to help avoid Yarnton centre, *but cannot go further south than rail line and will be adjacent to PR7b and PR6c*

<u>ALL</u> allocated sites will be impacted by overflying, but in particular <u>PR9, PR8, PR7b and PR6c</u>

Aircraft heading east on IFR flight plans *must turn 1.5nm from runway centre* = just after Begbroke Wood / Spring Hill *<u>which will go over PR9 and central Yarnton</u>*

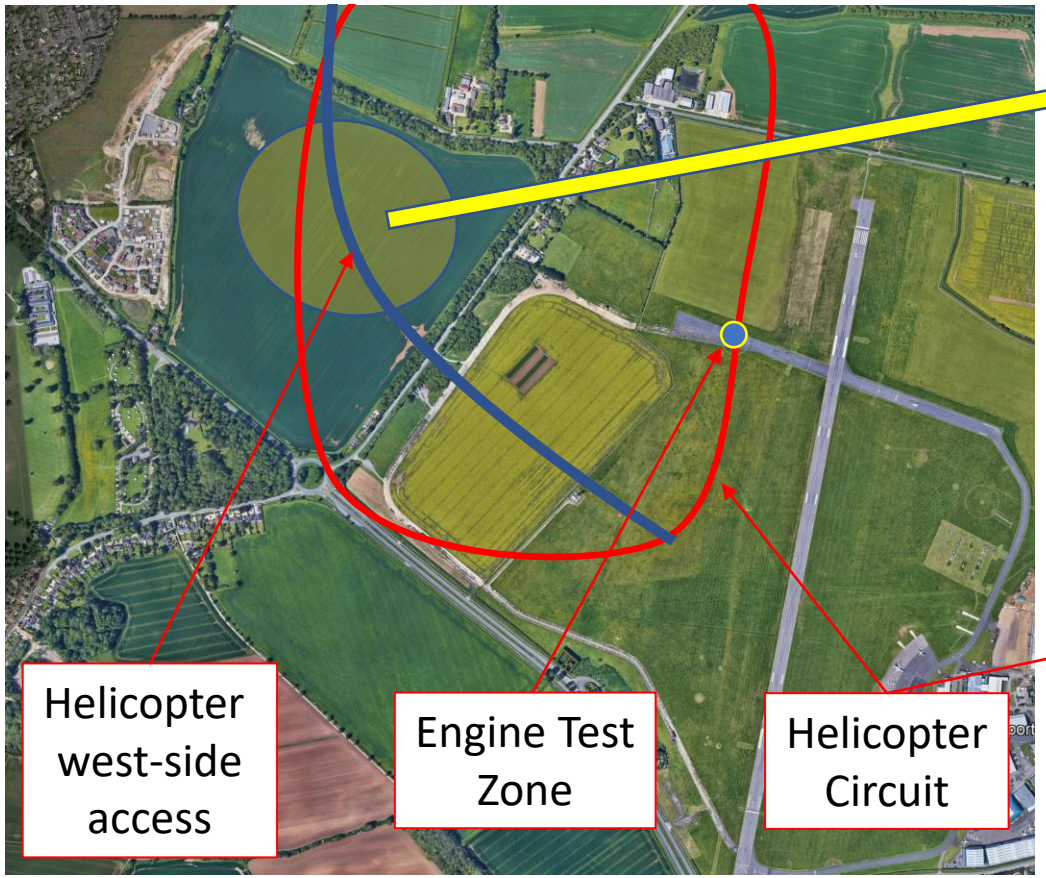
With proposed new development zones, the **Airport Circuit** pattern is right next to **PR9**, **PR6C** and *crosses* **PR7B**.

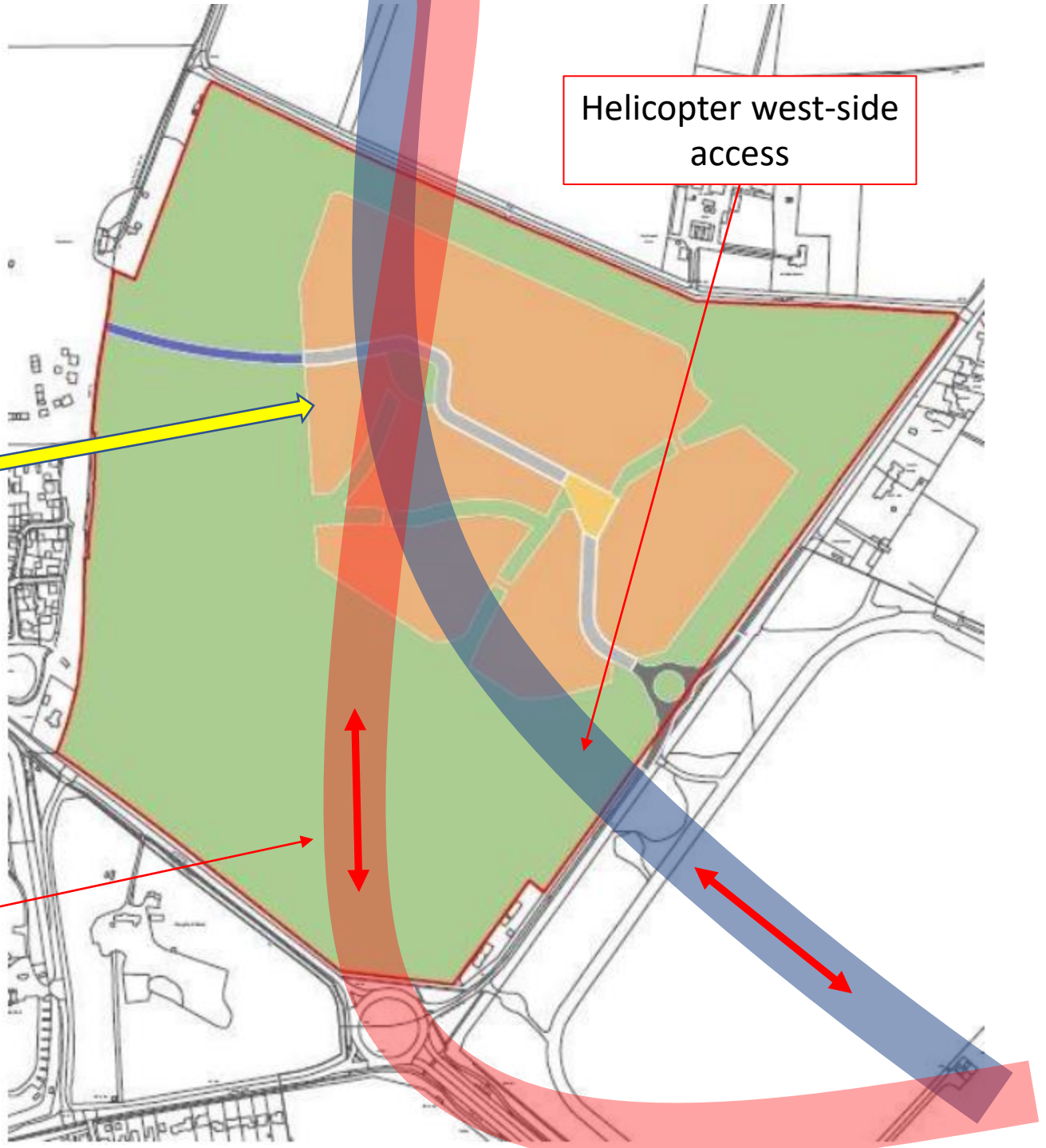
East-bound, departing IFR flights to the south, must turn 1.5nm from the runway centre, bringing those *right over* **PR9** & Yarnton and in *close proximity to or right above* **PR6A**, **PR6B**, **PR6C**, **PR7A**, **PR7B** and over the south side of **PR8**



Land East of Park View, Woodstock (Blenheim Estates)

The proposed development lies just to the west of the airport *right under the helicopter circuit and the approaches to/from the west side for helicopters*. It is also directly due west of the engine test zone on the old crosswind runway.





Preferred Housing Site Allocation – Land North of The Moors

The northern edge of this proposed housing site lies right along the recommended path for helicopters accessing the airport from the east side

The east end of this proposed zone lies right under the airport's circuit pattern and could be subjected to typically up to 200 overflights a day at about 1000 feet on a busy summer day

Circuit Pattern & Position*
(as used for training)

LONDON OXFORD AIRPORT

* A separate set of slides is available for more detail on the airport circuit on request

Oxford Circuit

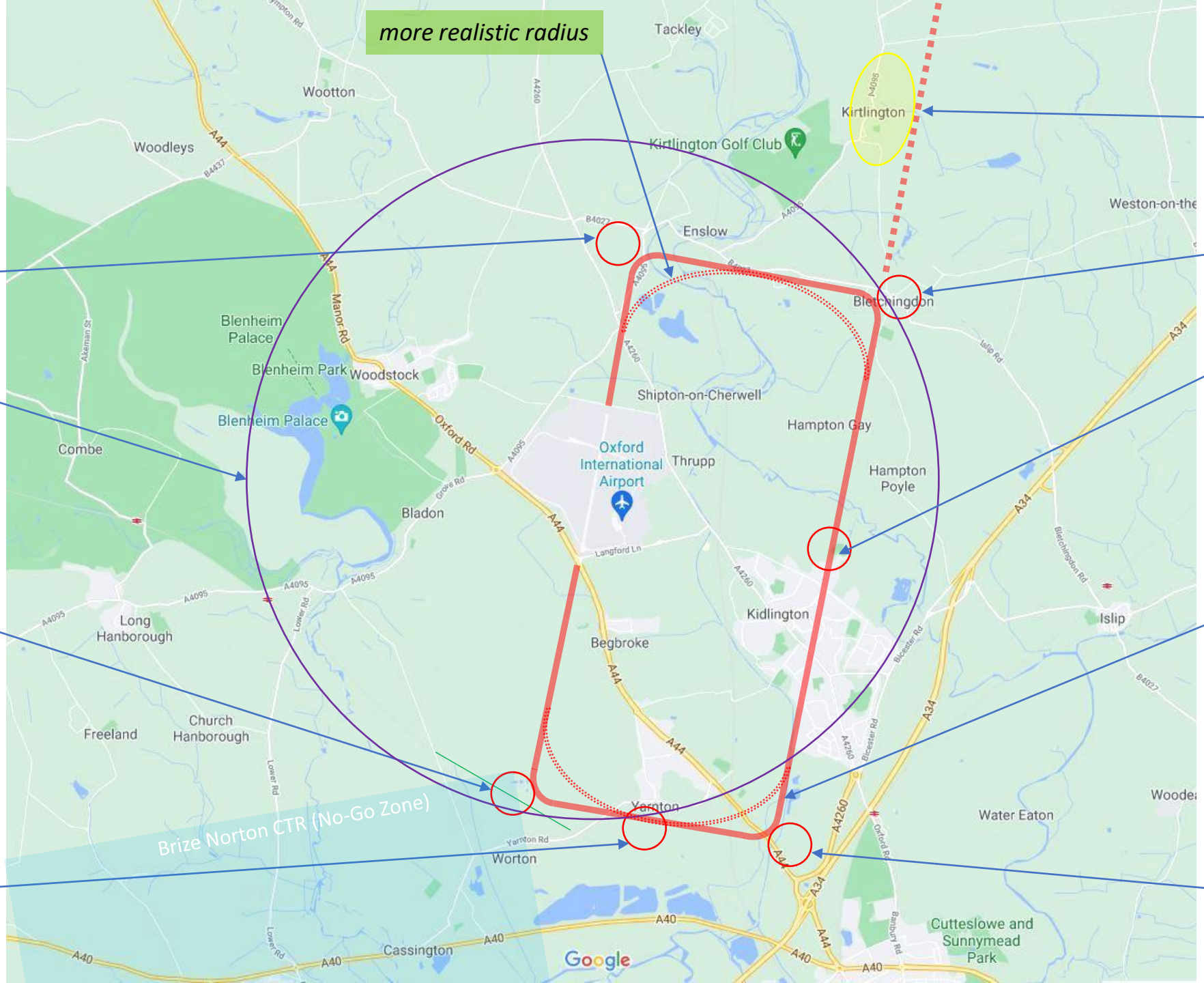
***1,500 feet** above sea level (QNH)*

Turn at Bunkers Hill / A4095

Airport's Air Traffic Zone (ATZ)

Turn at water works and *before* rail line *to avoid Brize Norton CTR*

This leg should be between Yarnton Manor / St. Bartholomew Church & main village



Extended downwind leg passes **Kirtlington**

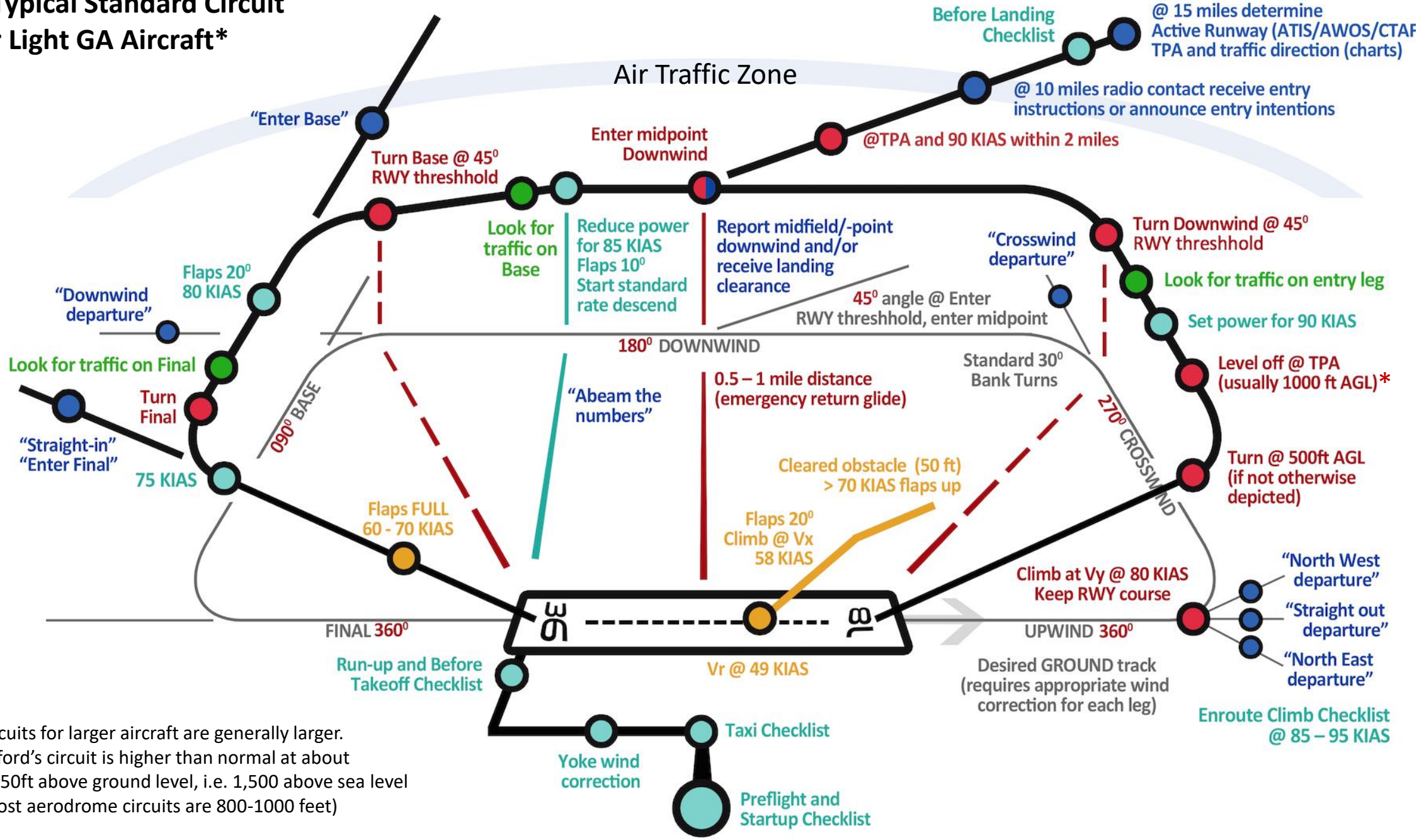
Turn just before **Bletchingdon**

St. Mary Church

Note – *<u>Standard Circuits are supposed to be contained within the ATZ, but OXF's pops-out to help avoid Yarnton centre</u>*

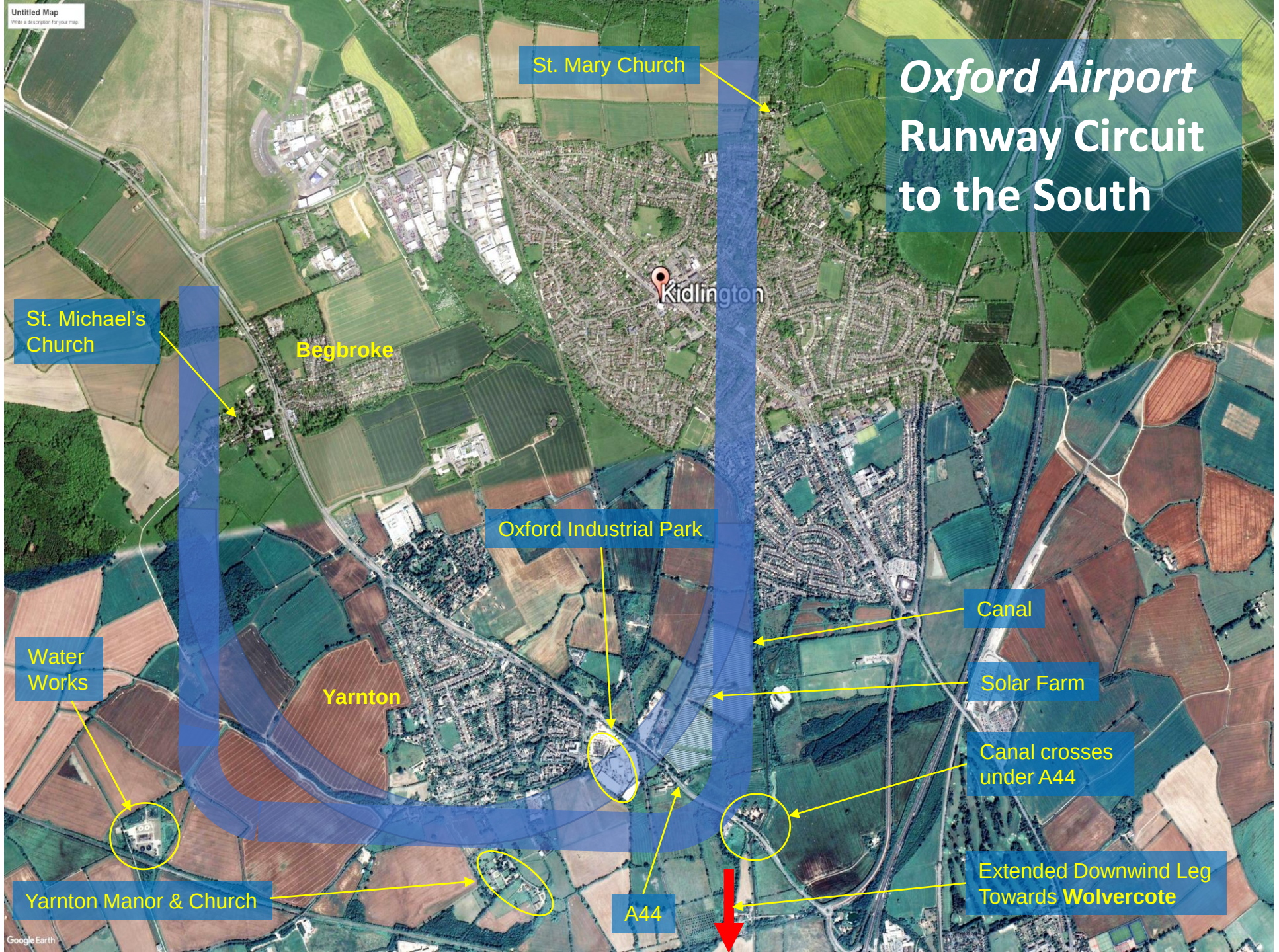
Turn at canal and A44 junction and above solar farm

A Typical Standard Circuit for Light GA Aircraft*

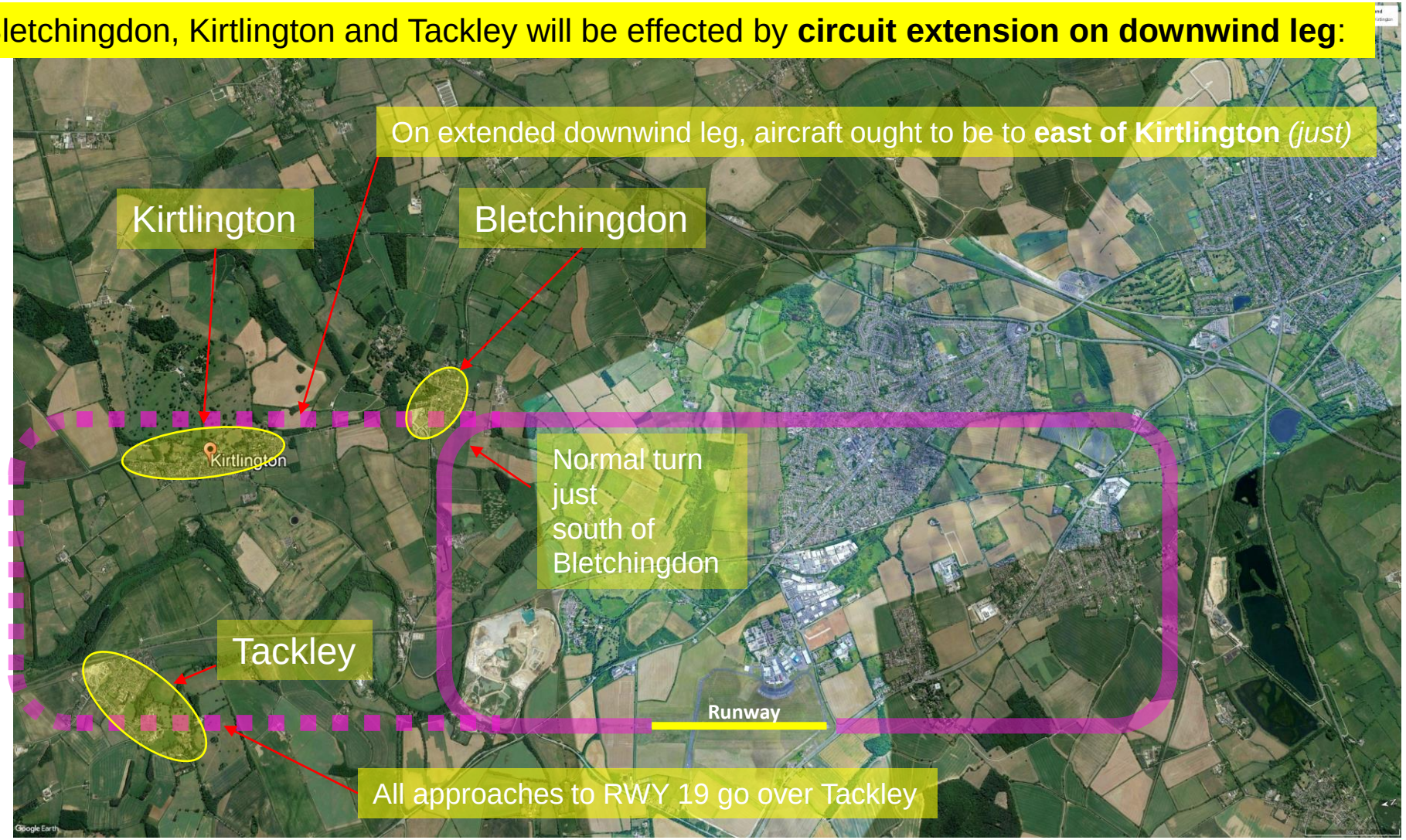


*Circuits for larger aircraft are generally larger. Oxford's circuit is higher than normal at about 1,250ft above ground level, i.e. 1,500 above sea level (most aerodrome circuits are 800-1000 feet)


Untitled Map
Write a description for your map.
Oxford Airport
Runway Circuit
to the North
Extended Downwind Leg
towards Kirtlington
Duchy Field
Estate
Enslow
Bletchingdon
Bunkers Hill
Greenhill Leisure Park
Shipton Quarry
Willowbrook Farm
Shipton-on-Cherwell
Hampton Gay
Hampton Poyle
Google Earth


Untitled Map
Write a description for your map.
St. Mary Church
Oxford Airport
Runway Circuit
to the South
Kidlington
St. Michael's Church
Begbroke
Oxford Industrial Park
Canal
Water Works
Yarnton
Solar Farm
Canal crosses under A44
Yarnton Manor & Church
A44
Extended Downwind Leg Towards Wolvercote
Google Earth

Bletchingdon, Kirtlington and Tackley will be effected by **circuit extension on downwind leg**:



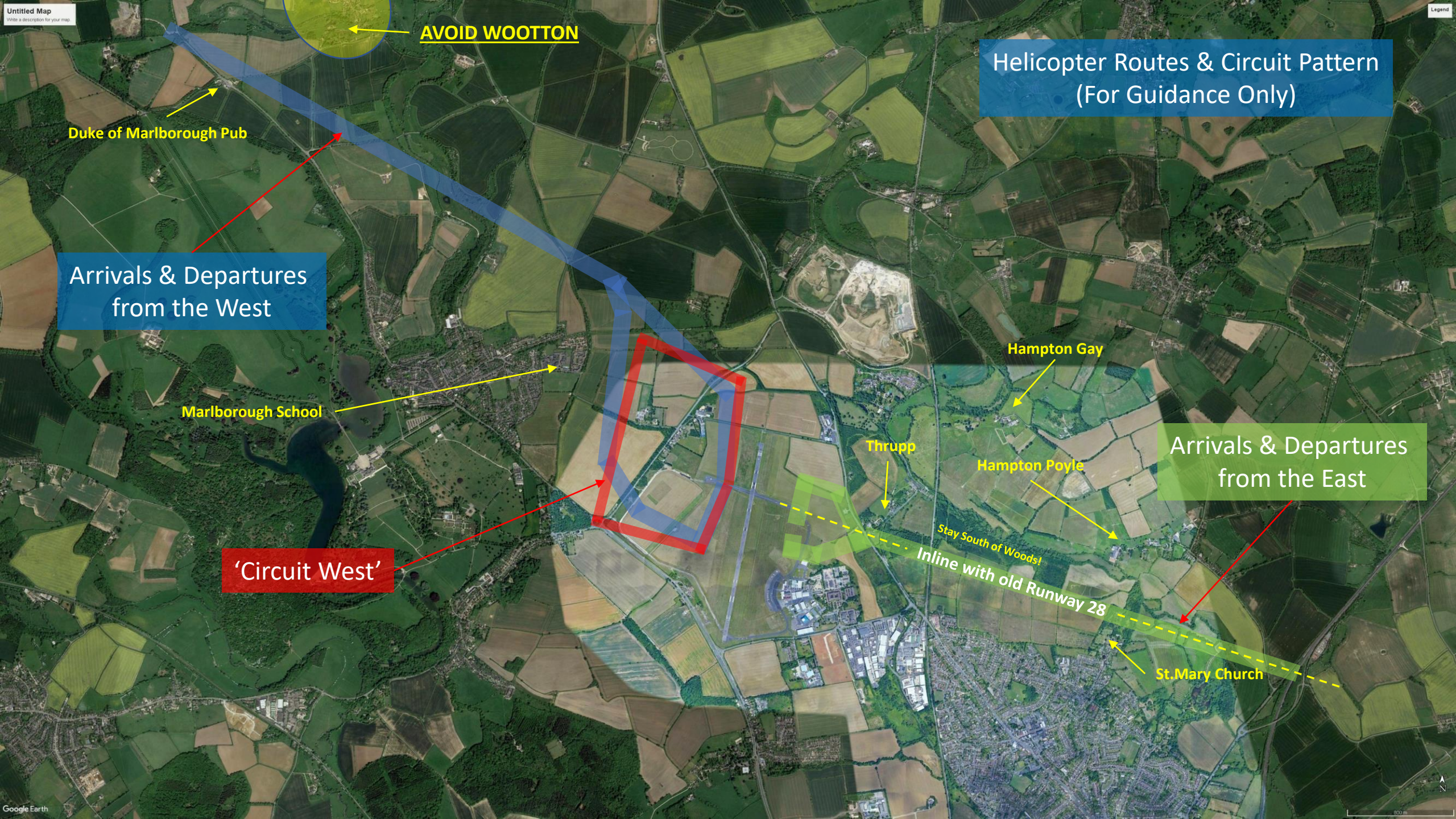

Benmead Road
St. Mary Church
Runway
Green Road
Direction usually 70% to north /
30% to south – due to wind
Yarnton Road
Moreton Road
Canal
OXF / EGTK Circuit Path Above Kidlington
Langford Ln
Kidlington
Begbroke
Bicester Rd
GOSFORD
A34
A4260
A44
Cassington Rd
Yarnton
Google

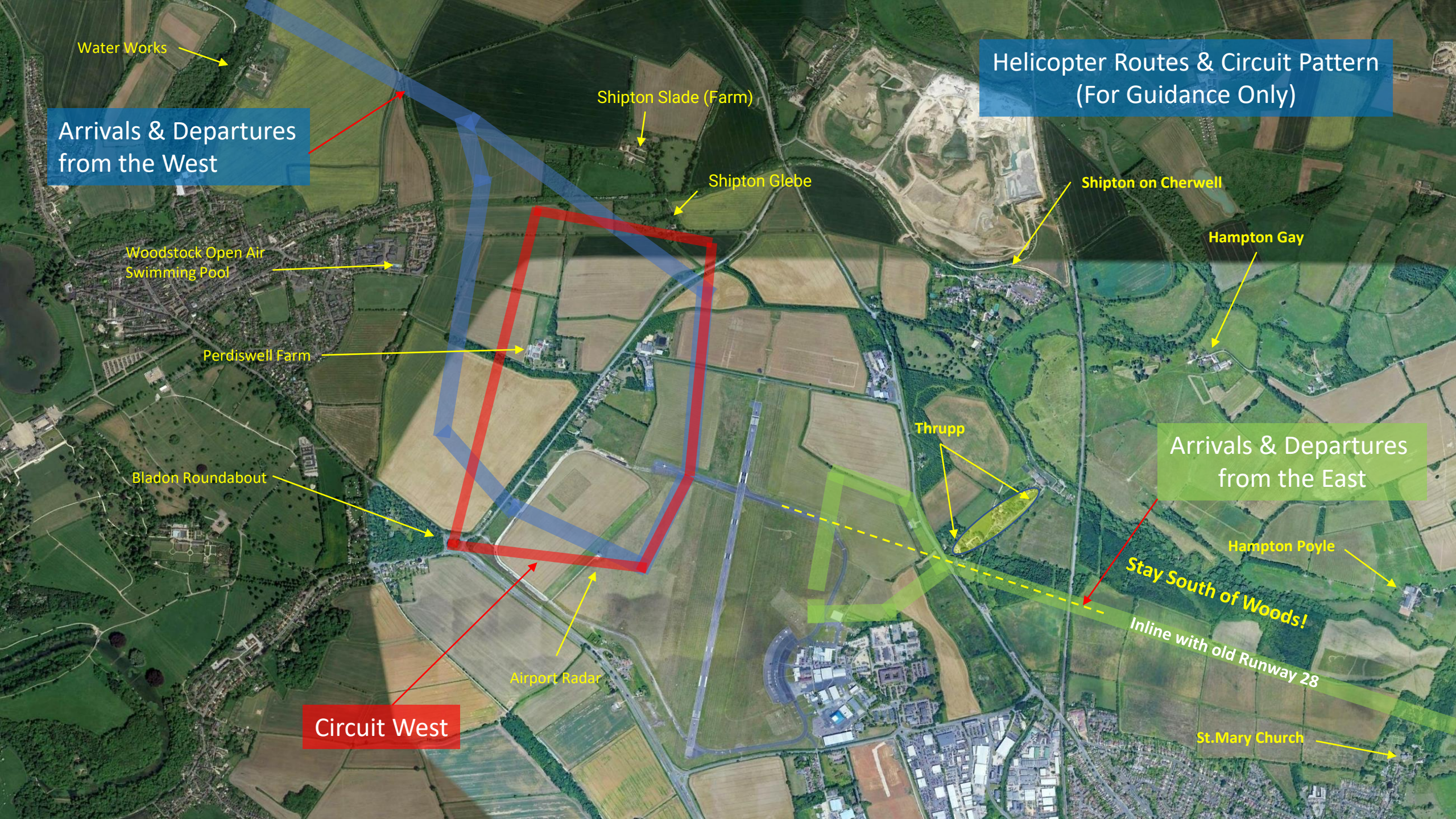
Circuit noise impact very different today compared to 75 years ago

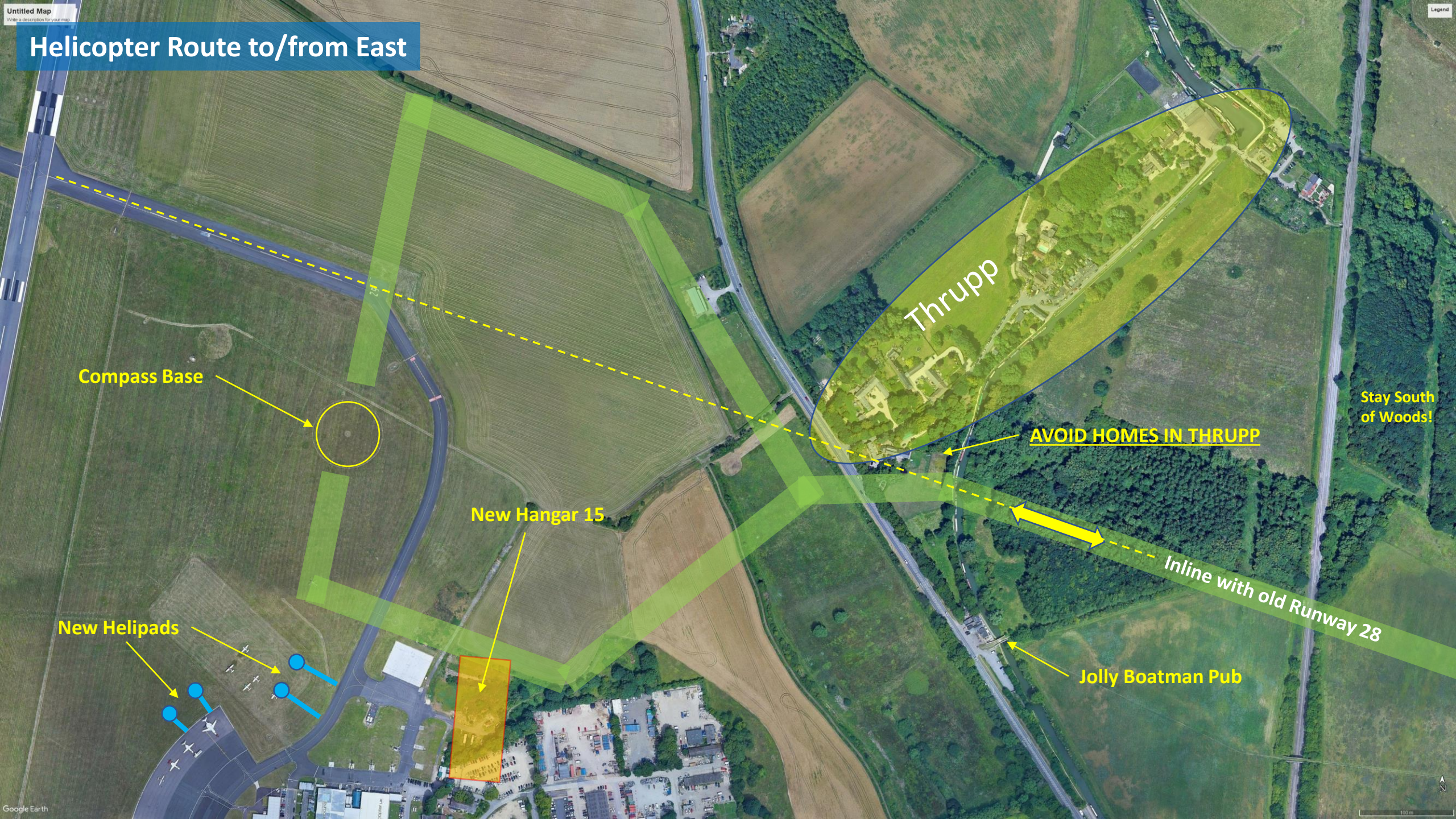
Several hundred additional residencies under circuit today

Helicopter Routes & Recommended Heli Circuit

LONDON OXFORD AIRPORT


Untitled Map
Write a description for your map.
AVOID WOOTTON
Duke of Marlborough Pub
Helicopter Routes & Circuit Pattern
(For Guidance Only)
Arrivals & Departures
from the West
Marlborough School
Hampton Gay
Thrupp
Hampton Poyle
Arrivals & Departures
from the East
'Circuit West'
Stay South of Woods!
Inline with old Runway 28
St.Mary Church
Google Earth


Helicopter Routes & Circuit Pattern
(For Guidance Only)
Arrivals & Departures
from the West
Water Works
Shipton Slade (Farm)
Shipton Glebe
Shipton on Cherwell
Hampton Gay
Woodstock Open Air
Swimming Pool
Perdiswell Farm
Thrupp
Arrivals & Departures
from the East
Bladon Roundabout
Hampton Poyle
Stay South of Woods!
Inline with old Runway 28
Airport Radar
Circuit West
St.Mary Church


Untitled Map
Write a description for your map
Legend
Helicopter Route to/from East
Thrupp
Compass Base
New Hangar 15
New Helipads
AVOID HOMES IN THRUPP
Stay South of Woods!
Inline with old Runway 28
Jolly Boatman Pub
Google Earth

Revised Helicopter Routing to/from East Side Summer 2022 (*under review*)

LONDON OXFORD AIRPORT


Heli Hold Point North 'N'
FATO
Avoid Thrupp
Shipton-on-Cherwell
Avoid Shipton-on-Cherwell
Avoid Hampton Gay
Hampton Gay
CIRCUIT PATH!
Aim for A34 Islip/Hampton Poyle/Kidlington Junction !
Avoid Hampton Poyle
Jolly Boatman Pub
Church of St. Mary
Thrupp
Manor Park Mobile Home Park
Hampton Poyle
A34
be south of these woods
Oxford International Airport
follow line of these fields
St. Mary Church Spire
Avoid Kidlington
CIRCUIT PATH!
Kidlington
Cross A4260 middle of this field
Be well north of Richard Branson's lake


Heli Hold Point North ‘N’
Future (2024) Airbus Helicopter Facility
Jolly Boatman Pub
Railway Footbridge

Helicopter Routes
Noise Abatement Procedures

Helicopters should depart straight ahead on runway track, climb to 1000ft before turning, continuing to avoid overflying local conurbations

* This particular chart is typically included in third party published airfield flight guides for mainly recreational pilots (i.e. AFE, Pooleys etc.)

Promulgated Noise Abatement Guidance in Oxford Airport's listing in UK CAA AIP (Aeronautical Information Publication)

LONDON OXFORD AIRPORT

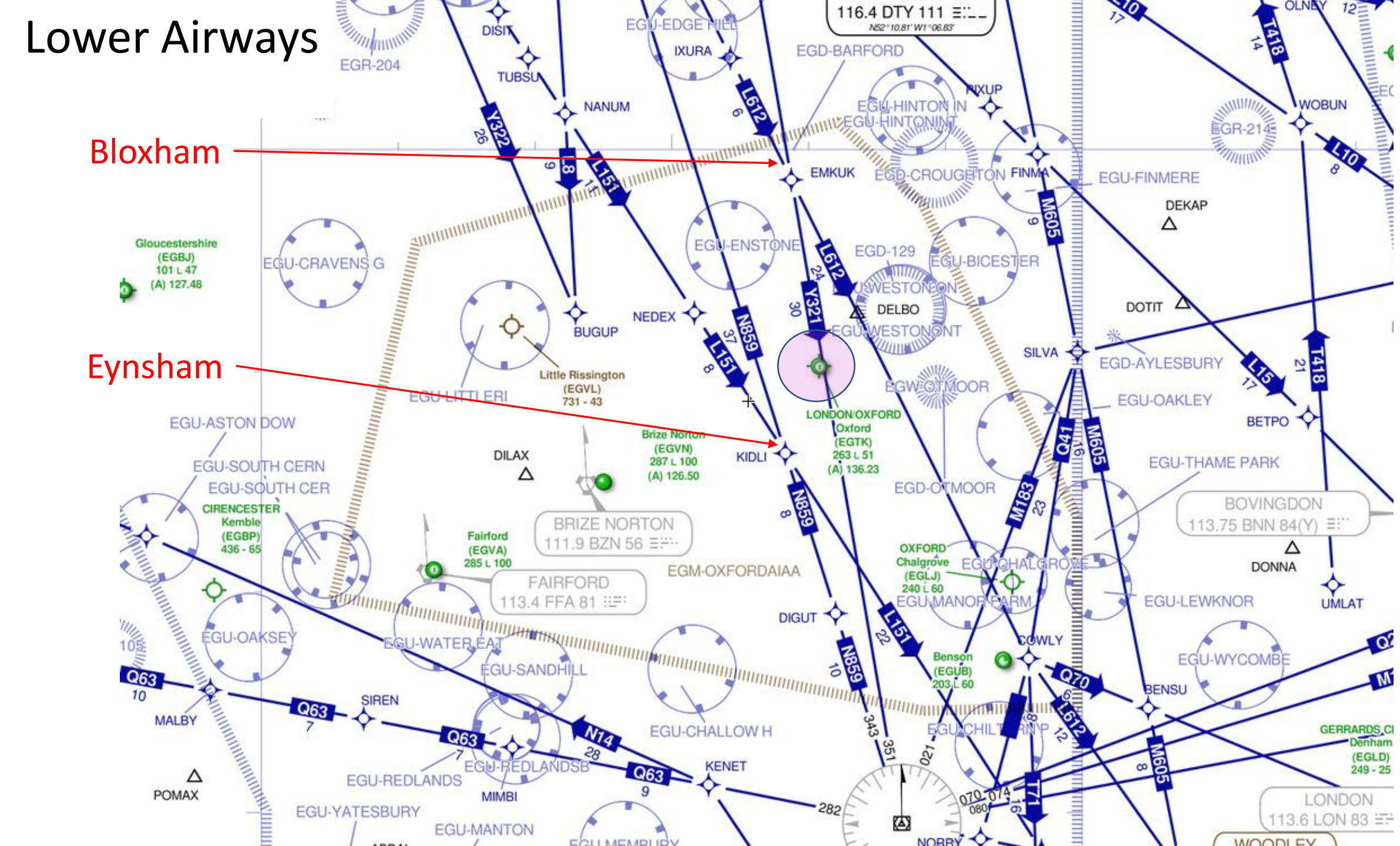
1. Pilots are to avoid overflying the surrounding residential areas, including Blenheim Palace, except where there is an overriding training or flight safety requirement.
2. After departing from Runway 01, climb ahead to 1000 FT QNH or 1.0 DME I OXF, whichever is the earliest, before turning on course. Pilots carrying out visual departures should endeavour to complete this turn before reaching the Mercury Satellite Station (at 1.5 NM). When turning right, pilots are to avoid overflying the village of Shipton-on-Cherwell.
3. After departing from Runway 19, climb straight ahead to 1000 FT QNH or 1 DME I OXF, whichever is the earliest, before turning right. Aircraft intending to turn left, climb ahead to 1.5 DME I OXF (IFR) or until south of Yarnton Village (VFR), remaining clear, in all cases, of the Brize Norton CTR.
4. Whenever possible aircraft joining the circuit should, subject to ATC approval, plan to join on a base leg, giving way to traffic already established in the circuit. Straight in approaches are to be co-ordinated with ATC by no later than 10 NM so as not to conflict with published instrument final approach tracks.
5. Helicopter traffic is subject to standard arrival and departure procedures and routes.
6. Oxford Airport operates a noise amelioration scheme. A copy is available from Airport Operations.
7. Additional guidance and circuit diagrams are available on the Oxford Airport Website: https://www.oxfordairport.co.uk/noise-abatement

Lower and Upper Airways above Oxfordshire

(as used mainly by commercial traffic overflying the county)

LONDON OXFORD AIRPORT

Lower Airways



Upper Airways

Airport's permitted activity levels

Hours – 06:00 to midnight, seven days (24/7 for emergencies, air ambulance)

Training Circuits – only allowed between 07:00 to 23:00 any day

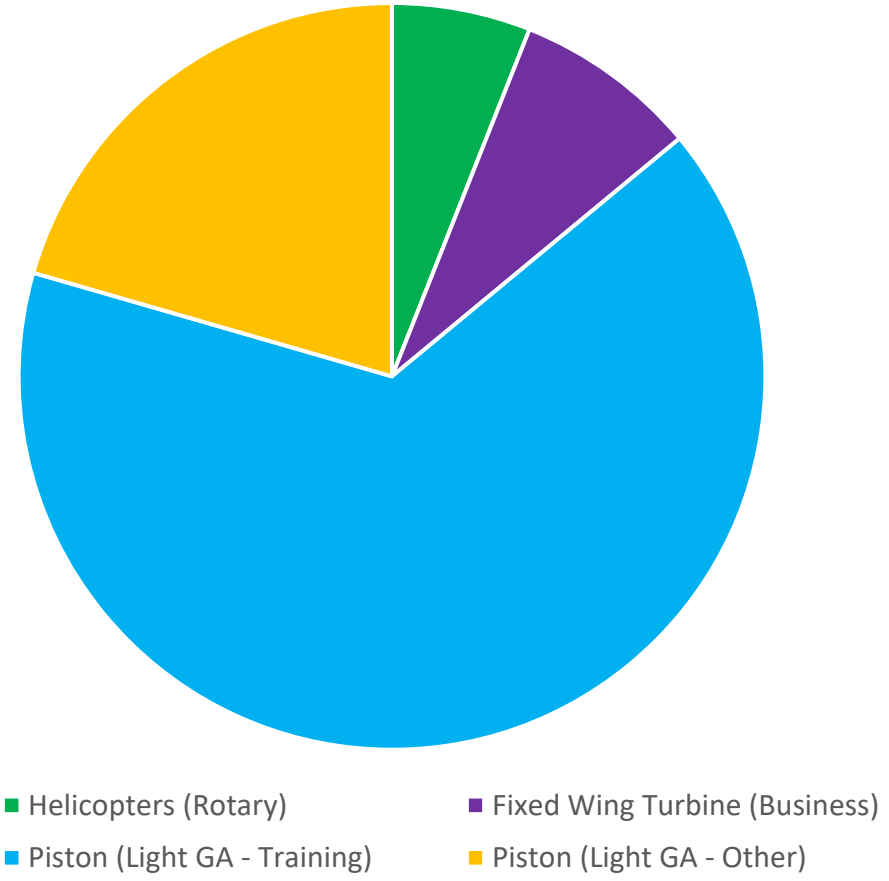
Total Movements – 160,000/annum *of any aircraft type/size* (@ around 80,000/annum today) except:

No more than 500/annum of ICAO Chapter II (noise level) typically older jets
No more than 2,000/annum of 50 tonne (max take-off weight)
or heavier jets

London Oxford Airport
Traffic Type/Mix*

*This year's trend YTD

Note: **Helicopter** movements have now *declined* **-15%** since 2019 (pre-pandemic)



Note: **Business Aviation** movements have now *increased* **45%** since 2019 (pre-pandemic)