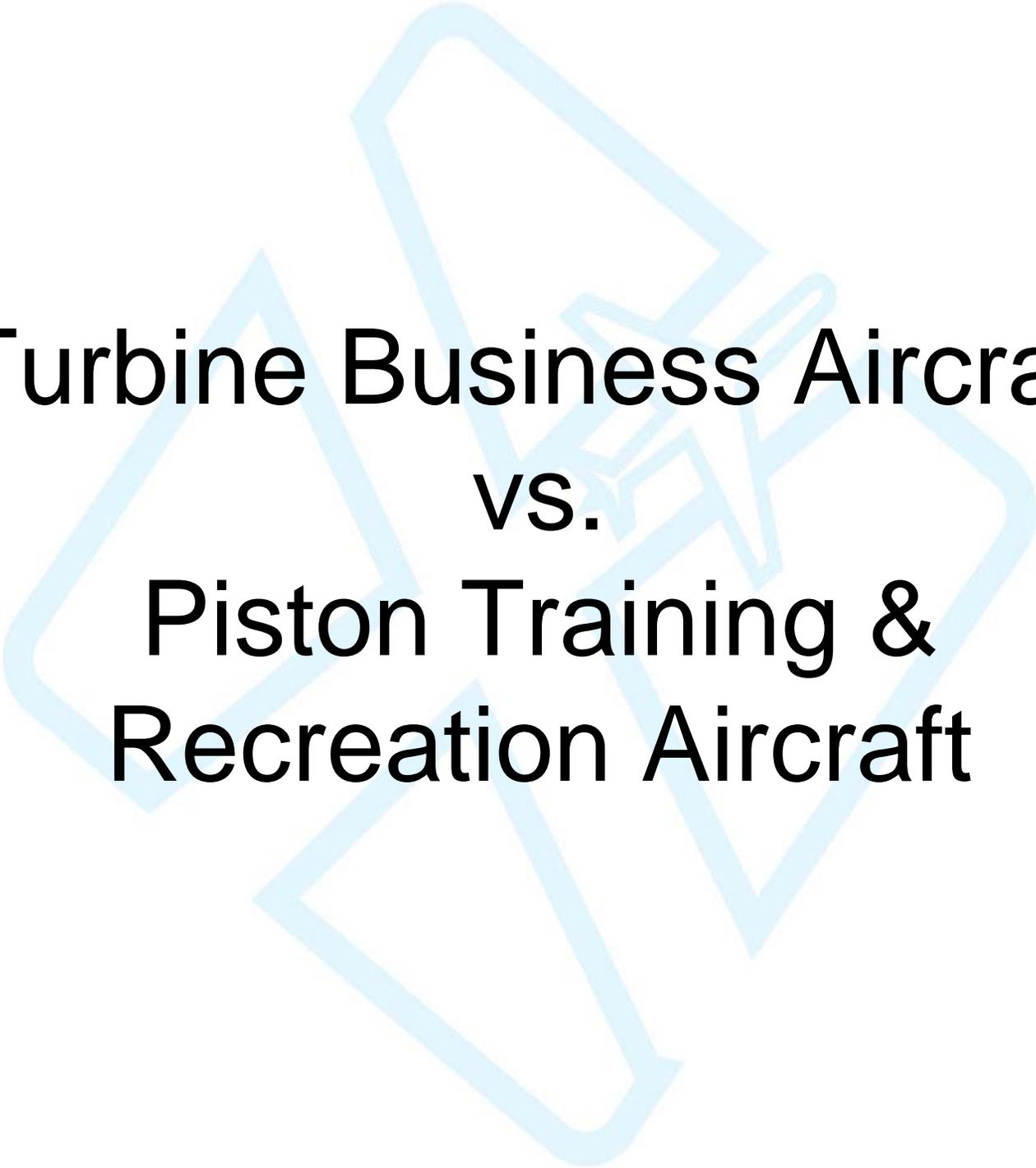


# Aircraft Noise Comparison *The Facts*

This brief presentation sets out to clarify some misconceptions on aircraft noise emissions and give facts pertaining to the likely noise impact of the mix of aircraft at Oxford Airport, *actual, anticipated or hypothetical*



**Turbine Business Aircraft  
vs.  
Piston Training &  
Recreation Aircraft**

# Noise Nuisance & Disturbance

- 1 biz jet an hour is clearly more tolerable than 50+ piston training aircraft an hour\*
- A business jet or turboprop goes straight in or out of the airfield disappearing quickly
- Piston *training* aircraft routinely do circuits and touch & go's – business aircraft don't
- In last 18 months we have logged just *two* complaints relating to a jet movement

\* Anticipated jet activity/hour versus peak pilot training traffic/hour seen in the past, now migrated to USA

# Popular Misconceptions

‘All jets are noisier than all turboprops which are noisier than all piston aircraft’

**WRONG**

The most popular training aircraft – a Piper PA28, is twice as noisy as the quietest business jet (Cessna Citation Encore) on take-off - *US FAA certificated noise data*

# Popular Misconceptions

Cessna

Encore - **58.3** dBA\*

is *half as noisy* as a

Piper PA28 - **68.0** dBA\*

\* US FAA A-weighted 14 CFR  
Part 36 @ take-off



# Effective Perceived Noise Level\*

Cessna 207 - **74.3** dBA

is +20% noisier than a

Boeing BBJ - **71.8** dBA  
(737-700)

\* US FAA A-weighted 14 CFR  
Part 36 @ take-off



# Effective Perceived Noise Level



Gulfstream V  
68.0 dBA



Cirrus SR22  
73.6 dBA

The Cirrus is effectively **+50%** noisier than the Gulfstream V on take-off under the same criteria

# World's Best Selling Piston Aircraft

Today's best selling family of piston aircraft – the ultra modern Cirrus aircraft, are **NOISIER** than almost **EVERY** modern business or regional jet and turboprop in existence at **73.6** to **72.1** dBA\* on take-off.

Effective Perceived Noise Level – US FAA A-weighted 14 CFR Part 36 noise standards



# Aircraft Noise – School vs. Jet Aircraft



Oxford Aviation Training  
Piper PA34-200T  
(Twin Piston)

is noisier on take-off than:

- \* Canadair RJ, Citation CJ, CJ2, II/Bravo, Excel, Encore, Dornier 328 Jet, Lear 60, Lear 45



# Aircraft Noise – Piston vs. Jet Aircraft



World's *most popular* aircraft  
(still produced after 50 years)

Cessna 172

is noisier on take-off than  
the *most popular* business jets:



\* Citation CJ, CJ2, II/Bravo, Excel, Encore, Lear 60, Lear 45

# Noise Perception

- On an apples for apples basis, certificated take-off noise levels for aircraft that could land at Oxford range from\*:
  - Jets: 58.3 dBA to 89.7 dBA
  - Turboprops: 57.0 dBA to 78.3 dBA
  - Piston: 51.0 dBA to 76.0 dBA

\* Sourced from FAA Advisory Circular April 2002 – AC No. 36-3H

# Turboprop Airliner vs. Light Piston

The most common regional airliner (de Havilland Dash 8-Q400) with 75 passengers on take-off....



....makes **exactly the same noise level** (61 dBA\*) as the most common light piston GA aircraft (Cessna 172)



\* Effective Perceived Noise Level – US FAA A-weighted 14 CFR Part 36 noise standards

# Turboprop Airliner vs. Light Piston

One of Oxford's small single-engined training aircraft (PA-28) is **TWICE** as noisy on take-off.....



.....than a 75-seat regional airliner (de Havilland Dash-8-Q400)



# Aircraft Noise - Facts

Numerous jets and turboprops are quieter on take-off than *many* piston aircraft types

Over 60 different jet models are quieter on take-off than the noisiest piston aircraft

The noisiest business jet (Westwind) that could use Oxford is *three times* noisier than the quietest business jet (Encore)

# Aircraft Noise - Facts

The most common business jets that we anticipate using Oxford hereon *and see today*, are in the main *no noisier on take-off* than the OAT\* school Piper Senecas - whilst new jet movements will represent a fraction of the daily activity and around 1% of the 90,000 movements lost over the last six years

\* Oxford Aviation Training

# Aircraft Noise – Facts

An HGV at on the A44 at 5m, is noisier (**95dBA**) – and *dirtyier*, than a typical business jet at (**75dBA**) at 450m from the runway centre on take-off.....

.....we average just **2** jet visits/day vs. **several hundred** HGVs day and night on the A44



# Annual Adjacent Transiting Traffic

**8.8 million** vehicles pass the end of the runway (A44) every year – nearly **25,000 a day**....

....producing massively greater emissions than any past or anticipated future airport activity



# Summary

Aircraft noise is clearly not directly related to aircraft size or engine type as shown herein.

Modern business jet aircraft are far more environmentally friendly than most older airliner types and many turboprops and piston aircraft.

Anticipated future Oxford Airport user fleet mix will *reduce* overall noise and noise nuisance with new Section 106 limitations (noise mitigation agreement) and huge reduction in overall traffic compared with ten years ago

# Aircraft Emissions at Oxford Have Already *Halved*

