AERODROME SAFEGUARDING GUIDANCE NOTE

# RL1: Public Safety Zones Guidance to Aerodrome Operators

C A S T

Combined Aerodrome Safeguarding Team

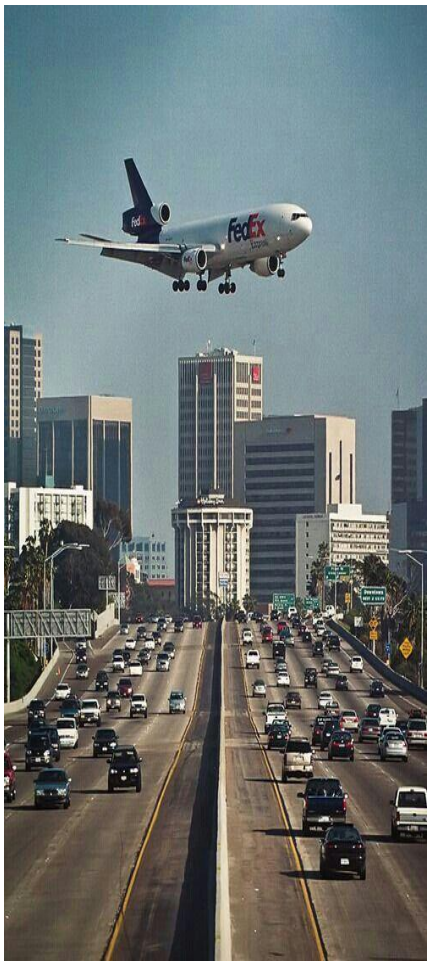
# 1 INTRODUCTION

**This Guidance Note has been prepared by the Regulation & Legislation Focus Group of the Combined Aerodrome Safeguarding Team (CAST), supported by the CAA. The purpose of the Guidance Note series is to provide guidance to aerodrome operators.**

**CAST is a forum for aerodrome safeguarding stakeholders with representatives from government organisations, aviation and the private sector. The content of Guidance Notes is intended to provide guidance only and does not necessarily constitute the position of CAST members.**

# 2 WHAT IS A PUBLIC SAFETY ZONE?

The DfT issued the new Public Safety Zones (PSZ) Policy on 8th October 2021. The Policy introduced a significant change in the establishment of a PSZ. The policy did not change the scope of those aerodromes eligible to establish a PSZ but introduced a new concept for the design of the zones.




The PSZ was designed to ensure aerodromes with above 18,000 air transport movements (ATM) a year would protect an area of land at each end of a runway, within which development is restricted, to control the number of people on the ground at risk of death or injury in the event of an aircraft accident on take-off or landing.

The basic policy objective governing the restriction on development near civil airports is that there should be no increase in the number of people living, working or congregating in Public Safety Zones and that, over time, the number should be reduced as circumstances allow.

Most existing development within PSZs can remain there, but some types of new development are not permitted. In cases where there are residential, commercial or industrial properties within the higher risk contour close to the ends of the runway, we would expect the airport operator to offer to buy and empty these properties.

Taking advantage of recent changes in safeguarding and the modelling process, the aim of the policy change was to simplify, maintain, manage and regulate the zones in the future. This objective is achieved by:

*Simplify* – removing the regular reviews, which have shown to be of little impact on the effectiveness of the PSZ. By removing the need for the complicated risk modelling process we believe that aerodrome operators and LPAs will be able to focus more on the objective of the PSZ and thereby provide a robust management of the zones.

*Maintain* – standardising the shape of the zones will allow the LPA and the aerodrome operator to maintain a consistent approach to monitoring the activity with the zones. Each aerodrome will have the same zone shape regardless of traffic movements thereby allowing better interaction between aerodromes in sharing maintenance experience.

*Manage* – the management of the zones reduces considerably and will only require review on a 10-year basis using the latest accident data from industry sources, or if there is a significant change to the physical characteristics of the aerodrome or its operation. This will allow the aerodrome operator to manage the

PSZ process effectively and ensure, through its SMS, that the zones remain appropriate for the aerodrome.

*Regulate* – Ensuring the aerodrome operator is managing the PSZ through its SMS will allow the regulator to ensure a consistent approach to oversight.

# 3 HOW TO IMPLEMENT A PUBLIC SAFETY ZONE

Previously, the implementation of the Public Safety Zone policy at civil airports was based on modelling work carried out using aircraft accident data to determine the level of risk to people on the ground around airports. This work determined the extent of individual risk contours, upon which a person remaining in the same location for a period of a year would be subjected to a particular level of risk of being killed as a result of an aircraft accident.

The PSZ comprised of an outer boundary which was the 1 in 100,000 risk contour and an inner, higher risk zone, based which was the 1 in 10,000 risk contour. The risk contours for each runway end were developed from a risk model using global accident data.

The new policy, based on the knowledge that PSZ areas have not significantly changed in the last decade, is to standardise the zone profile and withdraw the individual risk modelling. The proposed standardised shape to replace the risk-based model profile captures 90-95% of accidents shown to be located outside the aerodrome boundary.

The new policy has removed the need for the individual risk modelling and replaced it with standardised zones based on the total commercial Air Transport Movements (CATM) per annum at the aerodrome. The significance of this change is that all runways are treated equally.

As the PSZ is now based on a standardised area covering accident data rather than risk modeling for each runway, the new policy could not retain the risk target for each zone. Therefore, the standardised PSZ now comprises of an outer boundary which is Public Safety Controlled Zone (PSCZ) and an inner, higher risk zone, which is the Public Safety Restricted Zone PSRZ.

The controlled zone can be a different length based on the number of CATMs at the aerodrome. The length of the PSCZ for an aerodrome with fewer than 45,000 CATMs per year has been set at 1,000 metres from the landing threshold. For an aerodrome with greater than 45,000 CATMs, the PSCZ follows the same lateral plan but extends to 1,500 metres. The width of the controlled zone is aligned with the runway strip applicable at the runway.

The width and length of the restricted zone is set regardless of the number of CATMs.

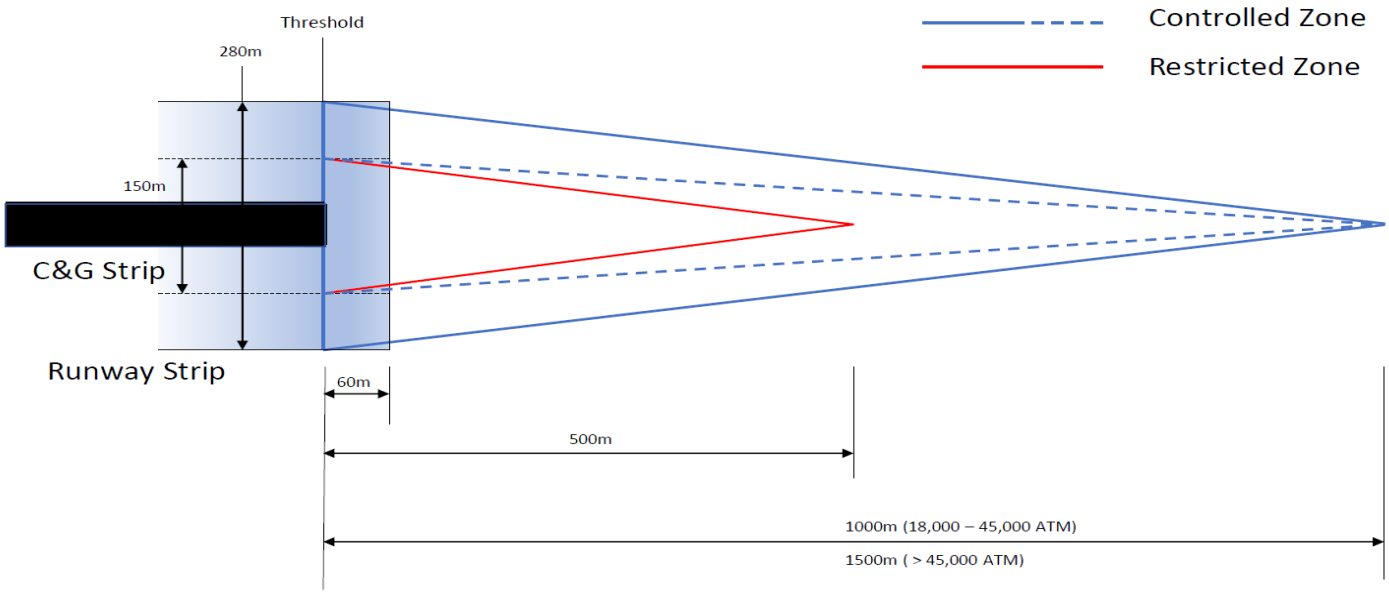
In the diagram below the controlled zone indicated by the solid blue line is based on a runway strip width of 280m (140m each side of the runway centreline) for an instrument runway and the dashed blue line is based

on or runway strip width of 150m (75m each side of the runway centreline) for a non-instrument runway.

The dimensions of the restricted zone indicated by the red line are set at a width of 150m (75m each side of the runway centreline) and the length set at 500m.

Both the controlled zone and the restricted zones are based on the landing threshold.

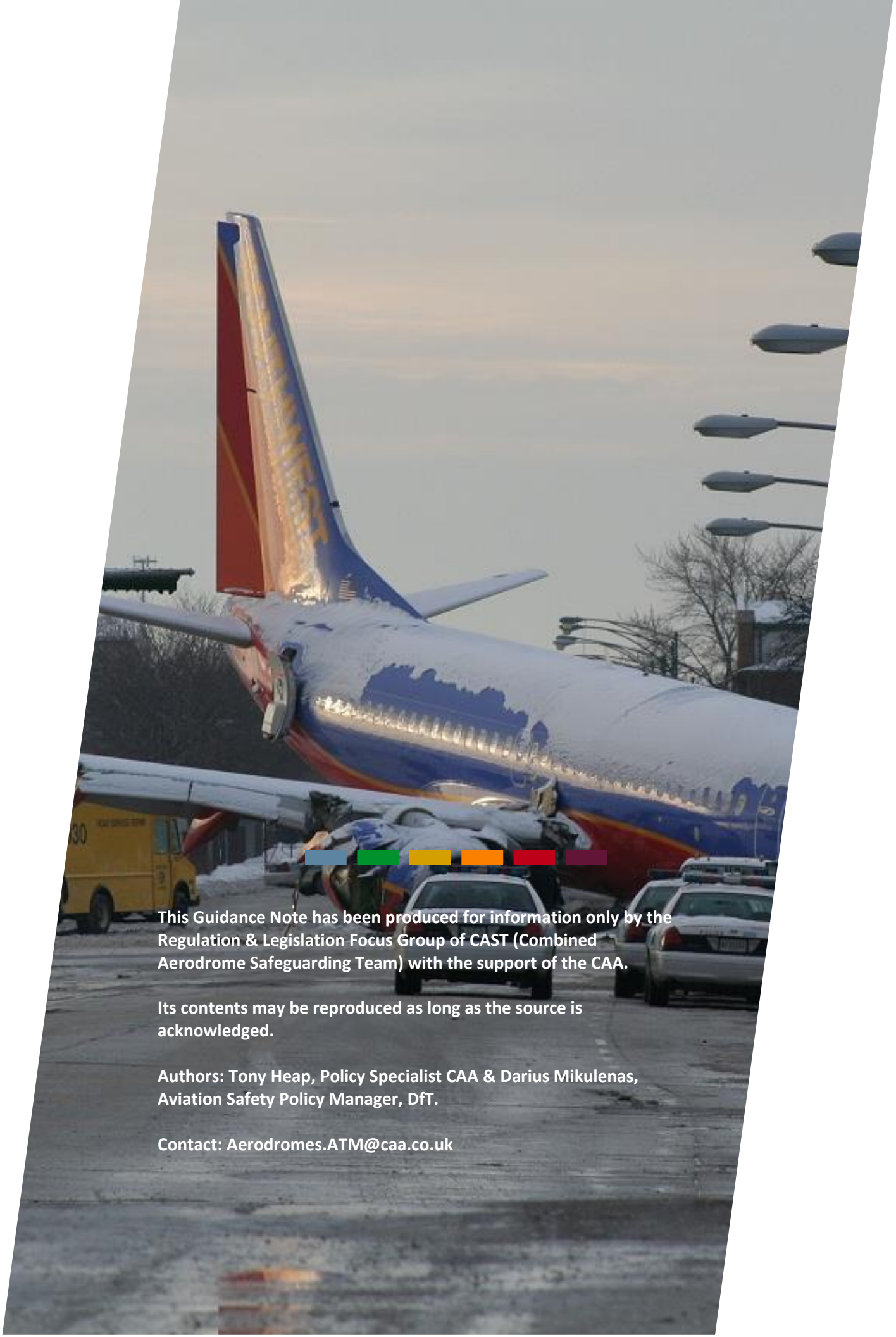
## Public Safety Zones



# 4 when to implement the change?

The policy was updated on 8th October 2021. It is expected that operators of aerodromes that currently have a PSZ would need to establish the new zones from the date the policy was update.

The calculation of CATMs will be based on a 3-year rolling average to avoid aerodrome operators having to establish or remove the zones should the CATMs dip in a particular year. Additional, due to the exceptional circumstances experienced by aerodromes in the Pandemic the 3-year rolling average will not begin until aerodromes have returned to normal traffic levels.



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