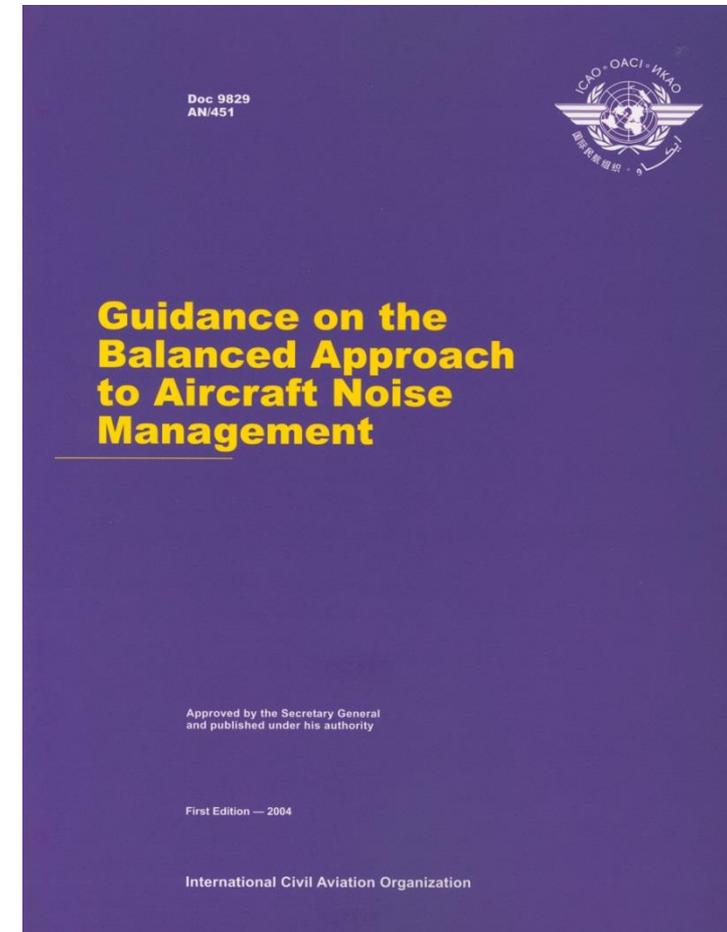




- **Balanced Approach to Aircraft Noise Management**
  - Rationale (Why it was developed).
  - Objectives (What it aims to achieve).
  - Concept & elements (How it works).



- Problems with aircraft noise have led to operational limitations and opposition to airport expansion/construction.
- Uncoordinated policy developments to address aircraft noise could hinder the economical operation of air transport.
- Guidance document was published in 2004 (Doc 9829 AN/451) and revised in 2007.



- Address aircraft noise problems at individual airports in an environmentally responsive and economically responsible way.
- Achieve maximum environmental benefit most cost-effectively.
- Recognize that States may already have noise regulations and policies in place.

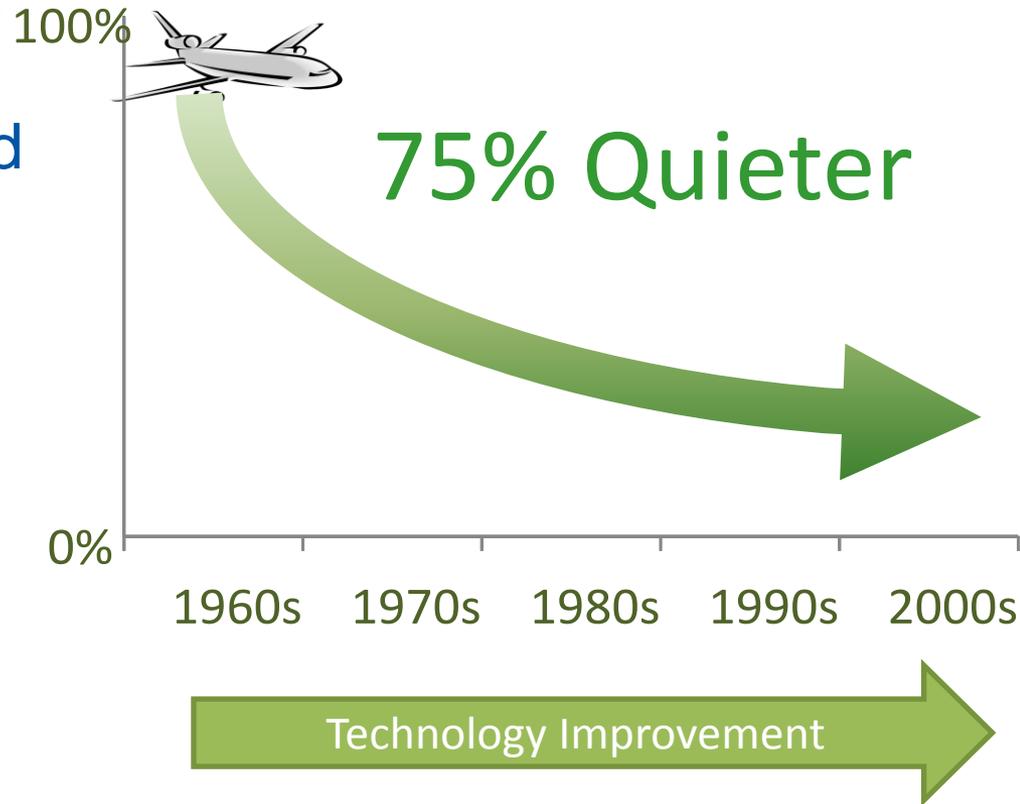


- Follows comparative economic analysis based on “best practice” cost benefit analysis techniques
- To achieve maximum environmental benefit in the most cost-effective manner.
- Combinations of measures can be necessary to achieve noise objectives.
- Interdependencies must be taken into account:
  - Between different elements;
  - Between noise and emissions.

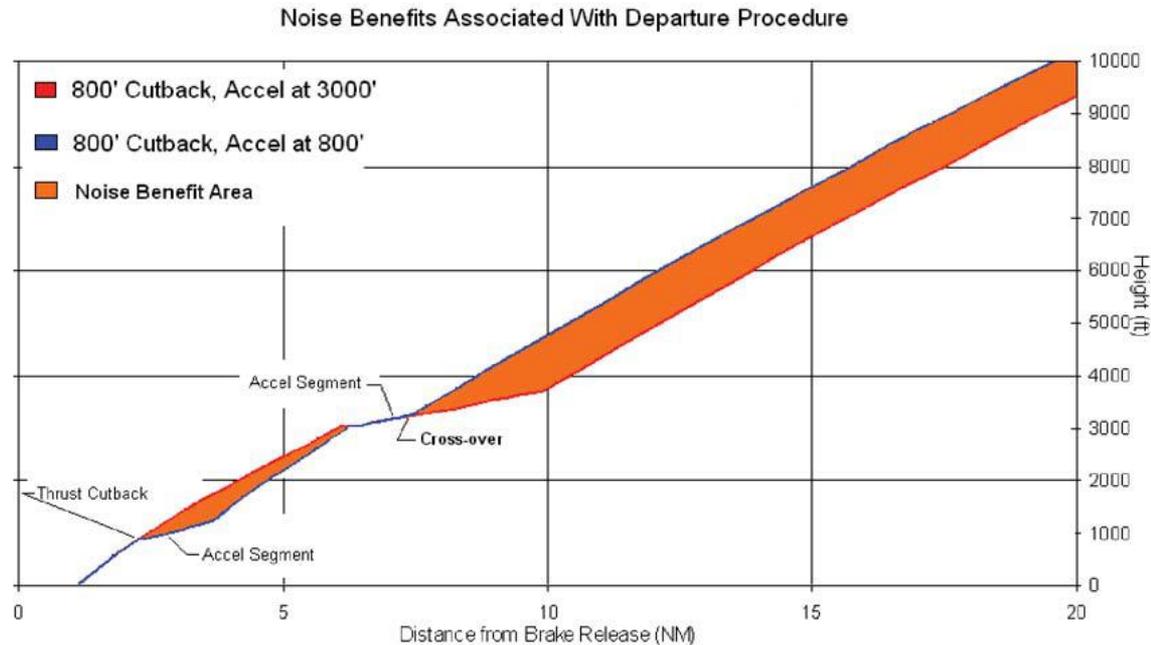




- Manufacturers' new technologies have produced significant noise reductions.
- Noise certification is based on aircraft performance (airframe + engine).
- ICAO Annex 16, Volume I contains the aircraft noise Standards.
- Environmental Technical Manual (Doc 9501) contains the procedures for noise certification of aircraft.



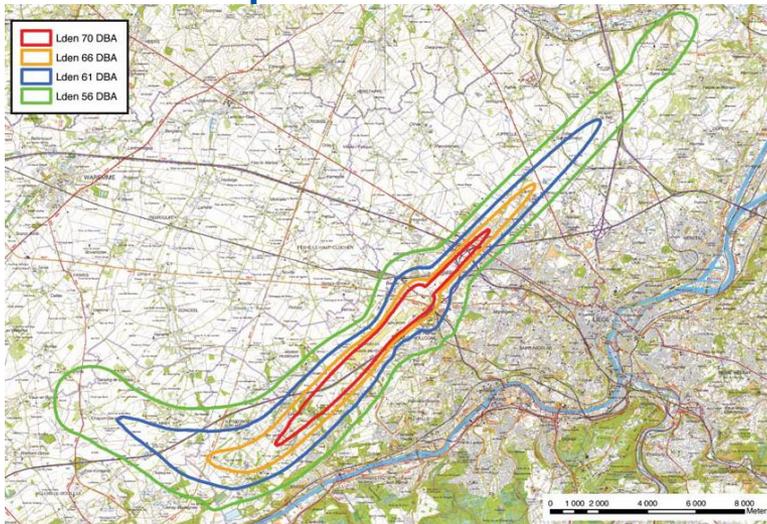
- Aimed at reduction and/or redistribution of noise around the airport.
- Enable full use of modern aircraft capabilities.
- Potentially a cost effective measure.



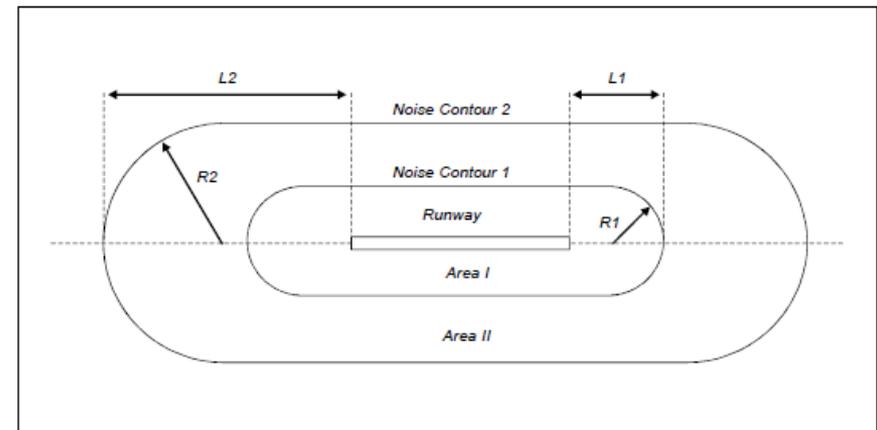
Comparison of noise benefits using two different departure procedures



- Planning (zoning, easement, etc.).
- Mitigation (building codes, control measures, etc)
- Financial (tax incentives, charges, etc.).
- Aim is to protect noise reduction gains.



Example noise contour map



Noise contours for basic noise zoning



- Defined as any noise-related action that limits or reduces an aircraft's access to an airport.
- Not to be used as a first resort, only after consideration of benefits gained from the other three elements.
- Examples:
  - Movement caps;
  - Noise quotas;
  - Non-addition rules;
  - Curfews.



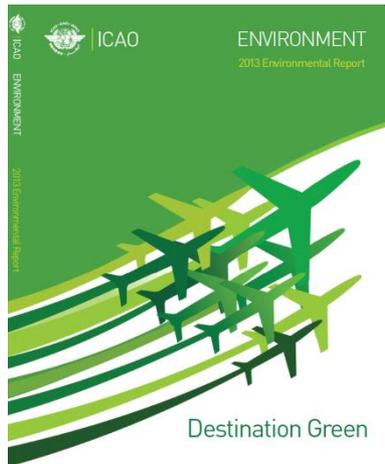
## A sustainable approach is crucial...

- Combining the principal elements of the ICAO Balanced Approach may be necessary to improve the noise climate in the vicinity of airports.
- ICAO encourages the benefits to be safeguarded by accounting for sustainability of airport growth.
- ICAO's role is to provide a global forum to develop a commonly-agreed solution among member States:
  - Consists of a variety of measures to address all aspects of aviation and environmental protection in a harmonized and balanced manner.





# For more information on ICAO activities on Aircraft Noise...



## ICAO Web Page

[www.icao.int/](http://www.icao.int/)

# THANK YOU

