



The Balanced Approach to Aircraft Noise Management





Overview

➤ Rationale

- Why it was developed

➤ Objectives

- What it aims to achieve

➤ Concept & elements

- How it works

➤ Next steps

- Revision & Implementation





Rationale

- **Aircraft noise problems have led to operational limitations and opposition to airport expansions/constructions**
- **Uncoordinated policy developments to address aircraft noise could hinder the role of aviation in economic development**
- **Guidance document was developed by ICAO published in 2004 (Doc 9829 AN/451) and revised in 2007**





Objectives

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



Objectives

➤ **Can be achieved by adopting a flexible, consistent and transparent process when assessing noise objectives and alleviation measures, including:**

- Airport-by-airport approach
- Use of objective and measurable criteria
- Consultation with all stakeholders (collaborative approach)
- Timely and adequate notification of decisions
- Dispute resolution
- Information dissemination and exchange



Concept & Elements

- **Assessment of noise situation**
- **Four principal elements:**
 - Reduction of noise at source
 - Land-use planning and management
 - Noise abatement operational procedures
 - Operating restrictions on aircraft
- **Analysis & selection of measures**
 - Interrelationships



Assessment of Noise Situation

- **Identify noise problem**
- **Define noise objective**
- **Tools/procedures useful for assessing:**
 - Noise contours
 - Noise index
 - Baseline
 - Management plans



Reduction of Noise at Source

- **Manufacturers' new technologies have produced significant noise reductions**
- **New ICAO noise standards (Ch.4) have recently come into effect Annex 16 vol. I**
- **Other measures that may also be required, include: fleet and traffic evolution; noise abatement operational procedures; air traffic management and airport infrastructures and operating restrictions**



Land-Use Planning and Management

- **Planning (zoning, easement, etc.)**
- **Mitigation (building codes, insulation, real estate disclosure, etc.)**
- **Financial (tax incentives, charges, etc.)**
- **Key to protecting noise reduction and abatement benefits**
- **May involve “opportunity costs” for airports/local government**



Noise Abatement Operational Procedures

- **Aimed at reduction and/or redistribution of noise around the airport**
- **Enable full use of modern aircraft capabilities**
- **May be possible at relatively low cost**
- **Various departure & approach procedures:**
 - Noise preferential routes/runways
 - Displaced thresholds
 - SID/STAR and RNAV procedures
 - Reduced power/drag and CDA
 - Limited engine ground running



Operating Restrictions

- **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 other 3 elements**
- **Examples:**
 - Movement caps
 - Noise quotas
 - Non-addition rules
 - Curfews



Analysis & Selection of Measures

- **Follows comparative economic analysis based on “best practice” evaluation techniques/methods**
 - CBA, CEA, sensitivity analysis
- **To achieve maximum environmental benefit in the most cost-effective manner**
- **Combinations of measures can be necessary to achieve noise objectives**
- **Interrelationships must be taken into account**
 - Between different elements
 - Between noise and emissions



CAEP/7 Additions

➔ In 2007 the **Balanced Approach Guidance** was expanded to include:

- **People issues**
- information on communication strategies
- Enhanced information for public access
- Consultation was already contemplated in the guidance
- **Airport Case studies**
- Amsterdam Airport Schiphol Netherlands; Auckland Airport New Zealand ; John Wayne Airport USA ; London Airports United Kingdom; Narita Airport Japan; Seattle-Tacoma Airport USA; Sydney Airport Australia; Tuscon Airport USA; Vancouver Airport Canada, Vienna Airport Austria, and Zurich Airport Switzerland





Next Steps

- Work will continue to progress to include a methodology for encroachment analysis and new airport case studies when new developments are identified



Next Steps

➤ Encroachment analysis

- Importance of protecting improvements in the noise climate achieved at airports
- ICAO encourages States to apply land-use planning and management policies to limit the encroachment of incompatible development into noise-sensitive areas
- The BA Guidance will provide ICAO Contracting States with a methodology to identify encroachment at international airports
- The development of the encroachment analysis will be continued into the CAEP/8 cycle



Next Steps

➤ To deliver its full noise benefits, stakeholders are urged to continue with the implementation of the **Balanced Approach**

➤ ICAO website www.icao.int

