International Civil Aviation Organization

WORKING PAPER

A40-WP/260[1]
EX/104
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ASSEMBLY — 40TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 15: Environmental Protection – General provisions, Aircraft Noise and Local Air Quality– Policy and Standardization

MANAGEMENT OF NOISE

(Presented by the Airports Council International (ACI) and the Civil Air Navigation Services Organisation (CANSO))

EXECUTIVE SUMMARY

This paper presents ACI's and CANSO's views on airports' management of noise, including considerations on the relevance of non-acoustic factors to define strategies to manage noise and develop appropriate policies which address noise sound exposure levels, and aircraft noise-related annoyance. It proposes the addition of Community Engagement as a cross-cutting element of the ICAO Balanced Approach to aircraft noise.

Action: The Assembly is invited to:

a) Note ACI's and CANSO's views on noise management around airports;
b) Request Council to explore further the understanding of non-acoustic factors as a means to potentially support policy development which properly addresses community aircraft noise annoyance; and
c) Request Council to include Community Engagement as a cross-cutting element of the Balanced Approach.

Strategic Objectives:	This working paper relates to Strategic Objective E – Environmental Protection
Financial implications:	No financial implication
References:	• A40-WP/54 EX/21 • A40-WP/57 EX/24 • A40-WP/354 EX/148

[1] Arabic, Chinese, English, French, Russian and Spanish versions provided by ACI.

1. INTRODUCTION

1.1 Aircraft technology has dramatically reduced the noise footprint of individual aircraft movements in past decades. However, in many areas, this progress in reducing aircraft noise at source has been challenged by global increases in traffic and the introduction of larger aircraft. It has also become more difficult to identify new ways of significantly improving the technical noise performance of aircraft. The result has been an increase in cumulative noise levels around some airports.

1.2 Further, despite the reduced noise footprint of individual aircraft, combined with the widespread introduction of noise insulation programs and new operational procedures, more individuals and communities are expressing negative attitudes towards airports and aviation activities. This is often occurring through the greater use of social media, resulting in a dramatically increased number of noise complaints and public opposition to aircraft noise at some airports, which could in turn have a negative impact on the ability of aviation to grow to meet increasing demand.

1.3 Moreover, recent developments, such as the implementation of Performance Based Navigation (PBN) and the possible introduction of new supersonic aircraft, may increase the complexity of aircraft noise management. The aviation industry needs to provide effective noise management with workable solutions for all stakeholders.

1.4 Although absolute noise is important, research has shown that acoustic factors are only responsible for around 30% of noise-related community annoyance. ACI and CANSO recommend that States and the industry need to better understand the remaining 70%, so policies and actions can be developed and planned accordingly.

1.5 Communities have always been at the core of airports' engagement and noise management initiatives. ICAO has recognised that communities should be involved when defining solutions to address noise through ICAO Circular 351,*Community Engagement for Aviation Environmental Management.* In addition, the ICAO *Guidance on the Balanced Approach to Aircraft Noise Management* (Doc 9829) identifies the need to consult members of the public whose quality of life may be affected. ACI and CANSO believe Community Engagement should become more codified as a cross-cutting element which supports the implementation of the ICAO Balanced Approach.

2. NON-ACOUSTIC FACTORS

2.1 Community annoyance is a complex issue, as is the relationship between airports and their local communities. The way residents perceive noise includes a level of subjectivity that cannot be fully explained based solely on acoustic factors. In addition to noise and flight frequencies, there are many "non-acoustic factors" which can trigger annoyance. Such factors can include the level of trust residents have in the airport or authorities in general, as well as their attitude towards aviation. Research shows that noise exposure (acoustic factors) are responsible for only about 30% of annoyance.

2.2 Without compromising the necessary focus on noise reduction, a new and broader perspective is required. Non-acoustic factors are significant in determining the level of annoyance and must now be used in the design of noise management strategies and the development of policy. These need to be based on properly understanding what factors influence community responses to noise and importantly how and if these can be modified.

2.3 Despite the above, national government policy and aircraft noise management strategies to date have focused on measures to reduce noise exposure.

3. ICAO BALANCED APPROACH

3.1 The ICAO Balanced Approach is a locally driven policy solution which identifies measure to reduce noise at and around airports. It provides a framework for analysis of the various measures available so that policy decisions can be made in the most effective manner. The four elements of the Balanced Approach are: reduction of noise at source; effective land-use planning and management; noise abatement operational procedures; and operating restrictions. Operating restrictions should only be applied as the last resort. The Balanced Approach has been implemented in legislation in some constituencies, for instance, in the European Union (EU) through Regulation (EU) 598/2014.

3.2 ACI and CANSO believe that the ICAO Balanced Approach should remain the foundation of aircraft noise management worldwide, as it provides for a globally harmonised framework, suitable for aviation as an international industry, while also recognising the varying local situations of airports and offering the necessary flexibility to address them.

3.3 The ICAO *Guidance on the Balanced Approach to Aircraft Noise Management* prescribes that a provision should be made for consultation with stakeholders, including members of the public whose quality of life may be affected. In addition, when establishing consultation arrangements, it is recommended that careful consideration be given to defining “stakeholder”, because experience has shown that people living in areas outside published noise contours, but under or near busy flight paths, may want to participate in consultation processes.

3.4 This point has become even more pertinent with the introduction of PBN, where, with routing changes, new communities located further from the airport have started to be exposed to frequent aircraft noise. In addition, PBN brings the issue of concentration of noise on specific flight tracks. Another community impact is associated with the possible reintroduction of supersonic aircraft, which may exceed current maximum noise levels and could potentially increase the number of public exposed to aircraft noise.

3.5 The complexity of aircraft noise-related annoyance combined with the challenges posed by new technological developments and the potential impact of aircraft noise on a wider stakeholder group calls for a more practical global solution. In many places this already exists, and airports work in collaboration with their communities; for example, PBN can be both a part of the noise problem as well as part of its solution. It can be used to manage and therefore relieve the concentration of noise that it can cause, and this has been the case at some airports where appropriate respite areas/times have been defined in consultation with stakeholders. Experience has shown that solutions are more effective when developed using communities’ feedback.

3.6 Community engagement can best inform all those involved in route planning. Conducted well, community consultation can also be cost-effective because it avoids the implementation of solutions which do not reflect the feedback from the stakeholders affected, reducing the risk of failure.

3.7 Considering that good locally-driven community engagement is globally accepted as the best practice and already recognized by ICAO, ACI and CANSO believe it should be recognized as a

cross-cutting element of the ICAO Balanced Approach, with the goal of identifying practical solutions which includes communities' feedback, whenever possible, in support of the four pillars.

4. ICAO RESOLUTION A39-1

4.1 ACI and CANSO welcome the proposal from the ICAO Council to include a reference to community engagement and to ICAO Circular 351 *Community Engagement for Aviation Environmental Management* in the text of the ICAO Resolution A39-1, as proposed by the A40-WP/57ACI and CANSO are proposing, in addition, to adjust the language of the Resolution to include Community Engagement as a cross-cutting element of the Balanced Approach – changes in ***underlined bold italic***:

> *"Whereas the Balanced Approach to noise management developed by ICAO consists of identifying the noise problem at an airport and then analysing the various measures available to reduce noise through the exploration of four principal elements,* ***with the support of a cross-cutting element – community engagement, namely:***
>
> - *reduction at source;*
> - *land-use planning and management;*
> - *noise abatement operational procedures;*
> - *operating restrictions, with the goal of addressing the noise problem in the most cost-effective manner; and*
> - ***community engagement is a cross-cutting element which should support the above four pillars, with the goal of identifying practical solutions which includes communities' feedback, whenever possible."***

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