

Performance Based Navigation and Community Engagement

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Today I'd like to cover...

- ICAO work on PBN and community engagement
- ACI and CANSO joint work on PBN



Why PBN?

- Safety
- Capacity
- Can be tailored for noise improvement (but... concentration?)
- Fuel efficiency
- Flexibility in routings
- Predictability
- Resilience
- Potential for respite
- Better profiles
- Reduced ATC and pilot workload
- ICAO Global Air Navigation Plan (GANP)



ICAO work on PBN and community engagement

- Task for ICAO's Committee on Aviation Environmental Protection (CAEP) Working Group 2 (Airports and Operations)
- Objective: gather information on PBN implementation challenges, needs and potential solutions, including methods for cross-industry collaboration and structured community engagement
- c. 50 participants in task, work done on teleconferences and face to face meetings
- 99 ICAO PBN Implementation Plans reviewed, a survey launched, review of existing CAEP material on community engagement, case studies, literature review
- Results of the work published 2019



PBN and community engagement literature review



- CANSO – Performance-based Navigation Best Practice Guide for ANSPs (2015)
 - RTCA (tasked by FAA) - Blueprint for Success to Implement PBN (2014)
 - Airports Council International North America NextGen Working Group - Airports' Role in the Development and Implementation of Performance-Based Navigation (PBN) Flight Procedures (2013)
 - Airports Commission's Senior Delivery Group – Implementation of Performance-Based Navigation in the UK
 - CAA – Performance-Based Navigation Airspace Design Guidance: Noise mitigation considerations when designing PBN departure and arrival procedures (2016)
 - JDA – Best Practices and Tools to Provide Noise Information to Communities (2015)
 - ACRP – Understanding the Airport's Role in Performance-Based Navigation (2016)
 - FAA – Performance-Based Navigation (PBN) NAS Navigation Strategy (2016)
 - ICAO CAEP Circular 351: Community Engagement For Aviation Environmental Management
 - ICAO PBN State Implementation Plans
-
- Since the review, a number of further documents have been published

Literature review perspectives



1.Start Early

- Opposition can come from misunderstanding or even misinformation
- Education important

2.Know the community

- Vital to understand the requirements of the community to seek to make airspace designs work for them
- Airports have a long history of working with communities and their unique position in understanding the interests of the community should be utilised

3.Every case is different

- Project scope, complexity and size will determine which stakeholders to include and which strategies to employ
- Different solutions will be different for different locations

Literature review perspectives



4. Need for outreach/community engagement plan

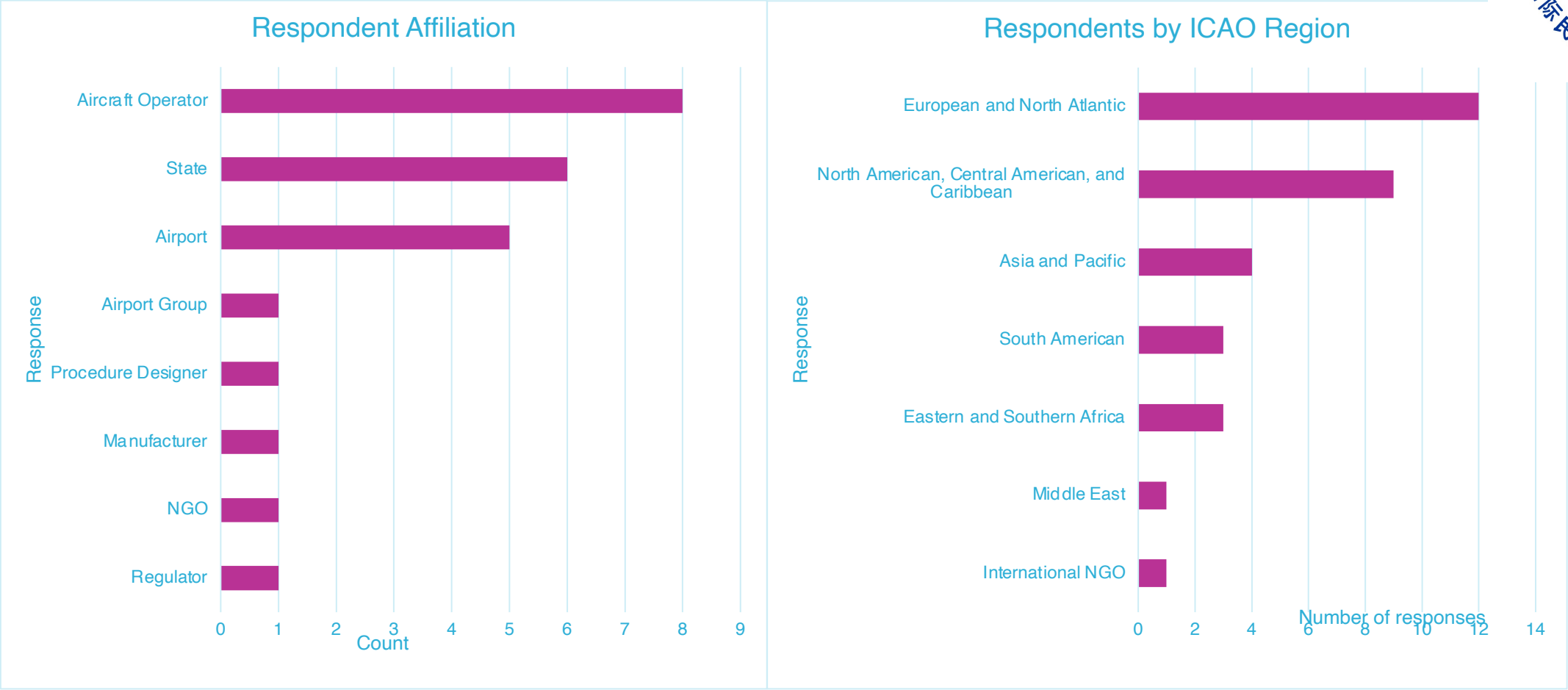
- Develop a stakeholder engagement plan tailored to the scope and scale of the PBN project to avoid misunderstanding
- Focus on transparency to build trust

5. Go beyond minimum requirements

Impact can go beyond statutory impacts as defined by national regulations

Helpful to understand these and consider going beyond regulatory requirements

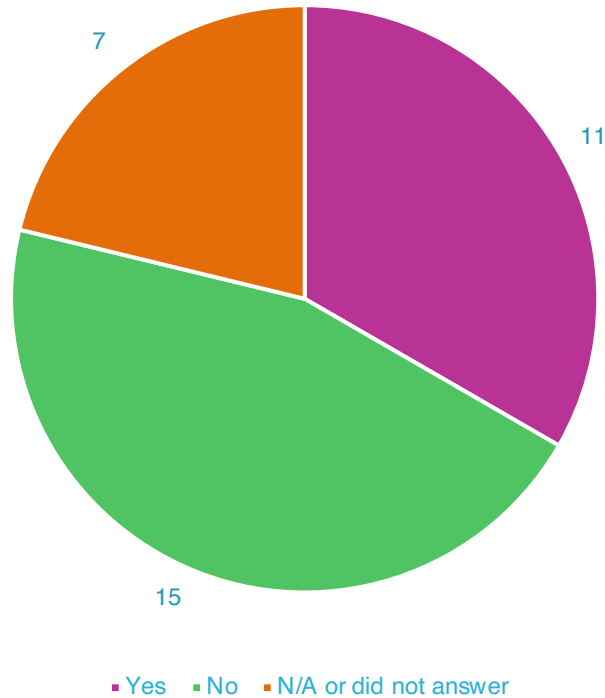
PBN and Community Engagement Survey



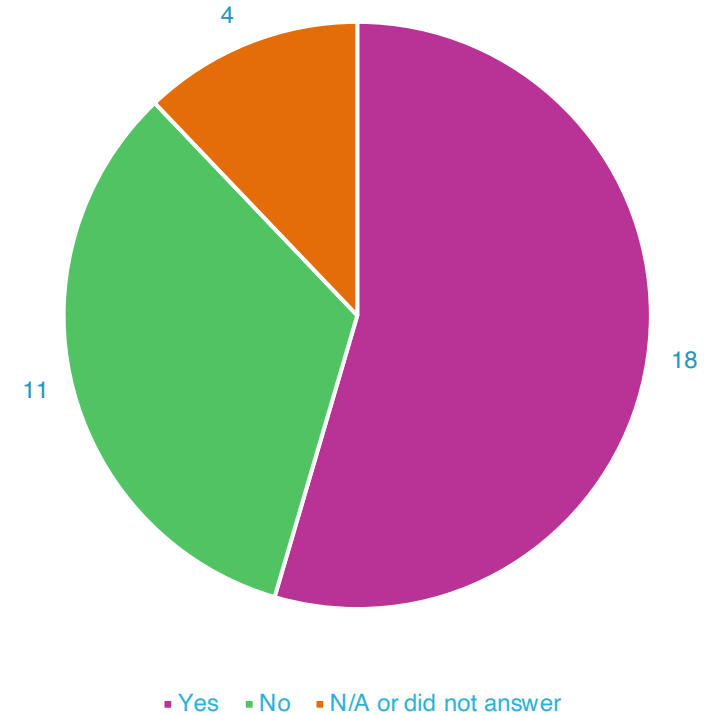
PBN and Community Engagement Survey



Is an environmental review or impact assessment required?



Are you intending to do or have you already done an environmental review or impact assessment?



Survey perspectives (1)



The analysis of survey responses showed that it can be useful to:

- provide communities with different types of information about potential impacts (e.g., noise contour maps, flight track depictions, etc.);
- ensure that the volume and complexity of the information provided does not overwhelm the audience;
- tailor information and make it location specific for the audience it is aimed at;
- information should be communicated at a level that accords with the audiences' technical understanding;

Survey perspectives (2)



The analysis of survey responses showed that it can be useful to:

- publish better educational materials on the distinct technical aspects of PBN and ATC modernization to help explain why PBN projects are being pursued;
- provide better information on potential noise or emissions benefits projects could have on a community; and
- collaborate on education and outreach to communities from all relevant stakeholders (e.g., ANSPs, regulators, airport operators, etc.),
 - when started early and conducted often, most likely to mitigate community concerns and produce positive outcomes.

ACI and CANSO joint work

- Published 2014/15
- Unique compendium with real world examples of successful noise management techniques

Managing the Impacts of Aviation Noise

**A Guide for Airport Operators and
Air Navigation Service Providers**

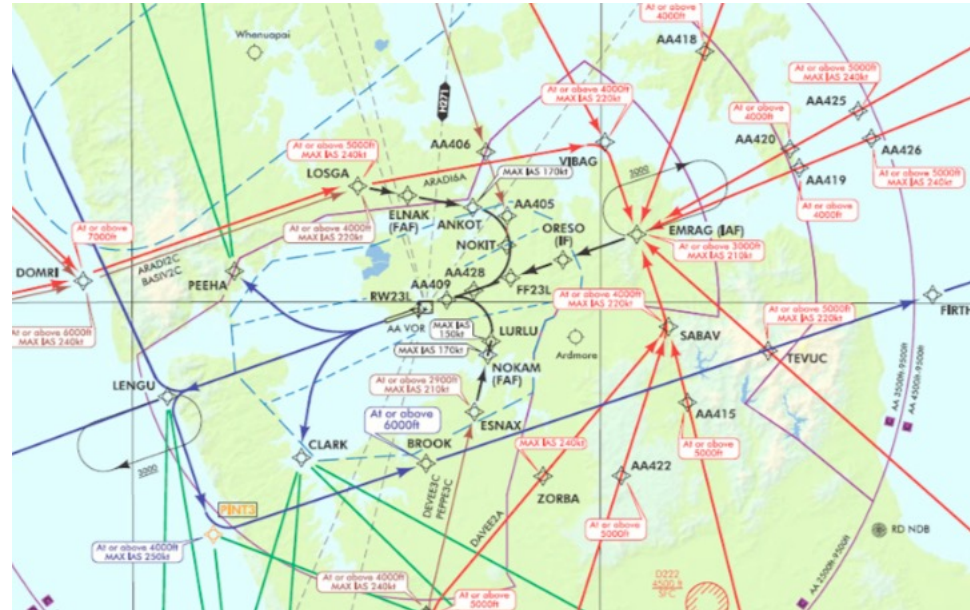
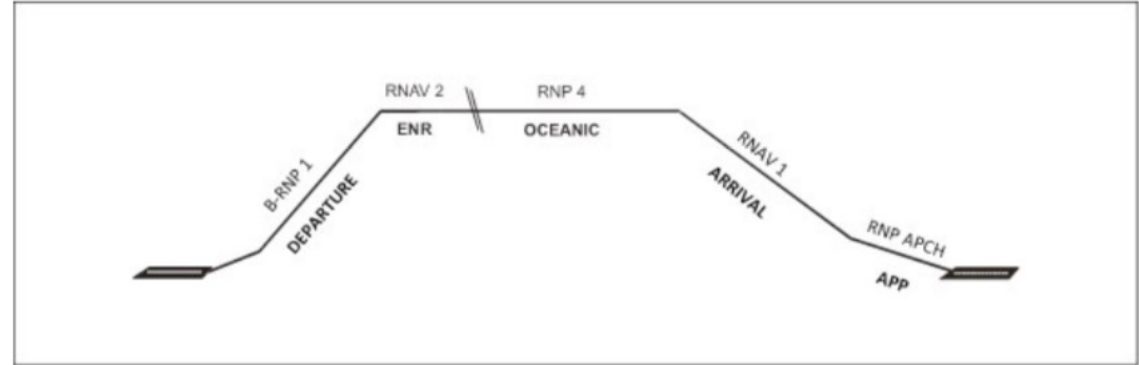


CANSO work on PBN



Performance-Based Navigation

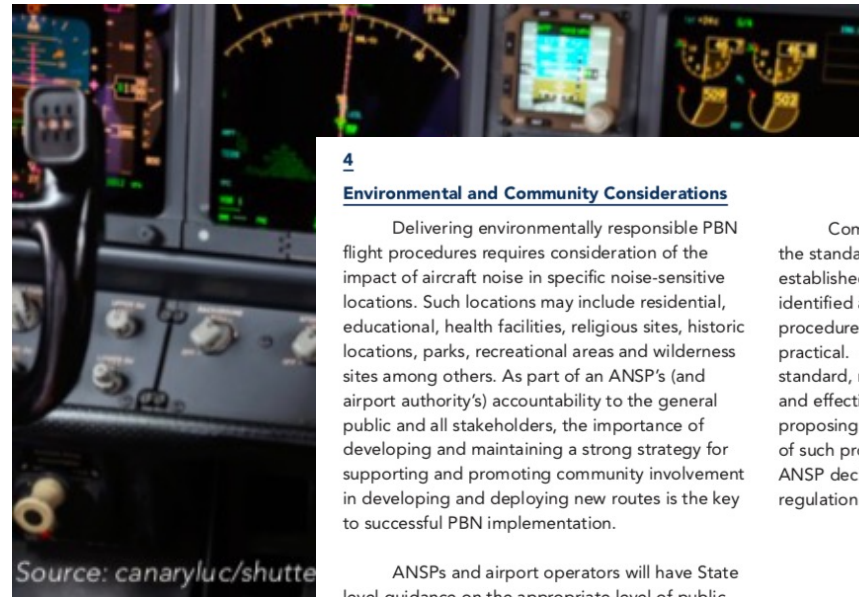
Best Practice Guide for ANSPs



CANSO work on PBN



Performance-Based Navigation for ANSPs: Concept 2030



Source: canaryluc/shutterstock



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Environmental and Community Considerations

Delivering environmentally responsible PBN flight procedures requires consideration of the impact of aircraft noise in specific noise-sensitive locations. Such locations may include residential, educational, health facilities, religious sites, historic locations, parks, recreational areas and wilderness sites among others. As part of an ANSP's (and airport authority's) accountability to the general public and all stakeholders, the importance of developing and maintaining a strong strategy for supporting and promoting community involvement in developing and deploying new routes is the key to successful PBN implementation.

Community involvement will be part of the standard change management processes established to ensure noise-sensitive areas are identified and appropriately accounted for in procedure design to the degree that this is practical. ANSPs should strive to establish a standard, repeatable process to ensure productive and effective community involvement when proposing PBN flight procedures. The outcome of such processes will inform and influence ANSP decision-making beyond that required by regulation.

ANSPs and airport operators will have State level guidance on the appropriate level of public consultation and engagement for PBN deployment differentiating between the level of engagement needed at lower, for example SID, altitudes, and other TMA and en-route deployments.

Aircraft noise impacts associated with creating or modifying PBN flight procedures is expected primarily to focus on concentrated flight paths resulting from the accuracy of PBN procedures. Addressing public concerns will involve countering misinformation, demonstrating how community input improved decision-making and a willingness to accept trade-offs between efficiency and environmental impact. It must be highlighted that civil aviation is an integral part of everyday life and commerce, and that it will continue to provide an essential foundation for the economic growth and vitality of the community.

In common practice, ANSPs will use guiding principles to ensure community involvement in instrument flight procedure projects. There will be early engagement with the community and clear and transparent communication between all parties.

Further ACI and CANSO joint working

Use of Performance Based Navigation (PBN) for Noise Management



Published 2020, covering:

- Benefits and challenges of PBN
- Noise mitigation opportunities
- Concentration vs. dispersion
- Public engagement

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