LEGISLATION IN THE NEXT CONGRESS:
PRIORITIES, PERSPECTIVES, AND PREDICTIONS

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DISCUSSION BASED ON RECENT PUBLICATION
Chapter 1: Introduction
Chapter 2: Chronology of US Aircraft Noise Regulation
Chapter 3: Aircraft Noise Effects on Individuals and Communities
Chapter 4: Aircraft Noise Measurement and Modeling
Chapter 5: Airport Vicinity Land Use Planning
Chapter 6: Airport Noise Mitigation
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INTRODUCTION

Current aircraft noise regulatory policies are the product of decades of FAA promotion of U.S. civil aviation, *per* its 1958 - 1996 charter.

A century of generous federal aid to civil aviation has provided subsidies intended to socialize the costs of commercial aviation while privatizing its profits.

Since civil aviation is no longer an infant industry requiring such fostering, Congress relieved FAA of responsibility for promoting civil aviation in 1996.

A quarter of a century later, FAA has yet to make meaningful changes to its regulatory goals.
Airlines operated in a highly regulated, price controlled, city-pair environment until de-regulation in 1978

Competition changed the face of aviation post-deregulation, converting city-pair routes to hub-and-spoke networks

Deregulation provided little or no incentive to industry to reduce aircraft noise emissions
HUD was first federal agency to act (to protect values of home mortgages it backed)

The 1972 Noise Control Act named EPA as the lead agency for noise control

The Aviation Safety and Noise Act (ASNA) reassigned EPA’s primacy in aviation noise control to FAA later in the decade

FAR Part 150 (the implementing regulation for ASNA) defined a DNL of 65 dB (corresponding to a CNR value of 100) as a “significant” noise impact

CNR = 100 had been intended to keep noise complaints from military base housing to manageable numbers in the early 1950s
Current regulatory policy is ostensibly based on a 1992 dose-response relationship between long term cumulative exposure to all forms of transportation noise and the prevalence of high annoyance. Complaints and adverse health consequences play no role in current aircraft noise regulation.
Industry recognized by the early 1960s that jet noise could severely constrain aviation growth.

Federal Aviation Regulation Part 36 was formulated to establish certification noise limits by aircraft weight class.

Airports began installing permanent noise monitoring systems by the late 1960s.

These have developed into sophisticated noise, flight track, and complaint logging systems.
Computer-based noise modeling started in the 1960s and developed rapidly in the late 1970s and early 1980s.

FAA ported INM to the personal computer in 1982.

SAE published best practice guidelines for noise modeling algorithms and databases.

FAA incorporated INM in AEDT in 2015.

Measurement and modeling uncertainty complicates interpretation of noise exposure predictions, and to remain poorly understood.
CHAPTER 5: AIRPORT-VICINITY LAND USE PLANNING

ICAO Balanced Approach

Reduction at source, operational procedures, operational restrictions, land-use controls

Topic discussion divides airports into two categories

• airports with incompatible land use in place prior to the introduction of jet aircraft
• airports surrounded by mostly undeveloped lands

Land use controls (other than sound insulation and property acquisition) are plausible only for the second category
LAND USE PLANNING (CONT.)

FAR Part 150 (voluntary and guidelines only), State (land-use enabling legislation), Local (planning, zoning, building permits)

No federal authority to control land use

Generally weak incentive for local land-use control (developer has distinct advantage)

Little historical evidence to suggest that stricter land use controls would have reduced encroachment, other than in a few strict control municipalities
Control at source: FAR Part 36
Operational controls: thrust cutbacks, flight track alteration, preferential runway use, optimized performance descent
Operational Restrictions: limits on number and time of operations, noise-based landing fees, all effectively prohibited by 1990 ANCA
CURRENT AIRCRAFT NOISE REGULATORY POLICY IS BASED ON OBSOLETE ASSUMPTIONS

Airports are the best and highest use of expensive urban land
National needs for air transportation services are always greater than needs for habitable neighborhoods
Aircraft noise-induced annoyance can be predicted exclusively from long term cumulative noise exposure
All communities respond identically to aircraft noise exposure
Establish explicit, systematic rationale for defining significance of noise exposure
Abandon one-size-fits-all approach to disclosure of dose/response–based assessments of noise impacts
Amend or repeal ANCA
De-link policy thresholds for significance of impact, eligibility for acoustic insulation, and land use compatibility
Adopt regional focus on airport capacity
POTENTIAL LEGISLATIVE CHANGES (CONT.)

Revision of revenue diversion restrictions
Closer scrutiny of airport noise contour assumptions for land-use planning purposes
Integrate Airport Master Planning with codified Part 150 guidelines and encourage social surveys as part of local process