

ENVIRONMENTAL LAW AND SUSTAINABILITY IN INTERNATIONAL AVIATION



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Noise
dB



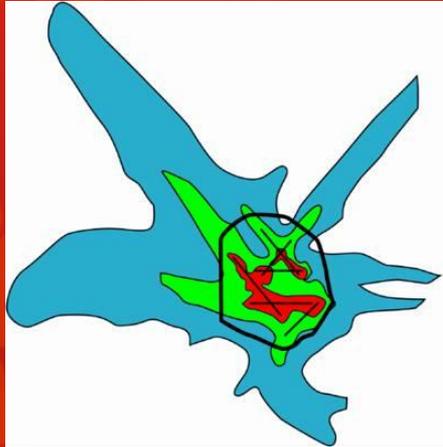
Key Environmental Issues

CO **HC** **CO2** **NOx**

Aircraft Engine Emissions

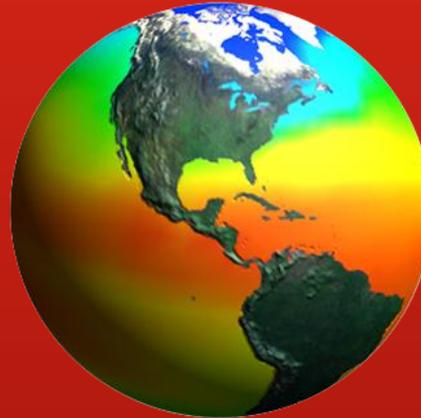
Source: ICAO

Aviation Environmental Issues



Community Noise Impacts

Dealing with significant aircraft noise impacts around airports



Global climate

The potential impact of aviation on global climate



Water Quality

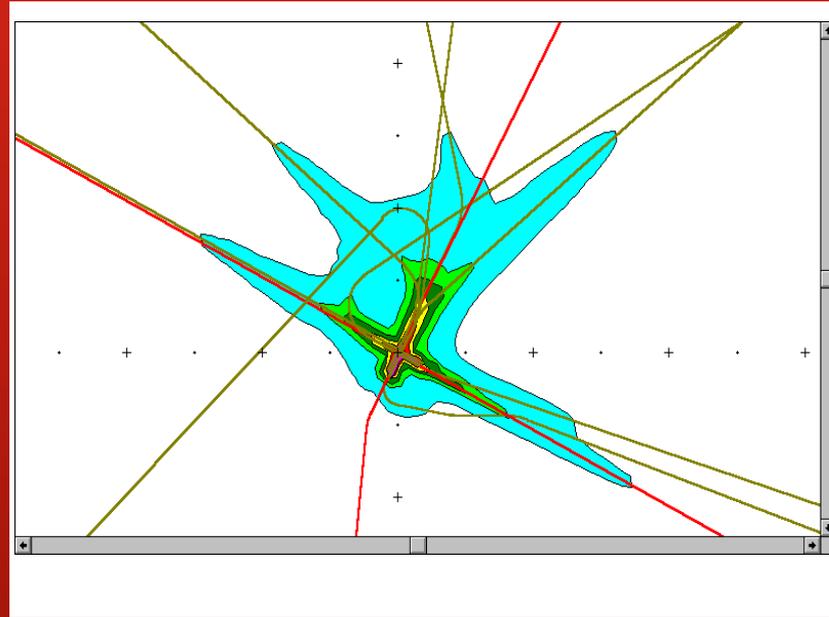
Limiting or reducing impact of aviation on water quality

Air Quality

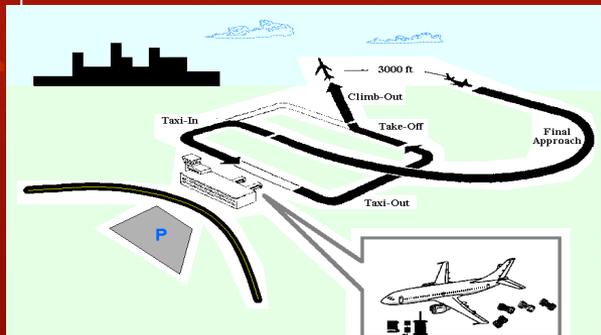
Limiting or reducing impact of aviation on local air quality

Where We Have Been: Local Applications

Individual
Airport Noise
Contours &
Emissions
Inventories/
Concentrations

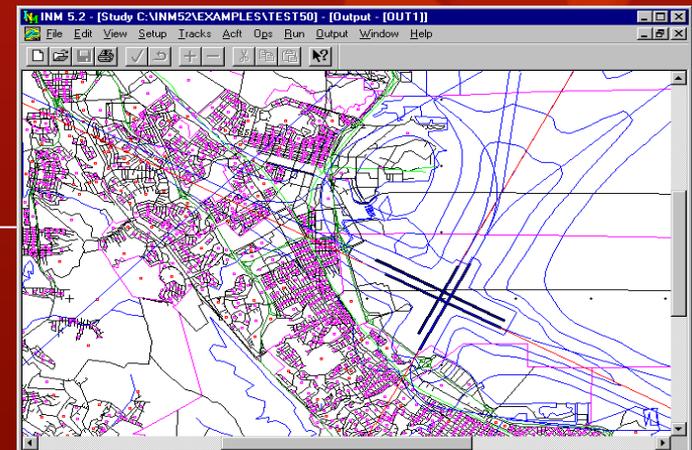


3000 ft



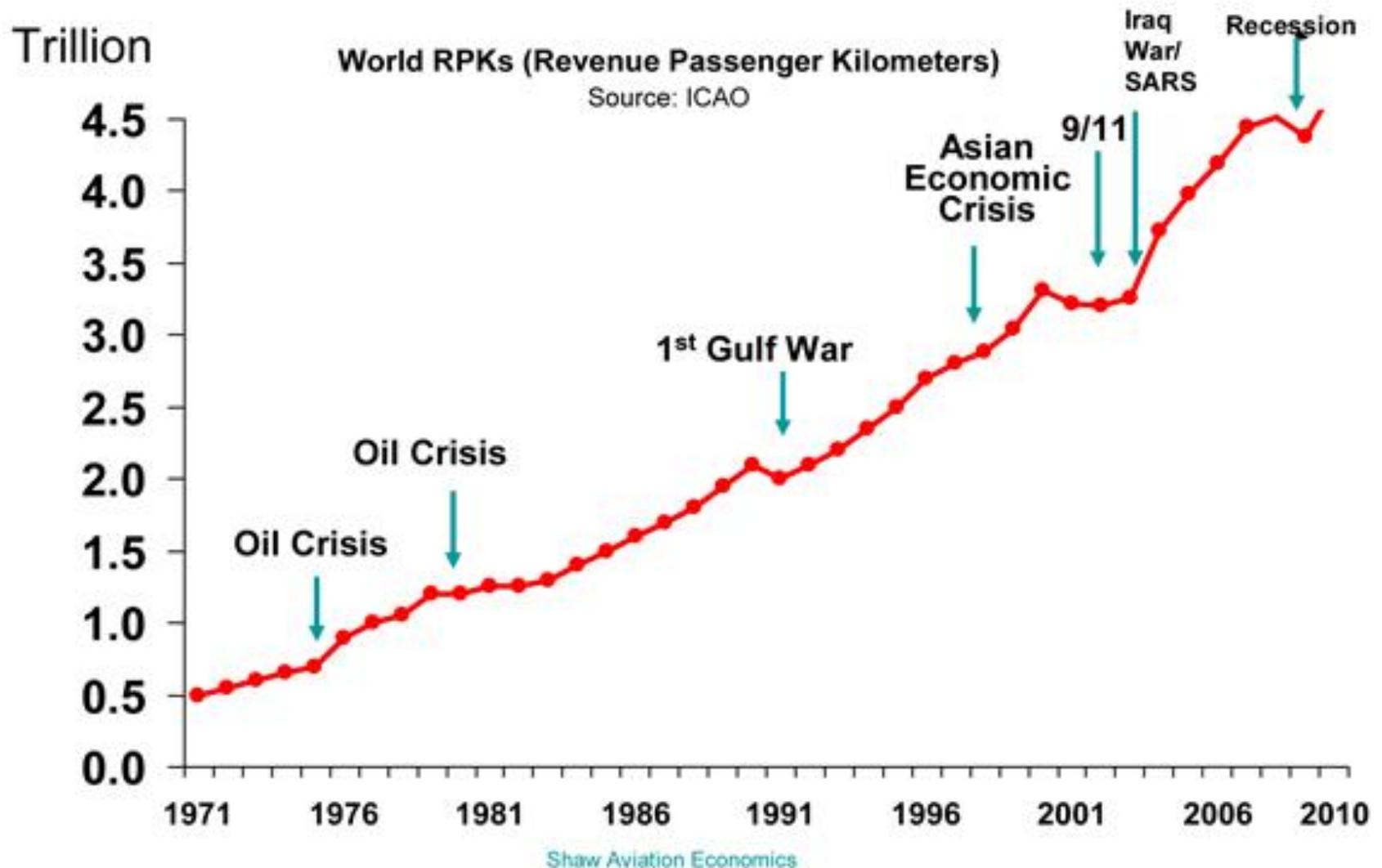
1978

2005



Source: US FAA

World Air Traffic Growth



DANGER



*Jet blast of departing and arriving aircraft
can cause severe physical harm resulting in
extreme bodily harm and/or death.*



NOISE

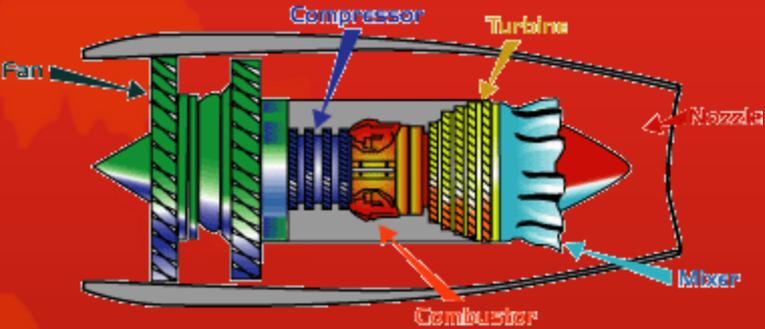
People who live close to airports suffer more than mere annoyance from ascending and descending aircraft. Aircraft noise may significantly impact the mental and physical health of people who live below the flight paths of commercial and private airplanes. Since the 1970s, numerous studies have found aircraft noise linked to:

- stress
- hypertension
- sleep disturbances
- work-related performance
- learning and academic performance



Annex 16

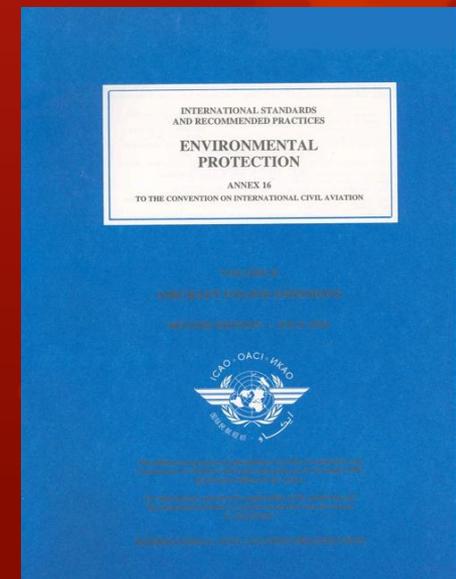


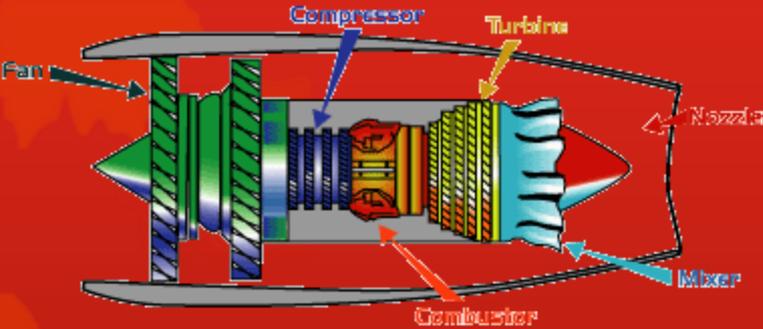


Annex 16 Environmental Protection - Noise

Annex 16, Volume I addresses aircraft noise.

In 2001, the ICAO General Assembly adopted a “balanced approach” to environmental harm, attempting to “achieve a balance between the benefit accruing to the world community through civil aviation and the harm caused to the environment in certain areas through the progressive advancement of civil aviation”. Each airport identifies a noise problem based on objective data, considers all available alternatives for addressing the noise issue, and selects the most cost-effective approach.





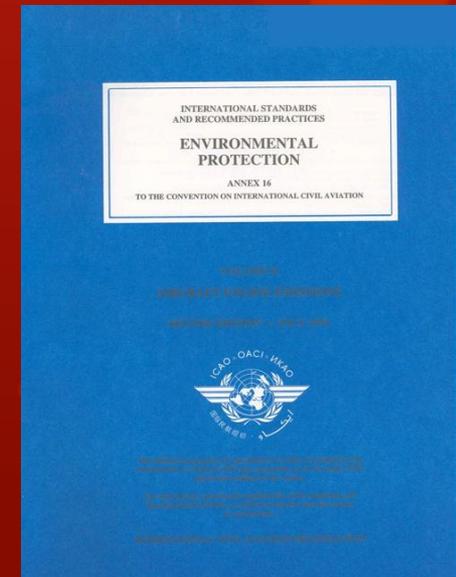
Annex 16 Environmental Protection - Noise

Under the “Balanced Approach”, adopted by ICAO in 2001, noise problems are to be addressed in two stages.

First, a longer term comprehensive assessment is made of all sources of noise.

Second, four measures to be implemented in turn, the last of which is to be adopted only when the other three have been exhausted:

1. Reduction at source (quieter aircraft);
2. Land-use planning and management;
3. Noise abatement operational procedures; and
4. Operating restrictions.



EU “Balanced Approach” to Noise

The Belgian regional environmental authority imposed financial penalties on an air transport company (“E”) for infringement of national legislation on noise abatement in the urban environment through night-time aircraft noise. E sought annulment of the decision to impose penalties on the basis that: (1) the national provisions infringed arts 4 and 6 of Directive 2002/30 on the introduction of noise-related operating restrictions at Community airports . . . in accordance with Vol.1 of Annex 16 to the Chicago Convention on International Civil Aviation.

Does a regulation imposing a fine upon a source creating noise above certain levels constitute an “operating restriction”?

No.

- “an ‘operating restriction’ is a prohibition, absolute or temporary, that prevents the access of a civil subsonic jet aeroplane to an EU airport.
- “Consequently, national environmental legislation imposing limits on maximum noise levels, as measured on the ground, to be complied with by aircraft overflying areas located near the airport, does not itself constitute an ‘operating restriction’ within the meaning of that provision, unless, in view of the relevant economic, technical and legal contexts, it can have the same effect as prohibitions of access to the airport in question.”

Curfews & Slot Restrictions

Curfews prohibit takeoffs or landings during prescribed periods, typically, at night.

A “slot” is the right to take off or land an aircraft at an airport—in effect, a “reservation” for takeoffs and landings.

The authority to take-off or land a single aircraft is referred to as a “slot.” Thus, a round-trip flight to and from an airport requires a pair of slots.

IATA: An airport slot (or ‘slot’) is a permission given by a coordinator for a planned operation to use the full range of airport infrastructure necessary to arrive or depart at a Level 3 airport on a specific date and time.



WHAT IS A LEVEL 3 AIRPORT?

IATA: A Level 3 airport is one where:

- a) Demand for airport infrastructure significantly exceeds the airport's capacity during the relevant period;
- b) Expansion of airport infrastructure to meet demand is not possible in the short term;
- c) Attempts to resolve the problem through voluntary schedule adjustments have failed or are ineffective; and
- d) As a result, a process of slot allocation is required whereby it is necessary for all airlines and other aircraft operators to have a slot allocated by a coordinator in order to arrive or depart at the airport during the periods when slot allocation occurs.



SLOT RESTRICTIONS

Landing slot restrictions were originally imposed to reduce air traffic congestion and delays, but also to reduce noise.

At many congested airports, where capacity arguably exceeds demand, governments have divided runway utilization into time-defined segments known as slots.

By the end of the 1990s, more than 130 airports around the world were slot-controlled. Today, 159 airports are slot-restricted.

In the United States, five major U.S. airports were slot-constrained by federal decree:

- Newark (until early 1970s),
- Chicago O' Hare (until 2000),
- New York LaGuardia and Kennedy, International (until 2007), and
- Washington National.



Environmental Review: United Kingdom

The UK High Court of Justice upheld an environmental review of expansion of London's Stansted Airport from a single runway that concluded:

- "additional air noise, and to a lesser extent, ground noise would be harmful to the living conditions and health of residents and to the quality of life in the area. Some, but not all, of this harm could be mitigated. . . .
- "the economic and other benefits . . . , together particularly with the accordence with national policy on aviation generally and particularly the specific policy support for making the best or full use of the existing runway at Stansted outweigh the harm . . . in respect of noise and the effects on the nature and character of communities."

US – Federal Preemption

The U.S. Supreme Court held that in light of the comprehensive nature of federal regulation of aircraft noise, the Federal Aviation Administration and the Environmental Protection Agency had plenary jurisdiction over airport noise, preempting local municipal or state control. Thus noise regulation ordinances and flight pattern controls are preempted by the federal government.



City of Burbank v. Lockheed Air Terminal, 411 U.S. 624 (1973).

US – Limits to Private Claims for Trespass and Nuisance

The US Supreme Court held:

“It is ancient doctrine that at common law ownership of the land extended to the periphery of the universe— *Cujus est solum ejus est usque ad coelum*. But that doctrine has no place in the modern world. The air is a public highway, as Congress has declared. Were that not true, every transcontinental flight would subject the operator to countless trespass suits. Common sense revolts at the idea. To recognize such private claims to the airspace would clog these highways, seriously interfere with their control and development in the public interest, and transfer into private ownership that to which only the public has a just claim.”



US – Limits to Private Claims for Trespass and Nuisance

The Court recognized that Congress had placed into the public domain, as a public highway, the navigable airspace above the minimum safe altitude of flight—then 500 feet by day and 1000 feet by night for air carriers.

However, the Court recognized that if a property owner is to have full enjoyment of his land, he must have “exclusive control of the immediate reaches of the enveloping atmosphere;” the “superadjacent airspace” below the altitude that Congress appropriately determines to be a public highway. I

Thus, the Court determined that, “Flights over private land are not a taking, unless they are so low and so frequent as to be a direct and immediate interference with the enjoyment and use of the land.”



Nuisance Takings

There are “two classifications of takings: physical occupation takings and nuisance-type takings.”

A “nuisance-type taking” occurs when the governmental entity with eminent domain power “interferes with a landowner's beneficial use and enjoyment of the property.” For example, an extension of an airport runway that results in noise and vibrations to the detriment of nearby private property owners can constitute a taking. In a “nuisance-type taking,” the figurative “taking” of the property occurs through the creation of a nuisance by an entity with the power of eminent domain.



Nuisance Litigation: Canada

[T]he social utility of an enterprise does not uniformly trump individual harm in a nuisance analysis. The trial judge . . . found a new airport runway at the Vancouver International Airport that caused noise nuisance to the plaintiffs substantially enhanced the utility of an airport that was "of immense utility to the public at large". He nevertheless concluded the burden imposed on the plaintiffs, who were nearby property owners, exceeded what was reasonable and created a nuisance.

Susan Heyes Inc. v. Vancouver (City), 2011 CarswellBC 269, British Columbia Court of Appeal, 2011



US Aviation Noise Policy



Noise Goal: Reduce the number of people exposed to significant noise around U.S. airports in absolute terms, notwithstanding aviation growth, and provide additional measures to protect public health and welfare and our national resources.

The number of people in the U.S. exposed to significant aircraft noise since 1975 has dropped by 90 % . . . primarily due to reductions in aircraft source noise and phase outs of Stage 1 and 2 aircraft over 75,000 pounds. Yet noise remains a predominant aviation environmental concern of the public, one of the principal environmental obstacles to expanding airport and airspace capacity, and the one that has used the most mitigation resources

Developing the future air transportation system is a shared responsibility among U.S. government agencies and the aviation industry The Federal government is responsible for national policy and regulations including aircraft noise and emissions, aviation safety, airspace management and air traffic control, research and development, and managing Federal investments in the NAS. Airport proprietors are responsible for managing their airports, including planning and implementing actions to mitigate the adverse effects of airport operations and development on community noise . . . consistent with Federal regulations. Manufacturers of airframes and engines . . . produce the new technologies that are so critical to reducing the environmental footprint of aviation. Air carriers, air freight operators, and other aircraft operators make product purchase decisions that affect fleetwide environmental performance and fly and service aircraft in ways that affect fuel use and environmental impacts. The use of EMSs by aviation stakeholders contributing to NextGen will play an important role in achieving the environmentally sustainable growth of air transportation.

Environmental Review: United States

The Federal Aviation Administration acted within its authority to regulate “the use of the navigable airspace for protecting individuals and property on the ground” in promulgating a final rule requiring helicopters to use a route one mile off the north shore of Long Island, New York, for the purpose of noise abatement in residential areas.



Environmental Review: United States

The FAA Modernization and Reform Act of 2012 exempt changes to air traffic procedures from environmental review.

Exempted are:

- (1) Area Navigation/Required Navigation Performance (“RNP”) procedures proposed for “core” (large hub) airports, or any medium or small hub airports located in the same metroplex, and at 35 non-core airports to be selected by the FAA Administrator; and
- (2) for any navigation performance or other performance based navigational procedure “developed, certified, published or implemented that in the determination of the Administrator would result in unreasonable reductions in fuel consumption, carbon dioxide emissions and noise on a per flight basis as compared to aircraft operations that following existing instrument flight rules . . . in the same airspace irrespective of the altitude.”

Rationale: to pave the way for the modernization of the Next-Gen air traffic management system with satellite based technology.

Environmental Review: The European Union

The fact that an environmental impact assessment has not been carried out, in breach of the requirements of that directive, does not, in principle, by itself, according to EU law, and without prejudice to rules of national law which are less restrictive as regards State liability, confer on an individual a right to compensation for purely pecuniary damage caused by the decrease in the value of his property as a result of the environmental effects of that project. However, it is for the national court to determine whether the requirements of EU law applicable to the right to compensation, including the existence of a direct causal link between the breach alleged and the damage sustained, have been satisfied.

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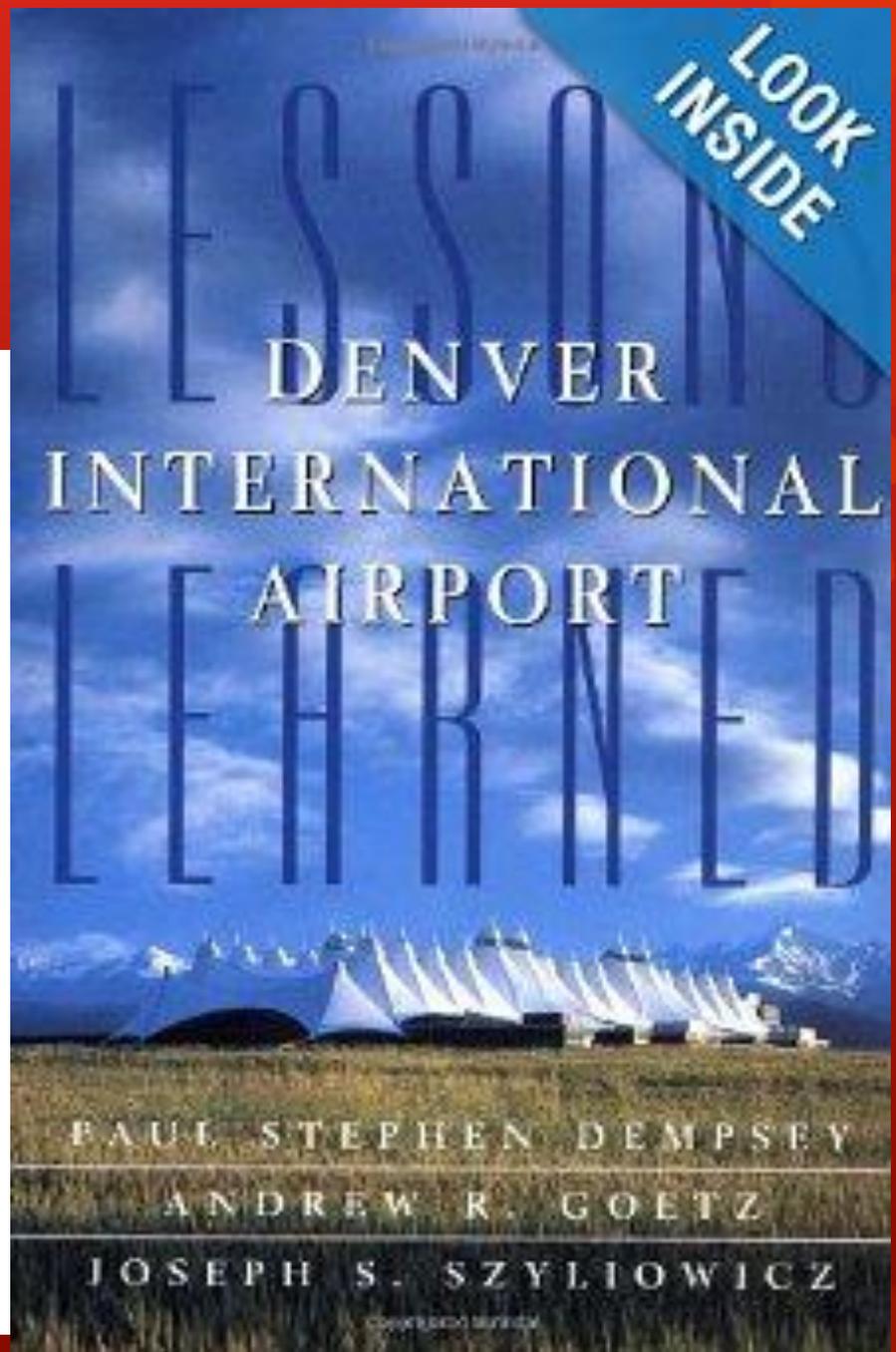
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