



34th Annual Basics of Airport Law Workshop and 2018 Legal Update

Session #11

THE LAW OF AIRPORT NOISE

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SESSION OVERVIEW

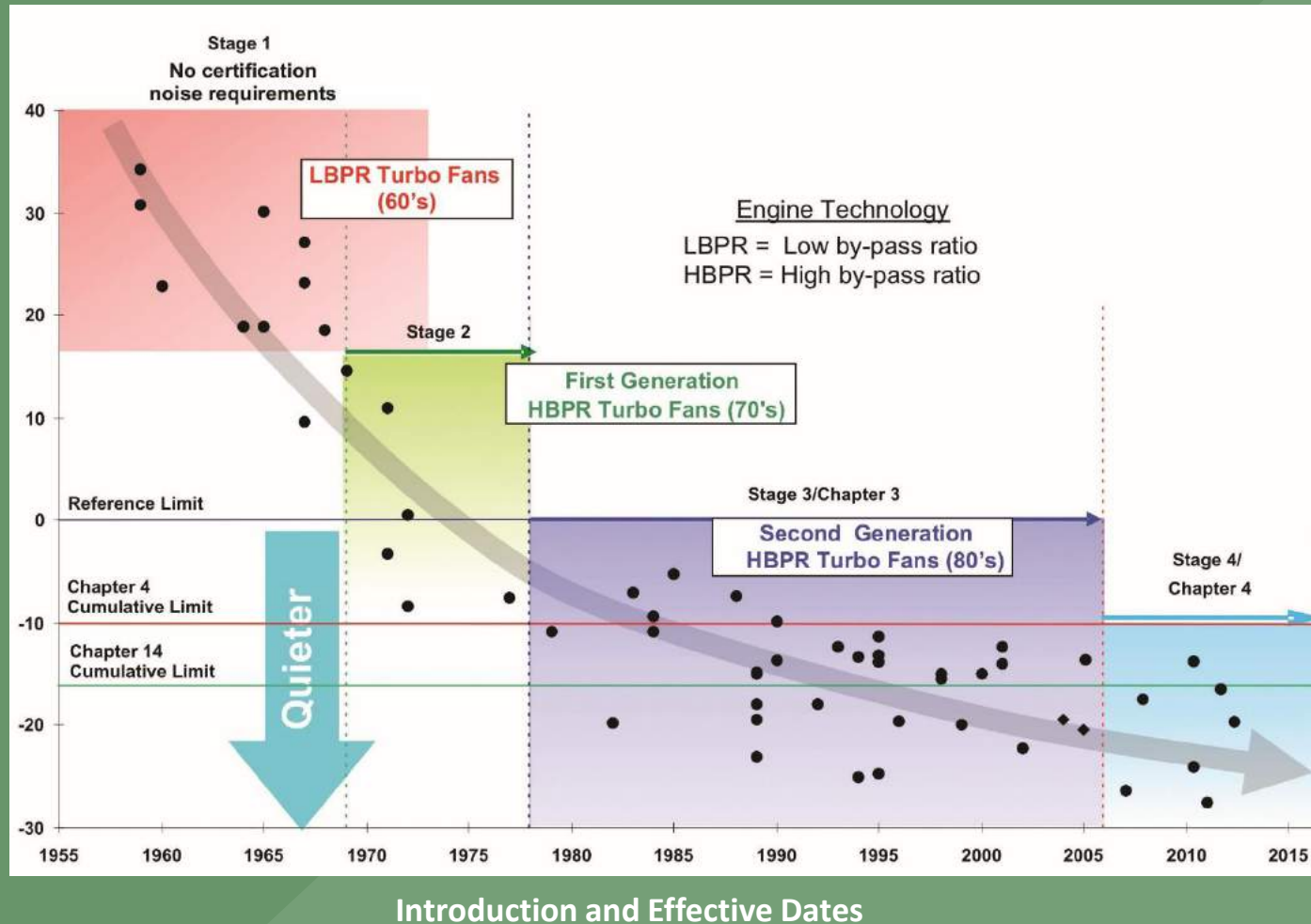
- Basic noise terminology
 - What is noise?
 - What are all of these metrics?
- Legal Authority
 - What are the noise standards for aircraft types?
 - How are these aircraft types regulated?
 - How do we measure aircraft noise impacts?
 - Can I get federal funding for noise mitigation?
 - Can I impose noise restrictions at my airport?

NOISE TOPICS

- Re-emergence of noise issues
- Terminology
- Noise Effects

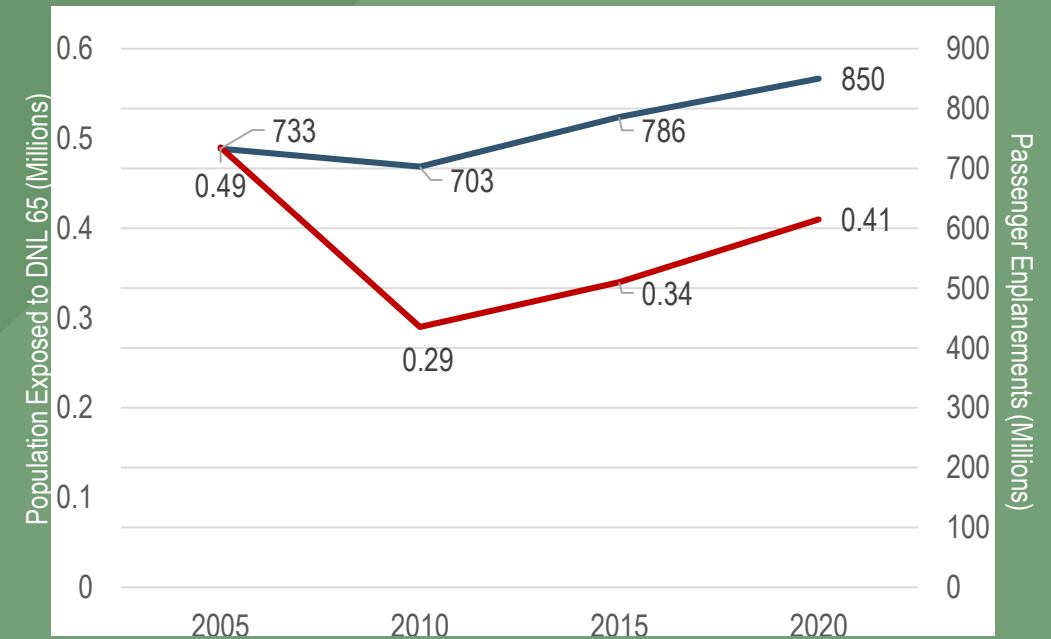
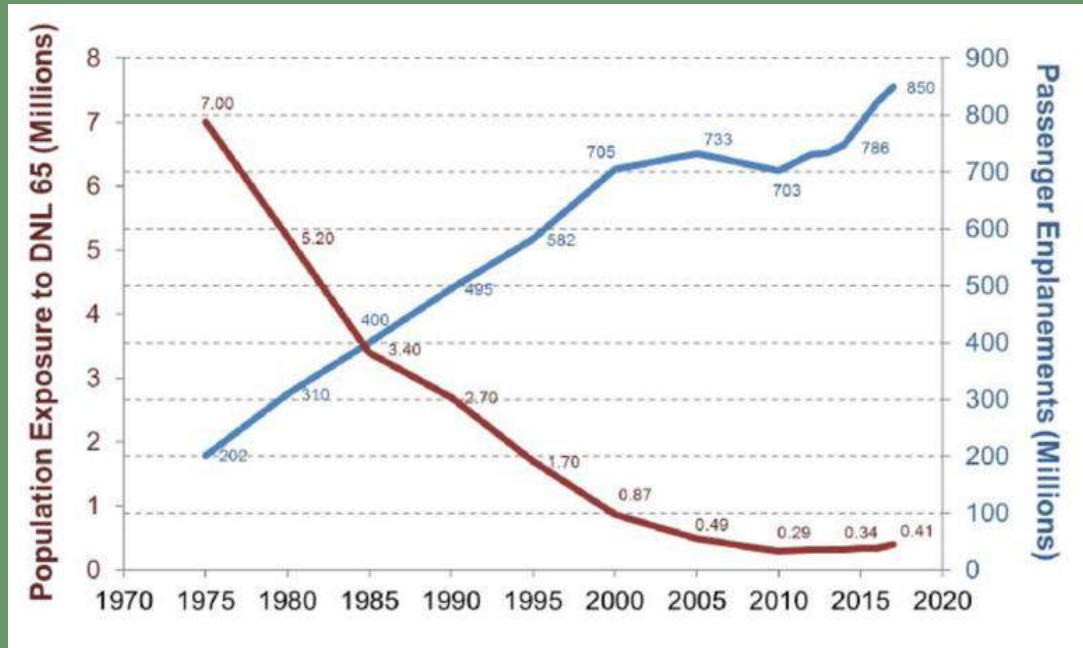
PROGRESS ON AIRCRAFT NOISE

Aircraft Certification Noise Relative to
FAA Part 36 Stage 3 / ICAO Chapter 3



Source: Boeing

PROGRESS ON AIRCRAFT NOISE (CONT)



Source: FAA, 2018

THE “EQUAL ENERGY HYPOTHESIS”

Chapter 2



737-200
JT8D-17

24 
or
 105

Chapter 3



737-300
CFM 56-3B

360 
or
 95

Chapter 3



737-800
CFM56-7B26

189 
or
 88

Chapter 4

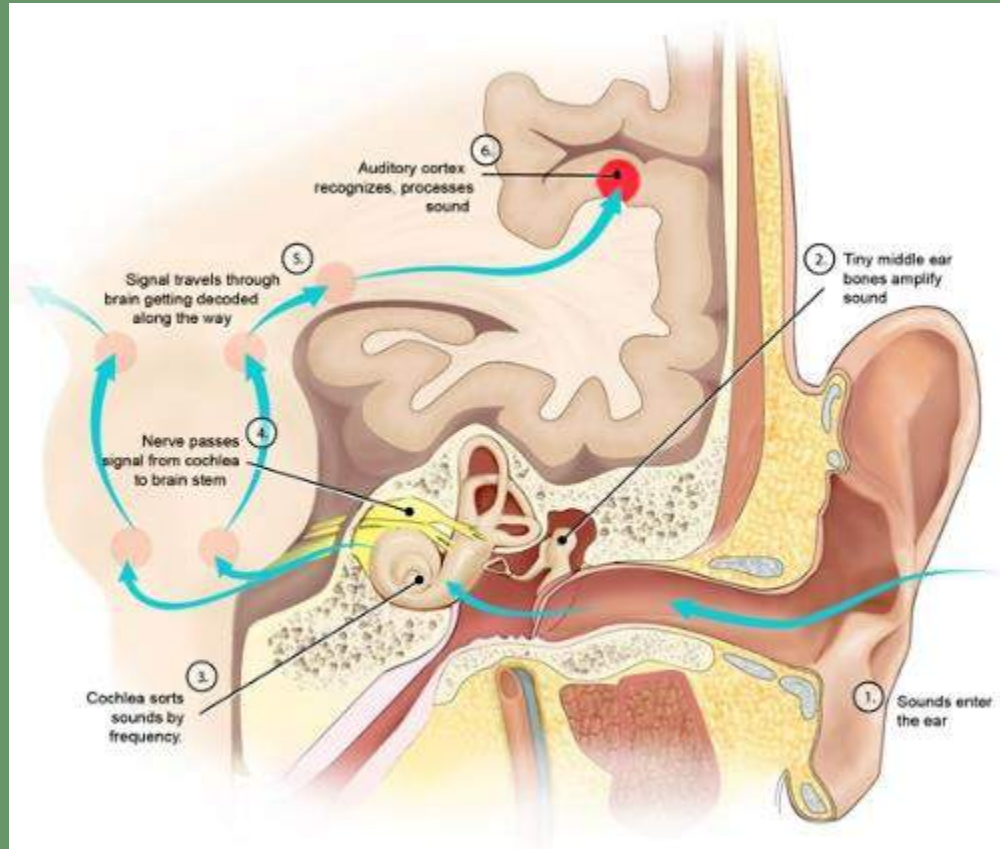


737-8MAX
CFMLeap-1B

585 
or
 102

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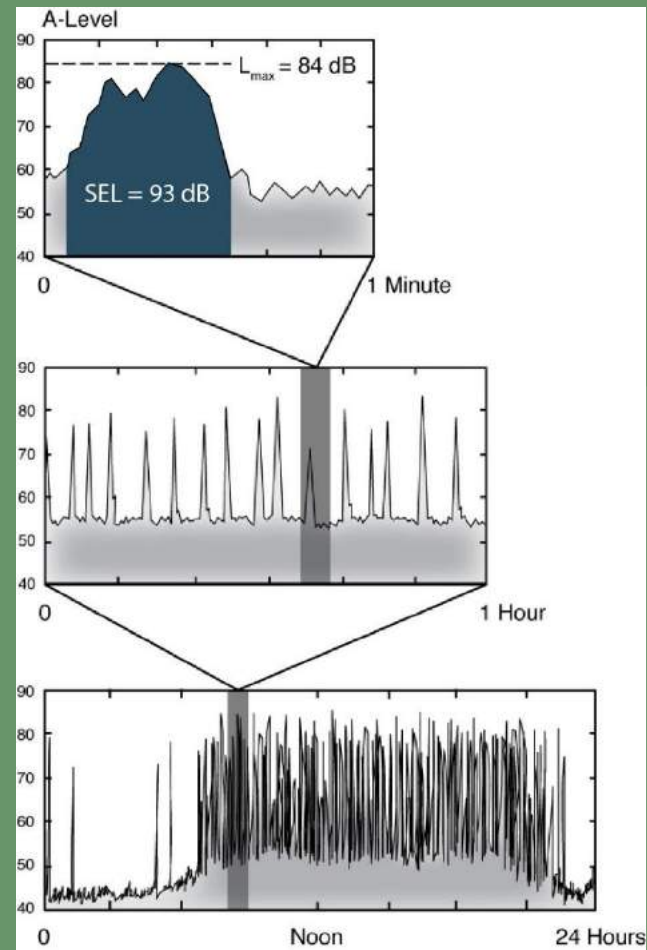
SOUND, NOISE, AND HEARING



Noise is unwanted sound judged to be unpleasant, loud or disruptive to hearing. From a physics standpoint, **noise** is indistinguishable from **sound**, as both are vibrations through a medium, such as air or water. ... Acoustic **noise** is any **sound** in the acoustic domain, either deliberate (e.g., music or speech) or unintended.

[Noise - Wikipedia](https://en.wikipedia.org/wiki/Noise)
<https://en.wikipedia.org/wiki/Noise>

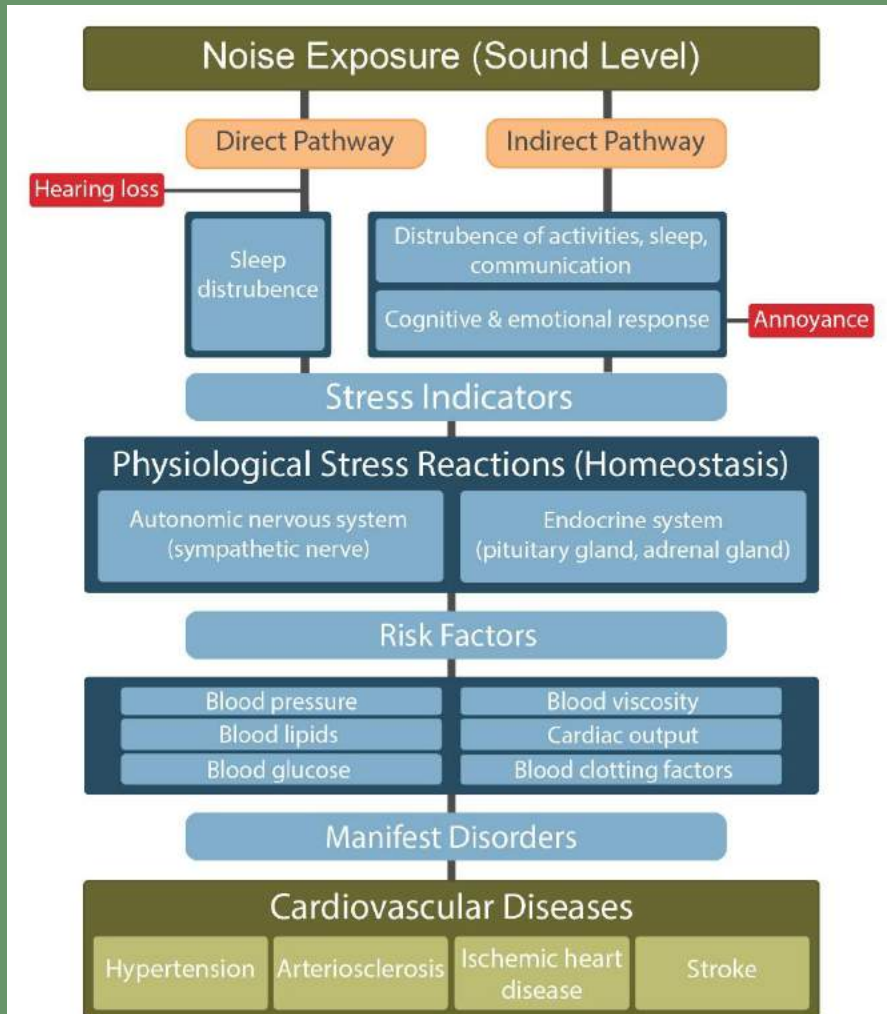
TERMINOLOGY



Some terms

- A-weighted decibel, dBA
- Maximum A-weighted Sound Level, L_{max}
- Sound Exposure Level, SEL
- Estimated Perceived Noise Level, EPNL
- Day-Night Average Sound Level, DNL
- Community Noise Equivalent Level, CNEL

POTENTIAL HEALTH EFFECTS OF NOISE



Auditory

- Hearing loss

Non-auditory

- Annoyance
- Speech disruption
- Sleep disturbance
- Learning/cognitive impacts

Source: Cardiovascular Effects of Noise on Man – Wolfgang Babisch, 2015 ASA Meeting

MAJOR FEDERAL STATUTES

- **Aircraft Noise Abatement Act of 1968 (49 U.S.C. 44715)**
 - Measurement and regulation of aircraft noise
 - Part 36/Part 91 Noise Standards
- **Aviation Safety and Noise Abatement Act of 1979 (ASNA) (49 U.S.C. 47501 et seq.)**
 - Part 150
 - Noise impact standards/compatibility planning
- **Airport Noise and Capacity Act of 1990 (ANCA) (49 U.S.C. 47521 et seq.)**
 - Phase-out of Stage 2 aircraft >75,000 pounds
 - Limits on any restrictions of Stage 2 and Stage 3 aircraft

PART 150

- Day-Night-Average Sound Level (DNL) Metric
- DNL 65 dB as compatibility threshold
 - FAA re-evaluating science
 - Reauthorization directs study release in two years
- *Voluntary* compatibility planning process

PART 150: NOISE COMPATIBILITY PLANNING

- **Noise Exposure Map (NEM)**
- **Noise Compatibility Program (NCP)**
 - Noise abatement measures to reduce noise exposure
 - Land use measures to address non-compatible uses
 - Program management/implementation measures

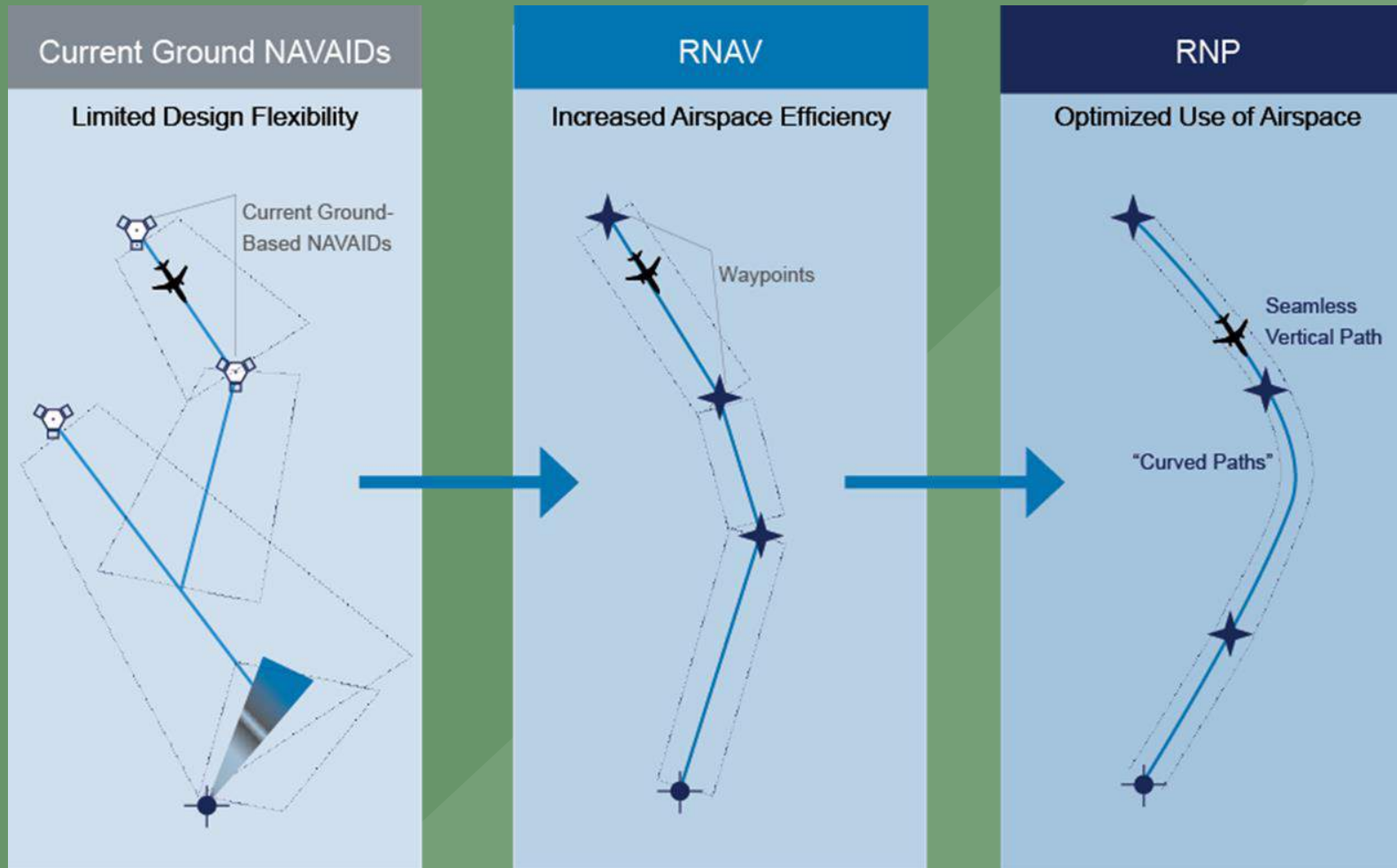
PART 161: NOISE AND ACCESS RESTRICTIONS

- FAA reviews restrictions on use of Stage 3 aircraft
 - Stage 2 restrictions moot as of January 1, 2016
- Comprehensive analysis required, e.g.:
 - Evidence of noise problem
 - Impacts analysis
 - Benefit-cost analysis
- Encourages voluntary agreements
- Also → Grant Assurance 22
 - Part 13/16

LIABILITY FOR NOISE

- Takings, Nuisance, Trespass Theories
 - *U.S. v. Causby* (1946)
 - *Griggs v. County of Alleghany* (1962)
 - Federal Tort Claims Act?
- General Rule: Invasion of superadjacent airspace AND substantial interference with use and enjoyment of property
 - Variations among states
 - “Take or Damage” states

PERFORMANCE BASED NAVIGATION

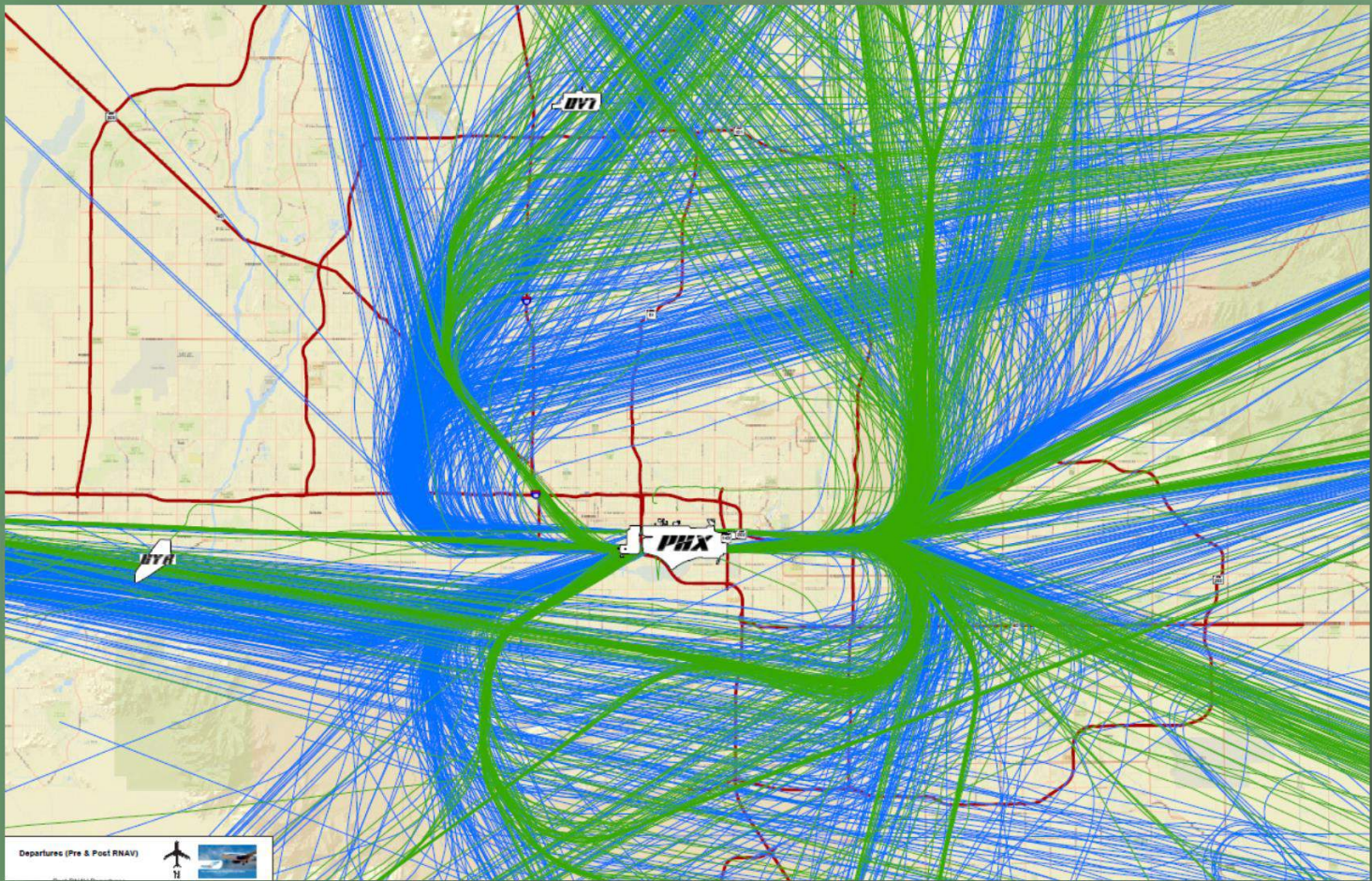


Source: http://www.faa.gov/nextgen/update/progress_and_plans/pbn/

HOW ARE FAA DECISIONS CHALLENGED?

- 49 U.S.C. § 46110(c)
 - “Order”
 - 60 days unless reasonable grounds
 - Courts of Appeal
 - Prior objection
 - On the record

PHX V. HUERTA: D.C. CIRCUIT



FAA REAUTHORIZATION BILL PROVISIONS

- Section 173: Complete Noise Metric Study (One Year)
- Section 175: Requirement for FAA to Consider Route Dispersion
- Section 176: Report on FAA NextGen Community Engagement (240 days)
- Section 179: Study on Aircraft Speed and Noise (One Year)
- Section 180: Regional Ombudspeople (One Year)
- Section 181: Supersonic Aircraft Integration
- Section 186: Study on Phase 3 Aircraft Phase Out
- Section 187: Complete FAA Community Noise Effect Study (Two Years)
- Section 188: Report on Alternative Noise Metrics (One Year)
- Section 189: Complete Health Effects Study (3 1/2 Years)
- Section 502: Complete study on NextGen status and implementation

QUESTIONS ON AIRPORT NOISE?

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