Aircraft Noise and Overflight Dispersion: Opportunities and Challenges
Introduction

- Dan Gardon, Noise Abatement Specialist
  - 5+ years experience in Noise Abatement
  - 3+ with Charlotte Douglas International Airport

- Contact: daniel.gardon@cltairport.com
Changing Noise Environment

- Source of many noise complaints is shifting
  - Previously single loud events lead to complaints
  - ‘Frequency’ or number of flights within a time period is becoming dominant source of complaint
A Heavy Lift:

- One method of resolving complaints:

  Dispersion of flights
Methods of Creating Dispersion

- Procedural Dispersion
  - Preferential runway usage
  - Offset approaches
- At CLT, usage of Open SID procedures mimic pre-PBN procedures
CLT Background

- 570,000+ flights in 2019, making CLT the 7th busiest Airport by operations count
- 3 parallel runways (a 4th crosswind runway is rarely used)
- Easternmost runway 18R/36L is used only for arrivals
  - Almost 300,000 departures on only two runways
CLT Background

- CLT has historically favored the concept of dispersion
  - Dispersed procedures are considered more equitable
- Part 150 measures laid groundwork for procedures to implement dispersed patterns
- In 2015 implementation of the Charlotte Metroplex allowed for FAA design dispersed departure procedures
Open SID

-Definition: A PBN departure starting and ending with a defined path but containing a manual termination leg within the procedure

CLT uses a similar procedure

Specifically: aircraft fly runway heading for 2 miles, then are manually vectored to a fix some 20 miles away.
Departure Flight Tracks (2014)
Departure Flight Tracks (2019)
A Less than Perfect System

- Unable to disperse arrival traffic

- More Residents Affected (albeit affected by fewer overflights)

- Technical difficulty in implementation
Takeaways

These procedures can reduce repetitious flights over areas affected by departure streams

Open SID procedures can provide a benefit to a region, but not a complete solution to noise issues
For further questions/information, please reach out

Daniel.gardon@cltairport.com