SANTA BARBARA AIRPORT

NOISE ADVISORY PROGRAM SUMMARY

Noise Abatement Subcommittee
April 10, 2019
- Background
- Authority/Responsibility
- FAA Noise Standards
- History
- Part 150 Noise Study
- Current Statistics
- Complaint Process
- FAA Analysis Report
- Public Outreach
- Work Plan
Background
SBA Noise Advisory Program Goals

- Provide region with facilities to access the National Air Transportation System
- Achieve airport operations that are compatible with surrounding communities
- Maintain a continuing dialogue between the Airport, Airport users, and the surrounding community through the Noise Advisory Program
Voluntary Participation

• Good neighbor objective
  - Following noise abatement procedures is good for the community, the Airport, and for aircraft operators.
Authority/Responsibility
Safe Aircraft Operation Responsibilities

• Santa Barbara Airport (SBA)
  - Assure physical facilities of Airport are safe for aircraft use
  - Manage SBA Voluntary Noise Advisory Program
  - No control over how or where aircraft are flown

• FAA/ATC
  - Formulates and enforces rules and regulations under which aircraft are operated
  - Ensure aircraft remain a safe distance from one another
  - Has authority over aircraft in flight

• Pilot in Command (PIC)
  - Federal law gives PIC final authority and responsibility over how aircraft is operated
  - Responsibility for flight safety is with PIC
FAA Noise Standards
Title 14 Part 91- General Operating and Flight Rules

- **Except when necessary for takeoff or landing**, no person may operate an aircraft below the following altitudes:
  - § 91.119-(b) *Over congested areas.* Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.
  - § 91.119-(c) *Over other than congested areas.* An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.

- FAA does not have the authority to prohibit aircraft overflights of a particular geographic area unless the operation is unsafe, or the aircraft is operated in a manner inconsistent with FAA Regulations.

- § 91.3 (a)-The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft.
Title 14 Part 36- Noise Standards: Aircraft Type and Airworthiness Certification

- Ensure the latest available safe and airworthy noise reduction technology is incorporated into aircraft design, and enables the noise reductions offered by those technologies to be reflected in reductions of noise experienced by communities.
- FAA Advisory Circular: 36-1H provides noise level data for aircraft
- Aircraft with 75,000 pounds maximum take-off weight or greater must meet Stage 3 and Stage 4 noise restrictions to operate
- Aircraft under 75,000 pounds maximum take-off weight must meet Stage 2, 3, or 4 noise restrictions to operate
SBA Noise Program
History
Noise Advisory Program History

• 1978- SBA Noise Abatement Committee established
• 1988- United Airlines introduces Stage III "quiet aircraft" to Santa Barbara
• 1989- FAA approved SBA Noise Exposure Maps & Noise Compatibility Program
• 1990- Airport Noise and Capacity Act (ANCA) implemented
Noise Advisory Program History cont.

- 1992- Remote microphone noise monitoring system is installed
- 1998- New ‘state-of-the-art’ computerized noise monitoring system, the first of its kind in the US is installed
- 2001- Airport begins FAR Part 150 Noise Compatibility Study
- 2003- SBA Noise Exposure Maps updated
- 2004- Airport completes FAR Part 150 Noise Compatibility Study
Noise Advisory Program History cont.

- 2006- Competitive bid process awarded noise monitoring program
- 2007- FAA grant awarded for noise system upgrades
- 2010- FAA grant completed system upgrades, including introduction of cloud based technology
Noise Advisory Program History cont.

- 2015- City Council approved continuation of noise program
- 2017- Noise Abatement Committee adjusted to ad hoc status
- 2018- Airport Commissioners requested Noise Abatement Sub-Committee reinstate regular meeting schedule
- 2019- PublicVue addition to SBA Noise Advisory Program
Airport Noise and Capacity Act (ANCA)

- ANCA 1990 limits the ability of airport sponsors to propose and implement new restrictions and/or fines on aircraft operating into or out of their airport after 1990; proposed restrictions have to comply with Code of Federal Regulations Part 161, Notice and Approval of Airport Noise and Access Restrictions.

- Airport Noise and Capacity Act of 1990 FAA aircraft noise guidance to phase out Stage 2 aircraft and restrict use to Stage 3 aircraft
  - Loudest aircraft (Stage 2) phased out
  - “Hushkits” implemented on any remaining aircraft that did not meet Stage 3 noise standards
Grant Assurance 22, Economic Nondiscrimination

• As required by Grant Assurance 22:
  - Access restrictions have potential to violate federal obligation to make the Airport available for public use on reasonable terms without unjust discrimination

• Airport Sponsor responsibility in Part 150 Noise Compatibility Study, develop a noise compatibility program that:
  - Does not impose an undue burden on interstate and foreign commerce
  - Does not derogate safety or adversely affect the safe and efficient use of airspace
Part 150 Noise Compatibility Study
Airplane Noise Compatibility Planning

- Measure noise at airports and surrounding areas that generally provides a highly reliable relationship between projected noise exposure and surveyed reaction of people to noise.
- Determine exposure of individuals to noise that results from the operations of an airport.
- Provides technical assistance to airport operators, in conjunction with other local, State, and Federal authorities, to prepare and execute appropriate noise compatibility planning and implementation programs.
SBA Noise Compatibility Study

- Airport study conducted 2001-2004
- Study cost- $300,000 (FAA grant and Airport revenue funded)
- Improved compatibility between aircraft operations and noise-sensitive land uses in the area
- Determined measures to:
  - Abate aircraft noise relative to 65DNL
  - Control land development
  - Mitigate impact of noise on non-compatible land uses, where applicable
  - Implement voluntary noise abatement program
Part 150 Noise Compatibility Study Metrics

- Cumulative Exposure Metrics
  - Day-Night Average Sound Level, DNL
  - Long-duration Cumulative Exposure
  - Community Equivalent Sound Level, CNEL
  - Long-duration Cumulative Exposure
Developing Noise Contours

• Day-Night Average Sound Level, DNL
  - *Long-duration Cumulative Exposure*

• 65 DNL level determined by the FAA and EPA

• FAA established 65 DNL as threshold above which aircraft noise is considered to be incompatible with residential areas
SBA Noise Contour Measurement

- California uses CNEL
  - California adopted the use of CNEL prior to FAA adopting DNL
  - Higher standard than DNL
  - 3 time periods during 24 hours of measurement (one more period than DNL)
    - **Night**: 10pm to 7am: 10 times weighting (10 dB penalty)
    - **Evening**: 7pm to 10pm: 3 times weighting (approx. 4.8 dB penalty)
    - **Day**: 7am to 7pm: No weighting or penalty
Noise Contour Thresholds

• Noise metrics are used to reflect a person's cumulative exposure to sound over a 24-hour period, expressed as the noise level for the average day of the year on the basis of annual aircraft operations.
• DNL is the standard noise metric used for all FAA studies of aviation noise exposure in airport communities.
• The FAA established 65 DNL as the threshold above which aircraft noise is considered to be incompatible with residential areas.
2011 Noise Contour Map
2017 Noise Contour Map
High Performance Aircraft Voluntary Noise Abatement
Approach/Departure RWY 7/25
VFR Aircraft Voluntary Noise Abatement Approach RWY 15R/33L and 15L/33R
Current Statistics
SBA Operational Statistics

- In 2018, SBA received 100,667 aircraft operations (takeoffs and landings)
- In 2018, SBA received 1147 noise complaints
- 2018 ratio of total noise complaints to aircraft operations is 1.14%
January Noise Complaint Report

Start Date I Time: End Date I Time:
2019-01-01 00:00:00
2019-01-31 23:59:59
Group By: Filter Name:
Community

- Total Number of Complaints: 113
- 47 letters sent
February Noise Complaint Report

Start Date / Time: 2019-02-01 00:00:00
End Date / Time: 2019-02-28 23:59:59

Group By: Community
Filter Name:

Total Number of Complaints: 68

➤ 20 letters sent
March Noise Complaint Report

Complaint - Histogram

Start Date / Time: 2019-03-01 00:00:00
End Date / Time: 2019-03-31 23:59:59
Group By: Community
Filter Name:

Total Number of Complaints: 86

➢ 38 letters sent
Program Monthly Statistics 2018

- January- 13
- February- 27
- March- 14
- April- 52
- May- 68
- June- 82
- July- 121
- August- 156
- September- 138
- October- 132
- November – 155
- December- 189
Program Statistics 2013 - 2019

• Recent noise advisory program statistics:
  - 2013- 547
  - 2014- 633
  - 2015- 1,164
  - 2016- 543
  - 2017- 735
  - 2018- 1,161
  - 2019- 267 (through 3/31/19)
Complaint Process
Noise Complaint Process

- Complaint received
- Data entered and processed
- Flight track correlated to complaint
- Flight track researched
- Letter/report sent to aircraft operator
- Pilot receives noise approach education
- Request future flights flown on noise abatement approach when safety permits
Sample One Day Flight Track Activity
High Performance Aircraft Approach

Aircraft flew visual noise abatement approach

Aircraft did not fly visual noise abatement approach
VFR Aircraft Approach Paths

Aircraft flew visual noise abatement approach

Aircraft *did not* fly visual noise abatement approach
Noise Advisory Program Outreach

• Airline, Corporate, General Aviation, and Stakeholders
  - Dialogue
  - Education
  - Insight
  - Improvement
Airline Education and Outreach

- Air Carrier Letters/Reports
  - Alaska
  - Contour
  - Frontier
  - Go-Jet (United)
  - Mesa (American)
  - SkyWest (United)
  - Sun Country
FAA Analysis Report
FAA Analysis Report Findings

- Findings revealed no increase in the number of turbine aircraft not complying with Voluntary Noise Advisory Program (VNAP)
- Reasons for the increase in noise complaints to the Airport could not be ascertained with any degree of certainty
- 3 aircraft types (CRJ9, CRJ2 and the E75L) account for the vast majority of non-compliant VNAP events
FAA Analysis- Possible Causal Factors

- ATC vectoring
- Air traffic safety and spacing
- Weather avoidance
- Bird avoidance
FAA Analysis- Possible Causal Factors

- Flight crew training
- Flight Management System limitations
- Mandatory company stabilized approach criteria
- Combination of these

- National trend- more flight crews of high-performance aircraft are refusing to accept anything less than being established straight in on final-approach course no closer than 3-4 miles from the threshold
Factors Affecting Routes

- Wind
- Clouds
- Air traffic
- Weather
- Natural disasters
- Emergencies
Public Outreach
Community/Stakeholder Outreach

- Noise Abatement Sub-Committee meeting
- Complainant advisory
- Stakeholder noise education and outreach
- Airport Commission reports
- Airport Commission presentations
PublicVue Features

• Public may follow, capture, and review aircraft operations in their vicinity
• Usable on smart phones, tablets, and computers
• Real time (with 10min security delay) and historical replay flight tracking options
PublicVue Features cont.

- Directly input noise complaints
- Public access to data accuracy, transparency, and consistency
- Flight following can display full flight path and route of flight in the vicinity of specific location
Work Plan
Noise Advisory Program Work Plan

- Continued research of each noise complaint
- Continued outreach to aircraft operators
- FAA Analysis Report of SBA operations
- SBA Noise Advisory Program Presentation
- Quick facts flyer
- Amend noise hotline message to include bypass shortcut
- Installation of PublicVue
- Installation of noise contouring software
- Revision of aircraft operator response methods
- Review noise abatement approaches with ATC
- Identify airline fleet changes and provide advance notice of voluntary noise abatement approach procedures
- Alaska Airlines implementation of proprietary RNAV approach to RWY 25

- Revise signage/information in local FBOs and Flight Schools
- Develop signs for quiet departure on RWY 7/25
- Link SBA noise abatement procedures to Chart Supplements
- Launch of PublicVue
- Develop signs for quiet departure on RWY 7/25
- Reactivate SBA noise monitors
- Airline Chief Pilot/Fleet Manager visits for non-participation in voluntary program
- Make formal request to ATC and FAA to develop published visual noise abatement approach procedure for RWY 25
QUESTIONS?

Noise Hotline: 805-967-1900
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