

Fly Quiet Programs A Community Perspective

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Methodology and Agenda

Methodology

- Interviews (7 airports) and online research
- Commercial Airports: DFW* LAX, LHR, SEA, SFO,
- General Aviation: Naples (APF), John Wayne (SNA**), Teterboro (TEB**)
- Thank you to all and also to ESA, HMMH, and National Business Aviation Association

Agenda

- Context
- Observations
- Best Practices
- Opportunities
- Next Steps

Fly Quiet Program (FQP) Context

Voluntary programs because of Airport Noise and Capacity Act (1990)

- ANCA: no restrictions on noise or operations unless agreed to by FAA
- Grant assurances on Airport Improvement Program (AIP) funds also prevent airports from pursuing new restrictions
- Pre-ANCA grandfathered noise ordinances can be enforced by airports
- Multiple questions raised about restrictions
 - Do ANCA and curfews apply to pistons, turboprops, and helicopters?
 - Do curfews for touch-and-go operations and local operations affect interstate commerce?
 - We understand that one cannot interfere with interstate commerce, but does it apply to intrastate traffic?

FQP are voluntary and characteristics vary widely

- Airport type (Commercial vs GA) and airport resources
- Age of program
- Existence of pre-ANCA ordinances or not
- Airport specific environment, e.g. preferential runways

FQP Observations

SIMILARITIES	DIFFERENCES
<p>Design</p> <ul style="list-style-type: none">• Typically in collaboration with airlines• Limited or no collaboration with affected communities <p>Structure</p> <ul style="list-style-type: none">• Multiple elements• Scoring or qualifying methodology• Awards <p>Elements</p> <ul style="list-style-type: none">• Measured close to airport (within 5 miles at most)• Primary focus on departures <p>Summary results</p> <ul style="list-style-type: none">• Published on website• No evaluation of whether FQPs reduce noise over time• Noise reduction results are unclear	<p>Scope</p> <ul style="list-style-type: none">• Some elements under control of airline/pilot• Some elements under control of ATC• Some include a subset of FAA Noise Abatement Procedures (NAPs) <p>Definition of nighttime hours not standardized</p> <ul style="list-style-type: none">• 10pm-7am DNL penalty hours <p>Scoring methodology</p> <ul style="list-style-type: none">• Different weights and # of elements• Scores sometimes normalized to # of operations• Bonus points <p>Awards</p> <ul style="list-style-type: none">• Different number• Different types• Different frequency - quarterly or yearly


Best Practice: SEA Recognition Banners at Main Terminals



Best Practice: SNA Distilled, Accessible Format - Scoring Report

Jan 2022 - Dec 2022											FLY FRIENDLY - SUMMARY
OPERATORS				QUIETEST DEPARTURES				NIGHTTIME NOISE REDUCTION	ENVIRONMENTAL STEWARDSHIP & SUSTAINABILITY	MOST ENGAGING	TOTAL SCORE
Call Sign / N-Number	Operator	Total Ops	Primary Aircraft Type	Quiet Departure Noise Score (MAX 50 Pts)	Minimize High Noise Events Score (MAX 20 Pts)	Quietest Fleet Score (MAX 5 Pts)	Quietest Departure Total Score (75 Total Points)	Nighttime Noise Reduction Score (MAX 25 Pts)	Environmental Stewardship & Sustainability (Up to 5 Bonus Points)	Most Engaging (Up to 5 Bonus Points)	TOTAL FLY FRIENDLY SCORE (100 Pts plus bonuses)
FTH	Mountain Aviation	455	C750	42.8	19.3	4.6	66.6	24.7	0.0	0.0	91.3
EJA	NetJets Aviation	6345	C68A	38.1	18.9	2.6	59.6	24.9	0.0	0.0	84.5
TIV	Thrive Aviation	316	C25B	38.2	19.5	1.9	59.6	24.2	0.0	0.0	83.8
XOJ	XOJet	492	C750	38.3	18.4	2.4	59.1	24.5	0.0	0.0	83.6
LXJ	Bombardier FlexJet	2082	CL30	37.3	18.8	2.5	58.5	23.8	0.0	0.0	82.3
PXT	Pacific Coast Jet	156	C25B	36.8	18.7	1.4	57.0	25.0	0.0	0.0	82.0
SIS	Silver Air Airlines	183	CL30	36.9	18.3	1.2	56.4	25.0	0.0	0.0	81.4
PFT	Paragon Airways	1152	C56X	39.1	19.5	1.1	59.7	20.9	0.0	0.0	80.5
EDG	Jet Edge	417	GLF4	37.6	18.2	0.0	55.8	24.7	0.0	0.0	80.5
PEG	Pegasus Elite Aviation	161	GLF4	35.9	17.9	0.6	54.4	25.0	0.0	0.0	79.4
TWY	Sunset Aviation	236	CL30	37.6	17.9	0.2	55.7	23.4	0.0	0.0	79.1
EJM	Executive Jet Management	604	F2TH	34.9	16.5	0.7	52.1	25.0	0.0	0.0	77.1
KFB	STAJets	373	GLF4	35.0	17.0	0.0	52.0	25.0	0.0	0.0	77.0
DPJ	Wheels Up Private Jets	240	BE40	34.8	15.7	0.0	50.6	24.5	0.0	0.0	75.0

Best Practice: LHR Scoring - Minimum Performance Plus Emission Targets

5.	 British Airways - short haul	889	^
		Position	
1.	Noise quota count/seat	1	
2.	Chapter number (noise certification)	11	
3.	NOx emissions/seat	1	
4.	CAEP standard (engine emissions certification)	46	
5.	Continuous Descent Approach (CDA) violations	5	
6.	Track keeping (TK) violations	17	
7.	Early or late movements between 23:30 and 04:30	37	

Best Practice: APF Scorecards With Grades (Starting Q1 2024)

SAMPLE SCORE CARDS: JETS

View the sample score cards below for reference on how points are calculated.



METRIC# 1: VOLUNTARY CURFEW OPERATIONS

MAX SCORE: 50 pts DEDUCTION: 0.50 pts

OPERATOR NAME	STARTING SCORE	TOTAL INFRINGEMENTS	TOTAL SCORE
OPERATOR 1	50	5	47.5
OPERATOR 2	50	5	47.5
OPERATOR 3	50	0	50



METRIC# 2: AIRCRAFT NOISE STAGE 3 (JET OPERATORS ONLY)

MAX SCORE: 15 pts DEDUCTION: 0.15 pts

OPERATOR NAME	STARTING SCORE	TOTAL INFRINGEMENTS	TOTAL SCORE
OPERATOR 1	15	1	14.85
OPERATOR 2	15	2	14.7
OPERATOR 3	15	50	7.5



METRIC# 3: ARRIVAL ALTITUDE

MAX SCORE: 35 pts DEDUCTION: 0.35 pts

OPERATOR NAME	STARTING SCORE	TOTAL INFRINGEMENTS	TOTAL SCORE
OPERATOR 1	35	10	31.5
OPERATOR 2	35	25	26.25
OPERATOR 3	35	40	21



CUMULATIVE METRICS: FINAL SCORES

STARTING SCORE: 100 pts BONUS POINTS: 5 pts per operator per quarter

OPERATOR NAME	METRIC #1 SCORE	METRIC #2 SCORE	METRIC #3 SCORE	BONUS POINTS	TOTAL SCORE	FINAL GRADE	FINAL RANK
OPERATOR 1	47.5	14.85	31.5	5	98.85	A	1
OPERATOR 2	47.5	14.7	26.25	0	88.7	B	2
OPERATOR 3	50	7.5	21	5	78.5	C	3

SAMPLE SCORE CARDS: PISTONS AND TURBOPROPS

View the sample score cards below for reference on how points are calculated.



METRIC# 1: VOLUNTARY CURFEW OPERATIONS

MAX SCORE: 60 pts DEDUCTION: 0.60 pts

OPERATOR NAME	STARTING SCORE	TOTAL INFRINGEMENTS	TOTAL SCORE
OPERATOR 1	60	10	54
OPERATOR 2	60	0	60
OPERATOR 3	60	25	51



METRIC# 3: ARRIVAL ALTITUDE

MAX SCORE: 40 pts DEDUCTION: 0.40 pts

OPERATOR NAME	STARTING SCORE	TOTAL INFRINGEMENTS	TOTAL SCORE
OPERATOR 1	40	10	36
OPERATOR 2	40	25	30
OPERATOR 3	40	50	20



CUMULATIVE METRICS: FINAL SCORES

STARTING SCORE: 100 pts BONUS POINTS: 5 pts per operator per quarter

OPERATOR NAME	METRIC #1 SCORE	METRIC #3 SCORE	BONUS POINTS	TOTAL SCORE	FINAL GRADE	FINAL RANK
OPERATOR 1	54	36	5	95	A	1
OPERATOR 2	60	30	0	90	A	2
OPERATOR 3	51	20	5	71	C	3

GRADING SCALE:

A = 90.00 - 100.00
 B = 80.00 - 89.99
 C = 70.00 - 79.99
 D = 60.00 - 69.99
 F = 59.99 or below

Best Practice: APF Detailed and Transparent Reports, FQP Violations Follow-Up and Reasons



NOISE REPORT



NOVEMBER – TOP CURFEW VIOLATORS WITH CONTACT INFORMATION

NOVEMBER FY 2024

COMPANY	NUMBER OF OPS	TAIL NUMBER	ADDRESS	PHONE NUMBER	REASON
Paragon Flight Training	8	N442US	511 Danley Dr. Fort Myers, FL 33907	239-274-3170	Flight Training
Treasure Coast Flight Training	6	Multiple	2400 SE Thunderbolt Dr. Stuart, FL 34996	772-219-4191	Flight Training
Oakes Farm Food & Distribution	6	N325FP, N368FD	4206 Mercantile Ave. Naples, FL 34104	239-777-2257	Pilot Schedule (3), Passenger Schedule (3)
FlexJet LLC	5	Multiple	26180 Curtiss Wright Pkwy Cleveland, OH 44143	866-473-0025	Passenger Schedule
Le Loop LLC	4	N1677	2451 Treasure Ln Naples, FL 34102	352-278-3273	
Elite Jets Charter LLC	4	N1Y, N4B, N6A, N7DR	125 Aviation Dr. S. Naples, FL 34104	239-900-9000	ATC (1) Passenger Schedule (3)
Clover Management Systems Inc	4	N738JD	1305 Travertine Terr. Sanford, FL 32771	407-312-1810	

Best Practice: LAX Flexible Bonus Elements

Bonus Elements



Bonus elements, unique to LAX's FQP, are intended to provide air carriers with opportunities to engage with stakeholders and take proactive measures to reduce aircraft noise.



Photo: Spirit Airlines/Carl Stallone

IMAGE: A VORTEX GENERATOR INSTALLED ON AN A320 TO REDUCE NOISE DURING LANDING.

Noise Reduction Efforts – implementing any equipment, technology, or procedural type effort to reduce aircraft noise; (e.g. retrofitting older A320 aircraft with vortex generators).

Stakeholder Engagement Efforts – implementing outreach and educational efforts with stakeholders; (e.g. establishing a noise abatement education program for pilots, attending LAX/Community Noise Roundtable meetings, or engaging with other stakeholders, including FAA).

Best Practice: TEB Pilot Communication and Engagement, Award with Performance Bar

- Face to Face, Individual Operators, and Teterboro User Group (TUG) Meetings
- Mailing List of Pilots

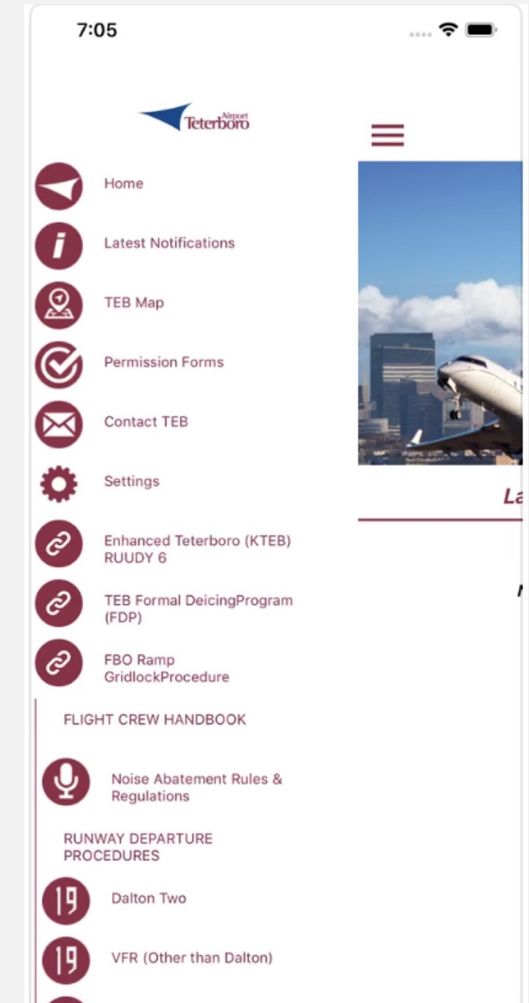


Dear Chief Pilot:

Teterboro Airport's Noise Abatement Program seeks to bridge the interests of the aviation community with those of the airport's residential neighbors. The Program features a mix of mandatory departure noise limits and voluntary measures including a **"Voluntary restraint of non-essential aircraft operations during the hours of 11:00 p.m. and 6:00 a.m."**

The following operation(s) by your aircraft did not meet this voluntary goal:

Date	Time	Aircraft ID	Aircraft Type	Operation	Runway	Comments
Xxx	xxx	xxxx	xxxxxx	x	xx	

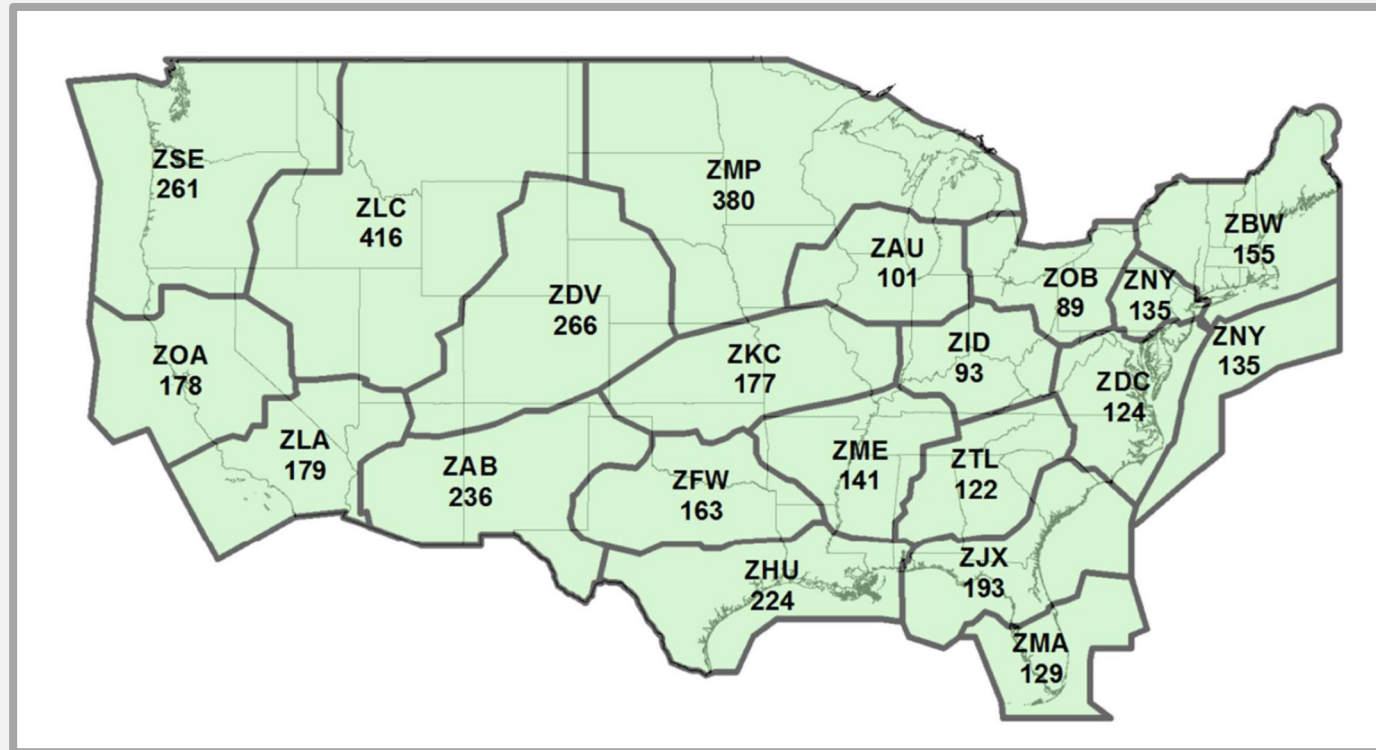


Quieter Outcome Examples: APF, SEA, SFO



Best Practice: Direct Contact and Follow-Up Between Airport and FAA ATC

- Report on all non-compliance for FAA Noise Abatement Procedures (NAPs) that are part of the FQP. Direct contact and follow-up with FAA FQP
- Programmatic vs individual relationship



Source: FAA - Air Traffic by the Numbers, April 2023
<https://www.faa.gov/air-traffic/by-the-numbers/media/Air-Traffic-by-the-Numbers-2023.pdf>

Best Practices: Summary Chart

	COMMERCIAL	GENERAL AVIATION
Scoring	<ul style="list-style-type: none"> • Engine-run ups is an element in FQP (LAX, SEA) • Flexible bonus points (LAX) <ul style="list-style-type: none"> • Approved airlines initiatives to reduce noise • Normalizing score of flight-related elements to # of operations (LAX, SFO) • Minimum performance requirement (LHR) 	<ul style="list-style-type: none"> • Bonus points for jet operator engagement (APF, SNA,) or for environment stewardship (SNA) • Normalizing score of flight-related elements to # of operations (SNA)
Awards & Recognition	<ul style="list-style-type: none"> • Awards for different categories of carriers/operators (LAX) • Most Improved/Significant Improvement award every year (SEA, SFO) • Banners at airport terminals, ticketing area (SEA) 	<ul style="list-style-type: none"> • Ranking within a category (# of operations, aircraft type) (APF, SNA, TEB) • All A-rated operators recognized (using A-F grading and top 3 scorers) (APF) • Display on leaderboard in terminal (APF) • All qualifying receive award – no violations for noise or voluntary nighttime curfew (TEB)
Reporting, Communication, and Outcomes	<ul style="list-style-type: none"> • Bi-monthly Airlines-Airport Council meetings (SEA) • Direct contact and follow up between Airport and FAA ATC (Several Airports) • Quieter outcome examples (SEA, SFO) 	<ul style="list-style-type: none"> • Distilled and accessible reports (SNA) • Detailed and transparent reports (APF) • Publish violation follow up and reasons (APF) • Regular pilot/operator meetings (APF, TEB) • Contact list for pilot/operators correspondence (APF, SNA, TEB) • Quieter outcome example (APF)

Robust Community-Oriented FQP

<p style="text-align: center;">Replace Curve Ranking with a Minimum Performance Bar</p> <ul style="list-style-type: none"> • Bar is too low - winners even if no improvement YOY, graded on a curve and program resets every year • Set minimum performance requirements, not on a curve 	<p style="text-align: center;">Drive Improvement with Quantifiable Objectives Per Year and Means to Achieve Them</p> <p>Example:</p> <ul style="list-style-type: none"> • Objective 1 - increase compliance of element by 5% vs previous year • Action 1: discuss with top violators how to increase compliance and gain commitment to change their current practice 	<p style="text-align: center;">Balance Arrivals and Departures</p> <ul style="list-style-type: none"> • Balance between departures and arrivals and include elements that characterize or capture airframe noise far away from the airport (~10-20 miles) when pilots fly dirty on NextGen arrivals thus creating substantial noise 	<p style="text-align: center;">Create Scorecard Per Airline/Tail# and Report Follow-Up Actions Taken</p> <ul style="list-style-type: none"> • For total score and per element: show historical trends (last 5 years), grading relative to min performance targets, ranking relative to peers, follow-up actions & responses • Separate Airline/Pilot and FAA/ATC controlled elements

← Use Community-Oriented FQP Checklist →

Robust Community-Oriented FQP Cont.

<p>Strengthen Award Categories to Reflect Noise Reduction</p> <ul style="list-style-type: none"> • “Most Outstanding” for Sustained Performance ≥5 years • Overall and for each element • Performance per Year • “Best Overall” • “Most Improved”, overall and for each element • “Best in Class” for each element 	<p>Include Affected Communities as an Equal Stakeholder and Reflect Community Impacts</p> <ul style="list-style-type: none"> • Communicating the final program to community is not collaboration • Elements & criteria need to reflect community impacts 	<p>Add Emissions in the Program Elements</p> <p>Examples:</p> <ul style="list-style-type: none"> • Commercial: emissions metrics of Nitrogen Oxide emissions per seat (CAEP standard) • GA: leaded fuel and unleaded fuel sales. When operations are predominately jets, then use Commercial metrics 	<p>Standardization Key Parts of FQP</p> <p>Examples:</p> <ul style="list-style-type: none"> • Use DNL nighttime hours (10pm-7am) • Always balance Quiet Fleet w/equivalent element for airframe noise • Normalize raw scores to # ops as applicable • Systematic reports & follow up on compliance

← Use Community-Oriented FQP Checklist →

Does Your FQP Adequately Address Community Impacts?

FLY QUIET PROGRAM CHECKLIST		
Does Your FQP Program Adequately Address Community Impacts?		
Item	Indicator	Status
Performance	Minimum performance on each element (not curved ranking)	Red
	Normalized by # of Ops (as applicable)	Yellow
	Overall score and score for each element	Green
	Quantifiable objectives and follow-up actions	Yellow
Program Elements	Balance between arrivals and departures, captures NextGen impacts <input type="checkbox"/>	Red
	Emissions	Red
	Flexible bonus element	Yellow
Awards	Must meet minimum performance to win any award	Red
	Multiple winners (all meet minimum performance)	Red
	Yearly and over 5 years	Yellow
Data Transparency	Overall results and by element - yearly and over 5 years	Yellow
	Report on objectives, actions taken, and responses received	Yellow
	Easy to understand and compare with cvs/excel download feature	Green
Accountability	Separate elements for Airlines/Pilots-controlled and FAA/ATC-controlled, with list of actions taken and responses	Yellow
	Programmatic process, min quarterly for Airlines/Pilots and FAA/ATC	Yellow
Community Engagement	Community as an equal stakeholder to Airlines/Pilots Stakeholder	Red
	Community impacts reflected in elements, scoring methodology, and minimum performance requirements	Red

Appendix


Aviation Noise and Capacity Act (1990)

“Congress enacted ANCA (P.L. 101-508) in 1990, during a time when airlines and the aviation industry complained that community noise concerns led to “uncoordinated and inconsistent restrictions on aviation” that, the industry asserted, were impeding the nation’s airport system. The emphasis was on scheduled service and the airlines’ access to airports anytime they needed. Because of intense lobbying, Congress called for establishment of a national aviation noise policy, the phase out of “stage 2” aircraft, and the eventual phase out of “stage 3” aircraft. It also prohibited state and local governments from imposing “access restrictions” on stage 2 and stage 3 aircraft while they were being phased out. See 49 U.S.C. § 47524.”

Heathrow Fly Quiet and Green Program

- Publishes quarterly league table for top 50 airlines based on volume of operations (suspended due to Covid, should resume shortly)
- 7 metrics: Red, amber, green
 - Red: airline below minimum performance targets
 - Amber: airline at minimum performance targets
 - Green: airline above minimum performance target
 - 2 metrics related to emissions
- Score between 1000 (airline #1 in all metrics) and 0 (airline #50 in all metrics)
- Number of points deducted from perfect score based on weighting of each metric (the higher the weight, the more points deducted)
- Nitrogen Oxide (NOx) emissions per seat - for each arrival and departure, the total mass of NOx emissions, based on the certified values and accounting for the # of engines per aircraft flight
- CAEP is the Committee on Aviation Environmental Protection, which is a technical committee of ICAO which formulates standards and recommended practices related to aircraft noise and emissions.

Example: Q419 - British Airways - short haul ranked #5
Source: <https://www.heathrowflyquietandgreen.com/q4-2019/>

5.  British Airways - short haul		889
		Position
1.	Noise quota count/seat	1
2.	Chapter number (noise certification)	11
3.	NOx emissions/seat	1
4.	CAEP standard (engine emissions certification)	46
5.	Continuous Descent Approach (CDA) violations	5
6.	Track keeping (TK) violations	17
7.	Early or late movements between 23:30 and 04:30	37

Details on metrics:

<https://www.heathrowflyquietandgreen.com/how-we-calculate/#departops>

14CFR Part 161

Subpart D—Notice, Review, and Approval Requirements for Stage 3 Restrictions

<https://www.ecfr.gov/current/title-14/chapter-I/subchapter-I/part-161>

6 conditions:

- Condition 1: The restriction is reasonable, nonarbitrary, and nondiscriminatory
- Condition 2: The restriction does not create an undue burden on interstate or foreign commerce.
- Condition 3: The proposed restriction maintains safe and efficient use of the navigable airspace.
- Condition 4: The proposed restriction does not conflict with any existing Federal statute or regulation.
- Condition 5: The applicant has provided adequate opportunity for public comment on the proposed restriction.
- Condition 6: The proposed restriction does not create an undue burden on the national aviation system.

FAA funding part 161 and 150

https://www.faa.gov/sites/faa.gov/files/airports/environmental/policy_guidance/funding-150-161.pdf

Steven Taber, Leech Tishman

Letter to Jefferson County Commissioners from Town of Superior Colorado 12/22/23

1. ANCA does not apply to GA

- *“Congress called for establishment of a national aviation noise policy, the phase out of “stage 2” aircraft, and the eventual phase out of “stage 3” aircraft. It also prohibited state and local governments from imposing “access restrictions” on stage 2 and stage 3 aircraft while they were being phased out. See 49 U.S.C. § 47524.”*
- *“The terms “stage 2” and “stage 3” aircraft apply primarily to larger, jet-powered civil aircraft over 75,000 pounds.”*
- *“General aviation aircraft – small propeller-driven aircraft – have their own noise standards in 14 C.F.R., Part 36, Subpart F, but ANCA contains no prohibition against access restrictions for them either in the statute or in the regulations.”*

2. Landing fees are a legal and acceptable strategy

- Include landing fees as part of a Noise Compatibility Program
- *“The decision to charge landing fees at a general aviation airport is within the authority of the airport owner/operator. Landing fees can vary widely depending on the airport’s size, location, and services provided.”*

3. Curfews might be possible at GA airports

- ANCA only for Stage 2 and Stage 3 (see above)
- Curfews for touch-and-go operations and local operations do not affect interstate commerce
- *“FAA regulations specifically allow curfews to be included as part of an NCP. 14 C.F.R. § B150.7(b)(5)(v).”*

4. Airport owner/operator may restrict touch-and-go operations

- GA airports *“have the authority to establish operational rules and restrictions, including those related to touch-and-go operations”*

5. Using preferential runway is legal as part of noise abatement

- *“Restriction is often implemented as part of a Noise Compatibility Program developed as part of a Part 150 study. See 14 C.F.R. § B150.7(b)(3).”*