



**Airport Advisory Board Special
Thursday, March 7, 2024 at 2:00 PM**

214 Sams Avenue, New Smyrna Beach, Florida 32168

1. CALL TO ORDER

2. PUBLIC PARTICIPATION

3. SPECIAL MEETING

**3.A ENVIRONMENTAL SCIENCE ASSOCIATES (ESA) AIRPORT NOISE ANALYSIS
FINDINGS AND RECOMMENDATIONS**

4. BOARD COMMENTS

5. STAFF COMMENTS

6. ADJOURNMENT

Pursuant to Florida Statutes 286.0105, if an individual decides to appeal any decision made by the board, agency or commission of the City of New Smyrna Beach with respect to any matter considered at this meeting, a record of the proceedings will be required and the individual will need to ensure that a verbatim transcript of the proceedings is made, which record includes the testimony and evidence upon which the appeal is based. Such person must provide a method for recording the proceedings.

In accordance with the Americans with Disabilities Act, persons needing assistance to participate in any of these proceedings should contact the City Clerk's office in person or by mail at 210 Sams Avenue, New Smyrna Beach, Florida

32168, (386) 410-2630, prior to the meeting.

THE CITY OF NEW SMYRNA BEACH - AIRPORT

ENVIRONMENTAL SCIENCE ASSOCIATES (ESA) AIRPORT NOISE ANALYSIS FINDINGS AND RECOMMENDATIONS

March 7, 2024

Background:

In 2011, the airport conducted a study which included measuring noise levels as well as determining ways to reduce the impact the aircraft noise has on residents. At that time, the study showed that noise levels did not meet the FAA's threshold for enforcing mandatory noise abatement procedures for aircraft operating in and out of the airport and therefore, the best tool available at the time was the implementation of a voluntary noise abatement program which continues to be used to the present day. This program includes several requests to pilots including a request that aircraft not perform repeated flight training activities during certain times of the day or night.

The most recent study has been completed and was presented to the City Commission on 2/27/2024. The study found that sound levels have not increased, but have slightly decreased since the last study. The study makes several recommendations to the City and Airport based on these findings.

During this workshop, the Airport Advisory Board will review, discuss and ultimately vote on recommendations made by the ESA consultant.

- Designate a Calm Wind Runway
- Determine feasibility of raising the pattern altitude from 800 ft. MSL to 1,000 ft. MSL (this has to go through flight standards)
- Simplify Voluntary Noise Abatement hours by discouraging flight training operations, including repetitive operations and touch & go's, between the hours of 5 p.m. and 8 a.m. (currently, no touch and go's are permitted between 0700 and 0800 but other repetitive activities are allowed at 0700)

Fiscal Analysis:

N/A

Strategic Plan Item:

No

Staff Report Created By: Tammy Hall

Attachments:

[EVB City Commission Presentation](#)



New Smyrna Beach Airport Noise Analysis

City Commission Briefing – February 27, 2024

Overview

- Background
- Review of Noise and Operational Conditions
 - Current Operational Conditions
 - Existing Noise Exposure Contours
 - Noise Abatement Measures
- Community Workshops and Public Comments
- Review of Other Airports
- Landing Fee Assessment
- Next Steps/Recommendations

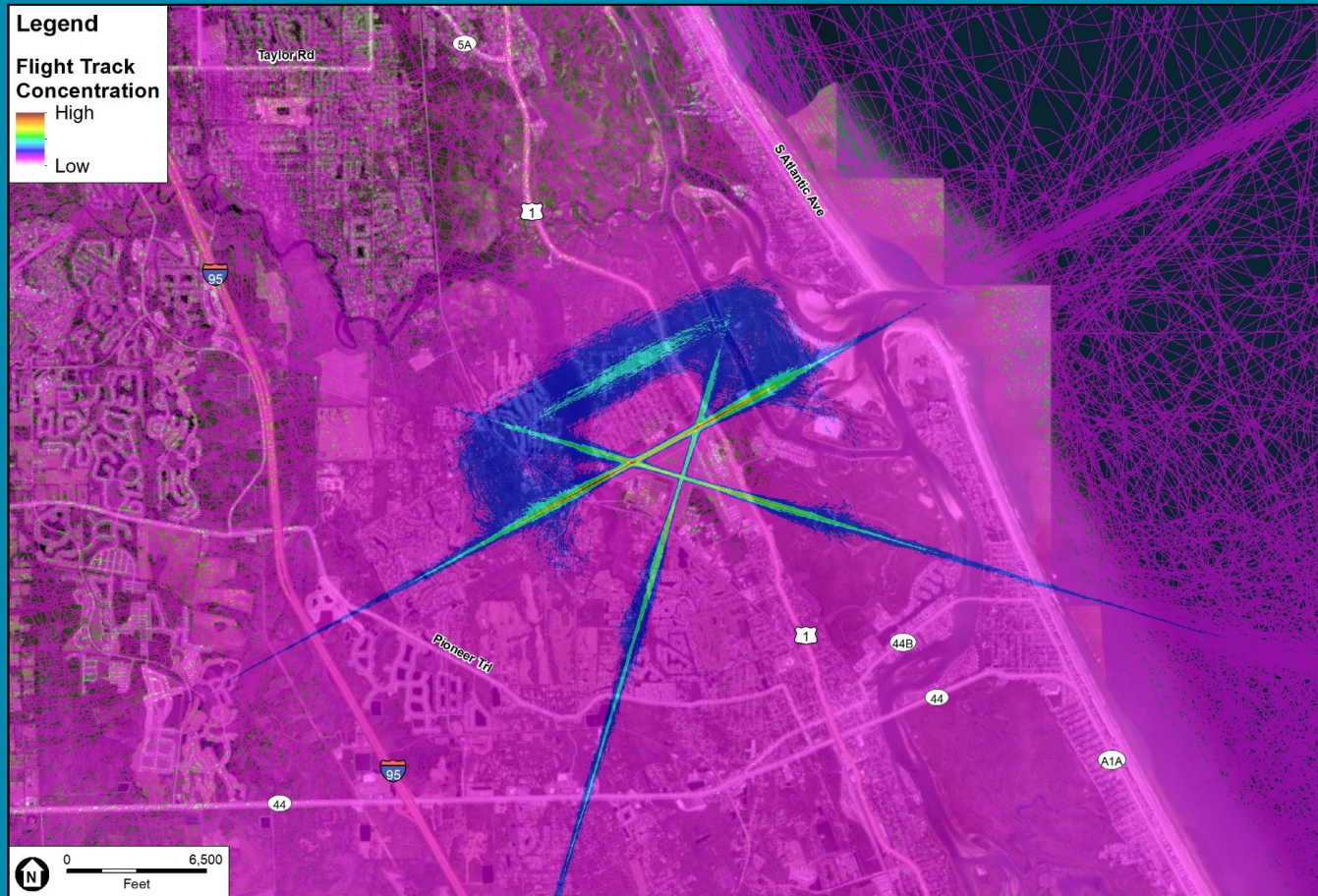


Background

- A formal Title 14 Code of Federal Regulations Part 150 Noise and Land Use Compatibility Study was conducted in the 2010 timeframe.
- Measures were identified in the draft Part 150 Noise Compatibility Program (NCP) that could potentially reduce the affect of noise on the community, however the NCP process was ultimately suspended.
- A review of current operational and noise conditions at EVB was conducted earlier this year.
- July community workshops offered the community an opportunity to review analysis and provide public comment.



Current Flight Patterns

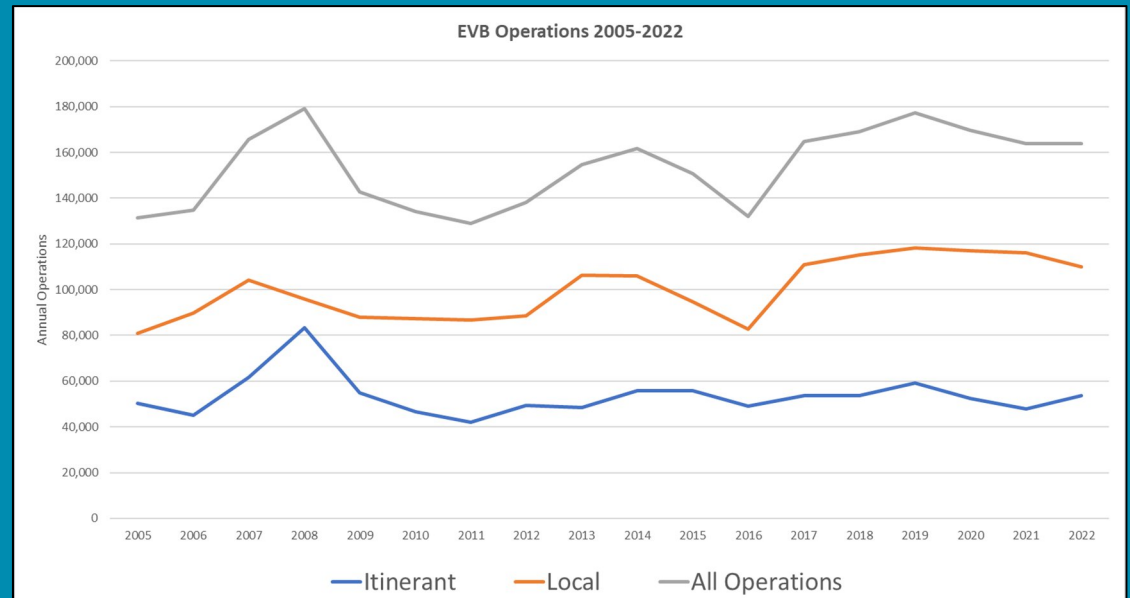


Note: Based on Seasonal One-Week Flight Track Data Samples –
January, April, August, November 2022



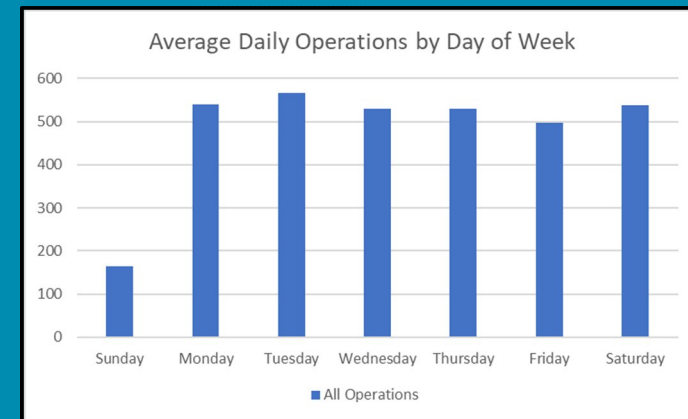
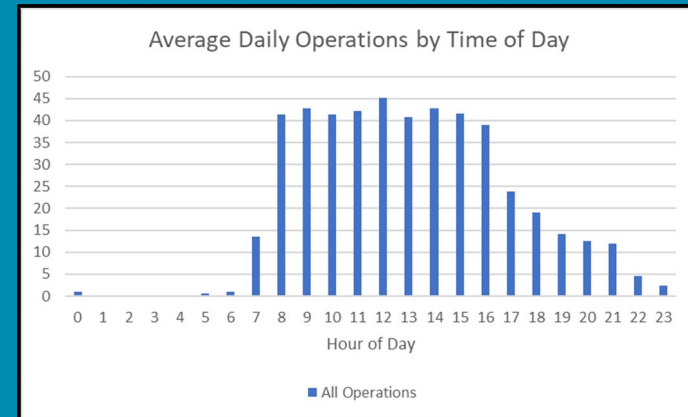
Operational Trends at EVB

- Total number of aircraft operations largely driven by local flight training operations.
- Itinerant operations have remained steady after peaking in 2008.
- Local operations peaked in 2019 and have remained largely consistent.



Airport Daily Activity Profile

- Roughly 22% of operations occur between the hours of 5 p.m. and 8 a.m.
- Fewer than 3% of operations occur between the hours of 10 p.m. and 7 a.m.
- Roughly 5% of weekly operations occur on Sundays.
- Airport activity is generally much lower than average on Sundays and national holidays.



Note: Based on Virtower operations data from August 6, 2022 – April 30, 2023



Regulation of Airport Noise

Framework

Federal law sets aircraft noise standards, prescribes operating rules, establishes the compatibility planning process, and limits an airport's ability to restrict aircraft operations

State law sets forth compatibility planning guidelines and noise standards, but aircraft are exempt

Local noise ordinances set noise standards and provide for compatible land use planning, but aircraft are exempt



Federal Aviation Administration



Local Governments and States



Airport Operators

Stakeholders

The FAA: (1) Controls aircraft while in flight; (2) Responsible for controlling noise at its source (i.e., aircraft engines); (3) Certifies aircraft and pilots

Local Governments and States:
(1) Promote compatible land use through zoning;
(2) Require real estate disclosure; (3) Mandate sound-insulating building materials

Airport Operators: (1) Very limited authority to adopt local restrictions; (2) Responsible for capital improvement projects and infrastructure and the business aspects of operating the airport



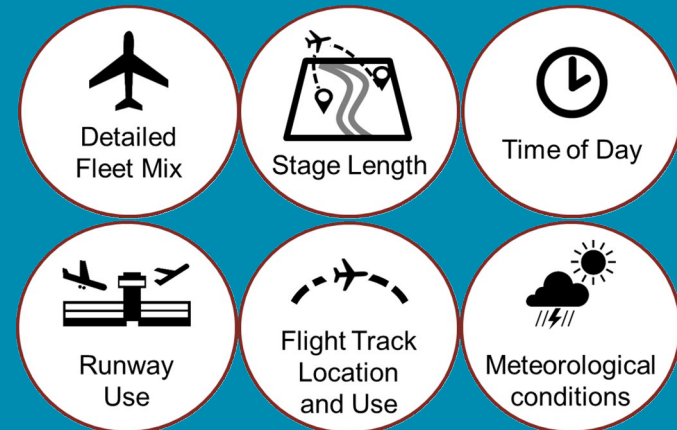
Noise Modeling Methodology

Model Inputs

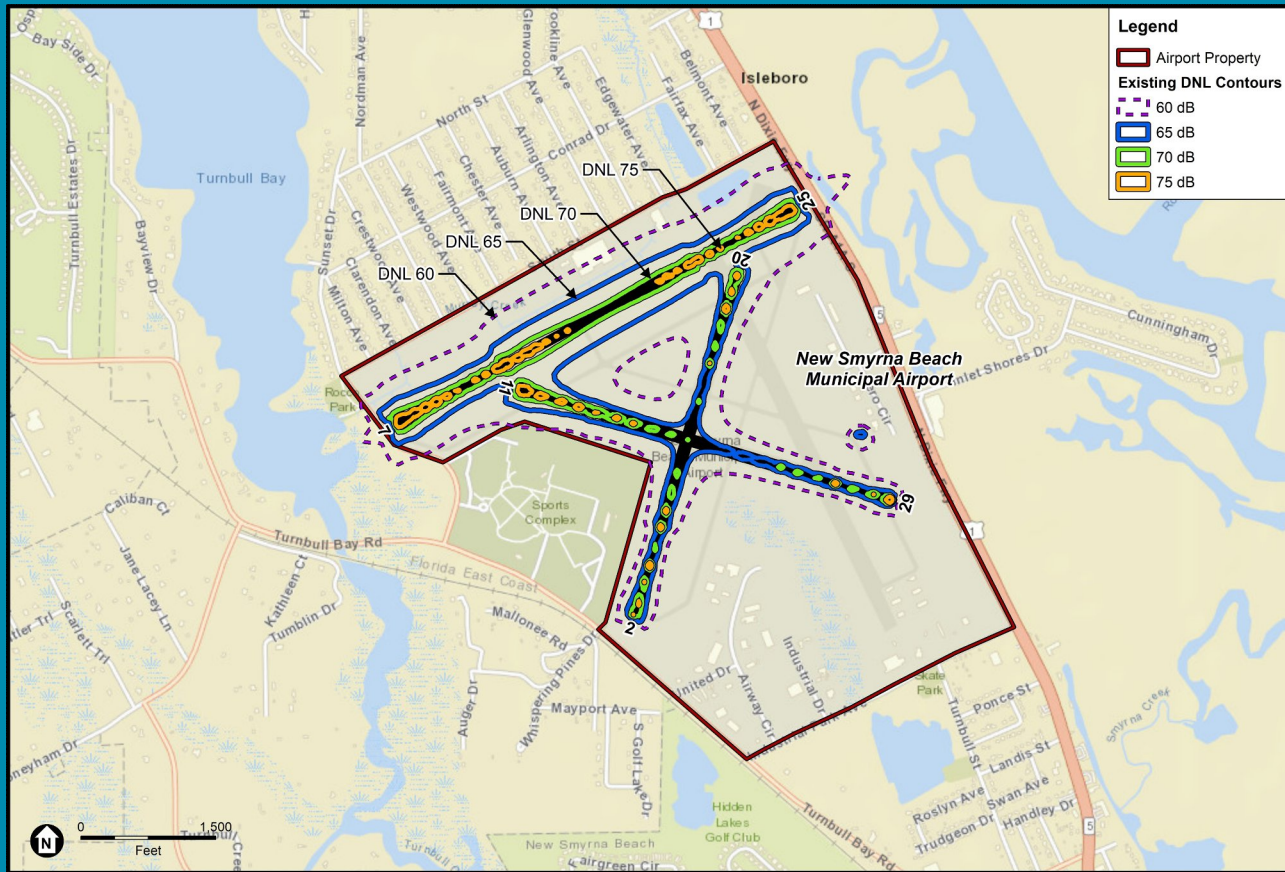
- Amount of noise exposure is determined by:
 - Aircraft types
 - Stage length
 - Number of average annual day operations
 - Nighttime weighting (1 nighttime operation = 10 daytime operations)
- Noise exposure distribution is determined by:
 - Runway configuration and use
 - Flight track locations
 - Flight track use
 - Other factors
 - Meteorological conditions
 - Terrain



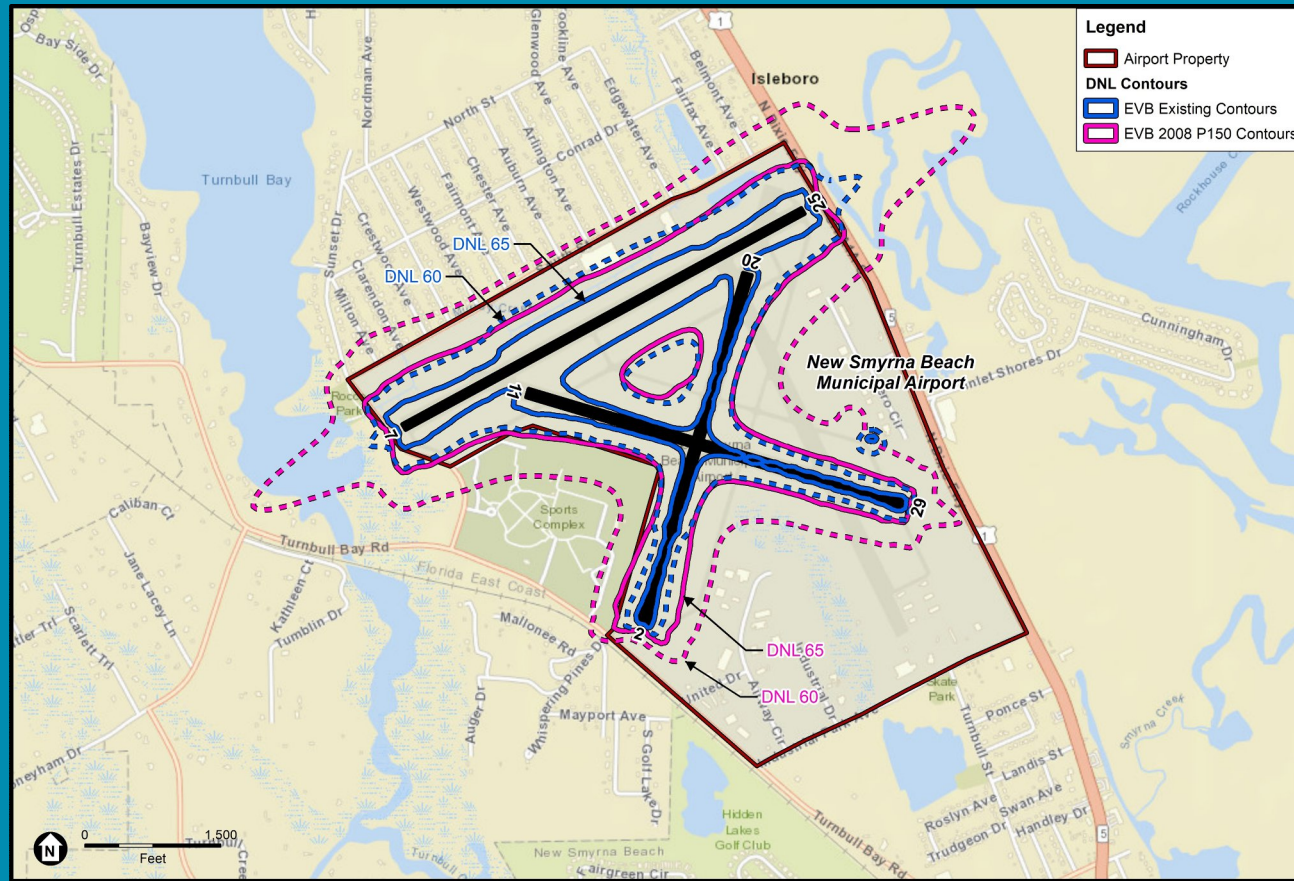
Aviation Environmental Design Tool (AEDT) Version 3e



2022 – 2023 Noise Exposure Contours



2022 – 2023 Noise Exposure Contours Compared to 2008 NEM Baseline Noise Exposure Contours



Existing Voluntary Noise Abatement Measures

- Avoid flying over residential areas when possible.
- No touch-and-go operations between 5 p.m. and 8 a.m. No repetitive flight operations between 10 p.m. and 7 a.m.
- No repetitive flight operations on Sundays and federal holidays.
- No more than 8 touch-and-go operations without coming to a full stop or departing the pattern.
- Turns should be made beyond the “sand pit” by extending the downwind or crosswind before turning.
- Departing aircraft depart at best rate of climb and reduce power as soon as safe and practical.
- Airport staff meets regularly with Epic Flight Academy to review noise abatement compliance and Epic has incorporated noise abatement into their curriculum.



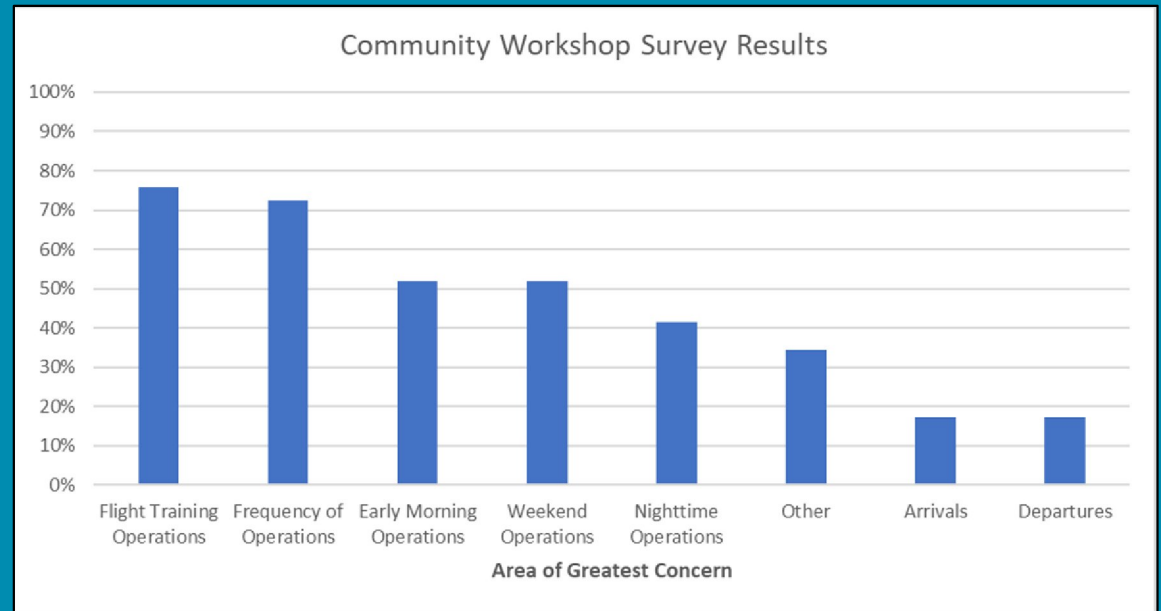
Summary of Analysis

- Overall Airport activity has slightly decreased since peaking in 2008, though flight training activity remains at historically high levels.
- Over 1,000 homes have sold within two miles of the Airport in the past 36 months, potentially introducing many new people to the area surrounding the Airport.
- Updated noise exposure contours reflect decrease in overall operations and jet activity when compared to 2008 Noise Exposure Map (NEM) baseline level.
- Voluntary Noise Abatement Measures remain in place to reduce noise.
- Daily Airport activity shows observance of voluntary noise abatement measures.



Community Workshop – Survey Results

- Community workshops were held July 27th and 28th 2023. A total of 51 people attended the workshops.
- Survey forms were provided which asked attendees to rank top three concerns related to aircraft operations at the Airport. 31 forms were returned.
- Flight training operations and frequency of operations were selected in over 70% of surveys.
- Early morning operations and weekend operations were selected in over 50% of surveys.
- Early morning operations and weekend operations were selected in over 50% of surveys.



Community Workshop – Public Comments/Suggestions

Under Consideration

- Designate a calm wind runway.
- Spread flight training operations more evenly across all runways (when feasible and winds permit)
- Continue education and outreach with flight schools.
- Expand voluntary noise abatement hours to 5 p.m. - 8 a.m.
- Institute a landing fee (non noise related - feasibility discussed later).

Not Under Consideration

- Institute more stringent limits on training operations or aircraft allowed in the pattern at one time.
- Expand voluntary noise abatement days.
- Reconvene a Community Noise Abatement Committee (possible agenda item under Airport Advisory Board instead).

Not Feasible

- Move training operations to other airports.
- Relocate the Airport or build a new training airport in nonresidential areas.
- Require flight schools to use quieter aircraft or install mufflers on existing fleet.
- Enforce voluntary noise abatement measures.
- Institute a Residential Sound Insulation Program.



Voluntary Noise Abatement Measures at Similar Airports

Airport	Total Operations (2022)	Noise Abatement Measures					
		Calm Wind Runway	Flight Training Noise Abatement Hours	Flight Training Noise Abatement Days	Touch & Go Limit	Pattern Altitude	Other
New Smyrna Beach Airport	162,292	No	No touch & gos between 5 p.m. to 8 a.m.; No repetitive flight operations between 10 p.m. and 7 a.m.	Sundays and holidays	8 before full stop or departing pattern	800 ft. MSL	<ul style="list-style-type: none"> - Avoid residential areas where possible - Departures use best rate of climb
Martin County Airport / Witham Field	121,461	No	8 a.m. to two hours after sunset	Sundays and major holidays	3 before full stop or departing pattern	1,000 ft. MSL	<ul style="list-style-type: none"> - Voluntary nighttime curfew for all aircraft 11 p.m. to 7 a.m. - Stop & go intersection takeoffs strongly discouraged - Maintenance run-ups limited to 8 a.m. to 6 p.m. Monday to Saturday
Flagler County Airport	152,378	Yes; Runway 11	10 p.m. to 7:30 a.m.	10 p.m. to 9:30 a.m. Sunday and holidays	No	1,033 ft. MSL	<ul style="list-style-type: none"> - Departures use best rate and angle of climb - Stop & go intersection takeoffs strongly discouraged



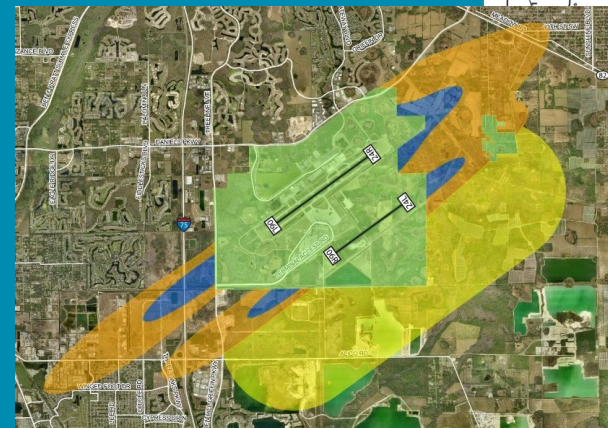
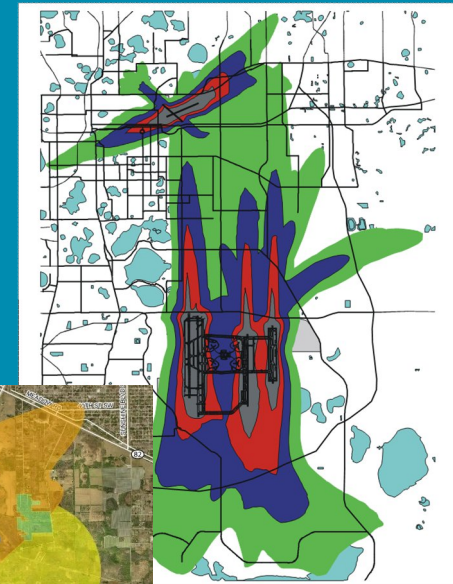
Voluntary Noise Abatement Measures at Similar Airports

Airport	Total Operations (2022)	Noise Abatement Measures					Other
		Calm Wind Runway	Flight Training Noise Abatement Hours	Flight Training Noise Abatement Days	Touch & Go Limit	Pattern Altitude	
Ormond Beach Municipal Airport	96,474	Yes; Runway 17	10 p.m. to 8 a.m.	No	No	No higher than 1,200 ft. MSL	<ul style="list-style-type: none"> - Pilots should fly various noise abatement flight paths/avoid certain areas as depicted in in-flight guide map - Departures use best rate of climb - Pilots requested to review and use AOPA "Noise Awareness Steps" where possible
Merritt Island Airport	N/A	No	8 p.m. to 8 a.m.	Sundays and holidays	No	1,000 ft. MSL	<ul style="list-style-type: none"> - Avoid flying low over residential areas where possible - Departures use best angle of climb
Pompano Beach Airpark	141,734	Yes; Runway 15/33	6 p.m. to 8 a.m.	Saturday, Sunday, and holidays	No	800 ft. MSL	<ul style="list-style-type: none"> - Departures use best rate of climb - Pilots requested to review and use AOPA "Noise Awareness Steps" where possible - Stop & go intersection takeoffs strongly discouraged - Simulated engine out procedures prohibited - Touch & Go must touch down within first 1,000 ft. of runway - Engine maintenance runups prohibited between 7 p.m. and 7 a.m.



Noise Notification or Disclosure

- Benefit
 - Sensitivity to noise varies
 - Helps the public become informed
- Threshold
 - Beyond DNL 65
 - DNL 55 would provide little benefit for EVB
- Alternatives
 - Establish airport influence area (AIA)?
 - Combination of DNL 55 and high overflight areas?
 - Incorporate high complaint areas?



Landing Fee Feasibility

- Mechanism used to recover airfield operating expenses and capital costs
- Cannot be used with express purpose of reducing aircraft activity
- Preliminary allocation of labor, expenses and capital costs indicates that more than \$670,000 could be eligible for recovery in FY2024

- Labor	\$190,500
- Operating Expenses	\$166,100
- <u>Capital Recovery*</u>	<u>\$386,250</u>
- Total Airfield Costs	\$671,850

* annual depreciation expense on airfield assets (runways, taxiways, lighting etc.)

- Based on 2023 operational levels, total cost allocation would be \$7.79/arrival or \$3.31/arrival if capital costs are removed



Quadrex Aviation, LLC
Airport Development Services



Landing Fee Feasibility

Collection considerations:

- Estimated cost of collection - \$75-100k/yr
- High volume of flight training (90% of total operations)
 - Tenant accounts for 78% of all operations
- Training activity and based aircraft (tenants) are typically exempt from landing fees

Conclusion: Landing fees do not appear to be an effective method for cost recovery at EVB.

EVB Top Ten Operators

Operator	Operations
Epic Aviation*	137,746
Embry Riddle*	9,421
Phoenix East*	4,077
Air America*	3,414
P. Santopietro*	3,302
M. Faller	1,203
Airgate	607
Aerosim*	434
Blue Skies	440
Baker Aviation	345
Total Operations (91%)	160,989

Source: Virtower, 2024

* Flight training provider



Next Steps/Recommendations

- Based on the Noise and Operational Analysis, and feedback received at the July Public Workshops, ESA has identified several areas of possible improvement to the Airport's Voluntary Noise Abatement Program and overall noise environment:
 1. Designate a Calm Wind Runway
 - ESA recommends the Airport work with Air Traffic Control (ATC) to formally designate a calm wind runway.
 2. Raise the Pattern Altitude
 - ESA recommends the Airport work with ATC to determine the feasibility of raising the pattern altitude from 800 ft. MSL to 1,000 ft. MSL.
 3. Simplify Voluntary Noise Abatement Hours
 - ESA recommends the Airport discourage flight training operations, including repetitive operations and touch & go's, between the hours of 5 p.m. and 8 a.m.
 4. Continue Education and Outreach with Flight Schools
 - ESA recommends the Airport continue to work with flight schools on noise abatement and related concerns.
 5. Regularly Discuss Noise in Airport Advisory Board Meetings
 - ESA recommends adding noise to the regular meeting agendas.
 6. Consider Implementation of a Disclosure or Notification Area
 - This strategy allows people to be more informed about aircraft overflight activities

