



Tampa International Airport

# Noise Management Analysis

February 2018

Prepared for:  
**Hillsborough County Aviation Authority**  
4100 George J. Bean Parkway  
Tampa, FL 33607

# TABLE OF CONTENTS

## Tampa International Airport Noise Management Analysis

	<u>Page</u>
<b>Executive Summary</b> .....	iii
<b>1. Introduction</b> .....	1
1.1 Roles and Responsibilities.....	1
1.1.1 HCAA.....	1
1.1.2 FAA.....	2
1.1.3 Local Governments and Elected Officials.....	2
1.1.4 Aircraft Operators.....	2
1.1.5 Residents and Prospective Residents.....	2
<b>2. Noise Program Overview</b> .....	3
2.1 Noise Management Program.....	3
2.1.1 Voluntary Noise Abatement Program.....	3
2.1.2 Aircraft Noise Complaints.....	4
2.2 Previous 14 CFR Part 150 Study.....	5
2.2.1 Study Goals and Objectives.....	5
2.2.2 2000 14 CFR Part 150 Study Recommended NCP Measures.....	6
2.2.3 ESA Findings.....	8
<b>3. Review of Current Operational Environment</b> .....	10
3.1 Tampa International Airport.....	10
3.1.1 Operational Levels.....	10
3.1.2 Construction at TPA.....	10
3.2 Industry.....	11
3.2.1 Aircraft Changes.....	11
3.2.2 Airline Changes.....	12
3.2.3 Safety Considerations.....	12
3.2.4 FAA ATCT/Airspace Changes.....	13
3.2.5 FAA Noise Model.....	13
<b>4. Review of JDA Report</b> .....	13
4.1 Review of JDA Report and Findings.....	13
4.2 Evaluation of JDA Recommendations.....	14
4.2.1 Airport Operations.....	14
4.2.2 Airport Sponsor Authority.....	18
4.2.3 Best Noise Management Practices.....	20
4.2.4 Future Developments in Air Traffic Operations.....	21
<b>5. Summary and Recommendations</b> .....	22

**Figures**

3-1 Annual Aircraft Operations and Passengers at TPA, 2008-2017 ..... 10  
3-2 Average Passengers Per Aircraft Operation at TPA, 2008-2017 ..... 12

**Tables**

2-1 TPA Annual Aircraft Noise Complaints, 2008-2017 ..... 4  
2-2 2000 14 CFR Part 150 Noise Abatement Measures ..... 7  
2-3 2000 14 CFR Part 150 Land Use Measures ..... 7  
2-4 2000 14 CFR Part 150 Continuing Program Measures ..... 8  
5-1 Summary of JDA Recommended Measures ..... 22

**Attachments**

Attachment 1 Federal Aviation Administration Air Traffic Organization  
Tampa International Airport (TPA) Noise Assessment  
  
Attachment 2 Federal Aviation Administration Correspondence  
  
Attachment 3 Acronyms List

# EXECUTIVE SUMMARY

---

## Tampa International Airport Noise Management Analysis

### Overview

JDA Aviation Technology Solutions (JDA) was hired by several communities near Tampa International Airport (TPA) to conduct a review of the Airport's noise abatement program. The JDA report reviewed current operational and noise management practices, implementation of the year 2000 TPA Title 14 Code of Federal Regulations Part 150 Study recommended measures, and included recommendations for current and future noise-related measures. Environmental Science Associates (ESA) was hired by the Hillsborough County Aviation Authority (HCAA) to conduct an independent review and assessment of JDA's Noise Management Assessment Report.

### Assessment and Findings

In any aircraft noise assessment, it is important to include a description of the problem to be solved. For the HCAA, preventing noncompatible land uses within TPA's DNL 65 contour is its primary noise abatement/noise mitigation goal. The JDA report does not mention this goal or how its recommendations would change TPA's DNL 65\* contour to reduce noncompatible land uses. Many of JDA's recommendations have the potential to shift aircraft noise over other noise-sensitive areas. **Section 4** of ESA's Report includes a review of the JDA report and responses to each recommended measure.

In recent years, ESA has observed that the DNL 65 contours at many airports nationwide are smaller than the previous 14 CFR Part 150 DNL 65 contour sets. There are numerous reasons why airports have seen a reduction in noncompatible land uses within the DNL 65 contour, including the increased use of quieter aircraft, retirement of noisier aging aircraft fleets, more efficient airspace procedures, upgauging of airline fleets, and improved aircraft noise modeling tools (see **Section 3.2** for more information). Because of these factors, ESA believes that TPA's existing DNL 65 contour may be smaller than the previous 14 CFR Part 150 Study contours. In addition, all of the measures recommended in the 2000 TPA 14 CFR Part 150 Study have been implemented (see **Section 2.2** for a more detailed review of the 2000 14 CFR Part 150 Study).

### Recommendations

As a result of the above assessment and findings, ESA recommends that prior to implementing any operational changes at TPA for noise abatement purposes, the HCAA should update TPA's DNL 65 contour using the current aircraft fleet mix, runway use, flight tracks, associated flight track use, and the current version of the FAA-approved Aviation Environmental Design Tool. Updating TPA's DNL 65 contour would enable the HCAA to see if there are any noncompatible land uses within the DNL 65 contour and how operational changes may impact all of the communities in the vicinity of TPA. The HCAA could update TPA's DNL 65 contour through the formal 14 CFR Part 150 Study process or through an informal DNL 65 contour update (see **Section 2.2.3** for a discussion of the potential benefits and drawbacks of both approaches).

---

\*14 CFR Part 150 has established the Day-Night Average Sound Level (DNL) of 65 decibels as the level below which all land uses are considered compatible.

Prior to deciding whether to conduct a formal 14 CFR Part 150 Study Update, the HCAA must consider that due to the full implementation of the previous TPA 14 CFR Part 150 noise abatement/mitigation measures as well as the increased use of quieter aircraft, airline fleet upgauging, and the retirement of the noisier aging aircraft fleet, there may be no noncompatible land uses within the current TPA DNL 65 contour. FAA will not approve any noise abatement/mitigation measures that do not reduce noncompatible land uses within the DNL 65 contour. Voluntary measures may be recommended, but there would be no requirement for their implementation. When considering voluntary measures, the HCAA needs to identify the noncompatible land uses (if any) within the current DNL 65 contour and ensure that aircraft noise is not shifted from one noise sensitive area to another; particularly not shifting more noise to the areas near TPA that already experience the most aircraft noise exposure.

Finally, as a result of the Airport Noise and Capacity Act of 1990 (ANCA) and its implementing regulation 14 CFR Part 161, *Notice and Approval of Airport Noise and Access Restrictions*, no new use restrictions at airports can be implemented without a thorough demonstration of the need for the restriction, a detailed analysis of the restriction and its consequences, a demonstration that the benefits of the restriction outweigh its costs, evidence that all other nonrestrictive measures have been exhausted, input from the affected aircraft operators regarding the restriction, and approval of the restriction by the FAA. At least one of JDA's recommendations, Recommendation 3.2, would result in a nighttime use restriction at TPA and would require the HCAA to complete a 14 CFR Part 161 study and obtain FAA approval prior to its implementation. In the three decades since the passage of ANCA, no 14 CFR Part 161 studies for runway closures or mandatory flight procedures have been approved by the FAA. In fact, Los Angeles World Airports (LAWA) spent 11 years and over \$8 million on a 14 CFR Part 161 study to restrict easterly departures by all aircraft between midnight and 6:30 am only to have the FAA reject LAWA's request.

## **Conclusion**

In conclusion, ESA recommends that the HCAA quantify its current aircraft noise environment to determine if there is a need for additional noise abatement measures at TPA before incurring the time and costs associated with attempting to implement noise abatement measures that may not meet the Authority's goal of preventing noncompatible land uses within TPA's DNL 65 contour.

# NOISE MANAGEMENT ANALYSIS

---

## Tampa International Airport

### 1 Introduction

JDA Aviation Technology Solutions was hired by several local communities to conduct a review of Tampa International Airport's (TPA's) noise abatement program, which was documented in the *Tampa International Airport Noise Management Assessment* submitted to the Hillsborough County Aviation Authority (HCAA) in July 2017. The *Noise Management Assessment* reviewed current operational and noise management practices as well as implementation of the year 2000 TPA Title 14 Code of Federal Regulations Part 150 (14 CFR Part 150) Study recommended measures. The report also included recommendations for current and future noise-related measures.

Environmental Science Associates (ESA) was hired by the HCAA to conduct an independent review of JDA's *Noise Management Assessment* and to provide the HCAA with its assessment of the JDA report. ESA also offers several recommendations for the HCAA to consider prior to changing or implementing any operational measures for noise abatement purposes at TPA.

#### 1.1 Roles and Responsibilities

##### 1.1.1 HCAA

Since the 1950s, the HCAA has been active in addressing aircraft noise concerns and currently has several programs in place to assist the local community in understanding the effects of aircraft noise. The HCAA considers the effects of aircraft noise on all local communities surrounding the airport. Programs implemented by the HCAA include, but are not limited to, a noise officer, installation of a noise monitoring system, and prior 14 CFR Part 150 Studies (see Section 2 for additional program information). Additionally, the HCAA monitors the Voluntary Noise Abatement Program at TPA on a daily basis, with the goal of the highest compliance levels possible.

As the operator of TPA, the HCAA is responsible for the development of information to support the noise compatibility planning effort. This support includes the preparation of master plans, noise compatibility studies, 14 CFR Part 150 Studies, community involvement strategies, coordination with airport users related to operational procedures, and the interaction with local planners and elected officials related to land use compatibility. In addition, the HCAA is responsible for assisting with the implementation of approved Noise Compatibility Program (NCP) strategies and applying to the Federal Aviation Administration (FAA) for federal funds

(grants) associated with eligible items included in the FAA-approved measures in the TPA 14 CFR Part 150 Study.

### 1.1.2 FAA

The FAA Office of Airports (ARP) is responsible for developing guidance for preparing noise studies, providing technical support, reviewing Noise Exposure Map (NEM) and NCP documentation for compliance with 14 CFR Part 150 requirements, approving 14 CFR Part 150 Study recommendations that meet its guidance, establishing eligibility requirements for the use of noise-related funding, and distributing Federal funds in support of FAA-approved NCP noise-related recommended mitigation strategies.

The FAA Air Traffic Organization (ATO) is responsible for the movement of aircraft both on the airfield and in the air and has the sole authority to implement noise abatement operational procedures for aircraft in flight. The Airport is serviced by an FAA-staffed airport traffic control tower (ATCT). The ATCT operates 24 hours a day, 365 days a year. Runway assignments, headings, altitudes and other directions to pilots are assigned only by air traffic controllers. The safe operation of aircraft will always supersede noise abatement procedures.

### 1.1.3 Local Governments and Elected Officials

Local land use planners and elected officials are responsible for local land use planning. These entities and individuals are responsible for the establishment and implementation of zoning and land use regulations and the application of these actions by taking into consideration the compatibility of land uses in aircraft noise exposure areas.

### 1.1.4 Aircraft Operators

Pilots of all aircraft types are responsible for safely operating their aircraft, but when able to do so, are asked to operate their aircraft according to the noise abatement procedures established at an airport.

### 1.1.5 Residents and Prospective Residents

The residents in areas surrounding an airport typically provide input to the FAA and the HCAA regarding their concerns associated with aircraft noise exposure, especially when non-standard flight conditions occur that adversely affect them. This is often accomplished through the HCAA's noise complaint system or other means of contact.

Residents should strive to understand the actions that can and cannot legally be taken to minimize the effect of aircraft noise. Individual responses to aircraft noise differ substantially and, for some individuals, a reduced level of noise may not eliminate the annoyance or irritation. Prospective residents should acquaint themselves with noise and flight corridor information prior to buying a home.

## 2 Noise Program Overview

### 2.1 Noise Management Program

The HCAA has a robust noise management program, with numerous measures to improve compatibility and community relations. Below is a list of the measures the HCAA has implemented as part of its noise management program.

- Staffing of an airport noise office;
- Bi-monthly Community Noise Consortium (CNC) meetings, including a “Noise Abatement 101” educational presentation;
- Regular meetings with homeowner’s associations, airlines, fixed based operators (FBOs), and private jet operators to advance awareness and noise-related initiatives;
- Meetings with other airport noise offices on best management practices;
- Sound insulation of homes within the Day-Night Average Sound Level (DNL) 65 contour (Mariners Estate subdivision);
- Handouts for FBOs and pilots about the Voluntary Noise Abatement Program;
- Publicly released monthly Noise Monitoring Office Report and monthly Community Noise Monitoring Report;
- Review and categorization of every deviation from the preferential runway use program;
- Reporting of program (runway use) deviation information on TPA’s website daily;<sup>1</sup>
- Airport noise monitoring system and flight tracking website;<sup>2</sup>
- Online noise complaint portal;<sup>3</sup> and
- Website updates containing scheduled runway closure information.

#### 2.1.1 Voluntary Noise Abatement Program

As stated in Section 1.1, the HCAA cannot control aircraft in flight; only the FAA has this authority. However, the HCAA worked with the FAA to develop a Voluntary Noise Abatement Program that has been maintained for several decades. This program maximizes jet arrivals on Runway 1L and commercial jet departures on Runway 19R, depending on the flow of aircraft operations. The HCAA has developed a handout for this program and it is distributed to general aviation pilots that fly into TPA. This information is disseminated via TPA’s Automatic Terminal

<sup>1</sup> <http://www.tampaairport.com/daily-deviations>

<sup>2</sup> <https://flighttracker.casper.aero/tpa/>

<sup>3</sup> <https://flighttracker.casper.aero/tpa/complaint/>



Information Service (ATIS), Jeppesen, TPA’s WhisperTrack webpage,<sup>4</sup> and the TPA’s noise abatement web page.<sup>5</sup> The HCAA also coordinated with airline representatives to ensure their continued participation in this program. The HCAA reports program (runway use) deviation information on its website daily.<sup>6</sup>

## 2.1.2 Aircraft Noise Complaints

As part of its noise program, the HCAA collects aircraft noise complaint information. Noise complaints were previously recorded by the Harris noise monitoring system, and starting October 1, 2017, the Casper noise monitoring system now provides the complaint management system. Each noise complaint received is compiled in a database, verified for accuracy, analyzed, and included in CNC reports for informational purposes. **Table 2-1** provides the number of annual noise complaints and individual households submitting complaints for 2008 through 2017. The majority of complaints are from a few households; in 2017, 75% of the complaints were from four households. One household was responsible for 53% of the complaints in 2017 and three households account for more than 22% of the complaints. None of the complaints received from homes were within the year 2000 TPA DNL 65<sup>7</sup> contour.

**TABLE 2-1  
TPA ANNUAL AIRCRAFT NOISE COMPLAINTS  
2008-2017**

<b>Year</b>	<b>Total Complaints</b>	<b>Total Households /Complainants</b>
2017	1,804	124*
2016	1,357	162
2015	723	165
2014	213	45
2013	226	48
2012	452	38
2011	559	62
2010	554	72
2009	693	48
2008	1,114	71

Sources: Harris (2006-Sept 2017) and Casper (Sept-Dec 2017) Noise Complaint Tracking Systems.

Note: \*There may be duplication in household counts due to utilizing data from two different systems in 2017.

As shown in Table 2-1, noise complaints at TPA are relatively consistent from year to year. However, there were more complaints than usual in 2008, 2015, 2016, and 2017. Most of these complaints were directly related to temporary changes in TPA’s operations due to construction. In 2008, there were restrictions on Runway 1L due to the TPA Interchange Project. In 2015-2016,

<sup>4</sup> <https://whispertrack.com/airports/KTPA>

<sup>5</sup> <http://www.tampaairport.com/noise-abatement>

<sup>6</sup> <http://www.tampaairport.com/daily-deviations>

<sup>7</sup> 14 CFR Part 150 has established the Day-Night Average Sound Level (DNL) of 65 decibels as the level below which all land uses are considered compatible.

the Taxiway J project resulted in a significant increase in noise complaints (see **Section 3.1.1**). Noise complaints remained high after the Taxiway J project was completed even though TPA resumed pre-construction operating conditions.

## 2.2 Previous 14 CFR Part 150 Study

The preparation of a 14 CFR Part 150 Study is a voluntary action by the HCAA.<sup>8</sup> A 14 CFR Part 150 Study provides the opportunity for aviation interests, state and local government officials, and the community members to address noise and land use compatibility issues related to the aircraft operations occurring at an airport. The HCAA completed its first 14 CFR Part 150 Study in 1987. The most recent 14 CFR Part 150 Study was completed in 2000, receiving FAA approval in January 2001.<sup>9</sup>

### 2.2.1 Study Goals and Objectives

The 2000 14 CFR Part 150 Study was updated at the same time as the Airport Master Plan, and goals were developed as part of this joint effort. Section 1.3, *Study Goals*, of the 2000 14 CFR Part 150 Study documents all of the goals and objectives identified for the joint effort. Below are the goals and objectives specifically related to noise:<sup>10</sup>

- Minimize, to the extent feasible, the impact of aircraft noise on neighboring residents and noise-sensitive land uses through noise abatement and noise mitigation.
  - Design and select noise abatement measures that minimize the number of people exposed to noise above DNL 65 decibels (dB).
  - Ensure that no residential uses are exposed to aircraft noise above DNL 75 dB.
  - In selecting noise abatement actions, avoid those that would adversely affect airport capacity or result in significant delays, under current or forecast operations.
  - In selecting noise abatement actions, avoid imposing restrictions on airport use that would be discriminatory or interfere with interstate commerce.
  - In selecting noise abatement actions, avoid those that could erode prudent margins of safety.
  - Design and select land use mitigation measures for noise-sensitive land uses projected to be exposed to aircraft noise between DNL 65 and 75 dB through the 5-year forecast.

<sup>8</sup> The regulations contained in 14 CFR Part 150 are voluntary and airport operators are not required to participate. However, FAA-accepted NEMs and FAA-approved NCP measures are necessary for federal financial participation in 14 CFR Part 150-related noise abatement projects at an airport.

<sup>9</sup> <http://www.tampaairport.com/sites/default/master/files/FAR%20Part%20150.pdf>

<sup>10</sup> Tampa International Airport FAR Part 150 Update Study (HNTB/HMMH, 2000).

- Ensure that mitigation projects are capable of being fully funded and implemented.
- Maximize, to the extent practical, any mitigation projects that are eligible for FAA funding assistance through the noise set-aside of the Airport Improvement Program.
- Promote the development of compatible land uses in undeveloped areas in the Airport vicinity.
  - Promote the land use planning and development objectives of local governments in the Airport area to the extent that they are compatible with aircraft noise levels.
  - Promote long-term economic development in the Airport area consistent with the land use planning and development objectives of local governments.
  - Develop realistic plans for future land use, recognizing the development capacity of the land and economic feasibility.
  - Balance the need for compatible land use in the Airport vicinity regarding the potential impact to land owners.
  - Locate airport and access facilities so that growth of associated uses may best be controlled through land use planning and zoning.
- Build and maintain public confidence and support.
  - Establish and maintain an effective working relationship between the project team, Hillsborough County, the State, local metropolitan planning organizations, surrounding communities, the FAA, the aviation industry, and the private sector.
  - Coordinate continually with established working groups to ensure local issues are addressed in a timely and effective manner.
  - Encourage and utilize comments from all sectors of the aviation community, as well as the general public, in developing a Master Plan and NCP for the Airport.
  - Identify the implementation mechanisms for the plan, and determine implementation responsibilities for both

### 2.2.2 2000 14 CFR Part 150 Study Recommended NCP Measures

**Tables 2-2 through 2-4** present the NCP noise abatement, land use, and continuing program measures recommended in the 2000 14 CFR Part 150 Study. The tables also include the responsible parties and whether the measure was implemented, as well as the FAA's action from the FAA Record of Approval (ROA) dated February 1, 2001.

**TABLE 2-2  
2000 14 CFR PART 150 STUDY NOISE ABATEMENT MEASURES**

<b>ID</b>	<b>Proposed Measure</b>	<b>Implementation Actions and Responsible Parties</b>	<b>FAA Action</b>	<b>Implemented?</b>
1	Maximize Daytime South Flow Preferential	Authority requests change in ATCT Letter of Agreement to reflect improved implementation element. FAA reviews, approves, and implements.	Approved	Yes
2	Preferential Order of Runway Use Adoption	Authority requests change in ATCT Letter of Agreement to reflect preferential runway use. FAA reviews, approves, and implements.	Approved	Yes
3	Extend Night Preference of Runway 36L Arrivals and 18R Departures to All Aircraft	Authority requests change in ATCT Letter of Agreement to reflect new night time preference to all aircraft. FAA reviews, approves, and implements.	Approved	Yes
4	Initial Turbojet Departure Headings	Authority requests change in ATCT Letter of Agreement to reflect existing measure. FAA reviews, approves, and implements.	Approved	Yes
5	Noise Abatement Propeller Aircraft Flight Paths for Runway 36L and 36R Departures	Authority requests change in ATCT Letter of Agreement to reflect minimization of turns greater than 20 degrees off Runways 36L and 36R. FAA reviews, approves, and implements.	Approved as an informal process whenever traffic and other operational conditions permit.	Yes
6	Limit Base Legs for Runway 36L Arrivals North of MacDill AFB	Authority requests change in ATCT Letter of Agreement to reflect current measure. FAA reviews, approves, and implements.	Approved as an informal process whenever traffic and other operational conditions permit.	Yes
7	Helipad on East Side of Airport	Continue existing measure. FAA implements.	Approved	Yes
8	Turbojet Use of Distant Noise Abatement Departure Procedures	Authority requests change in ATCT Letter of Agreement to reflect new turbojet procedures. FAA reviews, approves, and implements.	Approved	Yes
9	Turbojet Use of ATA Noise Abatement Arrival Procedures	Authority requests change in ATCT Letter of Agreement to reflect new turbojet procedures. FAA reviews, approves, and implements.	Approved	Yes
10	Shared Runup Enclosure for Turbojet Maintenance Runups Above Idle Power	Authority constructs runup enclosure and instructs all turbojet users to use runup enclosure for maintenance runups above idle. FAA reviews, approves, and implements.	Approved	Yes
11	Amend Tower Letter to Airmen to Reflect Revised NCP	Authority requests changes in ATC Letter to Airmen to reflect the NCP revisions identified above, and to reflect the Tower's advisement regarding pilots' requests to deviate from the Informal Runway Use Program. FAA reviews, approves, and implements.	Approved	Yes

Source: Tampa International Airport FAR Part 150 Update Study (HNTB/HMMH, 2000). FAA Record of Approval (FAA, 2001).

**TABLE 2-3  
2000 14 CFR PART 150 STUDY LAND USE MEASURES**

<b>ID</b>	<b>Proposed Measure</b>	<b>Implementation Actions and Responsible Parties</b>	<b>FAA Action</b>	<b>Implemented?</b>
1	Zoning for Compatible Use	HCAA and Hillsborough County adopts measure and requests implementation by the County.	Approved	Yes
2	Overlay Zoning	HCAA measure and requests implementation by Hillsborough County and Tampa City. County and City zoning regulations are revised. County and City Building departments determine noise reduction requirements for new construction.	Approved	Yes
3	Public Information Program	HCAA adopts measure, organizes and manages the program.	Approved*	Yes
4	Purchase Avigation Easements	HCAA adopts measure. HCAA approves application for funding grant. HCAA staff negotiates with property owners for easement as a part of the soundproofing/climate control program.	Approved*	Yes
5	Soundproofing/Climate Control Program	HCAA adopts measure. Pilot program is developed to determine sound attenuation methods to be used to achieve required interior noise reductions.	Approved (See FAA ROA for additional details)	Yes

Source: Tampa International Airport FAR Part 150 Update Study (HNTB/HMMH, 2000). FAA Record of Approval (FAA, 2001).

\*Note: Measures 3 and 4 were missing from the FAA's ROA. It is assumed they were approved.

**TABLE 2-4**  
**2000 14 CFR PART 150 CONTINUING PROGRAM MEASURES**

ID	Proposed Measure	Implementation Actions and Responsible Parties	FAA Action	Implemented?
1	Noise Abatement Office Staffing	Authority continues to implement.	Approved	Yes
2	Airport Noise and Operations Monitoring System	Authority continues to operate existing system until FAA approves revised NCP, then applies for FAA funding for system upgrade and expansion	Approved	Yes
3	Periodic evaluation of noise exposure, and NEM and NCP Revision	Authority continues evaluation and review.	Approved	Yes
4	Noise Abatement Committee	Authority continues to implement.	Approved	Yes

Source: Tampa International Airport FAR Part 150 Update Study (HNTB/HMMH, 2000). FAA Record of Approval (FAA, 2001).

### 2.2.3 ESA Findings

The following assumptions were modeled in the 2000 14 CFR Part 150 Study:

- Runway use assumptions in the 2000 14 CFR Part 150 Study were not based on actual historic operational data; they were based on the wind rose and ATCT runway use priorities.
  - Daytime runway use priorities (6 a.m. to midnight)
    1. South operation: arrive 18L/R, depart 18R
    2. South operation: arrive 18L/R, depart 18L
    3. North operation: depart 36L/R, arrive 36L
    4. North operation: depart 36L/R, arrive 36R
    5. East/west operation: arrive/depart 9 or 27
  - Nighttime runway use priorities (midnight to 6 a.m.): When traffic, wind weather, and field conditions permit, and no delays to arrivals or departures will result, Tower will use Runway 18R for turbojet departures and Runway 36L for turbojet arrivals. If conditions do not permit, then runways will be assigned [in the daytime order of priority].<sup>11</sup>
- No commercial jet arrivals were modeled on Runway 36R.
- Minimized Turbojet Departures on Runway 18L and Arrivals on 36R: Indicates a high level of compliance with virtually no departures and few arrivals.

Additionally, there have been industry changes that would impact the size and shape of the contours. 14 CFR Part 36 certified Stage II aircraft less than 75,000 pounds (primarily business jets) have since been phased out in the US, commercial airlines have continued to upgrade aircraft

<sup>11</sup> TPA 2000 14 CFR Part 150 Study

fleets to newer and quieter aircraft, and the Integrated Noise Model (INM) used to generate the 2000 TPA 14 CFR Part 150 Study NEMs has been replaced with the Aviation Environmental Design Tool (AEDT) (see **Section 3.2** for additional information).

A 14 CFR Part 150 Study revision should occur when it is likely a change has taken place at the airport that will cause a significant increase or decrease in the DNL 65 contour of 1.5 dB or greater over noncompatible land uses. Usually the reason for a NEM and NCP update is to ensure that the assumptions and data used in the noise model to generate the existing and future condition NEMs remain valid, and to document the success of the implemented NCP measures. An update would be appropriate for example, when the HCAA completes a planning study and/or new aviation forecasts are prepared and approved by the FAA that differ significantly from the actual and forecast aircraft operations and fleet mix that were used in the prior 14 CFR Part 150 Study, or the number and types of aircraft operations at TPA change significantly.

In recent years, ESA has observed that the DNL 65 contours at many airports nationwide are smaller than the previous 14 CFR Part 150 DNL 65 contour sets. There are numerous reasons why airports have seen a reduction in noncompatible land within the DNL 65 contour, including the increased use of quieter aircraft coupled with older aircraft retirements, more efficient airspace procedures, and improved aircraft noise modeling capabilities (see Section 3.2 for more information). Because of these factors, ESA believes that TPA's existing DNL 65 contour may be smaller than the previous 14 CFR Part 150 Study contours and may have experienced greater than a 1.5 dB reduction over noncompatible land uses.

As a result of the above information, prior to implementing any operational changes at TPA, ESA recommends that the HCAA update TPA's DNL 65 contour using the current aircraft fleet, runway use, flight tracks and associated flight track use. Updating the DNL 65 contours would enable the HCAA to understand if there are any noncompatible land uses within the DNL 65 contour and how operational changes would impact all communities in the vicinity of TPA. The HCAA could conduct a DNL 65 contour update through the formal 14 CFR Part 150 Study process or through an informal contour update. An informal contour update would not be eligible for FAA-funding, but could be completed more quickly and would be less expensive than a formal NEM Update. However, any potential recommendations/measures resulting from an informal contour update would not be eligible for FAA funding.

Prior to deciding whether to conduct an updated 14 CFR Part 150 Study, the HCAA must consider that there may be no noncompatible land uses within the current DNL 65. FAA will not approve any measures that do not reduce noncompatible land uses within the DNL 65 contour. Voluntary measures may be recommended, but there would be no requirement for implementation; the ATCT has already declined to implement any of the measures in the JDA Report. When considering voluntary measures, the HCAA needs to understand the noncompatible uses within the current DNL 65 contour and ensure that aircraft noise is not shifted from one noise sensitive area to another; and particularly not shifting more noise to the areas that already experience the most noise. Airport operators, such as the HCAA, need to consider all of the

communities around an airport when contemplating changes to longstanding noise abatement policies and procedures before recommending any changes to the FAA.

### 3 Review of Current Operational Environment

#### 3.1 Tampa International Airport

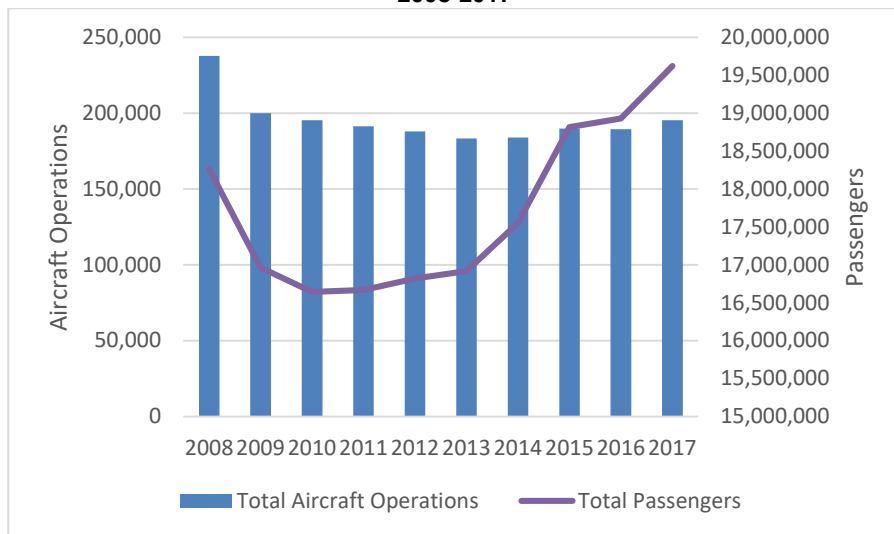
TPA has continued to flourish in recent years, with the introduction of new domestic and international carriers, an updated Master Plan, and expansion construction already underway.

##### 3.1.1 Operational Levels

Total operations have decreased, when compared to the year 2000 aircraft operational levels; however, jet operations have remained consistent. Alaska Airlines, Lufthansa, and Copa Airlines are just a few of the commercial airlines that started operating at TPA in recent years, which is one of the reasons jet operations have not decreased at TPA.

Aircraft operations declined after 2008, but have remained relatively consistent since then; however, the number of passengers has continued to climb (see **Figure 3-1**) as a result of using larger aircraft (see **Section 3.2.2** for additional information on upgauging).

**FIGURE 3-1  
ANNUAL AIRCRAFT OPERATIONS AND PASSENGERS AT TPA  
2008-2017**



Source: HCAA, 2018.

##### 3.1.2 Construction at TPA

Airfield development and runway maintenance have impacted the use of Runway 1R. Some of the more notable construction activities included restrictions on Runway 1L in 2008 for the TPA Interchange Project; Runway 1R was closed in 2010 for more than 100 days; Runway 1L was closed for an airfield drainage project in 2012; and Runway 1L was closed for more than 40 days in 2013. Most significantly, in 2015/2016, the Taxiway J project resulted in a temporary change

in aircraft operations to Runway 1R. The HCAA collaborated with the FAA to implement changes to mitigate the noise impacts during this time; however, there was still a significant increase in noise complaints (see **Table 2-1**) resulting from this construction activity. Some of the temporary changes that were implemented during this period included utilizing Airside A for air carrier operations between 10:00 AM and 6:00 PM throughout the duration of the project and halfway through the construction project, a temporary measure was implemented which put late night / early morning cargo operators as well as corporate jet aircraft on the preferred runway for noise abatement. A Technical Memorandum was completed by HMMH to assess the noise impacts of the Taxiway J project and it was determined that there were no impacts to noncompatible land uses as a result of the runway closure and temporary changes.<sup>12</sup>

## 3.2 Industry

Numerous changes have occurred in the aviation industry, which have reduced noise impacts and community annoyance. Technological advancements have resulted in quieter aircraft; the use of GPS has resulted in more precise routing of aircraft to avoid noise sensitive areas, and other changes in the industry have changed the noise environment around airports, particularly since the last 14 CFR Part 150 Study was completed at TPA in 2000. This section summarizes some of the major contributing factors to reduced noise exposure in the vicinity of TPA.

### 3.2.1 Aircraft Changes

The FAA regulates the maximum noise level of civil aircraft through noise certification standards detailed in 14 CFR Part 36, *Noise Standards: Aircraft Type and Airworthiness Certification*. Passage of the Airport Noise and Capacity Act of 1990 (ANCA) prohibited operation of aircraft with a maximum weight above 75,000 pounds that do not meet Stage 1 and Stage 2 noise standards (14 CFR Part 36) within the United States after December 31, 1999. This prohibition provided noise benefits nationwide. The FAA Modernization and Reform Act of 2012 (FMRA), which was enacted well after TPA's previous 14 CFR Part 150 Study, prohibits operation of Stage 1 and Stage 2 aircraft with a maximum weight of 75,000 pounds or lower (typically business jets) within the 48 contiguous United States after December 31, 2015. New jet and large turboprop aircraft now must be certified to Stage 4. FAA recently adopted Stage 5 standards which are effective December 31, 2017 and December 31, 2020, depending on the weight of the aircraft.

In addition to quieter engines, aircraft manufacturers, like Boeing, have been able to reduce the noise footprint of aircraft through the use of winglets on aircraft wings and improved climb performance.<sup>13</sup> The FAA and aircraft manufacturers continue to fund research and development to design and implement quieter and more fuel efficient aircraft designs.

<sup>12</sup> <http://www.tampaairport.com/sites/default/master/files/Community%20Noise%20Consortium%20Update%20-%20December%2031%2C%202015.pdf>

<sup>13</sup> [http://www.boeing.com/commercial/aeromagazine/articles/qtr\\_03\\_09/article\\_03\\_1.html](http://www.boeing.com/commercial/aeromagazine/articles/qtr_03_09/article_03_1.html)

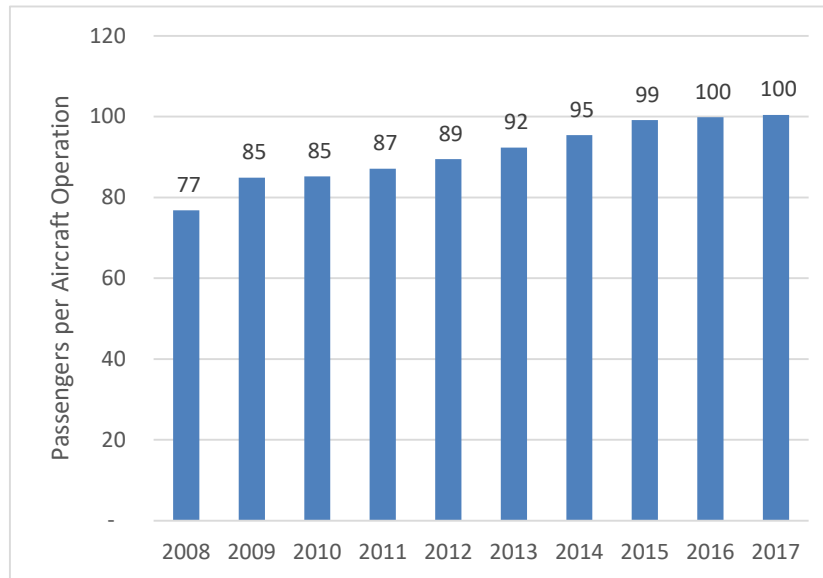


### 3.2.2 Airline Changes

A trend in the airline industry has been to replace smaller aircraft, such as regional jets, with larger jets to fly more passengers with fewer aircraft operations.<sup>14</sup> This practice, known as upgauging, is evident at TPA as shown in **Figure 3-2**, which depicts total passengers per 1,000 aircraft operations. This trend is particularly beneficial to aircraft noise exposure when older/smaller/louder aircraft are replaced with larger/newer/quieter aircraft.

Airlines that operate at TPA, such as Delta and American, have been phasing out older aircraft. One of the biggest fleet changes since the 2000 TPA 14 CFR Part 150 Study has been the phase-out of the MD80, which is being replaced with newer, quieter aircraft such as the Boeing 737.<sup>15</sup>

**FIGURE 3-2  
AVERAGE NUMBER OF PASSENGERS  
PER AIRCRAFT OPERATION AT TPA  
2008-2017**



Source: HCAA, 2018.

### 3.2.3 Safety Considerations

The safety of the national airspace system has long been the driving tenet of the FAA. With the introduction of Safety Management Systems (SMS),<sup>16</sup> which is a top-down approach to safety and risk assessments, many common aircraft procedures have been evaluated and revised. Land and Hold Short (LAHSO) operations were quite common in the past, but increase the risk for a runway incursion, and are not as common anymore. Any procedural changes at TPA for noise abatement purposes would have to undergo an FAA safety/risk assessment prior to receiving implementation approval.

<sup>14</sup> <https://www.wsj.com/articles/new-normal-for-airlines-more-seats-fewer-trips-1435874679>

<sup>15</sup> <https://airlinegeeks.com/2017/11/02/american-sets-retirement-date-for-boeing-md-80s/>

<sup>16</sup> <https://www.faa.gov/about/initiatives/sms/>

### 3.2.4 FAA ATCT/Airspace Changes

The recent Metroplex and Performance Based Navigation Area Navigation (PBN RNAV) procedure changes throughout the United States have, in some cases, resulted in disenfranchised communities and legal action against the FAA in areas well below the DNL 65 contour. Therefore, the HCAA should not enter into any process that results in shifting noise from one community to another without first assessing the following:

- 1) Are there currently incompatible uses within the DNL 65 and higher contours?
- 2) If there are, what do JDA's proposed changes do to eliminate those impacts without increasing noise exposure to other compatible noise sensitive land uses?

### 3.2.5 FAA Noise Model

The 2000 14 CFR Part 150 Study used FAA's Integrated Noise Model (INM), Version 5.1a. The FAA released several updates to INM since the 2000 14 CFR Part 150 Study, and the final version was INM Version 7.0d. In 2015, INM was replaced by the Aviation Environmental Design Tool (AEDT). AEDT has a larger selection of aircraft that can be modeled, improved algorithms, and other updates which provide more precise aircraft noise modeling results.<sup>17</sup>

## 4 Review of JDA Report

### 4.1 Review of JDA Report and Findings

JDA's report was thorough and it utilized valid sources and presented a comprehensive overview of the 2000 14 CFR Part 150 Study and recommended NCP measures. JDA states their report is, "...an unbiased independent review of the TPA Noise Abatement Program as it relates to the recommended and FAA approved measures of the 2000 14 CFR Part 150 Update Study." Due to the nature of the 14 CFR Part 150 Study and analysis, ESA is concerned with relying on the assumptions made in that Study, which was completed 18 years ago, to implement new noise abatement procedures. As mentioned in Section 3, there have been many changes affecting aircraft noise in the aviation industry since 2000, and it is anticipated that updated DNL 65 contour for TPA would reflect these changes.

In any noise assessment, it is important to include a description of the problem to be solved. For the HCAA, preventing noncompatible land uses within the DNL 65 contour is its primary noise abatement/noise mitigation goal. The JDA report does not mention this goal or how JDA's recommendations would change the DNL 65 contour to reduce noncompatible land uses. JDA states that Runway 1R is the primary issue of concern to South Tampa, but there are no stated goals or objectives related to this concern in their report. Furthermore, the report acknowledges that, "The residential vicinity most potentially impacted by existing aircraft noise is located north of the Airport...";<sup>18</sup> however, most of JDA's recommendations seem to benefit the South Tampa

<sup>17</sup> [https://aedt.faa.gov/Documents/Comparison\\_AEDT\\_Legacy\\_Summary.pdf](https://aedt.faa.gov/Documents/Comparison_AEDT_Legacy_Summary.pdf)

<sup>18</sup> JDA report citing the 2000 TPA Part 150 Study.

residents. For example, JDA recommended establishing a noise abatement committee and recommended equal representation for residents located north and south of the airport (4 residents each).

## 4.2 Evaluation of JDA Recommendations

The following sections (4.2.1 through 4.2.4) present JDA's recommendations with ESA's evaluation of each recommendation.

### 4.2.1 Airport Operations

#### **JDA Recommendation R1**

*Maximizing daytime South flow preferential to minimize noncompatible land use and noise impacts<sup>19</sup>*

*R1.1 Report North and South flow for all operations and measure performance to the 73% South flow goal*

*R1.2 Request the FAA TPA ATCT to review and revise as necessary wind related runway assignment guidance to assist controllers in maximizing South flow when traffic, wind, weather and field conditions permit. This may include, as appropriate, initial and refresher training, quality assurance and Standard Operating Procedure updates to calculate tailwind components in determining TPA runway configuration usage.*

#### **ESA Response to JDA R1**

##### **Implementation Responsibility: FAA**

##### **ESA Response to JDA R1.1**

The 2000 14 CFR Part 150 Study included a measure to maximize the daytime south flow preference (no specific goal was set or codified in the ROA). Based on ESA's review of the 2000 14 CFR Part 150 Study, runway use was based on a review of ATCT runway use priorities (see Section 2.2.1 for more information) and wind rose data. Runway use assumptions in the 2000 14 CFR Part 150 Study were not based on actual historic operational data. The priority/wind rose analysis concluded South flow could occur 67-68 percent of the time. However, it does not appear there was any attempt to correlate the wind conditions to periods when aircraft were actually operating. Because calm weather conditions often occur during nighttime hours when few aircraft are operating, these periods have very little effect on the overall percentage of aircraft operating in a specific flow. Therefore, operating a specific percentage of time in a certain flow does not directly correlate to the same percentage of aircraft operating in that flow. The analysis

---

<sup>19</sup> JDA report states Recommendation R1 is: *Maximize North and South flow to minimize noncompatible land use and noise impacts* (page 26); however, it is not possible to maximize both north and south flow. The executive summary table on page 5 states their recommendation is "Maximizing daytime South flow preferential to minimize noncompatible land use and noise impacts". ESA assumes the recommendation language on page 26 was a typographical error.

also seems to provide little discussion of the realities associated with operational planning. When wind increases or shifts are projected to occur during peak periods, the FAA will typically modify runway use in anticipation of these conditions to avoid the potential for delays during these shifts. Based on data from the prior 10-plus years, aircraft operations at TPA have consistently been close to a 50/50 percentage split between north flow and south flow, and FAA has maximized a south flow configuration based on wind and weather conditions. Should the HCAA update its 14 CFR Part 150 Study, ESA recommends that the HCAA base the existing-year DNL 65 contour on the most recent 12-months of runway use, aircraft operations data, and flight tracks/flight track use, and TPA's operational profile by time of day to determine whether to retain this measure moving forward.

### **ESA Response to JDA R1.2**

The FAA ATCT personnel have reviewed the JDA report and are not recommending any changes to ATCT documentation or FAA's standard operating procedures for TPA (see **Attachment 1**).

### **JDA Recommendation R2**

*Adopt the Preferential Order of Runway Use Program through a Hillsborough County Aviation Authority (HCAA) Board Resolution and formally request FAA's cooperation in implementing it and measuring compliance performance*

*R2.1 Report and measure performance to the Preferential Order of Runway Use per the runway use assumed to generate the 2005 Contour*

*R2.2 Report runway use for all aircraft on all runways for arrivals and departures*

*R2.3 Request the FAA to include transport category turboprop in the preferential order of runway use*

*R2.4 Request the FAA TPA ATCT to supplement approvals to pilot request deviating from the preferential runway use order with an appropriate advisory*

*R2.5 Remove the language allowing turbojet departures on 19L from the LTA and FAA ATCT internal guidance and comply with the intent of the FAA TPA Part 150 Update ROA dated 02/01/01*

*R2.6 Request the FAA TPA Air Traffic Control Tower (ATCT) to develop internal procedures to reduce use of Runway 01L for departures when in (sic) can create the need to change arrivals to Runway 01R. These procedures should be reinforced during initial and refresher controller training, as well as regularly evaluated for compliance during Quality Control Assessments*

*R2.7. Recommend that the Airport encourage the FAA at the local and regional levels to review arrival routes and procedures to reduce and minimize potential conflicts with departure traffic, regardless of runway configuration*

## **ESA Response to JDA R2**

### **Implementation Responsibility: HCAA and FAA**

#### **ESA Response to JDA R2.1 and R2.2**

The Airport's Preferential Runway Use Program has a compliance rate greater than 95% and the HCAA reports deviations on its website daily.<sup>20</sup> The HCAA also reports jet aircraft operational data at CNC meetings, and ESA understands that this reporting will be expanded to include non-jet aircraft, which account for less than 10% of TPA's aircraft operations.

#### **ESA Response to JDA R2.3 through R2.7**

Changing the runway use could shift noise to other communities. Additionally, moving turbojet departures to 19R would increase the risk of a runway incursion due to the increase in runway crossings. As discussed in Section 3.2.3, any procedural changes at TPA would have to undergo an FAA safety/risk assessment prior to receiving implementation approval. ESA recommends that prior to the HCAA recommending any operational changes at TPA to the FAA for its evaluation and approval/rejection, the HCAA should update the current and future DNL 65 contours and evaluate any potential noise abatement measures through the 14 CFR Part 150 NCP process, which would also include safety/risk assessments.

A Board Resolution would not be required to initiate coordination with FAA. In 2017, the HCAA sent FAA a letter regarding ATCT interactions with pilots requesting deviations from the preferential runway use; the FAA declined to make any changes and noted that pilots are made aware of the noise abatement procedures through ATIS broadcasts (see **Attachment 2**). Additionally, the FAA has reviewed the JDA report and is not recommending any changes to ATCT documentation or TPA's standard operating procedures at this time (see **Attachment 1**).

### **JDA Recommendation R3**

*Extend night preference of Runway 01L arrivals and 19R departures to all aircraft from 10:00 PM to 7:00 AM to reduce noncompatible land use impacts*

*R3.1 Report nighttime (10:00PM to 7:00 AM) operations and total operations monthly and annually by runway*

*R3.2 Request the FAA ATCT to consider placing runway 01R/19L in an inactive status at night to reduce the un-essential use or pilot requests*

## **ESA Response to JDA R3**

### **Implementation Responsibility: HCAA and FAA**

---

<sup>20</sup> <http://www.tampaairport.com/daily-deviations>

The FAA has reviewed the JDA report. After also reviewing operational reports, the FAA is not recommending any changes to ATCT procedures (see **Attachment 1**).

Extending the night preference from the 2000 14 CFR Part 150 Study recommendation (12:00 AM to 6:00 AM) to 10:00 PM to 7:00 AM could shift nighttime noise impacts. As stated previously, ESA recommends that prior to the HCAA recommending any operational changes at TPA to the FAA for its evaluation and approval/rejection, the HCAA should update the current and future DNL 65 contours and evaluate any potential noise abatement measures through the 14 CFR Part 150 NCP process.

### **ESA Response to JDA R3.1**

The HCAA already reports operational data and this information is shared at CNC meetings. It is anticipated that the HCAA will continue to produce these reports. No HCAA action is required.

### **ESA Response to JDA R3.2**

With the exception of doing so when necessitated for maintenance, construction, and safety, placing Runway 1R/19L in an inactive status at night could compromise safety by artificially eliminating a viable runway for emergency use and would shift noise to other communities at night. Furthermore, as a result of the Airport Noise and Capacity Act of 1990 (ANCA) and its implementing regulation 14 CFR Part 161, *Notice and Approval of Airport Noise and Access Restrictions*, no new use restrictions at airports can be implemented without a thorough demonstration of the need for the restriction, a detailed analysis of the restriction and its consequences, a demonstration that the benefits of the restriction outweigh its costs, evidence that all other nonrestrictive measures have been exhausted, input from the affected aircraft operators regarding the restriction, and approval of the restriction by the FAA. If any form of use restriction is proposed by the HCAA, a 14 CFR Part 161, *Notice and Approval of Airport Noise and Access Restrictions*, process would need to be completed. In the three decades since the passage of ANCA, no 14 CFR Part 161 studies for runway closures or mandatory flight procedures have been approved by the FAA.<sup>21</sup> In fact, Los Angeles World Airports spent 11 years and over \$8 million on a 14 CFR Part 161 study to restrict easterly departures by all aircraft between midnight and 6:30 am<sup>22</sup> only to have the FAA reject LAWA's request.<sup>23</sup> The implementation of use restrictions at TPA is not justified given the time, costs, and legal requirements associated with a 14 CFR Part 161 Study, including the requirements contained in the HCAA's FAA grant assurances. Runway assignments are at the sole discretion of the ATCT and decision of the pilot in command. ESA recommends against the adoption of this measure.

<sup>21</sup> [https://www.faa.gov/airports/environmental/airport\\_noise/part\\_161/](https://www.faa.gov/airports/environmental/airport_noise/part_161/)

<sup>22</sup> <https://www.lawa.org/en/lawa-environment/noise-management/lawa-noise-management-lax/lax-part-161-study>

<sup>23</sup> <https://www.lawa.org/-/media/lawa-web/noise-management/files/11-7-14-faa-decision-on-lax-part-161.ashx?la=en&hash=766A5B414FD3A428149C1A0F69580810CC5B8D00>

## 4.2.2 Airport Sponsor Authority

### **JDA Recommendation R4**

*Request the FAA to revise the Letter to Airmen (LTA) to adhere to the standards identified in the Part 150 Update and approved in the FAA ROA to reduce non-compatible land use (see recommended draft LTA in Appendix 4) to include:*

*R4.1 Maximizing daytime South flow preferential with a goal of achieving 73%*

*R4.2 Adhere to the Preferential Order of Runway Use Program for all corporate and commercial aircraft*

*R4.3 Extend night preference of Runway 01L arrivals and 19R departures to all aircraft from 10:00 PM to 7:00 AM*

*R4.4 Initial turbojet departure heading assignments*

*R 4.5 Noise abatement program propeller aircraft flight paths for Runway 01L and 1R departures*

*R 4.6 Limit base legs for Runway 01L arrivals North of MacDill AFB to prevent overflight of residential areas*

*R4.7 Turbojet use of distant noise abatement departure procedures*

*R4.8 Distribute the revised LTA to the FAA Facility Directory, Airline Flight Operation Publications, Jeppesen and other widely available pilot airport references including AirNav.com and AOPAAirports.com*

### **ESA Response to JDA R4**

#### **Implementation Responsibility: FAA and HCAA**

The primary goal of this measure is to revise the FAA's Letter to Airman. The FAA has reviewed the JDA report, and after also reviewing the HCAA operational reports, the FAA is not recommending any changes to the Letter to Airmen or other standard operating procedures for TPA (see **Attachment 1**).

#### **ESA Response to JDA R4.1 and R4.2**

To clarify, as stated in response to R1, 73% south flow was not a NCP goal in the 2000 14 CFR Part 150 Study. The measure was to maximize the daytime south flow preference. As a voluntary measure, FAA maximizes south flow based on wind, weather, and air traffic conditions. Additionally, moving corporate aircraft departures to Runway 19R would increase the risk of a runway incursion because the FBO is located on the southeast portion of the airfield and aircraft

would have to cross two active runways (Runways 10-28 and 01R-19L) to depart Runway 19R. Commercial jet operations already utilize Runway 19R for departures. As discussed in Section 3.2.3, any procedural changes at TPA would have to undergo an FAA safety/risk assessment prior to receiving implementation approval.

As stated above, should the HCAA decide to update its 14 CFR Part 150 Study, ESA recommends that the HCAA base the existing-year DNL 65 contour on the most recent 12-months of runway use, aircraft operations data, and flight tracks/flight track use to determine whether to retain this measure moving forward.

#### **ESA Response to JDA R4.3 through R4.7**

As stated in response to R3, extending the night preference from 12:00 AM to 6:00 AM to 10:00 PM to 7:00 AM could shift nighttime noise impacts. As stated previously, ESA recommends that prior to the HCAA recommending any operational changes at TPA to the FAA for its evaluation and approval/rejection, the HCAA should update the current and future DNL 65 contours and evaluate any potential noise abatement measures through the 14 CFR Part 150 NCP process.

#### **ESA Response to JDA R4.8**

The HCAA developed a handout for the Voluntary Noise Abatement Program and distributed it to the FBOs and general aviation pilots that fly into TPA. This information is also available through TPA's ATIS, Jeppesen plates, WhisperTrack web page, and the airport's website.

#### **JDA Recommendation R5**

*Formally request the City and County to adopt overlay zoning to limit noncompatible land use and require noise reduction construction technique for land uses permitted in noise zones*

#### **ESA Response to JDA R5**

##### **Implementation Responsibility: Local Government**

The 2000 14 CFR Part 150 Study included measures for zoning for compatible land use and overlay zoning for noise reduction construction techniques (see **Table 2-3**). Zoning changes are under the authority, and at the discretion, of local governments (City of Tampa and Hillsborough County). With the exception of a few properties on Mariner's Point, all land that would be considered incompatible is owned by the Airport or is zoned for industrial use, which is compatible with sound levels up to DNL 85. Additionally, the Airport has an inter-local agreement with the City of Tampa and Hillsborough County. No additional action is required by the HCAA at this time.



### 4.2.3 Best Noise Management Practices

#### **JDA Recommendation R6**

*Develop a robust public Information (sic) program by leveraging the new TPA Casper Flight Tracking System*

*R6.1 Update noise monitoring system to monitor, record, analyze and report actual flight track geometry and runway utilization to provide a basis for determining compliance with the program and responding to citizen inquiries*

*R6.2 Utilize Casper's near real time web interface to maximize automated reporting of noise information to the public*

#### **ESA Response to JDA R6**

**Implementation Responsibility: HCAA**

##### **ESA Response to JDA R6.1**

For many years, the HCAA has utilized a flight tracking system to record actual flights tracks and determine compliance with runway use goals. The HCAA staff has provided, and continues to provide, data and information related to deviations from the preferential runway use program. The HCAA reports runway use deviation information on its website daily.<sup>24</sup> It is anticipated that the HCAA will continue to utilize the new Casper flight tracking system in a similar manner, providing data and transparency to the community members. No additional action is required by the HCAA at this time.

##### **ESA Response to JDA R6.2**

A flight tracking website has been developed and is linked from the Noise Abatement page of TPA's website.<sup>25</sup> No additional action is required by the HCAA at this time.

#### **JDA Recommendation R7**

*Establish an (sic) Noise Abatement Committee of noise impacted community stakeholders formalized with bylaws to represent and act on community interests as the (sic) relate to the committees (sic) evaluation (sic) TPA noise abatement performance management and provide advisory recommendations to HCAA*

#### **ESA Response to JDA R7**

**Implementation Responsibility: HCAA**

---

<sup>24</sup> <http://www.tampaairport.com/daily-deviations>

<sup>25</sup> <https://flighttracker.casper.aero/tpa/>

The HCAA has a long-standing noise committee, the Community Noise Consortium, which discusses community aircraft noise concerns.<sup>26</sup> The CNC meets bi-monthly at the Airport and is open to the public. Additionally, TPA staff meet with local homeowner's associations (HOAs) when requested, and have conducted presentations to several HOAs over the past several years. There does not appear to be the need for another noise abatement committee at this time. No additional action is required by the HCAA at this time.

### **JDA Recommendation R8**

*Request the FAA ATCT to review and revise all TPA ATCT standard operating procedures and training materials as necessary to adhere to the noise abatement measures and compliance with the FAA ROA of the TP (sic) 2000 Part 150 Update Study*

### **ESA Response to JDA R8**

#### **Implementation Responsibility: FAA**

There is no basis in terms of reducing or eliminating noise impacted land uses within the DNL 65 contour provided in JDA's report for this recommendation. However, the HCAA forwarded the JDA report to the FAA for review and the FAA has declined to make any changes to its standard operating procedures and training materials for the purposes of noise abatement (see **Attachment 1**).

If there are incompatible land uses with the DNL 65 contour, the HCAA should consider updating its 14 CFR Part 150 NCP. If changes in the Airport's operation are considered during the Study, the FAA ATCT staff at TPA would have the opportunity to provide input into the HCAA's consideration of including this recommendation in the 14 CFR Part 150 NCP. Ultimately, the FAA has the sole authority to approve or disapprove this and other HCAA recommendations related to noise abatement.

## **4.2.4 Future Developments in Air Traffic Operations**

### **JDA Recommendation R9**

*TPA Airport (sic) and its communities must closely monitor these developments. Airport neighbors (as far as 20 miles away) should insist that the FAA maximize opportunities for full public participation in every aspect of any OAPM (sic) or airspace modernization project in Central Florida, including within the initial design phases. The public should emphasize that disregarding established noise abatement procedures or creating new noise problems is not an option in any such "optimization" effort.*

### **ESA Response to JDA R9**

#### **Implementation Responsibility: Local Community and FAA**

<sup>26</sup> <http://www.tampaairport.com/community-noise-consortium-cnc-and-noise-monitoring-office-reports>

The FAA is responsible for developing and conducting the public involvement process related to the Florida Metroplex process, which is currently on hold. While the HCAA does not have any control over the FAA’s implementation of Metroplex or airspace procedures, the HCAA should seek to provide the FAA with input into the process especially with respect to identifying community noise concerns and current noise abatement procedures that are effective and should be retained, if possible, in the Metroplex design. ESA recommends that the HCAA seek opportunities to provide input to the FAA’s Metroplex process and share FAA’s public outreach information at the CNC meetings and provide links to the Florida Metroplex website on the HCAA website. Text explaining that the Florida Metroplex is an FAA, not an HCAA, process should accompany the links.

## 5 Summary and Recommendations

Table 5-1 summarizes ESA’s responses to the JDA report recommendations.

**TABLE 5-1  
SUMMARY OF JDA RECOMMENDED MEASURES**

JDA Recommendation	ESA Response	See Report Section
<b>Airport Operations</b>		
R1 Maximizing daytime South flow preferential to minimize noncompatible land use and noise impacts  R1.1 Report North and South flow for all operations and measure performance to the 73% South flow goal  R1.2 Request the FAA TPA ATCT to review and revise as necessary wind related runway assignment guidance to assist controllers in maximizing South flow when traffic, wind, weather and field conditions permit. This may include, as appropriate, initial and refresher training, quality assurance and Standard Operating Procedure updates to calculate tailwind components in determining TPA runway configuration usage.	Aircraft operations at TPA have consistently been close to a 50/50 percentage split between north flow and south flow, and FAA has maximized a south flow configuration based on wind and weather conditions. Should the HCAA update its 14 CFR Part 150 Study, ESA recommends that the HCAA base the existing-year DNL 65 contour on the most recent 12-months of runway use, aircraft operations data, and flight tracks/flight track use, and TPA’s operational profile by time of day to determine whether to retain these measures moving forward.	4.2.1
R2 Adopt the Preferential Order of Runway Use Program through a Hillsborough County Aviation Authority (HCAA) Board Resolution and formally request FAA’s cooperation in implementing it and measuring compliance performance  R2.1 Report and measure performance to the Preferential Order of Runway Use per the runway use assumed to generate the 2005 Contour  R2.2 Report runway use for all aircraft on all runways for arrivals and departures  R2.3 Request the FAA to include transport category turboprop in the preferential order of runway use  R2.4 Request the FAA TPA ATCT to supplement approvals to pilot request deviating from the preferential runway use order with an appropriate advisory  R2.5 Remove the language allowing turbojet departures on 19L from the LTA and FAA ATCT internal guidance and comply with the intent of the FAA TPA Part 150 Update ROA dated 02/01/01	The Airport’s Preferential Runway Use Program has a compliance rate greater than 95% and the HCAA reports deviations on its website daily.  Changing the runway use could shift noise to other communities. ESA recommends that prior to the HCAA recommending any operational changes at TPA to the FAA for its evaluation and approval/rejection, the HCAA should update the current and future DNL 65 contours and evaluate any potential noise abatement measures through the 14 CFR Part 150 NCP process.	4.2.1

JDA Recommendation	ESA Response	See Report Section
<p>R2.6 Request the FAA TPA Air Traffic Control Tower (ATCT) to develop internal procedures to reduce use of Runway 01L for departures when in can create the need to change arrivals to Runway 01R. These procedures should be reinforced during initial and refresher controller training, as well as regularly evaluated for compliance during Quality Control Assessments</p>		
<p>R2.7. Recommend that the Airport encourage the FAA at the local and regional levels to review arrival routes and procedures to reduce and minimize potential conflicts with departure traffic, regardless of runway configuration</p>		
<p>R3 Extend night preference of Runway 01L arrivals and 19R departures to all aircraft from 10:00 PM to 7:00 AM to reduce noncompatible land use impacts</p>	<p>The HCAA already reports operational data and this information is shared at CNC meetings. It is anticipated that HCAA will continue to produce these reports. No HCAA action is required.</p>	4.2.1
<p>R3.1 Report nighttime (10:00PM to 7:00 AM) operations and total operations monthly and annually by runway</p>	<p>Runway assignments are at the sole discretion of the ATCT and decision of the pilot in command. ESA recommends against the adoption of this measure.</p>	
<p>R3.2 Request the FAA ATCT to consider placing runway 01R/19L in an inactive status at night to reduce the un-essential use or pilot requests</p>		
<b>Airport Sponsor Authority</b>		
<p>R4 Request the FAA to revise the Letter to Airmen (LTA) to adhere to the standards identified in the Part 150 Update and approved in the FAA ROA to reduce non-compatible land use (see recommended draft LTA in Appendix 4) to include:</p>	<p>As stated above, FAA maximizes south flow to the extent practicable based on wind, weather, and air traffic conditions. Should the HCAA decide to update its 14 CFR Part 150 Study,</p>	4.2.2
<p>R4.1 Maximizing daytime South flow preferential with a goal of achieving 73%</p>	<p>ESA recommends that prior to the HCAA recommending any operational changes at TPA, the HCAA should update the current and future DNL 65 contours and evaluate any potential noise abatement measures through the 14 CFR Part 150 NCP process.</p>	
<p>R4.2 Adhere to the Preferential Order of Runway Use Program for all corporate and commercial aircraft</p>		
<p>R4.3 Extend night preference of Runway 01L arrivals and 19R departures to all aircraft from 10:00 PM to 7:00 AM</p>		
<p>R4.4 Initial turbojet departure heading assignments</p>		
<p>R 4.5 Noise abatement program propeller aircraft flight paths for Runway 01L and 1R departures</p>		
<p>R 4.6 Limit base legs for Runway 01L arrivals North of MacDill AFB to prevent overflight of residential areas</p>		
<p>R4.7 Turbojet use of distant noise abatement departure procedures</p>		
<p>R4.8 Distribute the revised LTA to the FAA Facility Directory, Airline Flight Operation Publications, Jeppesen and other widely available pilot airport references including AirNav.com and AOPAAirports.com</p>		
<p>R5 Formally request the City and County to adopt overlay zoning to limit noncompatible land use and require noise reduction construction technique for land uses permitted in noise zones</p>	<p>With the exception of a few properties on Mariner's Point, all land that would be considered incompatible is owned by the Airport or is zoned for industrial use. No additional action is required by the HCAA at this time.</p>	4.2.2
<b>Best Noise Management Practices</b>		
<p>R6 Develop a robust public Information program by leveraging the new TPA Casper Flight Tracking System</p>	<p>The HCAA staff has provided, and continues to provide, data and information related to deviations from the preferential runway use program.</p>	4.2.3
<p>R6.1 Update noise monitoring system to monitor, record, analyze and report actual flight track geometry and runway utilization to provide a basis for determining compliance with the program and responding to citizen inquiries</p>	<p>A flight tracking website has been developed and is linked from the Noise Abatement page of TPA's</p>	

JDA Recommendation	ESA Response	See Report Section
R6.2 Utilize Casper's near real time web interface to maximize automated reporting of noise information to the public	website. No additional action is required by the HCAA at this time.	
R7 Establish an Noise Abatement Committee of noise impacted community stakeholders formalized with bylaws to represent and act on community interests as the relate to the committees evaluation TPA noise abatement performance management and provide advisory recommendations to HCAA	The HCAA has a long-standing noise committee, the Community Noise Consortium, which discusses community aircraft noise concerns. There does not appear to be the need for another noise abatement committee at this time. No additional action is required by the HCAA at this time.	4.2.3
R8 Request the FAA ATCT to review and revise all TPA ATCT standard operating procedures and training materials as necessary to adhere to the noise abatement measures and compliance with the FAA ROA of the TP 2000 Part 150 Update Study	FAA has declined to make any changes to its standard operating procedures and training materials for the purposes of noise abatement.	4.2.3
<b>Future Developments in Air Traffic Operations</b>		
R9 TPA Airport and its communities must closely monitor these developments. Airport neighbors (as far as 20 miles away) should insist that the FAA maximize opportunities for full public participation in every aspect of any OAPM or airspace modernization project in Central Florida, including within the initial design phases. The public should emphasize that disregarding established noise abatement procedures or creating new noise problems is not an option in any such "optimization" effort	The FAA is responsible for developing and conducting the public involvement process related to the Florida Metroplex process, which is currently on hold. ESA recommends that the HCAA seek opportunities to provide input to the FAA's Metroplex process and share FAA's public outreach information at the CNC meetings and provide links to the Florida Metroplex website on the HCAA website.	4.2.4
Sources: Tampa International Airport Noise Management Assessment, JDA Aviation Technology Solutions, 2017; Environmental Science Associates, 2018.		

# **ATTACHMENT 1**

Federal Aviation Administration Air Traffic Organization  
Tampa International Airport (TPA) Noise Assessment



**FAA**  
**Air Traffic Organization, Eastern Service Center**

**Tampa International Airport (TPA) Noise Assessment**  
**Executive Summary**

The FAA reviewed the noise assessment and subsequent recommendations of JDA Aviation Technology Solutions (hereafter "JDA"), a private firm contracted by three Home Owners Association groups surrounding the airport property. However, many of the recommendations suggested by JDA are outside of the FAA's jurisdiction (i.e., land use, zoning, and noise abatement procedures). Recommendations under the FAA's authority were examined, and after reviewing operational reports, the FAA is not recommending any changes to current air traffic documentation or procedures at this time.

Noise abatement agreements (i.e., restricting runway use, curfews, etc.) are not federal actions; they are negotiated between the airport authority and the community. The FAA does not enter into agreements that would bind air traffic controllers to predefined procedures that do not provide operational flexibility to account for weather/wind or safety-related issues. However, when requested, the FAA does make a good faith effort to abide by these agreements and include them into a facility's standard operating practices.

Our review of TPA noise abatement procedures and air traffic data indicates that TPA Airport Traffic Control Tower (ATCT) and the TPA airport authority comply with all noise compatibility requirements for TPA. For example, the hourly Automatic Terminal Information Service (ATIS) broadcast contains local noise abatement procedures; only four percent of runway 1R arrival operations are accounted to turbojet aircraft; also the Letter to Airman (LTA) advises pilots they should expect to comply with noise abatement procedures (additionally, the pilot compliance rate at TPA was 97 and 99 percent for July and June of 2017 respectively).

Per the recommendations, the FAA did review flight procedures and operational configurations at TPA to see what, if any, changes could be made to alleviate noise on the approach and departure paths. Given the proximity of the airport to residential areas and the fixed location of the primary parallel runways, the current flight patterns already avoid the neighborhoods surrounding the airport to the greatest extent possible.

The FAA must emphasize that safety and flyability are the primary constraints for any modification to existing procedures. As always, if a formal request is made to examine procedures or review a revised noise abatement agreement, we will conduct a safety risk analysis of the proposal and an environmental review in accordance with the National Environmental Policy Act (NEPA) before considering any changes. The FAA is committed to engaging with the Hillsborough County Aviation Authority and the local communities to discuss the current noise abatement issues.

# **ATTACHMENT 2**

Federal Aviation Administration Correspondence





Peter O. Knight Airport  
Plant City Airport  
Tampa Executive Airport

January 17, 2017

Hillsborough County  
Aviation Authority  
P.O. Box 22287  
Tampa, Florida 33622  
phone/ 813-870-8700  
fax/ 813-875-6670  
TampaAirport.com

Mr. Michael Huerta  
Administrator; Federal Aviation Administration  
800 Independence Ave, SW  
Washington, DC 20591

Dear Administrator Huerta,

Tampa International Airport (TPA) is grateful for the partnership we have with the FAA's Air Traffic Control Tower leadership team at TPA. This partnership involves a history of close collaboration to promote operational safety at TPA, as well as being good neighbors to the communities that surround our airport, specifically on the issue of aircraft noise.

A key to the success of the Airport's Voluntary Noise Abatement Program is pilot compliance. Although the Aviation Authority continues to actively engage airlines and pilots directly, the Aviation Authority's Board believes the FAA can further enhance compliance to the Airport's noise program.

Our Board has requested that air traffic controllers verbally remind pilots, when they request to deviate from the Preferential Runway Use Program, that such requests are deviations to standing noise abatement procedures. We believe this would improve the effectiveness of the program. While air traffic controllers periodically verbally remind pilots of standing noise abatement procedures today, they do not do so consistently

Our request is that the FAA add language to the Letter to Airmen for TPA that would require controllers to verbally engage pilots regarding noise abatement procedures, when such pilot deviation requests are made. Per FAA Order JO 7110.65W, section 3-5-1, it appears this type of reminder by controllers to pilots is in line with approved FAA Air Traffic Control policy.

Thank you in advance for your consideration and support in making our noise program as compliant as possible.

Sincerely,

A handwritten signature in blue ink, appearing to read "Joe Lopano", with a long horizontal flourish extending to the right.

Joe Lopano  
Chief Executive Officer

=====

cc: Congressman Gus Bilirakis  
Congressman Vern Buchanan  
Congresswoman Kathy Castor  
Congressman Charlie Crist  
Congressman Dennis Ross  
Senator Bill Nelson  
Senator Marco Rubio



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Air Traffic Services  
800 Independence Avenue, S.W.  
Washington, D.C. 20591

**FEB 15 2017**

Mr. Joe Lapano  
Chief Executive Officer, Tampa International Airport  
Hillsborough County Aviation Authority  
P.O. Box 22287  
Tampa, FL 33622

Dear Mr. Lopano,

Thank you for your January 17 letter about Tampa International Airport's (TPA) Voluntary Noise Abatement Program. The Aviation Authority Board has requested air traffic controllers verbally remind pilots that requests to deviate from the Preferential Runway Use Program are deviations to standing noise abatement procedures.

The first priority of any air traffic controller is the separation of aircraft. While the air traffic control specialists attempt to actively remind pilots of the noise abatement procedures in place at TPA, it is not always feasible. However, TPA air traffic management has taken steps to consistently ensure the pilots of arriving and departing aircraft are made aware of the noise abatement procedures through the Automatic Terminal Information System which continuously broadcasts airport conditions.

The following are examples of the ATIS broadcast at TPA:

For Arrival North Operation – "TURBO JET ARRIVALS EXPECT RUNWAY 1L FOR NOISE ABATEMENT"

Departure South Operation – "AIR CARRIER-TYPE TURBOJET DEPARTURES EXPECT RUNWAY 19R FOR NOISE ABATEMENT"

We appreciate your concern, and when able, air traffic controllers will continue to verbally remind pilots of the standing noise abatement procedures. The FAA is aware of the sensitivities surrounding aircraft noise, and actively attempts to mitigate noise.

Thank you for the opportunity to respond; we truly appreciate the outstanding partnership and working relationship between the FAA and the Tampa International Airport TPA.

Sincerely,

A handwritten signature in cursive script that reads "Glen Martin". The signature is written in black ink and is positioned above the printed name and title.

Glen Martin  
Vice President, Air Traffic Services

# **ATTACHMENT 3**

## Acronyms List

## ACRONYMS LIST

<b>AEDT</b>	Aviation Environmental Design Tool
<b>ANCA</b>	Airport Noise and Capacity Act of 1990
<b>ARP</b>	FAA Office of Airports
<b>ATCT</b>	Airport Traffic Control Tower
<b>ATIS</b>	Automatic Terminal Information Service
<b>ATO</b>	FAA Air Traffic Organization
<b>CFR</b>	Code of Federal Regulations
<b>CNC</b>	Community Noise Consortium
<b>dB</b>	Decibels
<b>DNL</b>	Day-Night Average Sound Level
<b>ESA</b>	Environmental Science Associates
<b>FAA</b>	Federal Aviation Administration
<b>FBO</b>	Fixed Based Operator
<b>FMRA</b>	FAA Modernization and Reform Act of 2012
<b>HCAA</b>	Hillsborough County Aviation Authority
<b>INM</b>	Integrated Noise Model
<b>LTA</b>	Letter to Airmen
<b>NCP</b>	Noise Compatibility Program
<b>NEM</b>	Noise Exposure Map
<b>ROA</b>	Record of Approval
<b>TPA</b>	Tampa International Airport