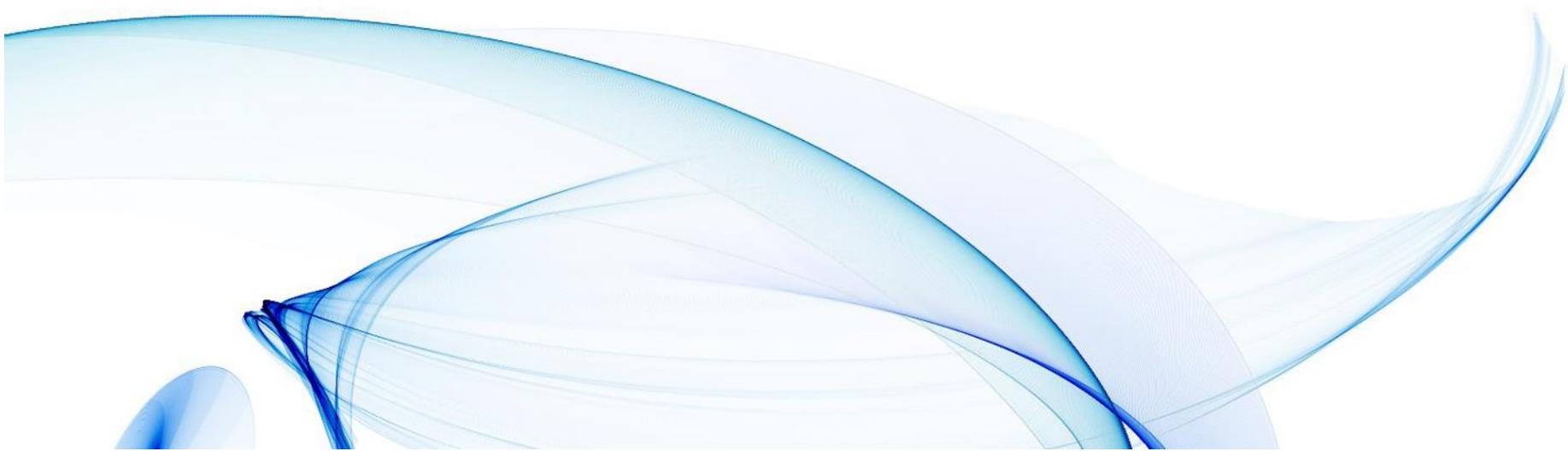




Aviation Technology Solutions



**Tampa
International
Airport**



TPA Noise Abatement Procedures

Procedural Measures

- Maximizing daytime south flow.
- Adopting preferential order of runway use using air traffic control tower's (Federal Aviation Administration) Letter to Airmen (e.g., Arriving turbojets landing to the north expect Runway 1L).
- Extending nighttime preference for Runway 1L arrivals and Runway 19R departures to all aircraft.
- Monitoring initial turbojet departure headings.
- Developing noise abatement flight paths for propeller aircraft for Runway 1L and 1R departures.
- Limiting base legs for Runway 1L arrivals north of Mac Dill Air Force Base.*
- Recommending turbojets use noise abatement departure procedures.
- Constructing a shared engine run-up enclosure for turbojet maintenance run-ups above idle power (this facility was opened in October, 2003).

Source: Copied from TPA Website

* TPA ATCT SOP language states "When TPA is on RWY 1, Final shall ensure that turbojet right base legs remain south of MCF RWY 4 and shall utilize RWY 1L for turbojet arrivals (except for operational needs, volume, Lifeguard aircraft, weather).

TPA NAP and FAA Part 150 ROA

1. Maximizing daytime south flow.

1. Maximize Daytime South Flow Preferential.

This measure recommends maximizing the daytime (6:00 a.m. to 12:00 midnight) south flow preferential based on improved language in the existing ATCT Letter to Airmen No. 98-05 to better define assignment practices. (pages 7-2, 7-5, 7-6, 7-23, 7-24 and 9-1; Tables 7.1, 7.2 and 9.2; and Appendix D).

FAA Action: Approved.



TPA NAP and FAA Part 150 Text

1. Maximizing daytime south flow.

As summarized in Table 7.2, the population within the 2000 south-flow noise contours is substantially less than either north flow or the actual annual runway use. Increasing south flow will reduce overall exposure.

Based on this analysis, it was initially recommended that the study considers the effect of increasing south flow to 80 percent of the time be prepared. Subsequent FAA input indicated that this assumed compliance was too high, and that a **73 percent use was a more reasonable assumption, which the NCP should include as a goal.** Section 7.4.1 presents additional analysis.

The **ATCT suggested that the NCP should call for them to make all reasonable efforts to implement the preferential runway program consistent with operating conditions and reasonable attention to delay. To assist in achieving this goal, the ATCT has already added improved wording to the existing Letter to Airmen, as discussed in Section 7.5.**

Table 7.2

Population Within Contour Intervals for Differing Runway Use Assumptions

Contour Interval (DNL)	South Flow	North Flow	2000 Annualized
65 - 70 dB	148	1,954	191
70 - 75 dB	0	96	0
Over 75 dB	0	0	0
Total (over 65 dB)	148	2,050	191

Source: HNTB analysis.

TPA NAP and FAA Part 150 ROA

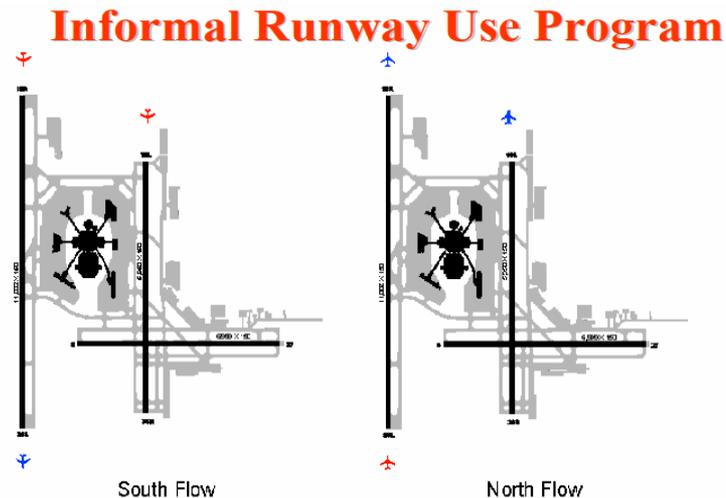
2. Adopting preferential order of runway use using air traffic control tower's (Federal Aviation Administration) Letter to Airmen (e.g., Arriving turbojets landing to the north expect Runway 1L).

2. Preferential Order of Runway Use Adoption.

This measure recommends adopting the runway use in order of priority in the existing ATCT Letter to Airmen consistent with operating conditions and reasonable attention to delay to reduce non-compatible land use impacts. (pages 7-2 and 9-1; Table 9.2; and Appendix D).

FAA Action: Approved.

*“The updated Part 150 NCP should include a recommendation to officially **adopt the preferential runway program on a formal basis**, and to recognize the importance of ongoing implementation and monitoring.”*
p. 7-24



Part 150 Justified Preferential Runway Use Program by # of Dwelling Units Impacted

Table 6.1

Non-Compatible Land Use within Updated 2000 and 2005 Noise Exposure Maps, with Existing and Revised Noise Compatibility Programs

Case	Estimated Dwelling Units within DNL 65-70 dB Contour Interval	Estimated Residents within DNL 65-70 dB Contour Interval
2000 with Existing Noise Compatibility Program	78	191
2005 with Existing Noise Compatibility Program	10	24
2000 with Revised Noise Compatibility Program	70	172
2005 with Revised Noise Compatibility Program	10	25

Source: HMMH, Inc.



Observations

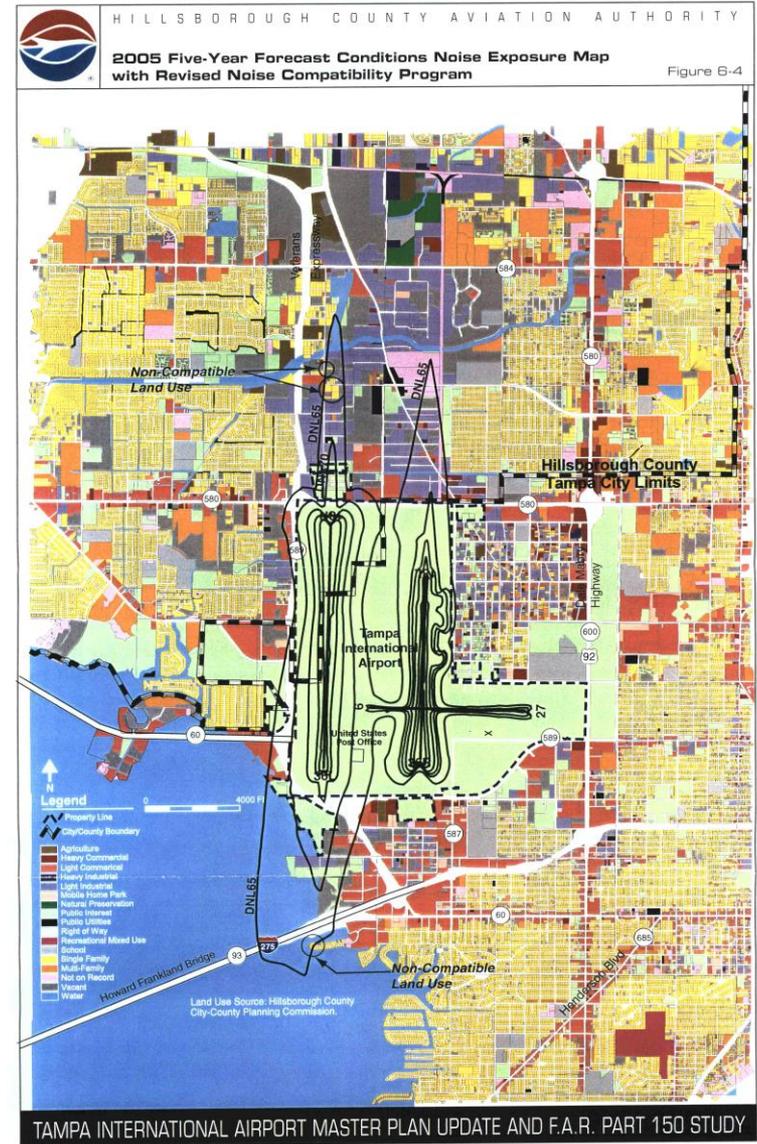
- In 1959, TPA created the preferential runway use program
Informal Runway Use Program
“Mutually cooperative agreement since 1959 between the FAA and the Aviation Authority written in the form of a Letter to Airmen Notice that was developed in the public interest to reduce turbojet noise within communities surrounding the airport.”
- This pre-ANCA action creates unique protection for TPA
- Last two Airport Master Plan airfield capacity and delay analyses assume compliance with the preferential runway use program
- TPA airfield infrastructure has adequate capacity to accommodate forecast growth at full compliance with Noise Abatement Procedures
- Master Plan provides for planning for additional runway also assuming continued full compliance of Noise Abatement Procedures and the preferential runway use program
- TPA has 11 strong FAA approved noise abatement elements in the NCP



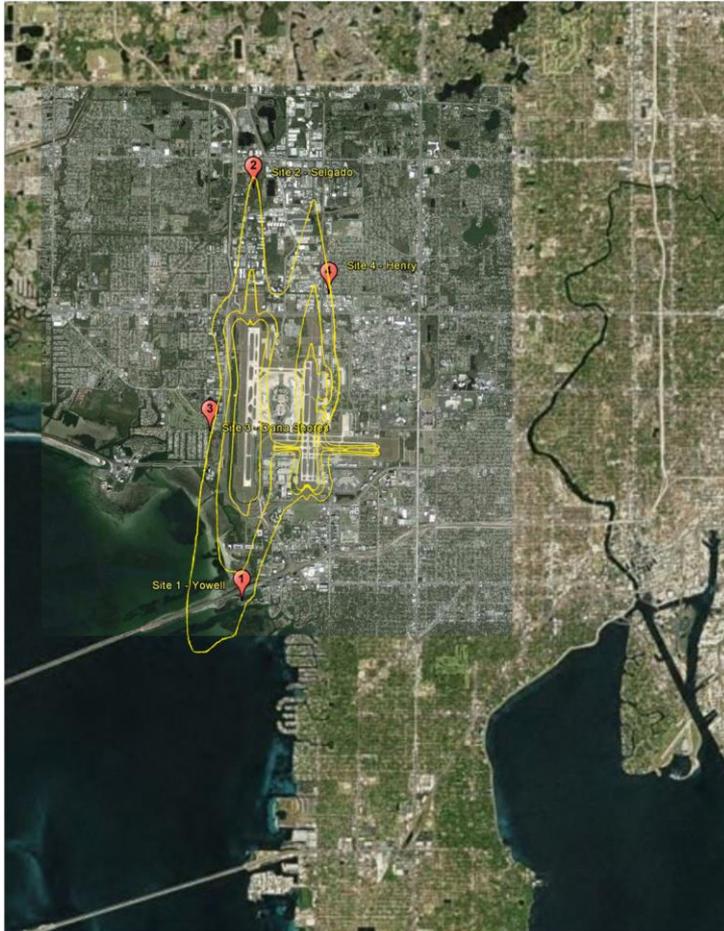
Part 150 Modeled Runway Use Annual Average Day w/Revised NCP

Aircraft Category	Runway	Departures		Arrivals	
		Day	Night	Day	Night
Air Carrier Jet (Includes Military DC9s)	09	0	0	0	0
	18L	1	0	28	28
	18R	72	75	45	30
	27	0	0	1	1
	36L	15	14	26	41
	36R	12	11	0	0
Corporate Jet (Includes Military GIBs)	09	0	0	0	0
	18L	1	0	64	35
	18R	71	75	9	23
	27	1	0	1	1
	36L	2	0	26	41
	36R	25	25	0	0
Turboprop Aircraft	09	4	1	1	1
	18L	22	0	25	42
	18R	47	65	45	23
	27	1	0	3	3
	36L	19	28	17	31
	36R	7	6	9	0
Piston Aircraft	09	54	3	3	3
	18L	25	0	42	42
	18R	4	63	0	0
	27	3	3	35	3
	36L	0	0	1	52
	36R	14	31	19	0

Source: TPA FAR PART 150 F-1 pg 269 of pdf

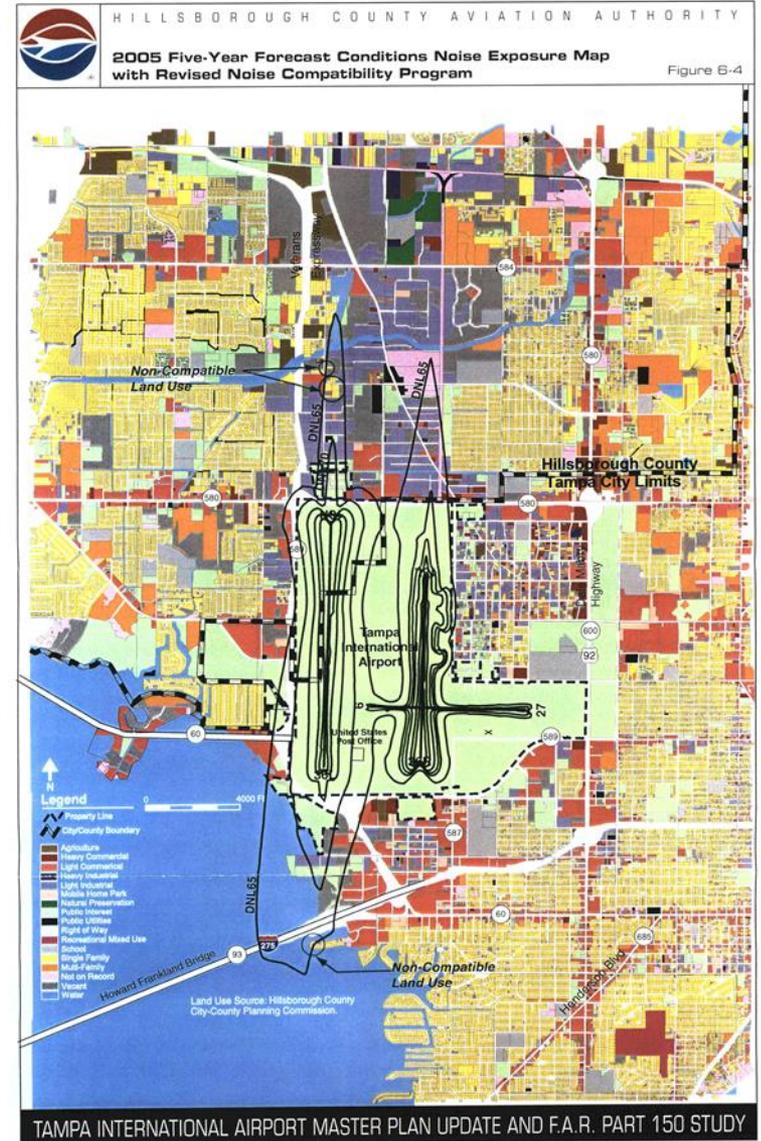


TPA – 4 Noise Monitors



Data Sources:

FAA Part 150 Noise Exposure Map
 TIA Noise Monitoring Station Location Map
 Bing Maps



Part 150 South Flow/TPA Actual South Flow

“Wind data indicates that this criterion would allow south flow at least 80 percent of the time.”

Part 150 p. 7-6

Month	South Flow	
	Part 150	Actual
Mar-17	73%	37%
Feb-17	73%	43%
Jan-17	73%	54%
Dec-16	73%	33%
Nov-16	73%	17%
Oct-16	73%	2%

North flow impacts almost 14 times more dwelling units (2,050) than South flow (148)

Table 7.2

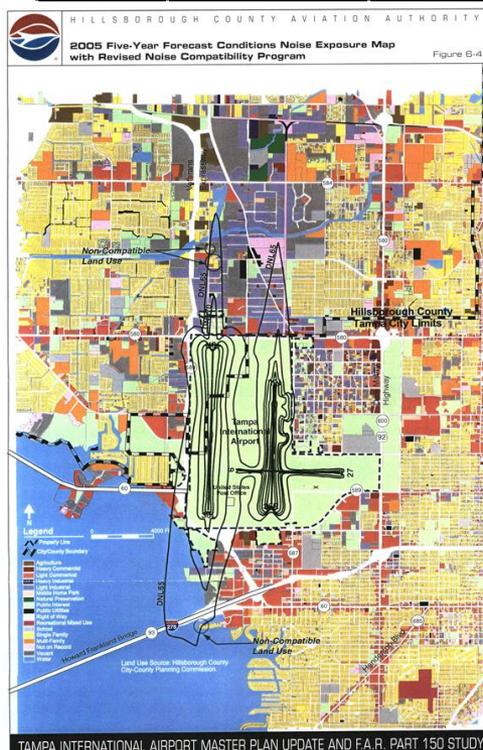
Population Within Contour Intervals for Differing Runway Use Assumptions

Contour Interval (DNL)	South Flow	North Flow	2000 Annualized
65 - 70 dB	148	1,954	191
70 - 75 dB	0	96	0
Over 75 dB	0	0	0
Total (over 65 dB)	148	2,050	191

Source: HNTB analysis.

TPA Actual Arrivals 1R Are Significantly Higher Than the Part 150 Modeled Annual Average Day Assumed

Year	Nighttime Jet Arrivals 1R	Part 150 Nighttime Jet Arrivals 1R	Daytime Jet Arrivals 1R	Part 150 Daytime Jet Arrivals 1R	Actual Total Jet Arrivals 1R
2010	94	0	766	0	860
2011	252	0	2559	0	2811
2012	98	0	1616	0	1714
2013	613	0	1668	0	2281
2014	148	0	2187	0	2335
2015	339	0	6525	0	6864
2016	303	0	5369	0	5672
2017	47	0	928	0	975



Aircraft Category	Runway	Departures		Arrivals	
		Day	Night	Day	Night
Air Carrier Jet (Includes Military DC9s)	09	0	0	0	0
	18L	1	0	28	28
	18R	72	75	45	30
	27	0	0	1	1
	36L	15	14	26	41
	36R	12	11	0	0
Corporate Jet (Includes Military GIBs)	09	0	0	0	0
	18L	1	0	64	35
	18R	71	75	9	23
	27	1	0	1	1
	36L	2	0	26	41
	36R	25	25	0	0
Turboprop Aircraft	09	4	1	1	1
	18L	22	0	25	42
	18R	47	65	45	23
	27	1	0	3	3
	36L	19	28	17	31
	36R	7	6	9	0
Piston Aircraft	09	54	3	3	3
	18L	25	0	42	42
	18R	4	63	0	0
	27	3	3	35	3
	36L	0	0	1	52
	36R	14	31	19	0



Source: TPA FAR PART 150F-1 pg 269 of pdf

Part 150 Departures 19L/TPA Actual Departures 19L

Year	Nighttime Jet Departures 19L	Part 150 Nighttime Jet Departures 19L	Daytime Jet Departures 19L	Part 150 Daytime Jet Departures 19L	Actual Total Jet Departures 19L
2010	97	0	1453	730	1550
2011	162	0	3491	730	3653
2012	169	0	3742	730	3911
2013	350	0	5687	730	6037
2014	219	0	3900	730	4119
2015	375	0	4400	730	4775
2016	265	0	4725	730	4990
2017	77	0	1405	730	1482



Aircraft Category	Runway	Departures		Arrivals	
		Day	Night	Day	Night
Air Carrier Jet (Includes Military DC9s)	09	0	0	0	0
	18L	1	0	28	28
	18R	72	75	45	30
	27	0	0	1	1
	36L	15	14	26	41
	36R	12	11	0	0
Corporate Jet (Includes Military GIBs)	09	0	0	0	0
	18L	1	0	64	35
	18R	71	75	9	23
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Turboprop Aircraft	09	4	1	1	1
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Piston Aircraft	09	54	3	3	3
	18L	25	0	42	42
	18R	4	63	0	0
	27	3	3	35	3
	36L	0	0	1	52
	36R	14	31	19	0

Source: TPA FAR PART 150 F-1 pg 269 of pdf

Summary Observations

1. Recently, North flow has been predominant
 - Impacts almost 14 times more residents (2,050 vs. 148)
 - South/North flow performance shown only for jet departures
 - No reporting of monthly and annual wind conditions
 - No reporting of factors forcing North flow
 - No reporting of south flow to measure performance against the FAA recommended goal of 73% in the Part 150



Summary Observations

2. 1R jet arrivals and 19L jet departures exceed contour modeled assumptions
 - FAA ROA and Part 150 recommend adopting formal preferential runway use program but program remains informal
 - Use of runway 01R for jet arrivals and runway 19L for jet departures far exceed use modeled for the current noise contours.
 - No reporting of nighttime operations total and by runway
 - No reporting of corporate departures on runway 19L
 - LTA and Tower SOPs depart from original language as defined in Part 150
3. TPA nighttime window (Midnight to 6:00 AM) is smaller than Part 150 standard of 10:00 PM to 7:00 AM



Summary Observations

4. Slow operational periods provide opportunities to reduce noise impacts
 - All runways are not required for capacity at night
 - Environmentally responsible
5. New flight tracking software has capability to increase noise information to the public
 - Provide access to real time flight track and noise monitor data reporting (maximize transparency)
 - Increasing access to actual noise and operational data builds trust
 - May require additional noise monitors and reporting of noise levels

