

December 31, 2015

Hillsborough County
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Dear CNC Member,

Our next CNC meeting is fast approaching and will be held at 5:30 p.m. on Thursday, January 14, 2016 in the Aviation Authority Boardroom on Level 3 at Tampa International Airport. We hope you will be able to join us. As a reminder, please bring your parking ticket to the meeting for validation.

As I shared in my last update on November 23, 2015, the Hillsborough County Aviation Authority hired a third party consultant to complete a study of current noise level contours off the south end of Runway 1R/19L, our noise sensitive runway, based on the actual operational changes as a result of the Taxiway J Bridge project. Ted Baldwin, Senior Vice President of HMMH, will be in attendance to discuss his report and answer questions. Mr. Baldwin is a graduate of Cornell and Harvard Universities and is recognized as a leading figure in airport environmental analysis. We have included a copy of his report with this letter.

I am also pleased to share that Dennis Roberts, Regional Administrator for the Federal Aviation Administration (FAA), Southern Region, will also be joining us. Mr. Roberts is the principal executive representative for the FAA Administrator and the Agency for the states of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, the territories of Puerto Rico and the Virgin Islands along with the FAA's Air Traffic Organization's Eastern Service Area. Mr. Roberts will discuss the role and responsibilities of the FAA with respect to aircraft operations at Tampa International Airport and answer questions from the community.

An agenda for our meeting on Thursday, January 14, 2016 from 5:30 p.m. to 6:30 p.m. is below. We look forward to seeing you then.

- Introductions (5 Minutes)
- Fourth Quarter Noise Review (5 minutes)
- Runway 1R/19L Noise Analysis Results – Ted Baldwin (10 minutes)
- FAA Presentation – Dennis Roberts (10 minutes)
- Open Discussion (30 minutes)

Sincerely,



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TECHNICAL MEMORANDUM

To: Matthew Serynek, RS&H
From: Ted Baldwin, Senior Vice President
Date: December 29, 2015
Subject: Tampa International Airport Taxiway J Bridge Closure Aviation Noise Analysis
Reference: HMMH Project Number 308010.001

1. BACKGROUND

In the fall of 2013, the Hillsborough County Aviation Authority (“Authority”) assessed the potential environmental impacts of the Taxiway J Bridge Reconstruction project at Tampa International Airport (TIA), as documented in an FAA “Categorical Exclusion Form.” The Authority’s environmental analysis of the project was in accordance with the National Environmental Policy Act (NEPA). The Categorical Exclusion document, in part, described that the project would not likely have a significant impact on noise levels in noise sensitive areas. On November 20, 2013, the Authority submitted the Categorical Exclusion document to the Federal Aviation Administration (FAA) Orlando Airports District Office (ADO) for review and approval. On November 21, 2013, the FAA Orlando ADO Categorically Excluded the Authority’s Taxiway J Bridge Reconstruction project.

On February 11, 2015, the Authority shut the Taxiway J Bridge for demolition and reconstruction. The project is expected to be completed in September 2016.

While the bridge is out of commission, it became necessary for the Federal Aviation Administration (FAA) Airport Traffic Control Tower (ATCT) to assign some north-flow jet aircraft arrivals to the east parallel runway (Runway 01R), in a manner that is contrary to the airport’s FAA-approved “informal runway use program,” which calls for north-flow jet arrivals to be conducted on Runway 01L (the west parallel) unless there is an operational necessity to use Runway 01R. The objective of this program is to maximize arrivals over Tampa Bay south of the west parallel and minimize arrivals over residential areas south of the east parallel.

Until mid-October, TIA largely operated in south flow (with preference for jet departures on Runway 19R to the south and arrivals on Runways 19R and 19L from the north). However, since mid-October, seasonal weather conditions have resulted in more north-flow operations. Based on data obtained from TIA’s EnvironmentalVue Portal (the interface to the TIA noise monitoring system), the ATCT has assigned a larger share of jet arrivals to Runway 01R during that period. The Authority has received public and media comments and inquiries about those operations and the associated noise exposure in residential communities south of TIA.

2. SCOPE OF ANALYSIS

The purpose of the aviation noise analysis is to determine if the temporary closure of Taxiway J Bridge that led to changes in airport operations caused a significant increase in noise exposure in terms of the Day-Night Average Sound Level (DNL)¹, as required by FAA.


FAA Order 1050.1F (effective date 7/16/2015) defines FAA policy and procedures for compliance with the NEPA. The provisions of the Order apply to actions directly undertaken by the FAA and to actions undertaken by a non-federal entity (e.g., the Authority) where the FAA has authority to condition a permit, license, or other approval. Exhibit 4-1 of FAA Order 1050.1F provides the FAA’s threshold for identifying a significant increase in noise exposure:

¹ Day-Night Average Sound Level (DNL) is the 24-hour average sound level, in decibels, for the period from midnight to midnight, obtained after the addition of ten decibels to sound levels for the periods between midnight and 7 a.m., and between 10 p.m. and midnight, local time. The symbol for DNL is Ldn (See 14 CFR § 150.7).

The action would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe. For example, an increase from DNL 65.5 dB to 67 dB is considered a significant impact, as is an increase from DNL 63.5 dB to 65 dB. The determination of significance must be obtained through the use of noise contours and/or grid point analysis along with local land use information and general guidance contained in Appendix A of 14 CFR part 150.

Order 1050.1F requires airports to use the "Aviation Environmental Design Tool" (AEDT) to conduct noise analyses "[f]or proposed airport development and other actions in the immediate vicinity of an airport."²

When the noise analysis was initiated in mid-December 2015, Taxiway J had been closed for approximately ten months. With Authority staff assistance, the TIA EnvironmentalVue Portal was used to obtain data on operations at the airport for February 11, 2015 – December 10, 2015. The data included a listing of all operations recorded by the system over that 10-month period, including:

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- Operation date and time
 - Airline (for commercial operations)
 - Runway used
 - Type of operation (arrival or departure)
 - Aircraft type
 - Flight destination (for departures)
 - Flight origin (for arrivals)

The operations were entered into the AEDT to prepare DNL noise contours for the entire 10-month period, including the following assumptions:

Flight tracks: All operations were modeled on straight-in arrival and straight-out departure flight paths on all runway ends. Based on the detailed noise modeling flight tracks developed for the most recent TIA noise contours³ and samples of more current tracks obtained from the Authority staff and website, this assumption is valid within the DNL 65 dB contour for operations on and off the south end of Runway 01R-19L; i.e., for the Runway 01R arrivals of particular interest and for Runway 19L departures which overfly the same area south of that runway end. To the extent there is some dispersion of actual operations, the assumption of straight-in and straight-out tracks produces a conservatively high estimate of noise exposure, since concentrating the operations on a single ground track will tend to extend the noise contours to the south.

Helicopter operations: The noise analysis disregarded helicopter operations, because they are too limited, dispersed, and relatively quiet compared to fixed-wing aircraft operations, and rarely overfly the area of concern (for this noise analysis, the residential areas south of TIA) and would not have a significant effect on the DNL contours.

Treatment of "unknown" or "incomplete" operations: The 10-month EnvironmentalVue dataset included a total of 161,661 operations. The data for 10,853 operations (6.7% of the total) were incomplete (i.e. either the aircraft type or the runway used was not identified). Most of these operations – 9,284 (5.7% of the overall total) – were for flights with unknown aircraft types. The runway was not identified for the remaining 1,569 operations (1.0% of the total). As a result, 150,808 operations were modeled, 93.3% of the overall total. Even if these aircraft were distributed among aircraft types and runway ends on a pro-rata basis relative to the fully

² Appendix B., "Federal Aviation Administration Requirements for Assessing Impacts Related to Noise and Noise-Compatible Land Use and Section 4(f) of the Department of Transportation Act (49 U.S.C. § 303)," Section B-1.4., "Environmental Consequences."

³ "FAR Part 150 Update Study, Revised Noise Exposure Maps and Noise Compatibility Program," prepared for Hillsborough County Aviation Authority, prepared by: HNTB Corporation, in association with Harris Miller Miller & Hanson Inc. and WilsonMiller. (Note: Harris Miller Miller & Hanson Inc. is now doing business as HMMH.)

identified operations, the effect on the contours would be to increase them by only 0.3 dB; an insignificant amount. Moreover, based on input from Authority staff and HMMH experience with airport monitoring systems, it is very likely that a high percentage of these incomplete operations were light propeller-driven aircraft operating under visual flight rules (and therefore without filed flight plans providing complete flight identification data). These types have little effect on overall noise exposure at TIA.

3. RESULTS

Figure 1 presents the resulting DNL noise contours for the first ten months of the Taxiway J bridge closure period. As the figure shows, the DNL 65 dB contour – the outer limit of the area within which the FAA considers the potential for a significant increase in exposure – ends at West Spruce Street, immediately south of the TIA airfield. The closest potentially sensitive land uses within the area of the figure (which include only residential and educational, based on Hillsborough County land use data) are shown on the map; they are at least 1,500' from the DNL 65 dB contour.⁴

Figure 2 presents the same noise contours, compared to the year 2005 DNL 65 dB forecast-case contour from the previously cited 2000 Part 150 Update Study.⁵ Figure 2 shows that the DNL 65 dB contour for the first ten months of the Taxiway J bridge closure period is generally slightly smaller than that for the 2005 contour, with the exception that the construction-period contour has a narrow vertical “lobe” extending south along the extended runway centerline. This lobe reflects the effect of the added Runway 01R arrival operations of the last 10 months. However, as noted previously, that contour lobe ends at West Spruce Street, immediately south of the TIA airfield, and does not encompass any non-compatible (i.e., noise-sensitive) land uses.



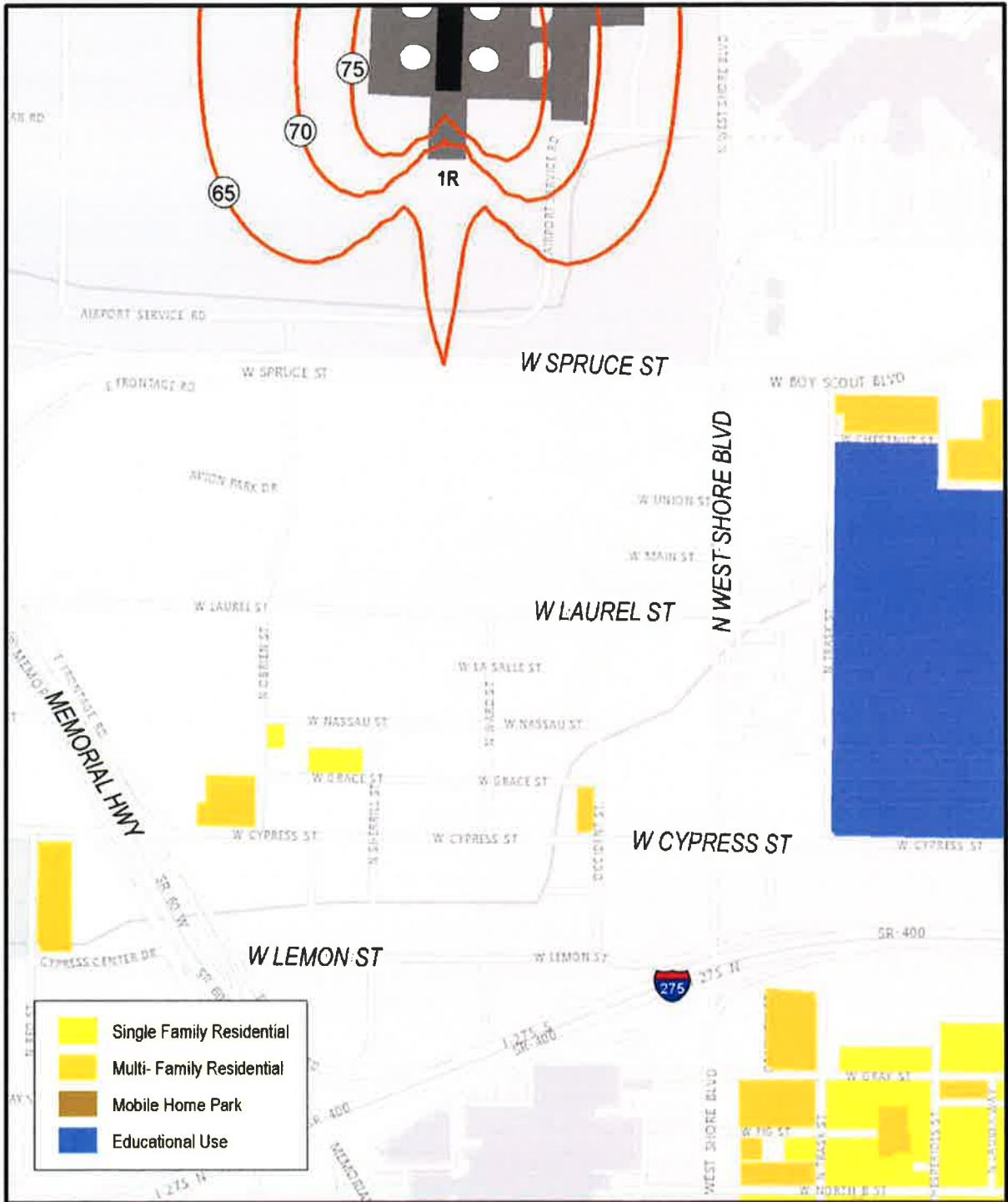
4. CONCLUSION

The primary conclusion to be drawn from this noise analysis is that the added arrival operations on Runway 01R during the first 10 months of the anticipated 19-month Taxiway J closure period did not cause a change in noise exposure over any noise sensitive area that exceeds the FAA's threshold for identifying a significant increase.

Based on this aviation noise analysis, the ATCT's change in runway use at the Airport during the first 10 months of reconstructing the Taxiway J Bridge has not resulted in a significant impact on noise levels in noise sensitive areas (i.e., no significant noise increases within the DNL 65 dBA noise contour or newly included noise sensitive land uses within the DNL 65 dBA noise contour). Therefore, the Authority's Categorical Exclusion document, approved by the FAA Orlando ADO on November 21, 2013, accurately described the potential aviation noise impacts of the Taxiway J Bridge Reconstruction project.

⁴ Appendix A, Table 1, of 14 CFR Part 150, “Airport Noise Compatibility Planning,” presents FAA land use compatibility guidelines as a function of DNL values. The Authority has adopted those guidelines for land use compatibility planning purposes in the environs of TIA, most recently in the previously cited FAR Part 150 Update Study, completed in 2000.

⁵ This contour represents the most recently completed and FAA-accepted contour representing normal operating conditions.



Map Data Source: Hillsborough County City-County "The Planning Commission", Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Operations Data Source: Tampa International Airport EnvironmentalVue Portal

Contours developed using the FAA Aviation Environmental Design Tool (AEDT) version 2b

Tampa International Airport Day-Night Average Sound Level (DNL) Contours for All Operations from February 11 - December 10, 2015

Assuming all Operations at the Airport Follow Straight-In Arrival Tracks and Straight-Out Departure Tracks

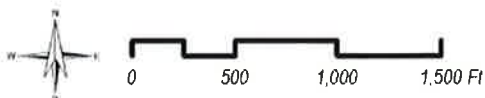
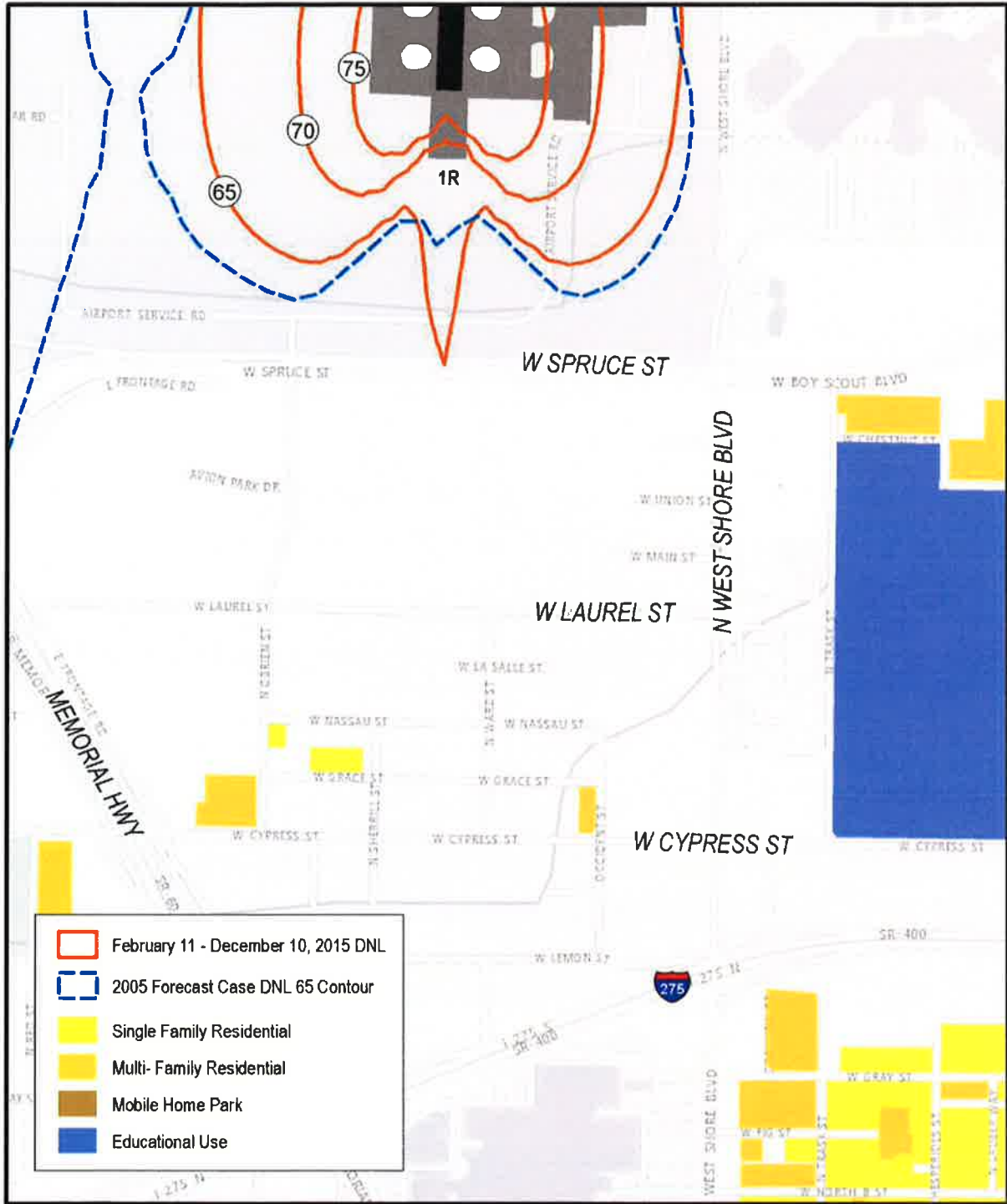


Figure 1.



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Operations Data Source: Tampa International Airport EnvironmentalVue Portal

Contours developed using the FAA Aviation Environmental Design Tool (AEDT) version 2b

Tampa International Airport Day-Night Average Sound Level (DNL) Contours for All Operations from February 11 - December 10, 2015

Assuming all Operations at the Airport Follow Straight-In Arrival Tracks and Straight-Out Departure Tracks

Compared to 2005 Forecast Case DNL 65 Contour from the 2000 Noise Exposure Map Update

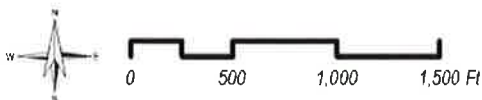


Figure 2.