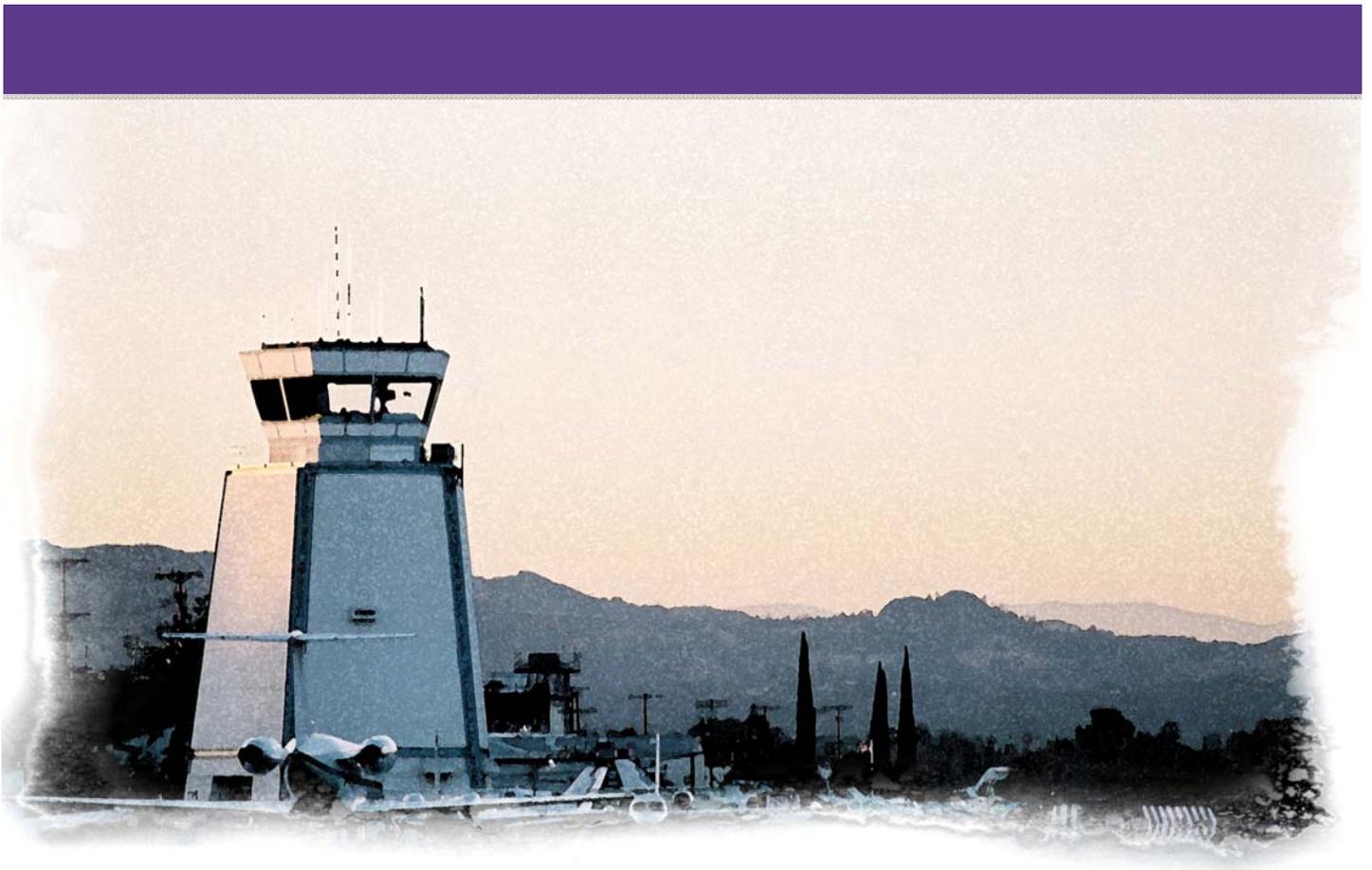


December 2011

Van Nuys Airport Updated 14 C.F.R. Part 150 Noise Exposure Maps



**Van Nuys Airport
Updated
14 C.F.R. Part 150
Noise Exposure Maps**

December 2011

Los Angeles World Airports
7301 World Way West
Los Angeles, CA 90045

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SPONSOR'S CERTIFICATION

This is to certify the following:

- (1) Pursuant to 14 C.F.R. Part 150, Subpart B, Section 150.21(a), the "2011 Existing Condition Noise Exposure Map" (Figure 7 on page 55) identifies each noncompatible land use in each area depicted on the map, as of the date of submission, and the "2016 Five-Year Forecast Condition Noise Exposure Map" (Figure 8 on page 56) accurately represents forecast conditions for the fifth calendar year beginning after the date of submission (based on reasonable assumptions concerning the future type and frequency of aircraft operations, number of nighttime operations, flight patterns, airport layout including any planned airport development, planned land use changes, and demographic changes in the surrounding areas); and the nature and extent to which those forecast operations will affect the compatibility and land uses depicted on the map.
- (2) Pursuant to 14 C.F.R. Part 150, Subpart B, Section 150.21(b), all interested parties have been afforded adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations.
- (3) Pursuant to 14 C.F.R. Part 150, Subpart B, Section 150.21(e), the revised Noise Exposure Maps and associated documentation for Van Nuys Airport submitted in this volume to the Federal Aviation Administration under 14 C.F.R. Part 150, Subpart B, Section 150.21, are as true and complete.

By: _____

Title: _____

Date: _____

Michael Feldman
DEPUTY EXECUTIVE DIRECTOR
DECEMBER 13, 2011

Airport Name: *Van Nuys Airport*

Airport Owner/Operator: Los Angeles World Airports

Address: 7301 World Way West, Los Angeles, CA 90045

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1 INTRODUCTION

The federal “Airport Safety and Noise Abatement Act of 1979”¹ (“ASNA”), as amended, defines procedures under which the federal government, through the Federal Aviation Administration (FAA), will “provide assistance to airport operators to prepare and carry out noise compatibility programs.”² The FAA assistance includes both regulatory guidance and financial support.

FAA has implemented the ASNA noise-related regulatory requirements in 14 C.F.R. (Code of Federal Regulations) Part 150, “Airport Noise Compatibility Planning,” which defines standards for airport operators to use in documenting noise exposure in the airport environs and establishing programs to minimize noise-related land use incompatibilities. FAA provides funding support under the federal “Airport Improvement Program” (AIP).

A formal submission to the FAA under Part 150 includes two principal elements: (1) the Noise Exposure Maps (NEMs) and (2) the Noise Compatibility Program (NCP). While involvement is strictly voluntary, over 270 airports participated in the program. FAA has provided AIP grants for over \$95 million for Part 150 studies and for over \$5 billion for NCP implementation.

In August 2003, Los Angeles World Airports (LAWA), the operator of Van Nuys Airport (VNY), submitted Part 150 NEMs for calendar years 2001 and 2006, a proposed NCP, and associated documentation for the airport to the FAA.³ In 2008, LAWA certified that the NEMs were representative of 2008 and 2013 conditions. FAA found the NEMs in compliance on April 4, 2009 and executed a Record of Approval (ROA) for the proposed NCP actions effective October 16, 2009.

Appendix A presents a copy of the FAA letter accepting the NEMs, and related FAA and LAWA correspondence related to certification of the NEMs as representative of current and five-year forecast conditions at the time. Appendix B presents copies of the FAA ROA for the NCP, the FAA cover letter, and the related Federal Register Notice. The second paragraph of the ROA cover letter states the FAA “has concerns about the length of time since the NEMs were developed and the length of time since the general public was involved in the process” and concludes “we believe it would be appropriate to review and revise your NEMs under 14 C.F.R. 150.21 due to their age.”

In response to the FAA’s concerns regarding the age of the NEMs and its recommendation that it would be appropriate to review and revise them, this volume presents updated NEMs and associated documentation for Van Nuys Airport, for calendar years 2011 and 2016.

The balance of this chapter provides further introductory information. Section 1.1 discusses the VNY physical, operational, and historical setting. Section 1.2 presents an overview of prior and ongoing LAWA noise compatibility efforts at VNY. Section 1.3 provides a further introduction to Part 150. Section 1.4 provides a completed copy of the FAA NEMs review checklist.

¹ P.L. 96-193, 96th Congress, HR 2440, February 5, 1980, effective February 18, 1980.

² Ibid., Preamble.

³ “Van Nuys Airport Part 150 Study, Noise Compatibility Program Report with Noise Exposure Maps (NEM) and Noise Compatibility Program (NCP) Mitigation Measures,” prepared by Environmental Management Division, City of Los Angeles, Los Angeles World Airports, August, 2003.

1.1 VNY Physical, Operational, and Historical Setting

1.1.1 VNY Physical Setting

VNY is a 740-acre general aviation facility in the west-central portion of the City of Los Angeles, approximately 25 miles northwest of downtown Los Angeles in the center of the San Fernando Valley. Figure 1 depicts the VNY regional location.

The area surrounding VNY is largely built out – developed with a combination of residential, commercial, industrial, and public uses, with single-family residential being the predominant use.

Figure 2 depicts the generalized land uses in the immediate airport environs.

1.1.2 VNY Operational Setting

VNY is one of three airports operated by LAWA, including Los Angeles International Airport (LAX) and Ontario International Airport (ONT). LAWA operates under the direction of a policy-making Board of Airport Commissioners appointed by the Mayor of Los Angeles.

Major airport operational facilities include two runways – an 8,001-foot primary runway (Runway 16R-34L) and a 4,011-foot secondary runway (Runway 16L-34R).

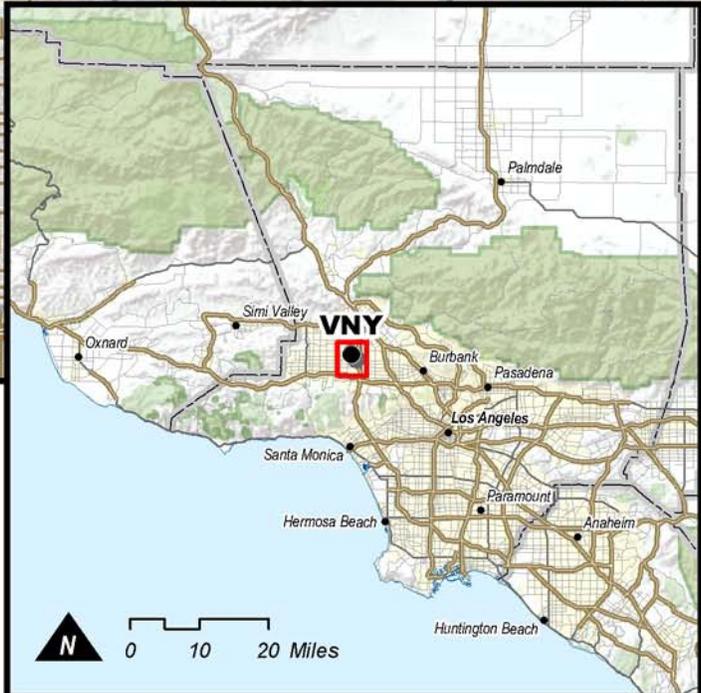
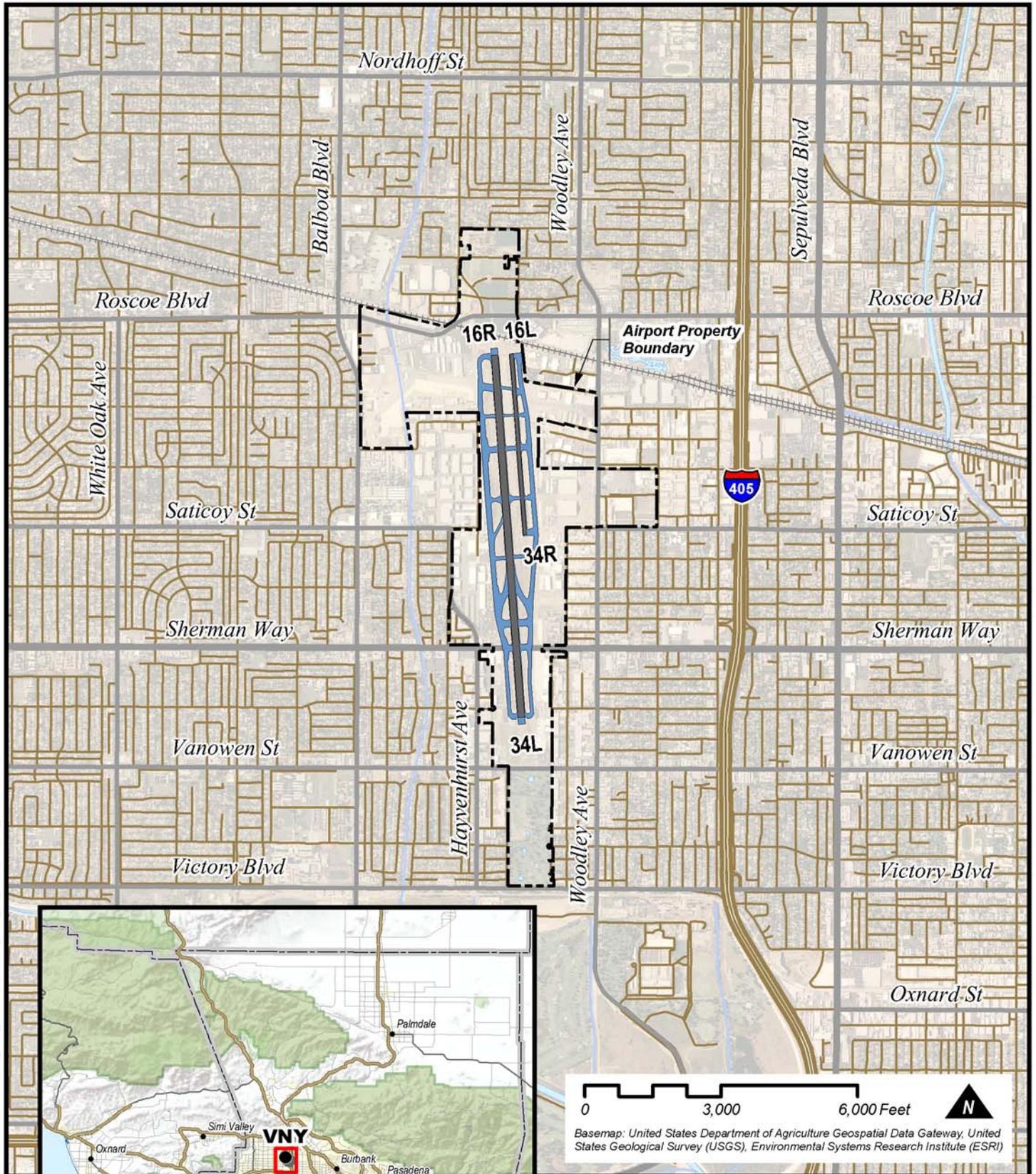
VNY plays a crucial role in the Southern California airport system, serving a variety of private, corporate, and government aviation needs. By providing a place for general aviation, VNY enhances safety and efficiency at the region's commercial airports. The airport also provides a base and maintenance facilities for regional fire, police, air ambulance, search and rescue, and news media aircraft. As part of the regional approach to meeting passenger demand, VNY serves a vital purpose in reducing congestion and flight delays at Los Angeles International and other nearby airports.

LAWA estimates that VNY contributes more than \$1.3 billion each year to the Southern California economy, by creating jobs, supporting businesses, and providing critical general aviation and emergency services. Business travelers and tourists using private, corporate, and charter aircraft benefit from the airport's proximity to city business, recreation, and entertainment centers.

More than 100 businesses are located on the airport property, including five major fixed-base operators (FBOs) that provide aircraft storage and parking, aviation fuel, aircraft sales, flight instruction, aircraft charter and aircraft maintenance. Some of the FBOs also serve as major leaseholders of airport property, subletting land and buildings to other airport tenants. VNY also is home to numerous companies that provide aviation support activities such as aircraft repairs, avionics, interior work and other specialized functions.

From the mid-1960s until the late-2000s, LAWA records indicate annual operations ranged from just below 500,000 to just above 600,000. In many of those years, VNY was considered the busiest general aviation airport in the world. Due to the recent economic decline, annual operations have fallen more in the range of 400,000; however, even at this reduced activity level, VNY continues to be one of the busiest general aviation airports worldwide.

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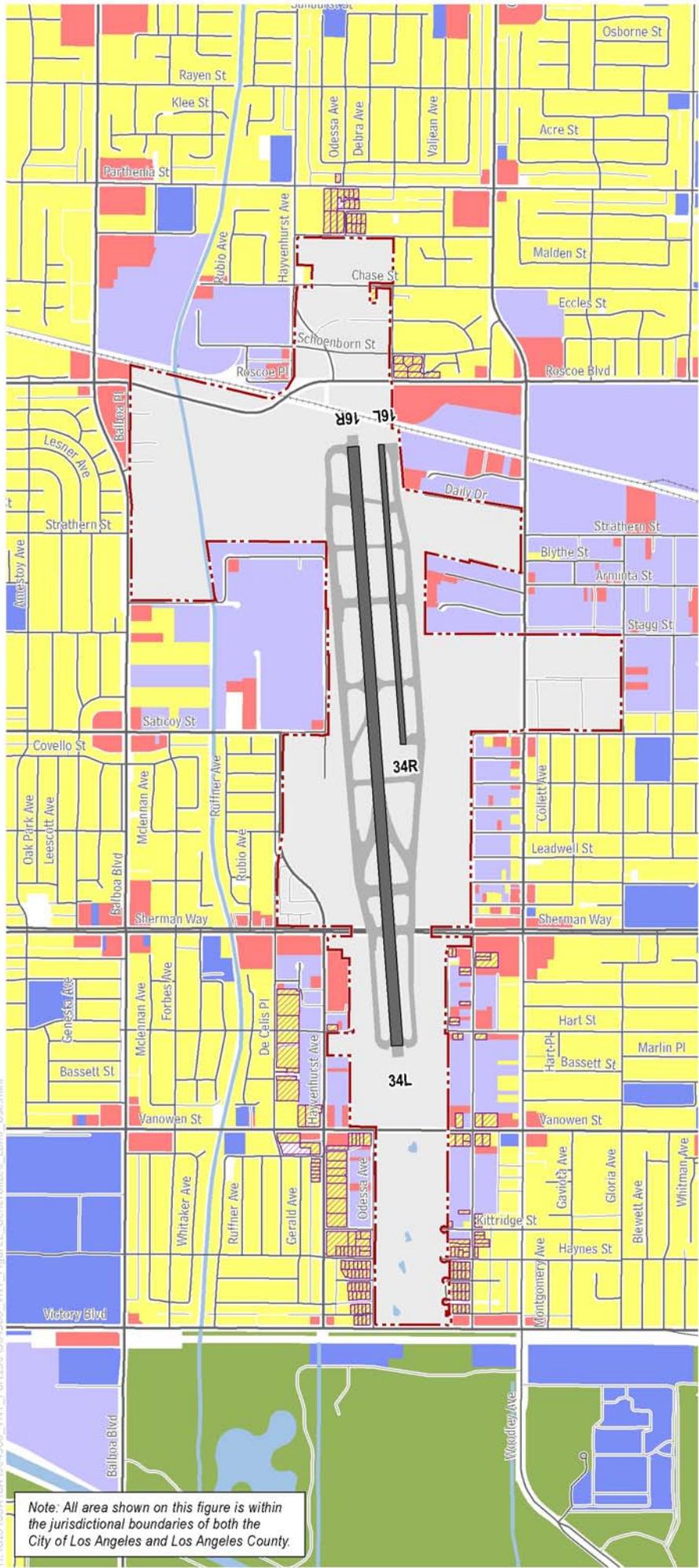


Van Nuys Airport Regional Location

Figure: 1

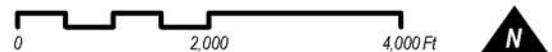
Generalized Land Use Categories in the Airport Environs

Figure: 2



-  Airport Boundary
-  Runways / Taxiways
-  Residential (Non-Compatible)
-  Residential (Compatible)
-  Public Use
-  Recreational / Open Space
-  Commercial Use
-  Manufacturing and Production
-  Airport Property
-  Vacant, Utility, Transportation
-  Water
-  River / Streams
-  Roads
-  Railroad

Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)



Note: All area shown on this figure is within the jurisdictional boundaries of both the City of Los Angeles and Los Angeles County.

1.1.3 VNY Historical Setting

On December 17, 1928 – the 25th anniversary of the Wright Brothers’ first flight – VNY was incorporated as Metropolitan Airport by a small group of citizens. At the time, VNY was surrounded by agricultural land. Although the Great Depression put an end to the corporation, Hollywood film production and the associated movie stars who had enthusiastically embraced recreational flying found a home at the airport and helped save it. To this day, producers of movies, TV shows, videos, and commercials frequently use VNY for filming needs.

With the outbreak of World War II, the U.S. government purchased the airport, enlarged it, and converted it into a military base to help protect the west coast and train military pilots. The airport also became a vital defense-manufacturing center during the war.

In 1949, the City of Los Angeles purchased the airport from the U.S. War Assets Administration for the token fee of \$1, with the agreement that the California Air National Guard base continue to operate at the site. In the 1950s, the Air National Guard replaced its propeller fleet with F-86 jets, and built newer, more permanent facilities at the airport.

The postwar decades brought substantial growth to general aviation at the airport and local industries. Job growth in the valley and the Los Angeles region as a whole also brought residential development surrounding the airport. That development and introduction of jets to the general aviation fleet led to community concerns regarding airport noise, and a strong LAWA commitment to address those concerns. LAWA’s commitment continues today, as reflected by this submission of updated NEMs.

1.2 Noise Compatibility Context at VNY

LAWA considers noise compatibility to be a high-priority, continuing process; over many decades of effort, it has established an extensive noise management program at VNY. The program – and LAWA’s continuing commitment to its implementation and improvement – is recognized across the United States and internationally for its innovation and benefits. Major elements include:

- noise abatement measures to reduce noise exposure or shift it away from sensitive land uses
- remedial land use measures to address residual incompatible land uses
- preventive land use measures to deter introduction of new incompatible land uses

Sections 3.2 and 3.3 describe existing noise abatement and compatible land use elements of the noise management program. Section 3.4 summarizes recommendations of the 2003 NCP submission, the associated FAA Record of Approval, the current status of the each recommendation, and their relationship to corresponding VNY noise management program elements.

1.2.1 VNY Noise Management Program Staffing

The VNY noise management program elements are implemented by numerous LAWA staff, including the Noise Management Section staff based at LAWA Administrative offices at LAX and in the VNY Noise Management Office. Those Noise Management Section staff work closely with the VNY Airport Manager’s Office, VNY Operations, and VNY Public and Community Relations as well as other LAWA and City of Los Angeles staff.

1.2.2 VNY Noise and Operations Monitoring

The Noise Management Section operates an extensive “Airport Noise and Operations Monitoring System” at VNY, LAX, and ONT. The system supports program monitoring and enforcement, pilot feedback, reporting, complaint analysis, and other implementation functions.

The only use of noise measurements in this study was to compare measured departure noise levels to Integrated Noise Model (INM) estimates as part of the process of obtaining FAA approval for use of “user-defined” modeling inputs, as discussed in Section 5.1.5.2. Those comparisons were made for only one measurement location. At the time the data were obtained, the site was numbered “V7.” Subsequent to the use of the data, the site was renumbered to “VNY13.” Consistent with the requirement set forth in Part 150 Part B §A150.1.1(e)(7) that the NEMs must “contain and identify [l]ocations of any aircraft noise monitoring sites utilized for data acquisition and refinement purposes,” that monitor location is depicted on the existing condition and five-year forecast condition NEM graphics (Figure 7 and Figure 8, respectively, in Section 4.2). To minimize clutter on and maximize clarity of the NEM graphics, other monitoring locations are not depicted, since they are not individually referenced in this report nor were they used for data acquisition or refinement or any other analytical purpose in the preparation of the noise contours or any other analyses presented in this submission.

1.3 14 CFR Part 150 Overview

In addition to its financial assistance elements, the previously introduced Aviation Safety and Noise Abatement Act of 1979 (ASNA) required the FAA to “(1) establish a single system of measuring noise ... (2) establish a single system for determining the exposure of individuals to noise resulting from airport operations ... and (3) identify land uses normally compatible with various exposures of individuals to noise.”⁴

The FAA addressed these requirements in Part 150. For the measurement system, the FAA selected the A-weighted sound level (dBA),⁵ which describes noise exposure in the manner most consistent with human hearing.⁶ For evaluating exposure of individuals to noise from airport operations, FAA selected the Day-Night Average Sound Level (DNL or Ldn).⁷ To address the third requirement, Part 150 includes a table of land use compatibility as a function of yearly DNL.⁸ It should be noted that the table represents *guidelines* and does not present federally mandated standards; the federal government defers to local land use jurisdictions for determination of the level of noise exposure that is acceptable for given land uses. Part 150 expressly acknowledges that deference by stating:

The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local

⁴ASNA as codified under 49 U.S.C. § 47502: “Noise measurement and exposure systems and identifying land use compatible with noise exposure.”

⁵ Appendix C provides an introduction to decibels and other noise terminology used in this document.

⁶ 14 C.F.R. Part 150, Appendix A, Part B, § A150.3(a).

⁷ For the reasons discussed in Section 2, this document substitutes “Community Noise Equivalent Level” (CNEL) for DNL, consistent with the FAA practice of accepting that substitution in Part 150 submissions made by California airports. CNEL, DNL, and other noise metrics are described in Appendix C.

⁸ *Ibid.*, Appendix A, Part B, Table 1.

authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.⁹

Section 2 discusses LAWA's locally established land use compatibility guidelines, which are the same as those utilized in the FAA-accepted 2003 Part 150 submission for VNY.

ASNA further provided for any airport operator to prepare and submit "a noise exposure map showing the noncompatible uses in each area of the map on the date the map is submitted, a description of estimated aircraft operations during a forecast period that is at least 5 years in the future and how those operations will affect the map."¹⁰ ASNA also provided for airport operators to provide revised maps if "a change in the operation of the airport would establish a substantial new noncompatible use, or would significantly reduce noise over existing noncompatible uses, that is not reflected in either the existing conditions map or forecast map currently on file with the [FAA]."¹¹

In summary, Part 150 sets forth a process for airport proprietors to follow in developing and obtaining FAA approval of programs to reduce or eliminate incompatibilities between aircraft noise and surrounding land uses. Part 150 prescribes specific standards and systems for:

- Measuring noise
- Estimating and describing cumulative noise exposure
- Coordinating NCP development with local land use officials and other interested parties
- Documenting the analytical process and development of the compatibility program
- Submitting documentation to the FAA
- FAA and public review processes
- FAA approval or disapproval of the submission

A full Part 150 submission to the FAA includes two elements: (1) the Noise Exposure Maps (NEMs) and (2) the Noise Compatibility Program (NCP). However, as discussed in Section 1, this document presents only an update to previously accepted NEMs, in response to an FAA recommendation.

1.3.1 Noise Exposure Maps

The NEMs describe the airport layout and operation, aircraft-related noise exposure, land uses in the airport environs, and the resulting noise/land use compatibility situation. The NEMs must address two time frames: (1) data representing the year of submission (the "existing conditions") and (2) the fifth calendar year or later following the year of submission (the "forecast conditions"). The NEMs also address how the forecast operations will affect the compatibility of the land uses depicted.

The year of submission for this update is 2011. Therefore, the existing conditions noise contours are for 2011 and the five-year forecast case contours are for 2016.

The primary objective is to describe the current and forecast conditions at the airport and the noise effects of the aircraft activity on the surrounding communities. While this description is normally

⁹ Ibid., Appendix A, Part B, introductory paragraph of "Notes for Table 1."

¹⁰ 49 U.S.C. § 47503: Noise exposure maps (ASNA as amended), § (a)

¹¹ Ibid., § (b).

processed into individual NEMs, Part 150 requires more than a simple “map” to provide all the necessary information. The development of the graphics includes such tasks as:

- Collecting historical aviation activity data such as aircraft fleet mix, number and type of operations, aircraft departure weights, runway utilization
- Developing a forecast aircraft activity for a period at least five years in the future from the year representing the existing conditions
- Determining aircraft flight tracks and usage based on radar data, if available, or other source data
- Creating the necessary inputs to the FAA Integrated Noise Model using the average annual input conditions to include airport configuration, meteorological data, operations, etc.
- Obtaining FAA approval for user-specified aircraft noise modeling profiles and non-standard aircraft type modeling substitutes
- Collecting data from local jurisdictions to establish detailed land use data in the airport environs
- Estimating population data within the local area

Therefore, in addition to the graphical elements, the NEMs submission must document, through tabulated information and text discussions, the full range of data collection and analyses undertaken to depict existing and future noise exposure resulting from aircraft operations, and the encompassed land uses in the airport environs. The NEMs development must include public consultation meeting Part 150 requirements, as discussed in Section 6. After considering and addressing all input received during that consultation, the airport operator submits the NEMs document to the FAA. Subsequent to a thorough review, the FAA “accepts” submissions it finds in conformance with Part 150.

1.3.2 Noise Compatibility Program

The NCP provides a planning process for evaluating aircraft noise impacts and the costs and benefits of alternative noise abatement measures. It also engages the local planning authorities to review the policies toward managing the noncompatible land uses now and in the future around the airport. By involving the public and local agencies, the NCP is essentially the total process used by the airport proprietor to propose a list of the actions to undertake to minimize existing and future noncompatible noise/land uses. These actions may involve:

- Changes to the physical layout of the airport
- Changes to airport and airspace use
- Changes to aircraft operations
- Review of land use administration practices for preventing noncompatible uses
- Review of noise management program practices

There are certain measures that must be considered for applicability and feasibility:

- Acquisition of land which includes overflight, easement, and development rights to ensure property use is compatible with airport operations
- Construction of barriers or shielding through sound insulating buildings
- Implementation of a preferential runway use

- Utilization of flight procedures to reduce noise from the source (aircraft) through actions such as flight track changes or aircraft performance profile adjustments
- Restriction of use of the airport by specific aircraft types, nighttime operations, etc.

The NCP documentation must recount the development of the program, including a description of all measures considered, the reasons that individual measures were accepted or rejected, how measures will be implemented and funded, and the predicted effectiveness of individual measures and the overall program. As in the case of the NEMs, public participation is a vital part of developing a program that will promote understanding, awareness, and an opportunity for involving the perspectives of the different jurisdictions and their constituents on the role of the airport and the community.

Upon completion of the analyses and coordination, the NCP is submitted to the FAA for review and approval. The FAA reviews the NCP and may approve or disapprove each measure on its merits and adherence to the national aviation policy. Upon approval, the airport will begin its implementation schedule based on the availability of federal funding and local resources.

1.4 FAA Noise Exposure Maps Checklist

The FAA provides advice to airports and other interested parties to consider in conducting Part 150 studies, in Advisory Circular (AC) 150/5020, "Airport Noise and Land Use Compatibility Planning." The AC includes a checklist for FAA's use in reviewing NEMs submissions. The FAA prefers that Part 150 documentation include a copy of the current version of the checklist, with appropriate page number or other references, and other notes or comments to assist in the document's review, as presented in Table 1.

Table 1 Part 150 Noise Exposure Maps Checklist

Source: http://www.faa.gov/airports/environmental/airport_noise/part_150/checklists/, 2011

14 CFR PART 150 NOISE EXPOSURE MAPS CHECKLIST-PART I		
PROGRAM REQUIREMENT	Yes/No	Supporting section, page, or other reference and comments
I. Submitting and Identifying the NEMs:		
A. Submission properly identified:		
1. 14 C.F.R. Part 150 NEMs?	Yes	Cover letter, cover, and Section 1.
2. NEMs and NCP together?	No	NEMs update only.
3. Revision to NEMs FAA previously determined to be in compliance with Part 150?	Yes	Cover letter and Section 1.
B. Airport and Airport Operator's name are identified?	Yes	Cover letter and Certification (page iii).
C. NCP is transmitted by operator's dated cover letter, describing it as a Part 150 submittal and requesting appropriate FAA determination?		Not applicable.
II. Consultation: [150.21(b), A150.105(a)]		
A. Is there a narrative description of the consultation accomplished, including opportunities for public review and comment during map development?	Yes	Section 6.
B. Identification of consulted parties:		
1. Are the consulted parties identified?	Yes	Sections 6.1 and 6.2.
2. Do they include all those required by 150.21(b) and A150.105 (a)?	Yes	Section 6.2.
3. Agencies in 2., above, correspond to those indicated on the NEM?	Yes	Section 6.2.
C. Does the documentation include the airport operator's certification, and evidence to support it, that interested persons have been afforded adequate opportunity to submit their views, data, and comments during map development and in accordance with 150.21(b)?	Yes	Certification (page iii) and Section 6.
D. Does the document indicate whether written comments were received during consultation and, if there were comments that they are on file with the FAA regional airports division manager?	Yes	Section 6.4 lists the parties submitting comments. Appendix L provides copies of the comments, which by submission of this document are on file with the FAA's Regional Airports Division Manager.
III. General Requirements: [150.21]		
A. Are there two maps, each clearly labeled on the face with year (existing condition year and one that is at least 5 years into the future)?	Yes	"2011 Existing Condition Noise Exposure Map" (Figure 7 on page 55) and "2016 Five-Year Forecast Condition Noise Exposure Map" (Figure 8 on page 56).
B. Map currency:		
1. Does the year on the face of the existing condition map graphic match the year on the airport operator's NEM submittal letter?	Yes	"2011 Existing Condition Noise Exposure Map" (Figure 7 on page 55)
2. Is the forecast year map based on reasonable forecasts and other planning assumptions and is it for at least the fifth calendar year after the year of submission?	Yes	Section 5.1.4 discusses the 2011 and 2016 forecasts. Appendix I presents copies of documentation related to FAA review and approval, including the March 13, 2011 FAA approval letter.
3. If the answer to 1 and 2 above is no, the airport operator must verify in writing that data in the documentation are representative of existing condition and at least 5 years' forecast conditions as of the date of submission?	N.A.	Not applicable.

14 CFR PART 150 NOISE EXPOSURE MAPS CHECKLIST-PART I		
PROGRAM REQUIREMENT	Yes/No	Supporting section, page, or other reference and comments
C. If the NEMs and NCP are submitted together:		
1. Has the airport operator indicated whether the forecast year map is based on either forecast conditions without the program or forecast conditions if the program is implemented?	N.A.	Not applicable. Note: The "2011 Existing Condition Noise Exposure Map" (Figure 7 on page 55) and "2016 Five-Year Forecast Condition Noise Exposure Map" (Figure 8 on page 56) reflect objective data analysis reflecting the current implementation of the existing, FAA-approved NCP elements summarized in Section 3.4.
2. If the forecast year map is based on program implementation:	N.A.	
a. Are the specific program measures that are reflected on the map identified?	N.A.	
b. Does the documentation specifically describe how these measures affect land use compatibilities depicted on the map?	N.A.	
3. If the forecast year NEM does not model program implementation, the airport operator must either submit a revised forecast NEM showing program implementation conditions [B150.3 (b), 150.35 (f)] or the sponsor must demonstrate the adopted forecast year NEM with approved NCP measures would not change by plus/minus 1.5 CNEL? ¹² [150.21 (d)]	N.A.	
IV. MAP SCALE, GRAPHICS, AND DATA REQUIREMENTS: [A150.101, A150.103, A150.105, 150.21(a)]		
A. Are the maps of sufficient scale to be clear and readable (they must be not be less than 1" to 2,000'), and is the scale indicated on the maps? <i>(Note (1) if the submittal uses separate graphics to depict flight tracks and/or noise monitoring sites, these must be of the same scale, because they are part of the documentation required for NEMs.)</i> <i>(Note (2) supplemental graphics that are not required by the regulation do not need to be at the 1" to 2,000' scale)</i>	Yes	The "2011 Existing Condition Noise Exposure Map" (Figure 7 on page 55) and "2016 Five-Year Forecast Condition Noise Exposure Map" (Figure 8 on page 56) are presented at 1" to 2,000'. As discussed in Section 5.1.7, unbound flight track figures are provided at this scale, as permitted by FAA.
B. Is the quality of the graphics such that required information is clear and readable? (Refer to C. through G., below, for specific graphic depictions that must be clear and readable)	Yes	
C. Depiction of the airport and its environs.		
1. Is the following graphically depicted to scale on both the existing condition and forecast year maps:	Yes	"2011 Existing Condition Noise Exposure Map" (Figure 7 on page 55) and "2016 Five-Year Forecast Condition Noise Exposure Map" (Figure 8 on page 56).
a. Airport boundaries	Yes	
b. Runway configurations with runway end numbers	Yes	
2. Does the depiction of the off-airport data include?		
a. A land use base map depicting streets and other identifiable geographic features	Yes	Land uses on the NEMs are "clipped" at the 65 dB CNEL contour for clarity. Streets and other features shown over the entire mapped area. Extended land use coverage is shown in Figure 2 for informational purposes.
b. The area within the CNEL 65 dB (or beyond, at local discretion)	Yes	
c. Clear delineation of geographic boundaries and the names of all jurisdictions with planning and land use control authority within the CNEL 65 dB (or beyond, at local discretion)	Yes	As noted directly on the map portion of the NEM figures (which extends well beyond 65 dB CNEL contour), the entire mapped area is within the jurisdictional boundaries of both the City of Los Angeles and Los Angeles County. The flight track figures provide the required boundaries and labels.

¹² The version of the FAA's checklist presented in this document substitutes "CNEL" (Community Noise Equivalent Level) where the standard version of the checklist uses "DNL" or "Ldn," consistent with the FAA-accepted practice of using CNEL as a substitute for DNL in Part 150 submissions made by California airports, for reasons discussed in Section 2. Appendix C introduces CNEL, DNL, and other noise metrics.

14 CFR PART 150 NOISE EXPOSURE MAPS CHECKLIST-PART I		
PROGRAM REQUIREMENT	Yes/No	Supporting section, page, or other reference and comments
D. 1. Continuous contours for at least CNEL 65, 70, and 75 dB?	Yes	
2. Has the local land use jurisdiction(s) adopted a lower local standard and, if so, has the sponsor depicted this on the NEMs?	No	The Section 2 discussion of City of Los Angeles, Los Angeles County, and State of California standards explains their consistency with FAA guidelines presented in Part 150 Appendix A, Table 1, with the exception that CNEL is substituted for DNL, for the reasons discussed in Section 2.
3. Based on current airport and operational data for the existing condition year NEM, and forecast data representative of the selected year for the forecast NEM?	Yes	See the Section 5 discussion of the 2011 and 2016 noise modeling data.
E. Flight tracks for the existing condition and forecast year timeframes (these may be on supplemental graphics which must use the same land use base map and scale as the existing condition and forecast year NEM), which are numbered to correspond to accompanying narrative?	Yes	See the Section 5.1.7 discussion, and related figures and tables, including unbound flight track figures at the 1" to 2,000' scale of the NEMs.
F. Locations of any noise monitoring sites (these may be on supplemental graphics which must use the same land use base map and scale as the official NEMs)	Yes	The 2011 and 2016 NEM (Figure 7 on page 55 and Figure 8 on page 56, respectively) depict a noise monitoring site used in preparation of the contours, as discussed in Section 1.2.2.
G. Noncompatible land use identification:	Yes	
1. Are noncompatible land uses within at least the CNEL 65 dB noise contour depicted on the map graphics?	Yes	Noncompatible uses within 65 dB CNEL are depicted, as required
2. Are noise sensitive public buildings and historic properties identified? <i>(Note: If none are within the depicted NEM noise contours, this should be stated in the accompanying narrative text.)</i>	Yes	As discussed in Section 4.3, neither the 2011 nor the 2016 NEM contours encompass any noise sensitive public buildings or historic properties.
3. Are the noncompatible uses and noise sensitive public buildings readily identifiable and explained on the map legend?	Yes	Legends identify non-compatible land uses.
4. Are compatible land uses, which would normally be considered noncompatible, explained in the accompanying narrative?	Yes	As discussed in Sections 3.3.1 and 4.3, the NEMs identify residential properties within 65 dB CNEL that are covered by the LAWA sound-insulation program as compatible, consistent with FAA, City, County, State, and LAWA policies.
V. NARRATIVE SUPPORT OF MAP DATA: [150.21(a), A150.1, A150.101, A150.103]		
A. 1. Are the technical data and data sources on which the NEMs are based adequately described in the narrative?	Yes	Section 5
2. Are the underlying technical data and planning assumptions reasonable?	Yes	Section 5
B. Calculation of Noise Contours:		Section 5
1. Is the methodology indicated?	Yes	
a. Is it FAA approved?	Yes	
b. Was the same model used for both maps? <i>(Note: The same model also must be used for NCP submittals associated with NEM determinations already issued by FAA where the NCP is submitted later, unless the airport sponsor submits a combined NEMs/NCP submittal as a replacement, in which case the model used must be the most recent version at the time the update was started.)</i>	Yes	As discussed in Section 5, The CNEL contours contained in these NEMs were prepared using the most recent release of the FAA's Integrated Noise Model (INM) available at the time the NEMs were prepared; i.e., "Version 7.0b."
c. Has AEE approval been obtained for use of a model other than those that have previous blanket FAA approval?	N.A.	Not applicable.

14 CFR PART 150 NOISE EXPOSURE MAPS CHECKLIST-PART I		
PROGRAM REQUIREMENT	Yes/No	Supporting section, page, or other reference and comments
2. Correct use of noise models:	Yes	As discussed in Section 5.1.5, FAA approval was received for three "non-standard" INM applications, with associated documentation and FAA approvals discussed in that section and presented in Appendix F, Appendix G, and Appendix H. Section 6.1 lists each piece of correspondence with the FAA and its location in this document,
a. Does the documentation indicate, or is there evidence, the airport operator (or its consultant) has adjusted or calibrated FAA-approved noise models or substituted one aircraft type for another that was not included on the FAA's pre-approved list of aircraft substitutions?	Yes	
b. If so, does this have written approval from AEE, and is that written approval included in the submitted document?	Yes	
3. If noise monitoring was used, does the narrative indicate that Part 150 guidelines were followed?	Yes	See discussion in Section 1.2.2.
4. For noise contours below CNEL 65 dB, does the supporting documentation include an explanation of local reasons? <i>(Note: A narrative explanation, including evidence the local jurisdiction(s) have adopted a noise level less than CNEL 65 dB as sensitive for the local community(ies), and including a table or other depiction of the differences from the Federal table, is highly desirable but not specifically required by the rule. However, if the airport sponsor submits NCP measures within the locally significant noise contour, an explanation must be included if it wants the FAA to consider the measure(s) for approval for purposes of eligibility for Federal aid.)</i>		Not applicable, since no contours below CNEL 65 dB provided.
C. Noncompatible Land Use Information:		
1. Does the narrative (or map graphics) give estimates of the number of people residing in each of the contours (CNEL 65, 70 and 75, at a minimum) for both the existing condition and forecast year maps?	Yes	See Section 4.3 and Table 3.
2. Does the documentation indicate whether the airport operator used Table 1 of Part 150?	Yes	The Section 2 discussion of City, County, and State standards explains their consistency with FAA guidelines in Part 150 Table 1 (reproduced as Table 2 in this document), with the exception that CNEL is substituted for DNL, for reasons discussed in Sections 2.2 and 2.3.
a. If a local variation to table 1 was used:	Yes	
(1) Does the narrative clearly indicate which adjustments were made and the local reasons for doing so?	Yes	
(2) Does the narrative include the airport operator's complete substitution for table 1?	Yes	
3. Does the narrative include information on self-generated or ambient noise where compatible or noncompatible land use identifications consider non-airport and non-aircraft noise sources?	No	
4. Where normally noncompatible land uses are not depicted as such on the NEMs, does the narrative satisfactorily explain why, with reference to the specific geographic areas?	Yes	As discussed in Sections 3.3.1 and 4.3, the NEMs identify residential properties within 65 dB CNEL that are covered by the LAWA sound-insulation program as compatible, consistent with FAA, City, County, State, and LAWA policies.
5. Does the narrative describe how forecast aircraft operations, forecast airport layout changes, and forecast land use changes will affect land use compatibility in the future?	Yes	See Section 4.4.
VI. MAP CERTIFICATIONS: [150.21(b), 150.21(e)]		
A. Has the operator certified in writing that interested persons have been afforded adequate opportunity to submit views, data, and comments concerning the correctness and adequacy of the draft maps and forecasts?	Yes	See certification (on page iii) and Section 6.
B. Has the operator certified in writing that each map and description of consultation and opportunity for public comment are true and complete under penalty of 18 U.S.C. Section 1001?	Yes	

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2 LAND USE COMPATIBILITY GUIDELINES AND STANDARDS

In a Part 150 study, cumulative noise exposure estimates have two principal uses:

- To provide a quantitative basis for assessing land use compatibility with aircraft noise exposure.
- To provide a means for determining the significance of changes in noise exposure that might result from changes in airport layout, operations, or activity levels.

Both these functions require application of objective criteria. Government agencies dealing with environmental noise have devoted significant attention to this issue, and have developed noise / land use compatibility guidelines to help federal, state, and local officials with this evaluation process.

2.1 Part 150 Land Use Compatibility Guidelines

Part 150 Appendix A sets forth FAA-recommended guidelines for noise land use compatibility based on DNL. Table 2 reproduces these guidelines.

The Part 150 guidelines represent a compilation of the results of scientific research into noise-related activity interference and attitudinal response. The guidelines indicate that all uses normally are compatible with aircraft noise at exposure levels below 65 dB DNL.

As discussed in Section 2.2, California airport “noise standards” require airport proprietors to use the Community Noise Equivalent Level (CNEL) to describe cumulative noise exposure and identify noncompatible land uses. Based on the clearly established state rules and regulations, the FAA considers CNEL to be the functional equivalent of DNL, for Part 150 and other federal environmental studies conducted in California, and permits airports to apply Part 150 land-use compatibility guidelines to CNEL values without adjustment for the normally minor differences between CNEL and DNL. Consistent with that policy, the 2003 Part 150 submission for VNY to the FAA utilized the Part 150 land use compatibility table reproduced in Table 2 of this submission for all compatibility analyses, with the exception that annual noise exposure was presented in terms of CNEL, rather than DNL, for consistency with California protocols.

This submission continues the FAA-accepted approach used in the 2003 VNY NEMs submission and applies the Part 150 DNL-based land use compatibility guidelines to CNEL exposure contours, as presented in Table 2.

Table 2 Part 150 Land Use Compatibility
 Source: 14 C.F.R. Part 150, Appendix A, Table 1

Land Use	Yearly Day-Night Average Sound Level, Ldn, [or Community Noise Equivalent Level, CNEL ¹³], in Decibels (Key and notes on following page)					
	<65	65-70	70-75	75-80	80-85	>85
<i>Residential Use</i>						
Residential other than mobile homes and transient lodgings	Y	N(1)	N(1)	N	N	N
Mobile home park	Y	N	N	N	N	N
Transient lodgings	Y	N(1)	N(1)	N(1)	N	N
<i>Public Use</i>						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Governmental services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
<i>Commercial Use</i>						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail, bldg. mtl., hardware, and farm equip.	Y	Y	Y(2)	Y(3)	Y(4)	N
Retain trade-general	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
<i>Manufacturing and Production</i>						
Manufacturing general	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock farming and breeding	Y	Y(6)	Y(7)	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
<i>Recreational</i>						
Outdoor sports arenas and spectator sports	Y	Y(5)	Y(5)	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts and camps	Y	Y	Y	Y	Y	Y
Golf courses, riding stables, water recreation	Y	Y	25	30	N	N

¹³ As discussed in the Section 2.1 introduction preceding this table.

Key Table 2	
Y(Yes)	Land use and related structures compatible without restrictions.
N(No)	Land use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30, or 35	Land use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structure.

Notes for Table 2	
<p>The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable or unacceptable under Federal, State, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise compatible land uses.</p>	
<p>(1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.</p>	
<p>(2) Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.</p>	
<p>(3) Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.</p>	
<p>(4) Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.</p>	
<p>(5) Land use compatible provided special sound reinforcement systems are installed.</p>	
<p>(6) Residential buildings require an NLR of 25.</p>	
<p>(7) Residential buildings require an NLR of 30.</p>	
<p>(8) Residential buildings not permitted.</p>	

2.2 California Airport Noise Standards

The State of California has established airport noise standards and land use planning guidelines that fall under the jurisdiction of the California Department of Transportation (“Caltrans”) Division of Aeronautics and the Los Angeles County Airport Land Use Commission, as described in Sections 2.2.1 and 2.2.2, respectively.

2.2.1 Caltrans Division of Aeronautics Noise Standards

For airport noise studies, the Caltrans Division of Aeronautics has adopted noise standards that require airports to describe cumulative exposure in terms of CNEL. Those standards state, in part:¹⁴

The following rules and regulations are promulgated in accordance with Article 3, Chapter 4, Part 1, Division 9, Public Utilities Code (Regulation of Airports) to provide noise standards governing the operation of aircraft and aircraft engines for all airports operating under a valid permit issued by the Department of Transportation. These standards are based upon two separate legal grounds: (1) the power of airport proprietors to impose noise ceilings and other limitations on the use of the airport, and (2) the power of the state to act to an extent not prohibited by federal law. The regulations are designed to cause the airport proprietor, aircraft operator, local governments, pilots, and the department to work cooperatively to diminish noise problems. The regulations accomplish these ends by controlling and reducing the noise impact area in communities in the vicinity of airports.¹⁵

The level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a CNEL value of 65 dB for purposes of these regulations. This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep, and community reaction.¹⁶

The Division of Aeronautics noise standards further define land uses that are incompatible with aircraft noise as follow:¹⁷

- Residences, including but not limited to, detached single-family dwellings, multi-family dwellings, high-rise apartments, condominiums and mobile homes, unless:
 - An avigation easement for aircraft noise, has been acquired by the airport proprietor;
 - A dwelling unit which was in existence at the same location prior to January 1, 1989, and has adequate acoustic insulation to ensure an interior CNEL of 45 dB or less due to aircraft noise in all habitable rooms;

¹⁴ California Code of Regulations (CCR). 1990. Title 21, Subchapter 6, Noise Standards. Register 90. No. 10, 3/10/90. California Division of Aeronautics, Department of Transportation. Sacramento, CA.

¹⁵ Ibid., § 5000, “Preamble,” p. 219.

¹⁶ Ibid., § 5006, “Findings,” p. 224.

¹⁷ Ibid., § 5014, “Incompatible Land Uses within the Noise Impact Boundary.”

- A residence is a high rise apartment or condominium having an interior CNEL of 45 dB or less in all habitable rooms due to aircraft noise, and an air circulation or air conditioning system, as appropriate;
- A residence exposed to an exterior CNEL less than 80 dB (75 dB if the residence has an exterior normally occupiable private habitable area) where the airport proprietor has made a genuine effort to acoustically treat the residence or acquire aviation easements for the residence involved, or both, but the property owner has refused to take part in the program; or
- A residence which is owned by the airport proprietor;
- Public and private schools of standard construction for which an aviation easement for noise has not been acquired by the airport proprietor, or that do not have adequate acoustic performance to ensure an interior CNEL of 45 dB or less in all classrooms due to aircraft noise;
- Hospitals and convalescent homes for which an aviation easement for noise has not been acquired by the airport proprietor, or that do not have adequate acoustic performance to provide an interior CNEL of 45 dB or less due to aircraft noise in all rooms used for patient care; and
- Churches and other places of worship for which an aviation easement for noise has not been acquired by the airport proprietor or that do not have adequate acoustic performance to ensure an interior CNEL of 45 dB or less due to aircraft noise.

2.2.2 California Airport Land Use Commission Regulations

With limited exceptions, California state statutes require each county in the state to establish an Airport Land Use Commission (ALUC).¹⁸ The law defines the purpose of the ALUC as:

“...to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public’s exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses.”¹⁹

The statutes specify that the Regional Planning Commission will fill the ALUC role in Los Angeles County.²⁰ In practice, the commission refers to itself as the ALUC when addressing airport land use compatibility matters. The commission has published a document that defines review procedures and other implementation policies.²¹ That document states that:

[T]he fundamental purpose of ALUCs to promote land use compatibility around airports has remained unchanged. As expressed in the present statutes, this purpose is:

“...to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public’s exposure to

¹⁸ California Public Utilities Code, Division 9, “Aviation,” Part 1, “State Aeronautics Act,” Chapter 4, “Airports and Air Navigation Facilities,” Article 3.5, “Airport Land Use Commission,” § 21670-21679.5.

¹⁹ Ibid., § 21670(a)(2).

²⁰ Ibid., § 21670.2.

²¹ “Los Angeles County Airport Land Use Commission Review Procedures,” prepared by the Los Angeles County Department of Regional Planning, December 2004, available on line at http://planning.lacounty.gov/assets/upl/project/aluc_review-procedures.pdf

excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses.”

The statutes give ALUCs two principal powers by which to accomplish this objective. First, ALUCs must prepare and adopt an Airport Land Use Compatibility Plan [ALUCP]. Secondly, they must review the plans, regulations, and other actions of local agencies and airport operators for consistency with that plan.²²

The procedures document calls out two limitations on ALUCs’ powers: “Specifically, ALUCs have no authority over existing land uses (Section 21674(a)) or over the operation of airports (Section 21674(e)).”²³

The commission last revised the Los Angeles County airport land use compatibility plan (the “ALUCP”) on December 1, 2004.²⁴ The ALUCP includes the following “policies related to noise:”

- N-1 Use the Community Noise Equivalent Level (CNEL) method for measuring noise impacts near airports in determining suitability for various types of land uses.
- N-2 Require sound insulation to insure a maximum interior 45 db [sic] CNEL in new residential, educational, and health-related uses in areas subject to exterior noise levels of 65 CNEL or greater.
- N-3 Utilize the Table Listing Land Use Compatibility for Airport Noise Environments in evaluating projects within the planning boundaries.
- N-4 Encourage local agencies to adopt procedures to ensure that prospective property owners in aircraft noise exposure areas above a current or anticipated 60 db [sic] CNEL are informed of those noise levels and of any land use restrictions associated with high noise exposure.

Figure 3 reproduces the land use compatibility table to which policy N-3 refers.

²² Ibid., p. 1-2.

²³ Ibid.

²⁴ “Los Angeles County Airport Land Use Commission Comprehensive Land Use Plan,” prepared by the Department of Regional Planning, adopted December 19, 1991, revised December 1, 2004, available on line at http://planning.lacounty.gov/assets/upl/data/pd_alup.pdf

Figure 3 Los Angeles County Land Use Compatibility for Airport Noise Environments
 Source: Los Angeles County Airport Land Use Compatibility Plan, prepared by the Los Angeles County Department of Regional Planning, Revised December 1, 2004

LAND USE COMPATIBILITY TABLE						
	<i>Satisfactory</i>					
	<i>Caution. Review Noise Insulation Needs</i>					
<i>Avoid Land Use Unless Related to Airport Services</i>						
<i>Land Use Category</i>	<i>Community Noise Exposure</i>					
	<i>55</i>	<i>60</i>	<i>65</i>	<i>70</i>	<i>75</i>	
<i>Residential</i>						
<i>Educational Facilities</i>						
<i>Commercial</i>						
<i>Industrial</i>						
<i>Agriculture</i>						
<i>Recreation</i>						

Note: Consider FAR Part 150 for commercial and recreational uses above the 75 CNEL

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3 LAWA NOISE COMPATIBILITY PLANNING AT VNY

3.1 Introduction

LAWA considers noise compatibility to be a high-priority, continuing process; over many decades of effort, it has established an extensive noise compatibility program at VNY. The program – and LAWA’s continuing commitment to its implementation and improvement – is recognized for its innovation and benefits across the United States and internationally. Major elements include:

- noise abatement measures to reduce noise exposure or shift it away from sensitive land uses
- remedial land use measures to address residual incompatible land uses
- preventive land use measures to deter introduction of new incompatible land uses

The agency devotes significant attention, staff, and financial resources to program administration, publicity, implementation, monitoring, enforcement, review, and refinement. Sections 3.2 and 3.3 summarize the major noise abatement and compatible land use measures, respectively.

As discussed in Section 1.2.1, the VNY noise abatement program elements are implemented by numerous LAWA staff, including the Noise Management Section staff based at LAWA Administrative offices at LAX and in the VNY Noise Management Office, the VNY Airport Manager’s Office, VNY Operations, VNY Public and Community Relations, and other LAWA and City of Los Angeles staff.

LAWA operates an extensive noise and operations monitoring system at VNY, LAX, and ONT. The system supports program monitoring and enforcement, pilot feedback, reporting, complaint analysis, and other implementation functions.

Sections 3.2 and 3.3 describe the existing noise abatement and compatible land use elements of the VNY noise management program. Section 3.4 summarizes the recommendations and status of a Part 150 study that LAWA conducted to review the VNY noise management program and identify potential improvements, including restrictions, for consideration.

3.2 Major Noise Abatement Elements

Major noise abatement elements of the VNY noise management program include:

- Quiet Jet Departure Program
- No Early Turn Program
- Departure Techniques
- Run-Up Restriction
- Helicopter and Route Deviation Program
- Partial Curfew
- Non-Addition Rule
- Noisier Aircraft Phaseout

Sections 3.2.1 through 3.2.8 describe each of these measures. The most formal program elements are implemented through City of Los Angeles ordinances, presented in Appendix D. Figure 4 on the following two pages reproduces a noise abatement handout LAWA uses to communicate with pilots.

Figure 4 VNY Noise Abatement Handout (Page 1 of 2)
Source: LAWA

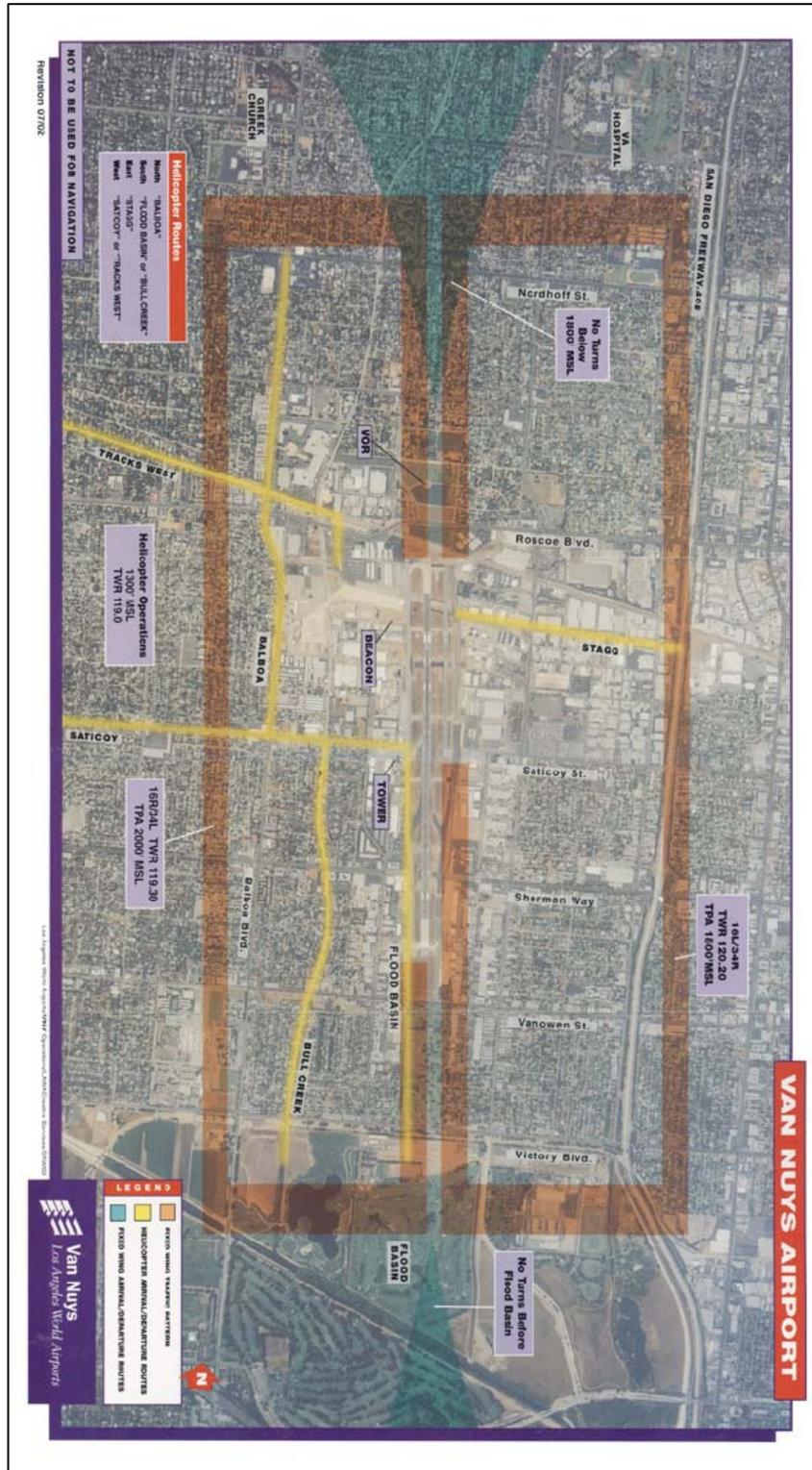
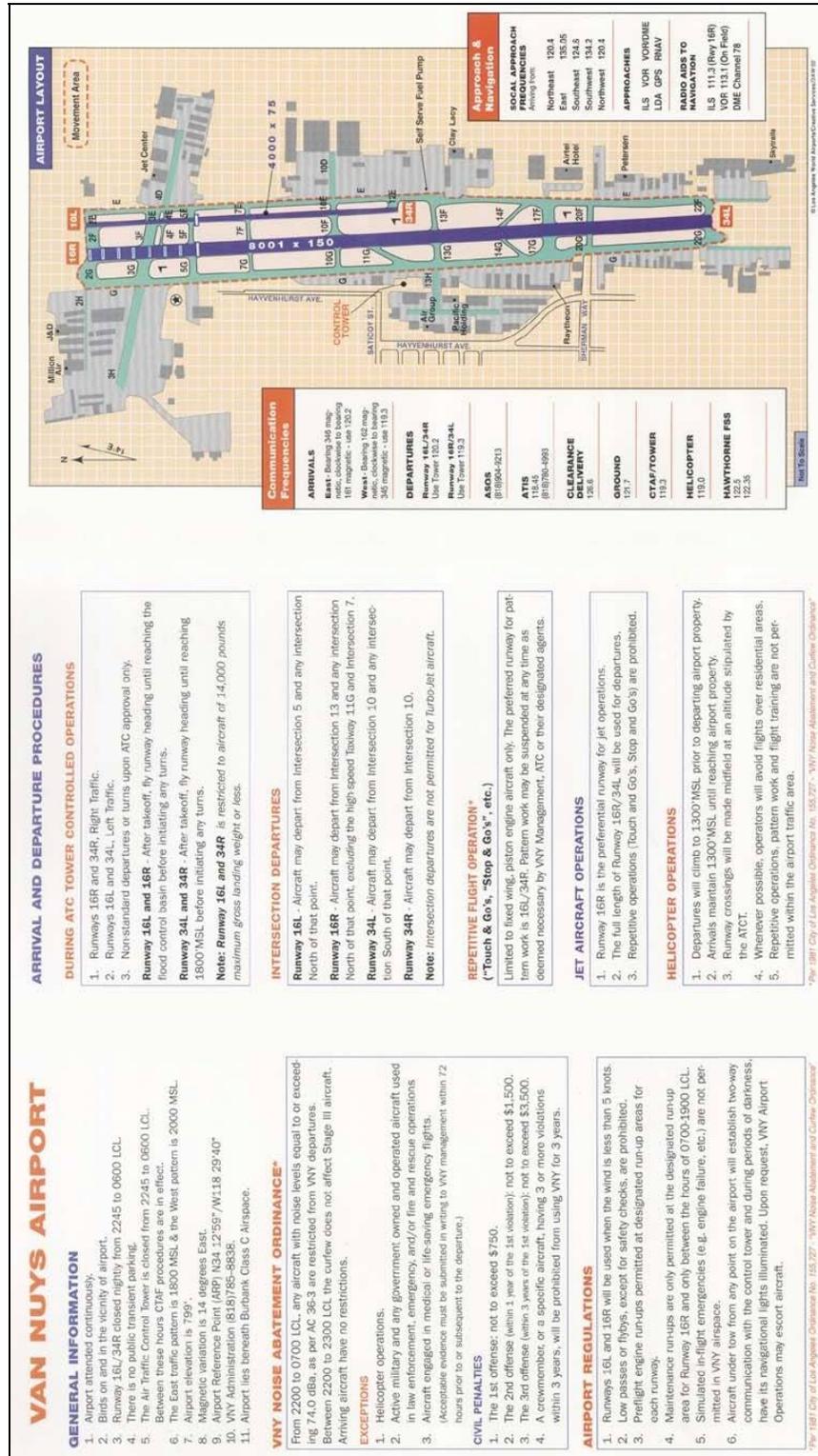


Figure 4 VNY Noise Abatement Handout (page 2 of 2)
 Source: LAWA



3.2.1 Quiet Jet Departure Program

Under the “Quiet Jet Departure Program” (also called the “Fly Friendly” or “Fly Neighborly” program), jet aircraft operators are to conduct south departures so that measured noise levels are below established aircraft-type-specific targets at permanent monitoring location “VNY13,” which is approximately 6,000 feet south of the airport, approximately 14,000 feet from the start-of-takeoff-roll point on Runway 16R, the primary runway used by jets at VNY, as shown in Figure 5.

Figure 5 VNY Noise Monitor VNY13 (Formerly V7) Location

Source: Aerial Photography © Environmental Systems Research Institute, Inc. (ESRI), 2011, © 2010 Microsoft Corporation and its data suppliers; Airport Property Line from LAWA.



LAWA monitors jet departure noise levels and flight track data at VNY13 and contacts the operators of jet aircraft that exceed the target levels set for the relevant aircraft type. This program is used to monitor and modify takeoff aircraft operations and to assist pilots in utilizing the appropriate noise mitigation takeoff procedures. LAWA formally initiated the program in February of 1994.

An important element of the program implementation was a “Letter of Commitment” in which jet operators agreed to use quiet departure procedures to avoid exceeding the target decibel levels on takeoff, which states:

- Pilots will fly aircraft using noise abatement techniques as outlined in manufacturers’ operating manuals or National Business Aircraft Association (NBAA) Noise Abatement Program.
- Pilots will work to research complaints from local residents regarding individual flights and to encourage participation by other jet operators.
- Voluntary compliance will help forestall more drastic measures to reduce noise.

There is no formal penalty associated with exceeding the target noise level. Pilots can contact LAWA to identify departure target noise levels for a specific aircraft.

As discussed in detail in Section 3.4.5, Measure 31 of the 2003 Part 150 NCP submission proposed making the Fly Friendly program mandatory and establishing penalties for violations. As discussed in Section 3.5, LAWA subsequently conducted a “Part 161” study²⁵ to analyze this and other use restrictions proposed in the 2003 NCP. Analysis of the voluntary Fly Friendly program revealed that the program has resulted in measurable noise reduction. The study recommended that further related efforts should focus on enhancing the voluntary program to maximize its ongoing benefits. LAWA staff presented these results to the Board of Airport Commissioners and the VNY Citizens Advisory Council (CAC) at separate meetings in February 2010. Both groups endorsed the recommendation.

In early 2011, LAWA completed analyses of data collected since 1994 to develop refined targets for the largest and most specific feasible list of jet aircraft models, and to identify improvements to maximize the effectiveness of the program as a voluntary measure. LAWA presented the results to the CAC on April 5, 2011.²⁶ The CAC endorsed the recommendations, which are designed to further enhance the program’s success and build on the operators’ cooperative attitude, by adding a *positive* incentive to the program’s implementation in the form of “Good Performer” awards. The program will continue to be entirely voluntary.

Following the April CAC meeting, LAWA undertook extensive notification to operators, pilots, and other interested parties, and a six-month transition period (from July 1 – December 31) to provide operators with the opportunity to become familiar with the new targets, and to adjust their procedures as necessary. The enhanced program will officially commence on January 1, 2012, with the first awards scheduled for the first quarter 2013.

²⁵ 14 CFR Part 161, “Notice and Approval of Airport Noise and Access Restrictions,” which sets forth notice and analysis requirements airport proprietors must address prior to adoption of use restrictions affecting operations in certain aircraft type categories.

²⁶ As documented in “Van Nuys Airport Part 161 Study, Revised ‘Fly Friendly’ Target Noise Level Program,” prepared by Harris Miller Miller & Hanson inc. for LAWA, March 3, 2011.

Further details on the Fly-Friendly program are available under the “Airport Information / Noise Management” section of the VNY website, at http://www.lawa.aero/welcome_VNY.aspx?id=4245, including a detailed implementation schedule.

3.2.2 No Early Turn Program

The “No Early Turn Program” calls for the following procedures related to jet departures:

Takeoffs on Runways 16L and 16R shall climb straight out 2.2 miles DME (Distance Measuring Equipment), measured from the VNY very-high-frequency omnidirectional range (VOR) antenna (which is located off the north end of the airport), and climb straight out over flood basin before starting turn unless instructed by air traffic control.”

This program is voluntary and there is no formal penalty imposed by LAWA for making an early turn without ATC instruction. However, LAWA monitors departures and notifies operators of aircraft that deviate from the established routes, to communicate the program requirements and to educate pilots regarding the preferred procedures.

3.2.3 Helicopter Route Program

In 1991, LAWA completed a comprehensive study of helicopter operations, impacts, and mitigation options.²⁷ The study was conducted with extensive operator, pilot, community, and FAA input. Based on the results of this extensive data collection, and analysis process, six helicopter “routes” were established that specify ingress and egress corridors, and altitude minimums, to maximize the safety and efficiency of traffic control, and to mitigate noise impacts on the adjacent communities.

The VNY Air Traffic Control Tower (ATCT) and individual operators enter into formal “letters of agreement” to implement this program. The VNY Noise Abatement Handout (Figure 4) depicts the routes graphically.

As in the case of the preceding “no early turn program” for fixed-wing jet aircraft, the helicopter route program is voluntary and there is no formal penalty imposed by LAWA for any observed deviations. However, LAWA monitors helicopter operations and notifies helicopter owners of operations that deviate from the established routes, to communicate the program requirements and to educate pilots regarding the established routes and altitude.

The helicopter modeling flight tracks presented in Section 5.1.7 that were used in developing the NEM contours were based on actual radar observations that reflect a strong central tendency along the preferred routes.

3.2.4 Departure Techniques

In addition to procedures included in the “Quiet Jet Departure Program” and “No Early Turn Program,” LAWA publications also cite the following departure techniques:

²⁷ “Van Nuys Airport Helicopter Operations Study,” City of Los Angeles Department of Airports Environmental Management Bureau, November 1991. The report is reproduced in full in Section 4 of “Background Appendices, Volume 1 of 3” of the 2003 Part 150 Study.

- Runway 16R is the preferred runway for all jet aircraft.
- The full length of Runways 16R and 34L will be used for all jet departures.
- Jet repetitive operations and pattern flying/training are not permitted.

There are no formal penalties associated with the first two of these techniques. Section 7 of Los Angeles City Ordinance No. 155,727, the “Noise Abatement and Curfew Regulation” (reproduced in full in Appendix D), includes formal enforcement and penalty provisions for violation of restrictions on repetitive operations, established by Sections 1(j) and 3(a) and (b):

- Section 1, “Definitions,” item (j), defines a “repetitive operation” as:

“A practice operation, including, but not limited to, “touch and go” or “stop and go” operations, which utilize an airport runway to land where the aircraft touching down or landing takes off again within 5 minutes. However, this definition does not include such operations as are necessary because of safety considerations or weather phenomena.”
- Section 3, “Repetitive Aircraft Operations,” includes the following two restrictions:
 - (a) No person shall engage in repetitive operations in any propeller-powered aircraft between the hours of 10:00 p.m. and 7:00 a.m. of the following day from June 21 through September 15 and between the hours of 9:00 p.m. and 7:00 a.m. of the following day from September 16 through June 20.
 - (b) No person shall engage in repetitive operations in any turbo-jet or fan jet-powered aircraft at any time at the airport.

3.2.5 Run-Up Restriction

The Noise Abatement and Curfew Regulation also includes formal enforcement and penalty provisions for violation of a run-up restriction, established by Sections 1(k) and 5:

- Section 1, “Definitions,” item (j), defines a “run-up” as:

The ground testing or revving of an aircraft engine not immediately connected to contemporaneous air operation.
- Section 5, “Run-ups,” states:

No person shall test or run-up an aircraft engine for maintenance purposes between the hours of 7:00 p.m. and 7:00 a.m. of the following day. Engine run-ups shall be done only in areas designated in writing by the general manager.

LAWA has published a letter to tenants that permits them to conduct idle power run-ups on their leasehold property under certain conditions. Figure 6 presents the text of the letter.

Figure 6 Idle Power Runup Letter to Tenants

Source: LAWA

Dear Airport Tenant:

The City of Los Angeles, Ordinance No. 155727, the Van Nuys Airport Noise Abatement and Curfew Regulation (Ordinance), Section 5, establishes regulations governing engine run-ups for maintenance purposes on the airfield. According to the Ordinance, a run-up is defined as “the ground testing or revving of an aircraft engine not immediately connected to contemporaneous air operation.”

The Ordinance states:

“Section 5. Run-ups. No person shall test or run-up an aircraft engine for maintenance purposes between the hours of 7:00 p.m. and 7:00 a.m. of the following day. Engine run-ups shall be conducted only in areas designated in writing by the General Manager.”

The purpose of the designated run-up area is to mitigate both the safety and noise issues that are inherent in this type of activity. Recently it has come to the attention of the Airport Management that certain types of maintenance activity (i.e., leak checks, etc.) require an aircraft engine to be run at idle power for a short period of time prior to any increase in power setting. This requirement has resulted in some difficulty complying with the “designated area” portion of the Ordinance. Effective Monday, May 14, 2001, all persons who need to perform these types of maintenance checks will be permitted to do so on their leasehold, and not be in violation of the Ordinance, provided the following provisions are adhered to:

- Contact Airport Operations at (818) 909-3527 or Airport Police at (818) 989-1747 prior to commencing the operation.
- All engine checks must be accomplished at idle power at all times and for a duration not to exceed three (3) minutes.
- A minimum of one wing walker must be present outside the aircraft, in clear view of the individual manipulating the controls of the aircraft, at all times the engine(s) are running to ensure the overall safety of the operation.
- The “jet blast/prop wash” resulting from the activity must be directed away from the service road at all times and in no way jeopardize the safety of any persons or property.

Please distribute/post the attached document to assist your maintenance personnel in complying with the aforementioned requirements. Any running of aircraft engines for maintenance purposes that cannot be accomplished in strict compliance with these stipulations must be conducted in the designated run-up area. The “designated” areas for engine run-ups are the primary run-up area for runway 16R or, if necessary, the secondary area at 34L, with the aircraft aligned with the runway heading. Any maintenance run-up activity not in compliance with the aforementioned provisions, as well as the time stipulations contained in the Ordinance, will be in violation of said Ordinance and handled accordingly

3.2.6 Partial Curfew

Section 2 of Los Angeles City Ordinance No. 155,727, the “Noise Abatement and Curfew Regulation,” as amended by Ordinance No. 171889 on (reproduced in full in Appendix D), establishes a partial curfew. Briefly, the regulation prohibits non-Stage 3 fixed-wing aircraft with a takeoff noise level in excess of 74 A-weighted decibels (dBA), “as published in the most recent version of FAA Advisory Circular (AC) 36-3H (or in any revision, supplement, or replacement thereof listing the noise levels),” from departing between 10 p.m. and 7 a.m. Stage 3 fixed-wing aircraft are exempt until 11 p.m. The rule also exempts:

- Military aircraft and any government owned or operated aircraft involved in law enforcement, emergency, fire, or rescue operation.
- Aircraft not included in AC 36-3 that have been identified by the FAA in writing as having 74.0 dBA or lower takeoff noise level or for which satisfactory evidence has been furnished to the BOAC that the departure noise will not exceed 74.0 dBA.
- Aircraft engaged in a bona fide medical or life-saving emergency for which acceptable evidence has been submitted in writing to the VNY general manager within 72 hours of the departure.

VNY Operations staff monitor nighttime airport operations and report violations to the City Attorney for enforcement action as defined in Section 7, “Enforcement and Penalties,” of the Ordinance.

3.2.7 Non-Addition Rule

Los Angeles City Ordinance 181106 (reproduced in full in Appendix D) added Section 5.1 to the “Noise Abatement and Curfew Regulation,” to prohibit any additional non-Stage 3 aircraft with noise levels exceeding 77 dBA from being based at VNY or parked, tied down, or hangared at the airport for more than 30 days in any calendar year, subject to exceptions for major maintenance, repair, and refurbishment. The rule includes provisions that expired in 2005 and 2010 that permitted operators to replace “exempt based non-Stage 3 aircraft” with aircraft exceeding the 77 dBA limit, and which permitted the replacement aircraft to be based (i.e., parked, tied down, or hangared for more than 30 days a year).

VNY Operations staff monitor aircraft parked, tied down, and hangared at the airport to identify any exceedances of the 30-day limit, exclusive of exceptions for major maintenance, repair, and refurbishment for which operators have received any required approvals. Violations are reported to the City Attorney for enforcement action as defined in Section 7, “Enforcement and Penalties,” of the Ordinance.

3.2.8 Noisier Aircraft Phaseout

Los Angeles City Ordinance 181106 (reproduced in full in Appendix D) amended Section 2 of Ordinance No. 155,727, the “Noise Abatement and Curfew Regulation” by adding two new sections (Section 5.2 “Aircraft Operations - Maximum Noise Levels” and Section 5.3 “Exemptions from Maximum Noise Levels”). Briefly, the rule prohibits operations by aircraft that exceed specified takeoff noise levels, according to a four-phase program implemented over eight years. Section 5.2 of the ordinance identifies the following phased reduction in maximum takeoff noise levels (also based on FAA AC 36-3H, or in any revision, supplement, or replacement):

- Starting January 1 of 2009: No aircraft may arrive or depart VNY whose takeoff noise level equals or exceeds 85 A-weighted decibels (dBA).
- Starting January 1 of 2011 year: No aircraft may arrive or depart VNY whose takeoff noise level equals or exceeds 83 dBA.
- Starting January 1 of 2014: No aircraft may arrive or depart VNY whose takeoff noise level equals or exceeds 80 dBA.
- Starting January 1 of 2016: No aircraft may arrive or depart VNY whose takeoff noise level equals or exceeds 77 dBA.

Section 5.3 of the Ordinance includes a number of exemptions, including operations of certain historic aircraft, operations associated with certain types of repair and maintenance activities, departures of permanently departing aircraft, and Stage 3 and 4 aircraft.

VNY Operations staff aircraft operations at the airport to identify any operations in banned aircraft types, exclusive of the noted exceptions for which operators have received any required approvals. Violations are reported to the City Attorney for enforcement action as defined in Section 7, “Enforcement and Penalties,” of the “Van Nuys Noise Abatement and Curfew Regulation” presented in Appendix D.

3.3 Existing VNY Compatible Land Use Measures

LAWA, City of Los Angeles, and California programs and regulations include the following major compatible land use measures at VNY:

- sound insulation
- aviation and noise easements
- compatible building code
- noise disclosure

3.3.1 Sound Insulation

In May 2000, LAWA established the VNY Residential Soundproofing Program (RSP) to sound insulate existing airport incompatible residential land uses on parcels wholly or partially within the 65 dB “Community Noise Equivalent Level” (CNEL) contour for the 12 months of operations ending September 30, 1998 (referred to as the “Third Quarter of 1998” or “3Q98” contour). LAWA selected this eligibility contour to define a fixed program boundary that eliminated uncertainty as to whether a parcel’s ineligibility might change in the future, to provide greater security to property owners. LAWA has funded the program to date from internal revenue sources.

LAWA’s Airports Development Group / Residential Soundproofing Section implements the program. Participation in the program is voluntary. Homeowners are offered treatment in a prioritized order based on the 3Q98 CNEL value for the parcel. The treatment includes all structural modifications needed to reduce the maximum interior CNEL to 45 dB in all habitable rooms. LAWA will continue the program until all owners of eligible property have been offered treatment and the treatment is completed on dwelling units owned by those agreeing to participate.

The following list summarizes key elements of the program's implementation status

- 1,048 total dwelling units are within the program eligibility contours:
- 726 dwelling units have been sound insulated
- 12 units where the owners have declined participation in program
- 117 unit's owners have not responded to multiple notices from LAWA inviting them to participate, which LAWA has interpreted as a de facto decline of the offer
- 1 unit was determined to be ineligible due to code deficiency because of substandard construction
- 139 dwelling units are vacant parcels or ineligible because construction occurred since LAWA initiated the program, which also is after the October 1, 1998 cut-off date for federal funding for mitigation of noise-sensitive land uses.²⁸
- 53 remaining units are scheduled to be sound insulated before the end of 2011. The owner of each unit has signed a contract with LAWA to participate in the program and the BOAC has authorized the funding. [It is anticipated that the sound insulation work will have started on these projects by the time this document is sent to the FAA and that final document will be updated as appropriate.]

LAWA has funded the sound insulation program to date from internal revenue sources, at a total cost of approximately \$11 million. LAWA estimates that sound insulating the 53 remaining units (assuming the offer acceptance rate is equal to the historic average) will bring the total program cost to approximately \$12 million and that the treatment will be completed by June 30, 2012.

The land use analyses presented in this document take into account the status of the sound insulation program within the updated existing and forecast case NEM contours. Based on the preceding summary of program status, which indicates all eligible property units will have been offered treatment before the end of 2011, all the dwelling units within the program boundary are considered compatible for Part 150 purposes, depicted as such in the NEM figures, and counted as such in NEM tabular counts.

As discussed under Part 150 NCP Compatible Land Use Measure 2 in Section 3.4.1 and in the FAA's Record of Approval (ROA) for the VNY NCP (presented in Appendix B), FAA approved a sound insulation program as a formal Part 150 NCP element. The FAA approval excludes homes constructed after September 30, 1998 and homes that LAWA has already treated. The FAA approval also notes that federal funding is contingent on LAWA preparation and FAA acceptance of updated NEMs to identify properties eligible for inclusion. This final requirement is a principal purpose of this update to the VNY NEMs

3.3.2 Avigation and Noise Easements

Property owners must sign an "avigation and noise easement" to receive sound insulation treatment.

3.3.3 Compatible Building Code

The City of Los Angeles Municipal Code sets the following acoustical standards for new construction and for alterations and additions to existing structures:

²⁸ The FAA's policy published in the Federal Register April 3, 1998 (Volume 63, Number 64), states that the FAA will not approve federal funding to mitigate noise-sensitive land uses constructed after October 1, 1998.

91.1208.8. Exterior Sound Transmission Control.

91.1208.8.1. Application consistent with local land-use standards. All structures identified in Section 91.1208.1.1²⁹ located in noise critical areas, such as proximity to highways, county roads, city streets, railroads, rapid transit lines, airports or industrial areas shall be designed to prevent the intrusion of exterior noises beyond prescribed levels. Proper design shall include, but shall not be limited to, orientation of the structure, setbacks, shielding and sound insulation of the building itself.

91.1208.8.2. Allowable interior noise levels. Interior noise levels attributed to exterior sources shall not exceed 45db in any habitable rooms, classrooms, residential care facilities and places of worship. The noise metric shall be either the day-night average sound level (L_{dn}) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.

Worst-case noise levels, either existing or future, shall be used as the basis for determining compliance with this section. Future noise levels shall be predicted for a period of at least 10 years from the time of building permit application.

91.1208.8.3. Airport noise sources. Residential structures and all other structures identified in Section 91.1208.1.1 located where the annual L_{dn} or CNEL (as defined in Title 21, Subchapter 6, California Code of Regulations) exceeds 60db, shall require an acoustical analysis showing that the proposed design will achieve prescribed allowable interior level.

EXCEPTION: New single family detached dwellings and all non-residential noise sensitive structures located outside the noise impact boundary of 65db CNEL are exempt from Section 91.1208.

Alterations or additions to all noise sensitive structures, within the 65db and greater CNEL shall comply with the Section 91.1208. If the addition or alternation cost exceeds 75% of the replacement cost of the existing structure, then the entire structure must comply with Section 91.1208.

For public-use airports or heliports, the L_{dn} or CNEL shall be determined from the Aircraft Noise Impact Area Map prepared by the Airport Authority. For military bases, the L_{dn} shall be determined from the facility Air Installation Compatible Use Zone (AICUZ) plan. For all other airports or heliports, or public-use airports or heliports for which a land-use plan has not been developed, the L_{dn} or CNEL shall be determined from the noise element of the general plan of the local jurisdiction.

When aircraft noise is not the only significant source, noise levels from all sources shall be added to determine the composite site noise level.

91.1208.8.4. Other noise sources. All structures identified in Section 91.1208.1.1 located where the L_{dn} or CNEL exceeds 60db shall require an acoustical analysis showing that the proposed design will limit exterior noise to the prescribed allowable interior level. The noise element of the local general plan shall be used to the greatest extent possible to identify sites with noise levels potentially greater than 60db.

91.1208.8.5. Compliance. Evidence of compliance shall consist of submittal of an acoustical analysis report, prepared under the supervision of a person experienced in the field of acoustical engineering, with the application for a building permit for all structures identified in Section 91.1208.1.1 or the use of prescriptive standards for residential structures in the Los Angeles County Building Code Manual. The report shall show topographical relationships of noise sources and dwelling sites, identification of noise sources and their characteristics, predicted noise spectra and levels at the exterior of the proposed structure considering present and future land usage, basis for the prediction (measured or obtained from published data), noise attenuation measures to be applied, and an analysis of the noise insulation effectiveness of the proposed construction showing that the prescribed interior level requirements are met.

²⁹ 91.1208.1.1. Purpose and scope. The purpose of this section is to establish uniform minimum noise insulation performance standards to protect persons within new hotels, motels, dormitories, residential care facilities, apartment houses, dwellings, private schools, and places of worship from the effects of excessive noise, including but not limited to, hearing loss or impairment and interference with speech and sleep.

If interior allowable noise levels are met by requiring that windows be unopenable or closed, the design for the structure must also specify ventilation or air-conditioning system to provide a habitable interior environment. The ventilation system must not compromise the interior room noise reduction.

91.1208.8.6. Appendix Chapter 12, Section 1208A.8.6 of the C.B.C. is hereby adopted by reference.

3.3.4 Noise Disclosure

Section 11010 of the California Business and Professions Code requires any person who intends to offer subdivided lands within California for sale or lease to file with the Department of Real Estate an application for a public report that includes, among other things, the location of all existing airports and of all proposed airports shown on the general plan of any city or county located within 2 statute miles of the subdivision. A copy of the report must be given to the prospective purchaser by the owner, subdivider, or agent prior to the execution of a binding contract or agreement for the sale or lease of any lot or parcel in a subdivision or upon request by any member of the public.

If the property to be subdivided is located within an airport influence area (e.g., within the 65 dB CNEL contour at VNY), the following statement shall be included in the notice of intention:

NOTICE OF AIRPORT IN VICINITY

This property is presently located in the vicinity of an airport, within what is known as an airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you. (B) For purposes of this section, an "airport influence area," also known as an "airport referral area," is the area in which current or future airport-related noise, overflight, safety, or airspace protection factors may significantly affect land uses or necessitate restrictions on those uses as determined by an airport land use commission.

The California Department of Transportation Legal Division interprets existing law to require sellers of residential property to provide a notice of proximity to airports to prospective buyers, as reported in the California Airport Land Use Planning Handbook:³⁰

Another important form of buyer awareness measures represented in ALUC policies are real estate disclosure statements. California state real estate law requires that sellers of real property disclose "any fact materially affecting the value and desirability of the property" (California Civil Code, Section 1102.1(a)). While this general requirement leaves to the property seller the decision as to whether airport-related information constitutes a fact warranting disclosure, other sections of state disclosure law specifically mention airports.

Section 1102.17 of the Civil Code says that: "The seller of residential real property subject to this article who has actual knowledge that the property is affected by or zoned to allow industrial use described in Section 731a of the Code of Civil Procedure shall give written notice of that knowledge as soon as practicable before transfer of title."

Section 731a of the Code of Civil Procedure then specifies: "Whenever any city, city and county, or county shall have established zones or districts under authority of law wherein certain manufacturing or commercial or airport uses are expressly permitted, except in an action to abate a public nuisance brought

³⁰ "California Airport Land Use Planning Handbook," State of California Department of Transportation Division of Aeronautics, January 2002.

in the name of the people of the State of California, no person or persons, firm or corporation shall be enjoined or restrained by the injunctive process from reasonable and necessary operation in any such industrial or commercial zone or airport of any use expressly permitted therein, nor shall such use be deemed a nuisance without evidence of the employment of unnecessary and injurious methods of operation....”

The interpretation of the Department of Transportation Legal Division is that these sections of the law establish a requirement for disclosure of information regarding the effects of airports on nearby property provided that the seller has “actual knowledge” of such effects. ALUCs have particular expertise in defining where airports have effects on surrounding lands. ALUCs thus can give authority to this disclosure requirement by establishing a policy indicating the geographic boundaries of the lands deemed to be affected by airport activity. In most cases, this boundary will coincide with commission’s planning boundary for an airport (the airport area of influence). Furthermore, ALUCs should disseminate information regarding their disclosure policy and its significance by formally mailing copies to local real estate brokers and title companies. Having received this information, the brokers would be obligated to tell sellers that the facts should be disclosed to prospective buyers.

3.4 VNY Part 150 Study

As discussed in Section 1, LAWA made a combined NEMs and NCP submission to the FAA in August 2003. FAA found the NEMs in compliance on April 4, 2009 and executed a Record of Approval (ROA) for the proposed NCP actions effective October 16, 2009.³¹

LAWA proposed 35 NCP measures, in five categories: (1) four land use measures, (2) seven helicopter noise abatement measures, (3) four fixed-wing noise abatement procedures, (4) 13 program implementation measures, and (5) seven “use-restriction” measures. Sections 3.4.1 through 3.4.5 provide brief summaries³² of the measures in each of these categories, FAA responses in the ROA, and subsequent LAWA actions.

3.4.1 Off- and On-Airport Compatible Land Use Measures

Measure 1: **Adopt an Airport Land Use Commission (ALUC) Airport Comprehensive Land Use Plan (CLUP) for VNY and environs reflecting the provisions of the NCP.** The program will be subject to ongoing monitoring and implementation. *This measure effectively continues the existing ALUC / CLUP process for inclusion as a formal Part 150 NCP element.*

FAA Response in ROA: *Approved. Amending the various comprehensive plans is within the authority of the land use planning departments. The Federal Government has no control over local land use planning.*

Subsequent LAWA Actions: *LAWA continues the existing ALUC / CLUP process, as discussed in Section 2.2.2 of this document.*

Measure 2: **Sound insulation program for residential properties within 65 dB CNEL.** If any portion of a lot lies within the 65 CNEL then it should be included. Continue acoustical

³¹ Detailed FAA responses are presented in the full ROA reproduced in Appendix B of this document.

³² Drawn from detailed discussions in Chapter V of the 2003 Part 150 submission.

insulation program until all dwelling units are insulated. *This measure establishes a sound insulation program as a formal Part 150 NCP element.*

FAA Response in ROA: *Approved for homes constructed before October 1, 1998. The FAA's policy published in the Federal Register April 3, 1998 (Volume 63, Number 64), states that the FAA will not approve Federal funding to mitigate noise-sensitive land uses constructed after October 1, 1998. This element would improve land use compatibility in the vicinity of the airport. The NEM/NCP updated information states approximately 232 homes per year are being insulated. Since the time the NCP was completed, it is estimated that somewhere near 900 homes need to be insulated. Structures recommended for inclusion in the program and the scope of the program will be required prior to approval for federal funding.*

In order to be eligible for federal funding, the project is subject to FAA order 5100.38C. Homes that have already been acoustically treated by the City of Los Angeles prior to approval of the Part 150 study cannot be eligible for federal AIP or PFC funding.

Subsequent LAWA Actions: *LAWA is continuing with the existing sound insulation program, as discussed in Section 3.3.1 of this document. One purpose of this update to the VNY NEMs is to identify ongoing program boundaries that are consistent with FAA funding criteria.*

Measure 3: **Ensure compatibility of additional development within the airport noise impact area.** Adopt measures to restrict the introduction of new housing within the projected 65 dB CNEL, unless such property is sound insulated and an aviation easement granted in favor of the airport. Maintain and monitor the General Plan over time to assure airport/community compatibility. Encourage owners of undeveloped land to voluntarily develop the property consistent with California State Noise Standards. *This measure effectively continues existing compatible land use control measures (i.e., building code, easements, and disclosure) for inclusion as a formal NCP element.*

FAA Response in ROA: *Approved with respect to preventing the introduction of new housing.*

The portion of this measure that permits new noncompatible development within the [CNEL] 65 dB, even with sound attenuation and/or easement, is inconsistent with the FAA's guidelines and 1998 policy and is disapproved for purposes of Part 150. This decision relates to the measure's consistency with the purposes of Part 150. This measure is within the authority of LAWA and local planning jurisdiction. The Federal Government has no control over local land use planning.

Subsequent LAWA Actions: *LAWA continues implementation of existing compatible land use control measures (i.e., building code, easements, and disclosure) outside of Part 150, as discussed in Section 3.3.*

Measure 4: **On-airport construction and capital improvement that contribute to noise abatement.** (A) Construct airfield improvements shown on the current airport layout plan to improve safety and convenience, which might lead to reduced delays, unnecessary ground idling, conflicting flight paths, and other types of activity that

increase noise exposure. (B) Develop neighborhood enhancement projects focused on noise mitigation (e.g. sound walls, landscaping). (C) Construct a hush house on the airfield to suppress jet engine maintenance noise, with the location determined after further study.

FAA Response in ROA: *Disapproved.* Part A – The NCP indicates this measure is to improve airfield efficiency, not to improve noise although it states there may be secondary noise benefits that are not quantified. Parts B and C – the NCP appears to present these as potential noise mitigation concepts, but does not include any quantitative analysis regarding the expected decibel / CNEL reduction in noise. The NCP also does not indicate where these types of ground noise mitigating barriers should be located to improve the noise environment to residences near the airport, nor the number of residences or residents expected to benefit. The FAA cannot determine how the measure contributes to improving the noise benefit around the airport.

Subsequent LAWA Actions: *None.*

3.4.2 Helicopter Noise Abatement Measures

Measure 5: **Formulate and adopt local plans and ordinances to regulate the establishment and operation of new helicopter landing facilities in the general area.** Monitor, maintain, and adjust plans and ordinances over time.

FAA Response in ROA: *Approved for study.* The NCP indicates in several meeting minutes, which are open for public comment, that helicopter operations are problematic around VNY. The helicopter study, while completed in 1991, provides some insight into the MSL altitude at which helicopters fly due to glide slope, fixed wing patterns, and separation requirements.

That portion of the measure that recommends adoption of local plans and ordinances as necessary to regulate the establishment and operation of new helicopter landing facilities is disapproved.

Subsequent LAWA Actions: *LAWA continues to monitor helicopter compliance with existing noise abatement operating procedures described in Section 3.2.3, and to communicate as appropriate with helicopter operators, residents, and the FAA. LAWA also assessed helicopter use restrictions in the 14 C.F.R. Part 161 study, as discussed in Section 3.5.*

Measure 6: **Increase altitude of west-side helicopter operations.** Investigate whether to encourage helicopter pilots operating west of VNY to increase their altitude 300 feet which may be accommodated under the existing Burbank glideslope.

FAA Response in ROA: *Disapproved.* The FAA review indicates that changing the altitude of helicopters in the area would increase complexity for both controllers and pilots. It has been discussed with pilots and controllers who have indicated it would be difficult to implement and add complexity to the congested airspace. Because the NCP did not include a quantitative analysis, and the narrative indicates the proposal would likely derive benefits outside of the sponsor's selected CNEL noise contour study area, implementation would not be justified for purposes of noise mitigation.

Subsequent LAWA Actions: *LAWA assessed helicopter use restrictions in the 14 C.F.R. Part 161 study, as discussed in Section 3.5, and determined they were not justified under benefit-cost and other Part 161 evaluation criteria. LAWA continues to monitor helicopter compliance with existing noise abatement operating procedures described in Section 3.2.3, and to communicate as appropriate with helicopter operators, residents, and the FAA.*

Measure 7: **Conduct testing and research to determine whether a helicopter training facility would be appropriate on the Bull Creek Site.** Such a facility would preclude the need for helicopters to leave the airport to train elsewhere. Any such facility would be limited in the number of operations allowed as determined by further study.

FAA Response in ROA: *Disapproved. The airport has no authority to regulate numbers of operations; such action would be subject to analysis and approval under 14 C.F.R. Part 161. Also, the NCP does not provide sufficient information to determine whether the Bull Creek site would be noise beneficial and there appears to be conflicting information in the helicopter study, which indicates there is opposition to helicopter operations in the Bull Creek area because it is noise-sensitive. Due to the age of the study(ies), updated land use information also would be needed to determine whether there are new noncompatible land use that might be affected should operations be shifted to this site.*

Subsequent LAWA Actions: *LAWA continues to monitor helicopter compliance with existing noise abatement operating procedures described in Section 3.2.3, and to communicate as appropriate with helicopter operators, residents, and the FAA.*

Measure 8: **Improve use of established helicopter routes.** Develop a program to require helicopter operators to fly along established routes, in particular Stagg Street instead of Saticoy Street, and to maximize operations over the least noise sensitive areas such as the industrial development to the east and the Flood Control Basin to the south.

FAA Response in ROA: *Disapproved. FAA review of the recommendation indicates an increase in the use of Stagg Street arrival/departure procedures would create a safety hazard for ATC and it is not acceptable for this reason. Increased use of the Stagg Street route will increase the frequency of traffic crossing over mid-filed and produce unacceptable levels of risk to safety. It also is noted that the documentation states an analysis of benefits was not conducted, and that it is not likely that benefits will occur within the CNEL contours of the official NEMs.*

Subsequent LAWA Actions: *LAWA assessed helicopter use restrictions in the 14 C.F.R. Part 161 study, as discussed in Section 3.5, and determined they were not justified under benefit-cost and other Part 161 evaluation criteria. LAWA continues to monitor helicopter compliance with existing noise abatement operating procedures described in Section 3.2.3, and to communicate as appropriate with helicopter operators, residents, and the FAA.*

Measure 9: **Investigate the feasibility of moving the Bull Creek route to the west, over Balboa Boulevard, to reduce noise over residents in the Creek area.** Surface traffic on the Balboa Boulevard route should mask some of the noise from helicopters.

FAA Response in ROA: *Disapproved.* The NCP recommends additional study to determine whether this measure is feasible. The 1991 Helicopter Study suggests the Bull Creek area is noise sensitive, but indicates a shift to Balboa Boulevard would require helicopters to fly over more residential areas and a school, and that more testing is needed to determine whether it is feasible. The NCP should provide more information on the noise benefits or disbenefits of shifting operations to this proposed route. Without more current land use information, it is not possible to tell whether new noncompatible land uses would be impacted or benefitted should the route be shifted.

Subsequent LAWA Actions: LAWA continues to monitor helicopter compliance with existing noise abatement operating procedures described in Section 3.2.3, and to communicate as appropriate with helicopter operators, residents, and the FAA.

Measure 10: **Work toward enactment of an ordinance that would require City-owned helicopters to maintain specified altitudes (depending on fixed-wing conflicts), except when a mission requires a lower altitude or an orbiting maneuver.** Under FAA regulations, helicopters must now be at 500 feet altitude within the VNY Airport Traffic Area (ATA), which extends five miles in all directions from the airport. The ordinance would require helicopters within and outside the ATA to maintain sufficient altitude, particularly when they are transiting an area. The altitude would be determined during the development of the ordinance but, at a minimum, would maintain the 500 feet altitude currently flown in the ATA.

FAA Response in ROA: *Disapproved.* This measure recommends a local ordinance to enforce study-related recommended altitudes. Aircraft altitudes may not be established by local ordinance.

Any study of possible changes to the airspace in the vicinity of VNY must be conducted in consultation with the FAA's Air Traffic Organization because of the potential impacts on airspace safety and efficiency. Should a study recommend changes in altitude that are demonstrated to be safe, they may be submitted for approval under 14 C.F. R. Part 150. These changes must include a quantified noise benefit to demonstrate the measure meets Part 150 approval criteria.

Subsequent LAWA Actions: LAWA assessed helicopter use restrictions in the 14 C.F.R. Part 161 study, as discussed in Section 3.5, and determined they were not justified under benefit-cost and other Part 161 evaluation criteria. LAWA continues to monitor helicopter compliance with existing noise abatement operating procedures described in Section 3.2.3, and to communicate as appropriate with helicopter operators, residents, and the FAA.

Measure 11: **Improve communications between the airport, the FAA, helicopter operators, and residents in an effort to reduce the impact and negative perception of helicopter operations.** Residents would be encouraged to provide as much information as possible regarding helicopter infringements, to increase follow-up by the airport and improve self-policing by helicopter operators and individual pilots.

FAA Response in ROA: *Establishing improved communications is approved.*

Any recommended change to existing flight procedures not approved in this NCP and any flight procedures or flight tracks not already in place at VNY are disapproved for inclusion in the guidebook. Such changes would need to be separately reviewed, for reasons of aviation safety and efficiency, by the FAA. Noise mitigation measures must be accompanied by an analysis demonstrating their noise benefits. Changes in flight procedures normally also need an appropriate environmental analysis.

Subsequent LAWA Actions: *LAWA continues to monitor helicopter compliance with existing noise abatement operating procedures described in Section 3.2.3, and to communicate as appropriate with helicopter operators, residents, and the FAA.*

3.4.3 Fixed-Wing Noise Abatement Measures

Measure 12: Establish noise abatement and departure techniques for all aircraft departing VNY. Modified or reduced noise takeoff procedures would vary according to aircraft type, size, and weight. Some aircraft might be required to fly a steeper takeoff profile while others would find it necessary to use a more shallow profile. The takeoff parameters for aircraft would be established through continuous measurement of individual aircraft noise levels using approved manufacturers or NBAA procedures.

FAA Response in ROA: *Approved as voluntary. Exhibits 2 and 3 [of the 2003 NCP submission] provide benefits information of implementing the Fly Friendly program. That program could benefit several thousand people within the CNEL 65 dB contour.*

Subsequent LAWA Actions: *As discussed in Section 3.2.1, LAWA is pursuing enhancements to the voluntary Fly Friendly target noise level program that includes updated departure noise level targets and a positive incentive recognition program.*

Measure 13: Implement noise abatement and departure procedures. This measure implements the intent of Measure 12; it was included in the Part 150 separately for the purposes of incorporating the results of adopting NCP “Scenario No. 9,” which assumed the use of reduced take-off thrust power settings within safety levels for all jet departures and prohibit aircraft having Part 36 takeoff noise levels in excess of 74 dBA (excluding emergency flights), between the hours of 10:00 pm and 7:00 am.

FAA Response in ROA: *The measure related to existing procedures continuing at the airport on a voluntary basis is approved as voluntary. The NCP narrative indicates this measure is effective and provides a quantifiable noise benefit.*

Any changes to the voluntary nature of the Fly Friendly program or adjustments to flight profiles are disapproved. Such changes need to be separately reviewed, for reasons of aviation safety and efficiency by the FAA. Part 161 applies to measures that would reduce the total number or hours of Stage 2 or Stage 3 aircraft operations at the airport. Extending the curfew hours would require compliance with 14 C.F.R. Part 161 and the Airport Noise and Capacity Act of 1990 (ANCA), 49 U.S.C. 47524(b).

Subsequent LAWA Actions: *As discussed in Section 3.2.1, LAWA is pursuing enhancements to the voluntary Fly Friendly target noise level program that includes updated departure noise level targets and a positive incentive recognition program.*

Measure 14: **Update on-airfield noise abatement signage.** Re-sign the airport at every departure point/intersection with signs that can be read day and night that provide the following:

- Please Fly Quietly
- Departing South: No Turns Before the Flood Basin
- Departing North: No Turns Before 1,800 MSL

On intersection signs only, the following words should be included: *Intersection Departures Are Not Allowed Between 10:00 pm and 7:00 am.* Implement immediately with larger, clearer signs being posted at every run-up area describing recommended noise abatement procedures, including altitudes and locations at which turns should be initiated after departure, and noise sensitive areas to be avoided.

FAA Response in ROA: *Approved for procedures already in effect at the airport.*

Location of the signs, to ensure airfield safety, and final wording on signage must be separately approved as part of implementing the measure and may make voluntary measures mandatory. This measure should remind pilots of the noise abatement procedures in place and is considered a program management tool. It is intended to improve compliance with voluntary noise abatement procedures already in place.

Subsequent LAWA Actions: *On an ongoing basis, LAWA will consider addition of signs where appropriate to complement those already in place at the airport.*

Measure 15: **Adopt full length runway use policy.** This measure would reiterate the existing “top of the runway” jet departure policy, (taking off at the furthest end of the runway).

FAA Response in ROA: *Disapproved. There is no analysis to demonstrate the measure’s noise benefits and the FAA cannot determine how the measure contributes to improving the noise environment around the airport. This disapproval does not prohibit or discourage continuation of existing practices to use the full runway length outside the Part 150 program.*

Subsequent LAWA Actions: *LAWA continues the existing voluntary full runway length practices outside the Part 150 program, as discussed in Section 3.2.4.*

3.4.4 Program Implementation Measures

Measure 16: **Establish noise roundtable.** Establish a noise roundtable at VNY to review progress on the implementation of the Part 150 Study. The Roundtable could make adjustments to allow for the implementation of additional noise measures which might be recommended over time, if they become technically and economically feasible.

The Roundtable will act as a review board for at least two years after the recommendations of Scenario No. 12 (the Ad Hoc Committee recommendations incorporated within Measures 13, 15, 18, 19, 20, 21, 24, and 26) and Scenario No. 9 are fully implemented, with the understanding that the Part 150 Study would be continued.

The Roundtable will hold annual meetings, or more frequently as warranted, to discuss the status of the Part 150 program, recommended adjustments, and complaints with airport users and the affected community. LAWA will monitor aircraft noise levels and

airport activity to determine if significant unexpected changes have occurred to the base year NEM, and to determine if the Part 150 program is being successfully implemented.

FAA Response in ROA: *Approved. The Noise Roundtable can act as a forum for discussion of noise issues and assist in tracking NCP progress. The Noise Roundtable has no authority to make adjustment to NCP measures. It may make recommendations to the airport operator for changes to VNY's existing NCP.*

Subsequent LAWA Actions: *LAWA continues to use the VNY Citizens Advisory Council (CAC) for regular public presentation and discussion of noise issues.*

Measure 17: Establish noise management monitoring system. Establish a noise management monitoring and flight track system with software and database that feature the ability to positively identify all aircraft and maintain an automated data system that will provide the following information for jet operations:

- “N” number sorting by types of jets
- aircraft type, owner, and pilot
- Part 36-3 (most recent edition) listed noise departure level
- NBAA, or aircraft manufacturer’s noise abatement operation level
- actual operation noise level recorded by VNY noise monitors

Calibrate the system to ensure accurate “real time” monitoring of noise abatement procedures for jet departures, and install a radio receiver and recording system that will identify airport tower clearance “N” number and “real time” operation information.

FAA Response in ROA: *Approved for purposes of Part 150. This measure would provide data to the airport on existing noise and flight procedures and flight track adherence and implementation, and enable LAWA to improve its ability to monitor the effectiveness of its Part 150 program. Approval of this measure does not obligate the FAA to participate in funding the acquisition or installation of the permanent noise monitors and associated equipment. Note, for the purpose of aviation safety, this approval does not extend to the use of monitoring equipment for enforcement purposes by in-situ measurement of any pre-set noise thresholds.*

Subsequent LAWA Actions: *LAWA has completed the system installation.*

Measure 18: Establish automated system to provide feedback to citizens. Establish an automated feedback system to those in the community such that residents are assured that data kept on a daily basis is accurate and reliable. Acquire ANOMS, or a similar system, that has the capability to interface with ARTS 3 data, track aircraft by altitude, provide a hard copy of individual flight information characteristics, and provide automated noise monitoring correspondence capabilities.

FAA Response in ROA: *Approved. This measure would provide data to the airport and enable LAWA to improve its ability to monitor the effectiveness of its Part 150 Program and to address citizen noise queries. Approval of this measure does not obligate the FAA to participate in funding the acquisition of installation of the permanent noise monitors and associated equipment. Note, for the purpose of aviation safety, this approval does not extend to the use of monitoring equipment for enforcement purposes by in-situ measurement of any pre-set noise thresholds.*

Subsequent LAWA Actions: *LAWA has completed the system installation.*

Measure 19: **Establish tenant association to promote noise abatement procedures.** Establish a more formalized tenant association willing to communicate with violating pilots to voluntarily comply with the “Fly Neighborly” programs and procedures.

FAA Response in ROA: *Approved in part. This measure intends to use the tenant association to provide reminders to pilots of noise abatement measures already in place at the airport and to improve communications between member tenants and the community.*

Subsequent LAWA Actions: *LAWA continues to use the VNY CAC for regular public presentation and discussion of noise issues. LAWA also requests the opportunity to make presentations at the Van Nuys Airport Association (VNAA) for the stated communications purposes.³³*

Measure 20: **Request that FAA add a noise abatement message to ATIS broadcast.** Request the FAA, as a partner in this project, change its regional policy to allow local towers to add a brief “Fly Quietly” message to the Automatic Terminal Information System (ATIS) that states: “Due to excessive aircraft noise levels, aircraft operating at VNY should fly in a friendly manner,” utilizing NBAA or manufacturer’s noise abatement procedures.

FAA Response in ROA: *Disapproved. Revised Order 7110.65, Air Traffic Control, no longer provides for noise abatement advisories. Noise abatement advisories may be published in the Airport Facilities Directory and pilot handouts. Other measures recommended in the NCP for communication with pilots could achieve the same goal.*

Subsequent LAWA Actions: *LAWA continues to promote the VNY noise abatement program through other FAA-approved communication vehicles cited in the ROA.*

Measure 21: **Adopt noise-sensitive marketing policy.** Develop and adopt a noise-sensitive marketing policy for VNY that will encourage the voluntary introduction of quieter aircraft into VNY operations and discourage the use of noisier aircraft.

FAA Response in ROA: *Approved as voluntary. Approved for voluntary marketing approaches, as contemplated in this measure. Implementation of this measure is considered to be within the authority of LAWA. Marketing expenses are not eligible for Federal funding assistance. Any mandatory enforcement of this policy would constitute an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), 49 U.S.C. 47524(b), and 14 CFR Part 161.*

Subsequent LAWA Actions: *In lieu of a voluntary marketing approach, LAWA analyzed and proposed a formal phaseout of noisier aircraft under the Part 161 and Noisier Aircraft Phaseout Study discussed in Section 3.5. That study led to the adoption*

³³ “VNAA is a collaboration of Van Nuys Airport tenants and supporters working to achieve economic growth and increased public awareness of the general aviation industry.” From the VNAA website (<http://www.thevnaa.org/mission.html>), last accessed 5/18/2011.

of Los Angeles City Ordinance 181106 (discussed in Section 3.2.8), which implements a four-step decibel-based phaseout based on FAA-published noise levels.

Measure 22: Establish relocation financial assistance program. Develop a program to provide financial assistance to residents interested in moving out of the noise impact area.

FAA Response in ROA: *Approved for noncompatible development that existed as of October 1, 1998. Some proposed elements of this measure may not be eligible for financial assistance. Federal participation is based on the FAA's mitigation policy, published in the Federal Register April 1998. It states that beginning October 1, 1998, the FAA will approve remedial noise mitigation measures, (sound insulation, sales assurance or transaction assurance, etc.) under Part 150 only for noncompatible development that exists as of that date.*

Noncompatible development that occurred after October 1, 1998, may only be addressed in Part 150 programs with preventive mitigation measures (land use controls, comprehensive plan, zoning regulations, subdivision regulations, building code, etc.). In order for the land acquisition, purchase assurance, sales assurance or transaction assurance to be eligible for federal funding, the project is subject to compliance with FAA Order 5100.38C, paragraph 811. The Federal Relocation Assistance and Real property Acquisition Policies Act also must be followed.

Subsequent LAWA Actions: *LAWA continues to pursue land use mitigation measures discussed in Section 3.3 of this document. Financial assistance at this time is limited to the sound insulation program discussed in Section 3.3.1.*

Measure 23: Continue noise abatement officer position. Continue the full-time noise abatement officer position to work with Airport Security to continually monitor jet departures, and report to the Airport Manager and community departure noise levels. The officer will be responsible for operation of the permanent monitoring system, serve as a community liaison on noise issues, coordinate with pilots, collect and respond to noise complaints, and develop a program to improve formal communications with the FAA and aircraft operators on noise abatement procedures. The noise complaint system should be improved to provide greater feedback to operators, and link complaints to noise reduction measures. The function of the noise complaint system should be expanded to pursue noise reduction and not merely used for public relations purposes.

FAA Response in ROA: *Approved. Implementation of this measure is considered to be within the authority of LAWA.*

Subsequent LAWA Actions: *LAWA continues its extensive commitment of staff and other resources to VNY noise compatibility program administration, publicity, implementation, monitoring, enforcement, review, and refinement, as discussed in Section 3.1. This commitment includes multiple noise program staff at VNY.*

Measure 24: Compile noise abatement information. Compile available information on noise abatement procedures from manufacturers, pilots, and noise offices at other general aviation airports to be made available to pilots operating at VNY.

FAA Response in ROA: *Disapproved.* Noise abatement procedures are airport specific and must be evaluated for effectiveness at individual airports. Any new procedures proposed for noise mitigation at VNY may not be implemented prior to study to determine whether they can be implemented safely and efficiently, and whether they are noise beneficial.

Subsequent LAWA Actions: *None.*

Measure 25: **Seek to raise Burbank glideslope.** Continue coordinated research with the FAA to investigate the feasibility of raising the Burbank Runway 7 glideslope to allow an increase in operating altitude for helicopter and fixed-wing operations at VNY by as much as 1,500 to 2,000 feet, to permit a 1,500 to 2,000 foot above ground level (AGL) minimum helicopter pattern altitude. The Steering Committee recommended that this measure be forwarded to the VNY Helicopter Task Force for consideration. Pending the outcome of the evaluation by the Task Force, this measure would be subject to modification. Ongoing monitoring and implementation should be maintained.

FAA Response in ROA: *Disapproved.* While this measure proposes only to maintain communication between the FAA for both BUR and VNY on this issue, the FAA has already examined the feasibility of the proposal. The FAA has concerns regarding the “ripple” effect the change to the glideslope would cause within the Southern California Terminal Radar Control (TRACON) airspace around VNY. Traffic is already constrained by multiple regulated airspace areas and high terrain nearby. Raising the glideslope at BUR would require additional changes to vertical altitude for separation purposes. This will create the loss of significant designated altitude when there is an aircraft executing the Instrument Landing System (ILS) to BUR. Loss of any altitude will be detrimental to air traffic operations in the vicinity.

Subsequent LAWA Actions: *None.*

Measure 26: **Establish noise abatement lease policy.** Recommend that it be a policy of the BOAC to add to any future new Fixed Based Operator (FBO) leaseholders a requirement that they base only Stage 3 aircraft at VNY. The requirement would only apply to based aircraft and not to itinerant aircraft. Based aircraft are defined as any aircraft parked, hangared, or tied down at VNY for more than 90 days. The discussion in the Part 150 made it clear that the intent was to limit this restriction to jet aircraft.

FAA Response in ROA: *Disapproved for purposes of Part 150.* The stated intent of this measure is to enforce through leases the requirements of the non-addition rule. The NCP analysis includes very little information beyond that included in this ROA. FAA’s review must include a determination that the measure reduces and/or prevents the introduction of noncompatible land uses, that it does not impose an undue burden on interstate or foreign commerce (including any unjust discrimination), and that it does not affect aircraft safety or efficiency (see section 150.33 for a detailed discussion of FAA review and approval criteria).

While the non-addition rule as it applies to Stage 2 aircraft is “grandfathered” and not subject to 14 CFR Part 161, this lease requirement has not been evaluated under 14 CFR Part 150. The measure does not discuss the potential impacts on owners of non-

staged, Stage 1 and other non-Stage 2 aircraft. Also it appears to apply only to jet aircraft, which could be unjustly discriminatory.

Subsequent LAWA Actions: *In lieu of using a lease policy to limit use of noisier aircraft at VNY, LAWA analyzed and proposed a formal phaseout of noisier aircraft under the Part 161 and Noisier Aircraft Phaseout Study discussed in Section 3.5. That study led to the adoption and implementation of Los Angeles City Ordinance 181106 (as discussed in Section 3.2.8 and reproduced in full in Appendix D), which implements a four-step decibel-based phaseout based on FAA-published noise levels.*

Measure 27: Request FAA upgrade Air Traffic Control Tower to support 24-hour operation.

Request the FAA to upgrade the VNY Air Traffic Control Tower from a level 3 tower to a level 4 tower. An upgrade to a level 4 control tower would result in more efficient and improved operational control and could provide for increased tower personnel on duty to support the recommendation that the tower be operated 24 hours a day.

FAA Response in ROA: *Disapproved. Specific standards must be met prior to extending hours of operation of any ATC facility. These are based primarily on numbers of hourly operations, but may take critical safety issues into account. FAA does not enforce locally enacted noise rules. Keeping the tower open solely for the purpose of noise abatement does not meet these criteria. FAA Order JO 7232.5G, "Changing Operating Hours for Terminal Facilities," describes FAA requirements.*

Subsequent LAWA Actions: *None.*

Measure 28: Recommend that FAA require larger "N" numbers on aircraft to improve visibility. Larger "N" numbers on aircraft, particularly on the bottom side of wings, would enhance a citizen's ability to identify an aircraft, thereby better enabling utilization of the noise complaint procedures.

FAA Response in ROA: *Disapproved for purposes of Part 150. There is insufficient information to demonstrate a measureable noise benefit. The requirements for N-number placement and size are contained in 14 CFR Part 45.20. That regulation indicates there is a minimum size requirement and does not prohibit an aircraft owner increasing the size of the aircraft identifying number. The NCP discussion indicates larger N numbers are intended to help people identify aircraft that may be violating noise rules at the airport and could have a marginal contribution to noise reduction. Other noise monitoring and tracking measures in the NCP intended as Program Management measures would accomplish a similar goal.*

Subsequent LAWA Actions: *LAWA continues implementation of the other noise monitoring and tracking measures to which this section of the ROA refers.*

3.4.5 Restrictive Measures

The Part 150 also recommended that LAWA investigate seven use restrictions:

Measure 29: Incentives/Disincentives in Rental Rates: Establish a set of incentives and disincentives through differential rental rates to encourage the greater use of quieter

aircraft and less use of noisier aircraft at VNY. Rental rates for leases and tie downs would be correlated to the level of noise generated by the aircraft.

FAA Response in ROA: *Disapproved for purposes of Part 150 pending compliance with Part 161. The NCP provides discussion but no technical analysis or quantification of the expected benefits. The NCP mentions the potential for unjust discrimination and burden on commerce, which also must be analyzed under 14 C.F.R Part 150.*

As recognized in the NCP the proposed incentives and disincentives in rental rates for based aircraft could constitute an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), 49 U.S.C. 47521 et seq., and 14 C.F.R. Part 161. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150. For FAA action under Part 150, additional analysis needs to be included addressing impacts of the proposal on non-Stage 2 and Stage 3 aircraft.

Subsequent LAWA Actions: *LAWA analyzed this measure under the Part 161 and Noisier Aircraft Phaseout Study discussed in Section 3.5. That study led to the conclusion that the objectives of the proposed rental rate incentives and disincentives would be more effectively met through the implementation of the Noisier Aircraft Phaseout, which implements the use restriction proposed in NCP Measure 32.*

Measure 30: **Incentives/Disincentives in Landing Fees:** Establish a system of differential landing fees for aircraft using VNY with higher landing fees for noisier aircraft and lower landing fees for quieter aircraft.

FAA Response in ROA: *Disapproved for purposes of Part 150 pending compliance with Part 161. As recognized in the NCP the proposed incentives and disincentives in landing fees could constitute an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 C.F.R. Part 161. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under Part 150 is sought. Other issues also must be addressed under Part 150 including the measure's impacts on aircraft that are not Stage 2 or Stage 3, and a quantification of noise benefits from implementing this measure.*

Subsequent LAWA Actions: *LAWA analyzed this measure under the Part 161 and Noisier Aircraft Phaseout Study discussed in Section 3.5. That study led to the conclusion that the objectives of the proposed land fee incentives and disincentives would be more effectively met through the implementation of the Noisier Aircraft Phaseout, which implements the use restriction proposed in NCP Measure 32.*

Measure 31: **Establish Fines for Violations of VNY Noise Abatement Policies:** Establish a system of monetary penalties (fines) to be imposed on aircraft operators who violate noise abatement policies at VNY. The Proposed Restriction would make the voluntary VNY Fly Friendly program mandatory and establish penalties for violations of the program. This NCP measure proposes that the City of Los Angeles implement the following penalties: \$500 for the third violation; \$1,000 for the fourth violation; and \$2,000 for the fifth and subsequent violations. Any operator who commits a 6th violation would be banned from using VNY.

FAA Response in ROA: *Disapproved for purposes of Part 150 pending compliance with 14 C.F.R. Part 161. The current Fly Friendly procedures are voluntary, and a high compliance rate has been achieved. The pilot in command has responsibility for the safe operation of an aircraft, and may not always be able to comply with the procedures. As recognized in the NCP, the proposed expansion of fines to mandate compliance constitutes an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), 49 U.S.C. 47524(b), and 14 C.F.R. Part 161. Other issues also must be addressed under Part 150 including the measure's impacts on aircraft that are not Stage 2 or Stage 3, and a quantification of noise benefits derived from implementing this measure.*

Subsequent LAWA Actions: *As discussed in Section 3.2.1, LAWA is pursuing enhancements to the voluntary Fly Friendly target noise level program that include updated departure noise level targets and a positive incentive recognition program.*

Measure 32: Establish Maximum Daytime Noise Limits: Establish a maximum daytime noise limit for all aircraft operating at VNY of 77 dBA.

FAA Response in ROA: *Disapproved pending compliance with Part 161. The NCP does not quantify noise benefits derived from this measure. As recognized in the NCP the proposed measure constitutes an airport noise and access restriction that could only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 C.F.R. Part 161. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under Part 150 is being sought. Other issues also must be addressed under Part 150 including the measure's impacts on aircraft that are not Stage 2 or Stage 3.*

Subsequent LAWA Actions: *LAWA analyzed this measure under the Part 161 and Noisier Aircraft Phaseout Study discussed in Section 3.5. That study led to the adoption and implementation of Los Angeles City Ordinance 181106 (as discussed in Section 3.2.8 and reproduced in full in Appendix D) which prohibits operations by aircraft that exceed specified takeoff noise levels, according to a four-phase decibel-based program implemented over eight years, culminating in the NCP's proposed 77 dBA limit starting on January 1, 2016. In the course of assessing and pursuing approval of this proposed ordinance, LAWA obtained FAA acknowledgement that the phaseout as approved with exemptions for Stage 3 and Stage 4 aircraft is not subject to ANCA or Part 161. Appendix E presents a copy of the FAA opinion on this matter.*

Measure 33: Establish a Limit on Stage 3 Jets: Establish a cap on the number of Stage 3 jets that may be based at VNY.

FAA Response in ROA: *Disapproved pending compliance with Part 161. The NCP does not quantify the noise benefits. The measure proposes to examine this recommendation in detail in a Part 161 study. As recognized in the NCP the proposed measure constitutes an airport noise and access restriction that could only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 C.F.R. Part 161. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under Part 150 is being sought. Other issues also must be addressed under Part 150 including the measure's impacts on aircraft that are not Stage 2 or Stage 3.*

Subsequent LAWA Actions: *LAWA analyzed this measure under the Part 161 and Noisier Aircraft Phaseout Study discussed in Section 3.5. That study led to the conclusion that the proposed restriction of based Stage 3 jets would not meet several ANCA and Part 161 conditions. In particular, it is unlikely that the benefits of the restriction would be greater than the costs, to a major extent because the restriction would largely shift noise to other noise-sensitive airports. For these primary reasons, LAWA discontinued pursuit of this proposal.*

Measure 34: **Expansion of the VNY Curfew:** Amend the existing curfew ordinance to expand the hours to include all non-emergency jets and non-emergency helicopters as aircraft that would come under the provisions of the curfew from 10 pm to 7 am.

FAA Response in ROA: *Disapproved pending compliance with Part 161. The NCP does not quantify the noise benefits. As recognized in the NCP the proposed measure constitutes an airport noise and access restriction that could only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 C.F.R. Part 161. The measure proposes to examine this recommendation in detail in a Part 161 study. As recognized in the NCP, the proposed measure constitutes an airport noise and access restriction that could only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 C.F.R. Part 161. ANCA and Part 161 apply to restrictions affecting Stage 2 and Stage 3 aircraft operations. A clarifying point – the extension of the curfew hours is grandfathered under ANCA only as it applies to Stage 2 aircraft. Applicability of the expanded curfew hours to Stage 3 aircraft would be subject to Part 161. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under Part 150 is being sought. Other issues also must be addressed under Part 150 including the measure’s impacts on aircraft that are not Stage 2 or 3.*

Subsequent LAWA Actions: *LAWA analyzed this measure under the Part 161 and Noisier Aircraft Phaseout Study discussed in Section 3.5. That study led to the conclusion that expanding the curfew would not meet several ANCA and Part 161 conditions. In particular, it is likely the costs would be significantly greater than the benefits, and the restriction would largely shift noise to other noise-sensitive airports. For these primary reasons, LAWA discontinued pursuit of this proposal.*

Measure 35: **Establish a Cap or Phase-Out of Helicopters:** Establish a cap on the number of, or initiate a phase-out of helicopters from VNY.

FAA Response in ROA: *Disapproved pending compliance with Part 161. The NCP does not quantify the noise benefits. As recognized in the NCP the proposed measure constitutes an airport noise and access restriction that could only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 C.F.R. Part 161. ANCA and Part 161 apply to restrictions affecting Stage 2 and 3 aircraft operations, including helicopters. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under Part 150 is being sought. Other issues also must be addressed under Part 150 including the measure’s potentially discriminatory effect against a class of aircraft.*

Subsequent LAWA Actions: *LAWA analyzed this measure under the Part 161 and Noisier Aircraft Phaseout Study discussed in Section 3.5. That study led to the*

conclusion that either a cap or phase-out of helicopter activity would not meet several ANCA and Part 161 conditions. In particular, it is likely the costs would significantly exceed the benefits, operations would largely shift to other noise-sensitive airports, and the restrictions would be considered discriminatory, because they were based on a specific aircraft category rather than strictly noise-related considerations. For these primary reasons, LAWA discontinued pursuit of both options included in this proposal.

3.5 Part 161 and Noisier Aircraft Phaseout Study

As discussed in the preceding section, the Part 150 submission acknowledged that NCP measures 29 – 35 represented noise and access restriction proposals that were subject to ANCA provisions, as implemented by the FAA in 14 C.F.R. Part 161. Implementation of any of those measures was contingent on LAWA addressing Part 161 notice, analysis, and documentation requirements, and – for any measures affecting Stage 3 aircraft operations – would be contingent on LAWA receiving FAA’s implementation approval. LAWA retained a consulting team to conduct the study required under Part 161 to assess these seven proposals, and several other proposals that the Los Angeles City Council and the LAWA Board of Airport Commissioners subsequently added, ultimately leading to a total of 12 options. The study commenced in 2005.

Over the next five years, the VNY Part 161 study process led to the following primary results:

- Adoption and implementation (through a city ordinance) of a “noisier aircraft phaseout” under the Part 161 “grandfather”³⁴ provision that addressed the objectives of several of the proposed restrictions to limit operations in the noisiest aircraft types operating at VNY.³⁵ Section 3.2.8 of this document discusses the phaseout.
- The determination that LAWA could not justify the remaining proposed restrictions – including a formal Fly Friendly program – under statutory conditions for approval set forth in Part 161 or under contractual commitments LAWA had made when accepting federal grants.³⁶
- Determination that the voluntary Fly Friendly program had resulted in measurable noise reduction and that an updated program could yield further benefits.

LAWA staff presented these results to the LAWA Board of Airport Commissioners and the VNY Citizens Advisory Council (CAC) at separate meetings in February 2010, and recommended that:

- Part 161 efforts related to adoption of further use restrictions should be discontinued

³⁴ 14 C.F.R. Part 161.3(a) exempts (“grandfathers”) restrictions on Stage 2 aircraft operations that were first proposed before October 2, 1990 and on Stage 3 aircraft operations that became effective before that date. 14 C.F.R. Part 161.7(d)(2) exempts restrictions on Stage 2 aircraft operations “at a general aviation airport where the airport proprietor has formally initiated a regulatory or legislative process on or before October 2, 1990.” In addition to the noisier aircraft phaseout, all existing use restrictions that were in place prior to the Part 161 October 2, 1990 grandfather cut-off date continue in effect. As discussed in Section 3.2 of this document, these ongoing restrictions are implemented through City of Los Angeles ordinances, presented in Appendix D.

³⁵ LAWA analyzed the environmental impacts of the noisier aircraft phaseout pursuant to the California Environmental Quality Act (CEQA), as documented in “Van Nuys Airport Noisier Aircraft Phaseout Final Environmental Impact Report,” Los Angeles World Airports, March 2009.

³⁶ In particular FAA grant assurance 22(a), “Economic Nondiscrimination,” which states that an airport operator “will make its airport available as an airport for public use on fair and reasonable terms and without unjust discrimination to all types, kinds, and classes of aeronautical use.”

- Further efforts related to the Fly Friendly program should focus on enhancing the voluntary program to maximize its ongoing benefits

Both groups endorsed these recommendations. Section 3.2.1 discusses the enhancements to the Fly Friendly program that LAWA is pursuing in a totally voluntary manner.

LAWA is not pursuing any additional formal use restrictions for VNY at this time.

4 EXISTING AND FORECAST NOISE EXPOSURE MAPS

4.1 Introduction

As discussed in Section 1.3.1, the most fundamental elements of the NEMs submission are cumulative exposure noise contours for annual operations at the airport for: (1) data representing the year of submission and (2) data representing a forecast year at least five years from the year of submission.³⁷ As discussed in Section 2, the noise contours presented in this submission are in terms of annual CNEL to be consistent with LAWA-adopted land use compatibility standards presented in Section 2 of this document.

The year of submission for this NEMs update is 2011. Therefore, the existing conditions noise contours are for 2011 and the five-year forecast case contours are for 2016.

- Section 4.2 presents the Noise Exposure Map figures.
- Section 4.3 documents the noncompatible land uses within the noise contours.
- Section 4.4 describes the conditions under which LAWA will prepare and submit revised NEMs.
- Chapter 5 describes the development of the noise contours, summarizes the noise modeling assumptions, and identifies data sources.

4.2 Noise Exposure Map Figures

Figure 7 and Figure 8 present the NEM figures for existing (2011) and five-year forecast conditions (2016), respectively. These are the official Noise Exposure Maps that LAWA is submitting under Part 150 for appropriate FAA review and determination of compliance, pursuant to §150.21.

The figures are at the minimum scale permitted under §A150.103(b)(1); i.e., 1” to 2,000’. The two figures identify the following items, as required in Part 150 (in the sections cited):

- Runway lengths, alignments, landing thresholds, and takeoff start-of-roll locations, as required in §A150.103(b)(1).³⁸ VNY has two parallel runways – 16R/34L (8,001’ long) and 16L/34R (4,011’ long) – that have a roughly north-south orientation. The NEM figures indicate (with ellipses across the runway) the 1,431’ displaced landing thresholds for arrivals from the north on Runways 16R and 16L. There are no displacements on the southern runway ends. Takeoff start-of-roll points are at the physical ends of the runways. Section 5.1.2 provides more detailed information on Part 150 requirements and other airfield geometry data.

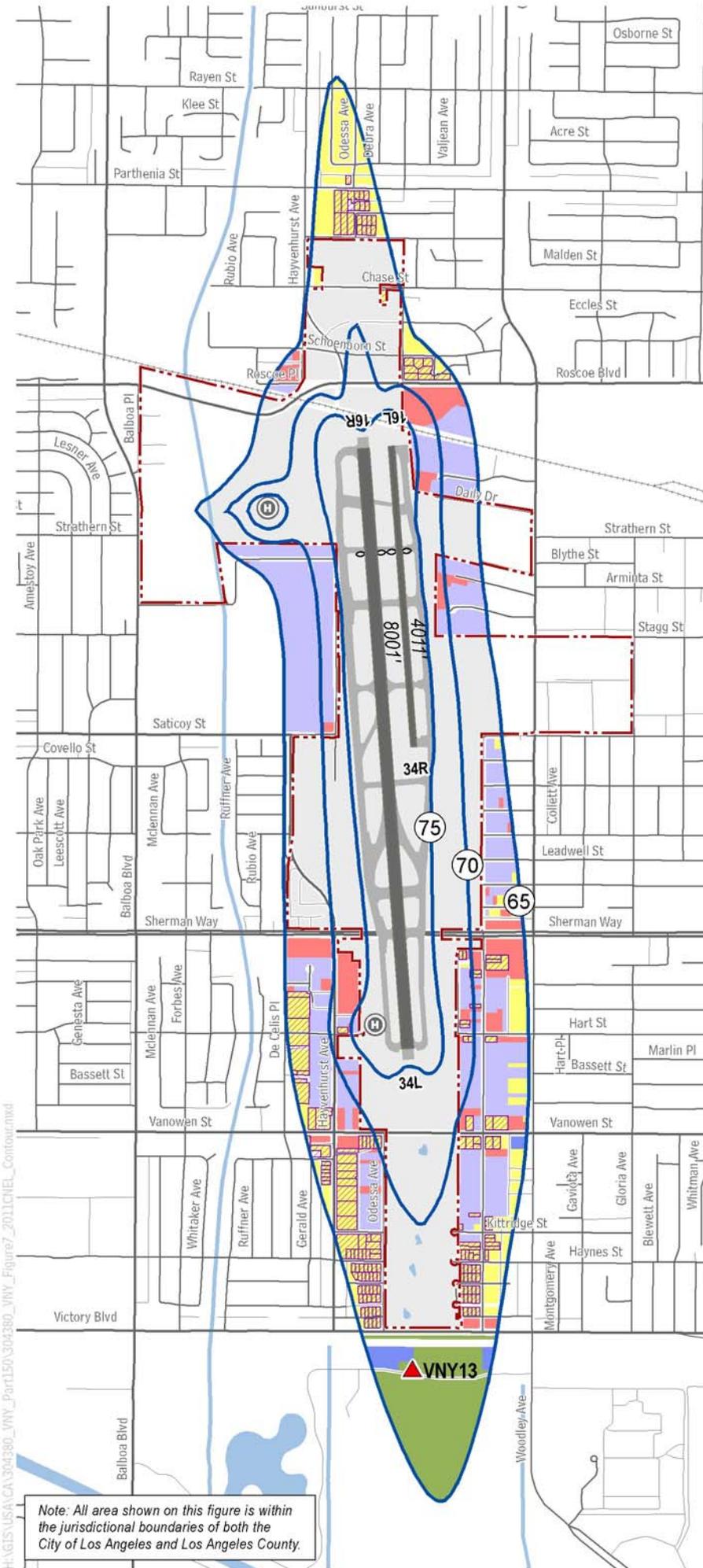
³⁷ See §III.A and §III.B of the FAA’s “Part 150 Noise Exposure Maps Checklist” presented in Table 1 starting on page 10 of this document.

³⁸ §A150.103(b)(1) also requires depiction of flight tracks out to 30,000’ from each runway end. Because of the large size of the figures needed to present the flight tracks at the 1” to 2,000’ scale, they are depicted on Figure 10 through Figure 19. As noted in the FAA’s “Part 150 Noise Exposure Maps Checklist” presented in Table 1 (page 10 of this document), FAA permits such separate flight track figures, as long as they are the same scale as the NEMs.

- Helipad locations, as required in §A150.103(c). VNY helicopter operations operate primarily from the former National Guard ramp in the northwest region of the airport and from the ramp area in the southwest region of the airport.
- Calendar year 2011 and 2016 noise contours (for 65, 70, and 75 dB CNEL) resulting from aircraft operations, as required in §A150.101(e)(3).
- Outline of the airport boundaries, as required in §A150.101(e)(4) and §A150.103(b)(1).
- Noncompatible land uses within the contours, as required in §A150.101(e)(5), including Part 150 land use categories on a parcel-by-parcel basis. As noted on the figures, the only non-compatible land uses within the 65 dB CNEL contours are residential dwelling units outside of the LAWA sound insulation program boundary, within which all residential units are considered compatible, for the reasons discussed in Section 3.3.1, and a single school (day-care facility).
- Locations of noise sensitive public buildings, as required in §A150.101(e)(6); i.e., the previously mentioned day-care facility.
- A note that there are no properties within the contours that are on or eligible for inclusion in the National Register of Historic Places, as required in §A150.101(e)(6).
- A noise monitor used “for data acquisition and refinement procedures” in the development of noise contours, as required in §A150.101(e)(7).
- A note that the entire area depicted on the map (the boundaries of which extend well beyond the 65 dB CNEL contours), is within the jurisdictional boundaries of both the City of Los Angeles and Los Angeles County, as required in §A150.105

2011 Existing Condition Noise Exposure Map

Figure: 7



 2011 Community Noise Equivalent Level (CNEL) Contours

 Airport Boundary

 Runway / Taxiway

 Helicopter Pad

 Measurement Site "VNY13" (Formerly V7)

Land Uses within 65 Decibel (dB) CNEL Contour:

 Residential (Non-Compatible)

 Residential (Compatible)

 Public Use

 Recreational / Open Space

 Commercial Use

 Manufacturing and Production

 Airport Property

 Vacant, Utility, Transportation

 Water

 River / Streams

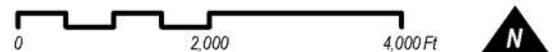
 Roads

 Railroad

 1,431' landing threshold displacements on Runways 16R and 16L; Runway 34R and 34L landing thresholds and all takeoff start-of-roll points are at the runway ends.

Note: There are no properties within the noise contours identified by the federal or state government to be on or eligible to be on the National Register of Historic Places.

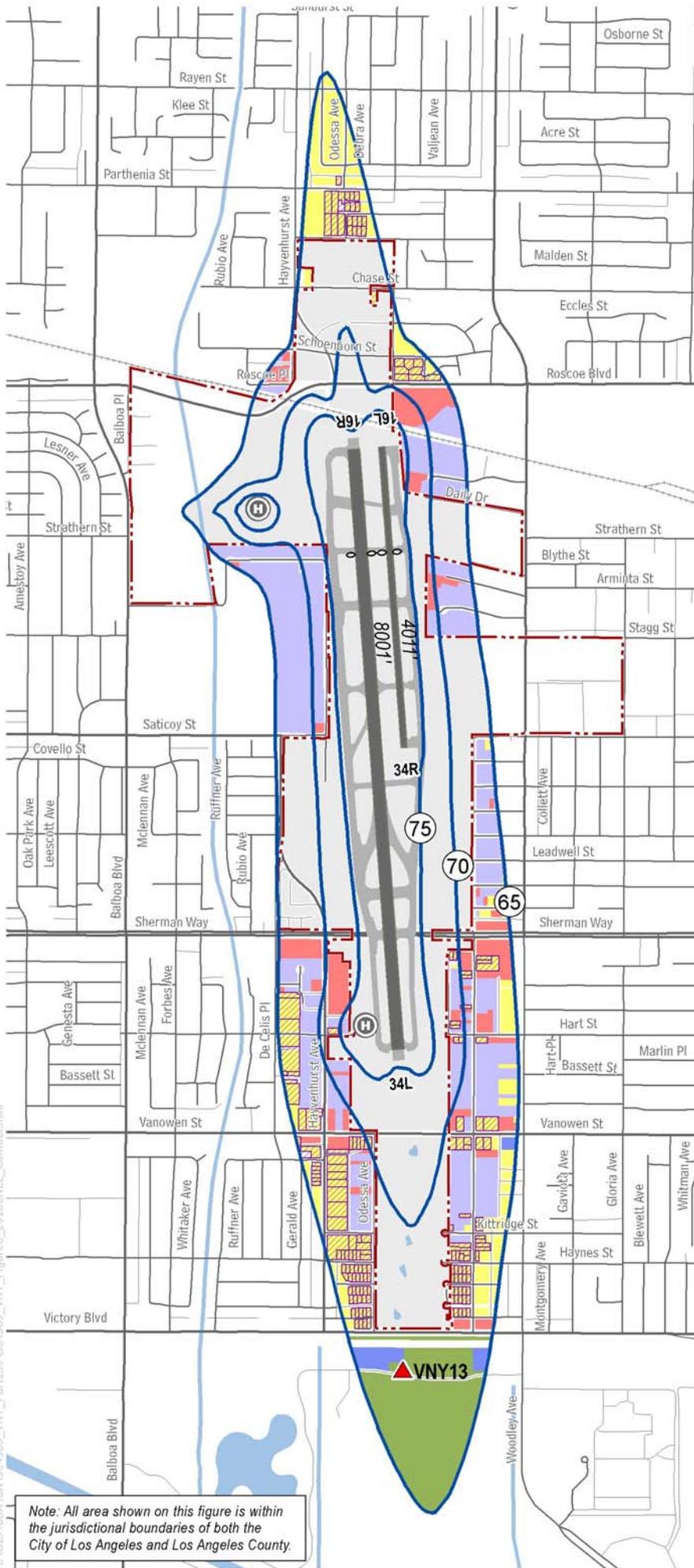
Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)



Note: All area shown on this figure is within the jurisdictional boundaries of both the City of Los Angeles and Los Angeles County.

2016 Five-Year Forecast Condition Noise Exposure Map

Figure: 8



 2016 Community Noise Equivalent Level (CNEL) Contours

-  Airport Boundary
-  Runway / Taxiway
-  Helicopter Pad
-  Measurement Site *VNY13* (Formerly V7)

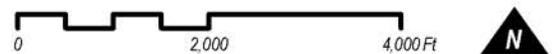
Land Uses within 65 Decibel (dB) CNEL Contour:

-  Residential (Non-Compatible)
-  Residential (Compatible)
-  Public Use
-  Recreational / Open Space
-  Commercial Use
-  Manufacturing and Production
-  Airport Property
-  Vacant, Utility, Transportation
-  Water
-  River / Streams
-  Roads
-  Railroad

 1,431' landing threshold displacements on Runways 16R and 16L; Runway 34R and 34L landing thresholds and all takeoff start-of-roll points are at the runway ends.

Note: There are no properties within the noise contours identified by the federal or state government to be on or eligible to be on the National Register of Historic Places.

Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)



Note: All area shown on this figure is within the jurisdictional boundaries of both the City of Los Angeles and Los Angeles County.

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4.3 Noncompatible Land Uses within the Noise Contours

The NEM figures depict land uses within the noise contours. As noted on the NEM figures, there is only one type of non-compatible land use within the 65 dB CNEL contours, based on the land use compatibility criteria discussed in Section 2; i.e., residential dwelling units outside the current LAWA sound insulation program boundary discussed in Section 3.3.1.

As discussed in Section 2, this NEMs submission applies land use compatibility criteria based on FAA’s Part 150 guidelines that are consistent with California airport noise standards presented in Section 2.2.

Neither the 2011 nor the 2016 NEM contours encompass any noise sensitive public buildings (such as schools, hospitals, and health care facilities), or any properties on or eligible for inclusion in the National Register of Historic Places.

Table 3 presents the estimated noncompatible dwelling units and associated residential population within the 2011 and 2016 NEM contours, for the 65-70 and 70-75 dB contour intervals and for the total area within the 65 dB CNEL contours. *There is no residential land use or population within the 75 dB and higher CNEL contour.*

Table 3 Estimated Compatible, Noncompatible, and Total Dwelling Units and Population within 2011 and 2016 Noise Exposure Map Contours

Source: HMMH, 2011

NEM Year	Category	65-70 dB CNEL		70-75 dB CNEL		Total within 65 dB CNEL	
		Dwellings	Population	Dwellings	Population	Dwellings	Population
2011	Compatible	1,093	2,952	30	68	1,123	3,020
	Noncompatible	877	2,764	1	2	878	2,766
	Total	1,970	5,716	31	70	2,001	5,786
2016	Compatible	1,095	2,955	28	65	1,123	3,020
	Noncompatible	898	2,829	1	1	899	2,830
	Total	1,993	5,784	29	66	2,022	5,850

Table 3 takes into account the status of LAWA’s sound insulation program. As discussed in Section 3.3.1, dwelling units are considered compatible where one of the following conditions applies:

- LAWA has sound insulated the dwelling unit.
- The property owner has declined a sound insulation offer from LAWA.
- The property owner has not responded to multiple LAWA offers to apply for participation in the sound insulation program, which LAWA interprets as a de facto decline of the offer.
- The unit was determined to be ineligible for sound insulation due to code deficiency because of substandard construction (which LAWA has determined applies to a single property within LAWA’s current sound insulation program boundary).
- Dwelling units constructed since LAWA initiated its sound insulation program, which also is after the October 1, 1998 cut-off date for federal funding of noise mitigation.

4.4 Effects of Forecast Changes on Future Land Use Compatibility

As discussed in Section 5, the forecast 2011 and 2016 noise modeling assumptions (including airport layout and operations) differ only in terms of the level and mix of aircraft activity in the two years, since there are no known reasons for assuming changes in any other modeling inputs.

Comparison of Figure 7 and Figure 8 shows that the forecast changes in aircraft activity slightly increase the area encompassed by the 65 dB CNEL contour in 2016 compared to 2011. As shown in Table 3, the contour growth slightly increases the *noncompatible* and *total* residential population within the 65 dB CNEL contour. There is no increase in the total *compatible* population (i.e., residents within the LAWA sound insulation program boundary, as discussed in Section 3.3.1). There are slight shifts between the two contour intervals that contain residential land use (i.e., the 65-70 dB and 70-75 dB) over the five-year forecast period. The total estimated population within the higher (70-75 dB CNEL) contour interval is forecast to decline by four residents; within the lower (65-70 dB CNEL) contour interval, the total encompassed population is estimated to increase by 68 residents, for an overall increase within the entire 65 dB and higher CNEL contours of 64 residents.

The contour growth does not affect land use compatibility in any other land use category; as the figures indicate, neither the 2011 nor the 2016 NEM contours encompass any noise sensitive public buildings (such as schools, hospitals, and health care facilities), or historic properties.

5 DEVELOPMENT OF NOISE CONTOURS

The CNEL contours contained in these NEMs were prepared using the most recent release of the FAA's Integrated Noise Model (INM) available at the time the contours were prepared; i.e., "Version 7.0b." The INM requires inputs in the following categories:

- Physical airport layout parameters
- Meteorological data
- Number and mix of aircraft operations
- Aircraft noise and performance characteristics
- Runway utilization rates
- Prototypical flight track descriptions and accompanying utilization rates

Sections 5.1.2 through 5.1.7 present this information (in the order listed above) for the noise contours presented in the preceding figures.

5.1.1 Changes in Modeling Assumptions from 2011 to 2016

The noise modeling assumptions used in developing the 2011 and 2016 contours differ only in terms of the level and mix of aircraft activity in the two years, since there are no known reasons for assuming any changes in the other five categories of modeling inputs listed above.

The aircraft noise and performance inputs discussed in Section 5.1.5 include "user-defined" modeling inputs reflecting benefits of the most commonly used "noise abatement departure profile" (NADP) procedures at VNY. To a large extent, these FAA-approved modeling refinements reflect the results of actions major operators have taken in response to the "fly-friendly" target noise level element of the VNY noise abatement program summarized in Section 3.2.1. As discussed in that section, LAWA is in the process of implementing enhancements to the program that it expects will lead to further NADP adjustments. The enhancements will commence officially in 2012. Detailed analyses of the existing program suggest that the adjustments will result in further reduction in single event noise levels over time. However, since it is impossible to predict what adjustments operators will make to their operating practices or the noise reduction that will result, the 2016 modeling inputs reflect current NADP procedures.

5.1.2 VNY Physical Parameters

Figure 9 presents a copy of the FAA's official "airport diagram." It includes airfield geometry data to supplement the required information depicted on the NEM figures.

The INM includes an internal database on the airport layout, including runway locations, orientation, start of takeoff roll points, runway end elevations, landing thresholds, approach angles, etc. These data were verified with internal LAWA sources and published FAA data to ensure the most current values were used for all modeling inputs.

VNY has two parallel operational runways: Runway 16R/34L and Runway 16L/34R. The primary runway, Runway 16R/34L, is 8,001 feet long and 150 feet wide. Runway 16L/34R is 4,011 feet long and 75 feet wide. Both runways have a negative gradient of 0.7% from north to south. The published airport elevation is 799 feet above mean sea level. Both Runways 16R and 16L have displaced arrival thresholds of 1,431 feet.

Runway 16R has an approach angle of 3.9°, while the other runways have the INM default approach angle of 3.0°. As discussed in Section 5.1.5.3, LAWA submitted a request to the FAA, and received approval, for modification of the INM inputs to model the “non-standard” 3.9° approach.

Based on information from the ATCT, it was assumed that propeller aircraft conducted takeoffs that started at the taxiway intersections listed below (i.e., rather than using the full runway length) 15% of the time. The intersections are labeled in Figure 9 as follows:

- Intersection E for Runway 16L
- Intersection G for Runway 16R
- Intersection K for Runway 34L
- Intersection G for Runway 34R

5.1.3 Meteorological Data

Average daily meteorological data values for VNY were acquired from the National Climatic Data Center for the most recent complete five calendar years (2005 – 2010) and used to calculate annual average values for temperature (66.0°F), relative humidity (48.9%), and pressure (29.96 inches Hg) for input to the INM.

5.1.4 Aircraft Operations

Appendix I presents copies of documentation related to FAA review and approval of the airport activity forecasts used in preparing these NEMs, including: (1) the FAA approval letter, (2) the LAWA request for FAA’s review, and (3) a detailed technical memorandum summarizing the forecast analyses and results.

Table 4 and Table 5 present detailed aircraft modeling fleet mixes for the existing (2011) and five-year forecast (2016) condition NEMs, respectively.

The tables present fleet mix detail broken down by type of operation (departures, arrivals, and touch-and-go cycles), the CNEL day (7:00 a.m.–7:00 p.m.), evening (7:00 p.m.–10:00 p.m.), and night (10:00 p.m.–7:00 a.m.), as discussed in Appendix Section C.9, and INM database aircraft types, including FAA-approved modeling “substitutes” and “user-defined” aircraft profiles, as discussed in Section 5.1.5.

Table 4 Forecast 2011 Annual Average Day Operations
 Source: SH&E and HMMH, 2011

Aircraft Category	INM Aircraft Type	Departures			Arrivals			Touch & Go Cycles			Total
		Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	
Jet	737700	1.03	0.07	0.10	0.91	0.15	0.15	0.00	0.00	0.00	2.42
	737800	0.01	<0.01	0.00	0.01	0.00	<0.01	0.00	0.00	0.00	0.03
	727LAC	0.04	<0.01	<0.01	0.03	0.01	<0.01	0.00	0.00	0.00	0.09
	A3_RAY	0.31	0.01	0.00	0.29	0.02	0.00	0.00	0.00	0.00	0.63
	CIT3	0.76	0.09	0.06	0.79	0.06	0.05	0.00	0.00	0.00	1.81
	CL600	5.70	0.41	0.61	5.26	0.88	0.60	0.00	0.00	0.00	13.45
	CL601	0.01	0.00	<0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.03
	CNA500	3.84	0.20	0.35	3.33	0.64	0.41	0.00	0.00	0.00	8.76
	CNA55B	2.40	0.25	0.21	2.38	0.27	0.20	0.00	0.00	0.00	5.72
	CNA750	3.74	0.28	0.32	3.49	0.46	0.38	0.00	0.00	0.00	8.67
	CRJ9-ER	0.04	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.07
	DC93LW	<0.01	0.00	0.00	<0.01	<0.01	0.00	0.00	0.00	0.00	0.01
	ECLIPSE500	0.57	0.04	0.07	0.51	0.09	0.09	0.00	0.00	0.00	1.38
	EMB145	0.19	0.01	0.01	0.17	0.03	0.02	0.00	0.00	0.00	0.42
	F15E29	<0.01	<0.01	0.00	<0.01	0.00	0.00	0.00	0.00	0.00	0.00
	F16PW9	0.01	<0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
	F-18	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
	F5AB	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
	FAL20	0.22	0.03	0.01	0.23	0.01	0.01	0.00	0.00	0.00	0.51
	FAL50	1.21	0.09	0.13	1.16	0.17	0.09	0.00	0.00	0.00	2.84
	FAL900	0.81	0.05	0.08	0.71	0.11	0.12	0.00	0.00	0.00	1.89
	GII	1.19	0.13	0.01	0.96	0.21	0.16	0.00	0.00	0.00	2.66
	GIIB-HKB	1.61	0.16	0.01	1.21	0.33	0.23	0.00	0.00	0.00	3.55
	GIV_AG	9.72	0.70	1.06	7.87	1.93	1.69	0.00	0.00	0.00	22.97
	GV	2.80	0.28	0.30	2.39	0.56	0.44	0.00	0.00	0.00	6.77
	IA1125	2.57	0.20	0.25	2.33	0.41	0.28	0.00	0.00	0.00	6.04
L25LAC	0.81	0.06	0.02	0.68	0.12	0.09	0.00	0.00	0.00	1.78	
L35LAC	13.35	1.05	1.98	11.60	2.43	2.35	0.00	0.00	0.00	32.76	
LEAR25	0.62	0.03	0.02	0.53	0.05	0.08	0.00	0.00	0.00	1.32	
LEAR35	8.13	0.52	0.60	7.30	1.16	0.80	0.00	0.00	0.00	18.51	
MU3001	7.05	0.50	0.79	6.47	1.00	0.87	0.00	0.00	0.00	16.69	
T-38A	0.10	0.01	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.25	
Jet Subtotal		68.87	5.17	7.00	60.80	11.10	9.14	0.00	0.00	0.00	162.09
Turboprop	C130	0.03	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.06
	CNA208	2.59	0.17	0.21	2.61	0.31	0.04	0.00	0.00	0.00	5.93
	CNA441	8.21	0.42	0.34	7.76	0.83	0.39	0.00	0.00	0.00	17.96
	CVR580	0.00	0.00	<0.01	<0.01	<0.01	<0.01	0.00	0.00	0.00	0.01
	DHC6	17.87	0.85	1.31	16.30	2.34	1.38	0.00	0.00	0.00	40.05
	DHC830	0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.04
	HS748A	0.18	<0.01	0.01	0.16	0.02	0.02	0.00	0.00	0.00	0.39
	PA42	0.18	0.04	<0.01	0.19	0.04	0.00	0.00	0.00	0.00	0.45
SD330	0.84	0.02	0.04	0.77	0.08	0.05	0.00	0.00	0.00	1.79	
Turboprop Subtotal		29.92	1.50	1.91	27.84	3.62	1.88	0.00	0.00	0.00	66.67

Aircraft Category	INM Aircraft Type	Departures			Arrivals			Touch & Go Cycles			Total
		Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	
Twin Piston	BEC58P	116.00	7.41	0.34	110.67	12.65	0.42	53.66	3.59	0.00	362.00
	DC3	0.71	<0.01	<0.01	0.65	0.06	<0.01	0.00	0.00	0.00	1.42
	PA30	0.69	0.30	0.00	0.83	0.15	0.00	0.00	0.00	0.00	1.98
	PA31	3.16	0.31	0.04	2.42	1.07	0.03	0.00	0.00	0.00	7.03
Twin Piston Subtotal		120.56	8.01	0.39	114.57	13.93	0.45	53.66	3.59	0.00	372.42
Single Piston	GASEPF	0.00	0.00	0.00	0.00	0.00	0.00	32.20	2.16	0.00	68.71
	GASEPV	0.23	0.01	0.00	0.23	0.01	0.00	21.31	1.43	0.00	45.95
	T34	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
Single Piston Subtotal		0.24	0.01	0.00	0.24	0.01	0.00	53.50	3.58	0.00	114.68
Piston Subtotal		120.80	8.02	0.39	114.81	13.94	0.45	107.17	7.18	0.00	487.10
Helicopters	A109	0.90	0.14	0.08	0.93	0.10	0.09	0.00	0.00	0.00	2.25
	B206L	10.39	1.58	0.96	10.72	1.21	1.00	0.00	0.00	0.00	25.86
	B212	0.03	<0.01	<0.01	0.03	<0.01	<0.01	0.00	0.00	0.00	0.07
	B222	0.05	0.01	0.01	0.06	0.01	0.01	0.00	0.00	0.00	0.14
	B407	0.52	0.08	0.05	0.53	0.06	0.05	0.00	0.00	0.00	1.29
	BO105	3.09	0.47	0.29	3.19	0.36	0.30	0.00	0.00	0.00	7.70
	CH47D	0.03	<0.01	<0.01	0.03	<0.01	<0.01	0.00	0.00	0.00	0.07
	EC130	0.10	0.02	0.01	0.11	0.01	0.01	0.00	0.00	0.00	0.26
	H500D	0.84	0.13	0.08	0.87	0.10	0.08	0.00	0.00	0.00	2.10
	R22	5.14	0.78	0.47	5.30	0.60	0.50	0.00	0.00	0.00	12.79
	R44	2.41	0.37	0.22	2.48	0.28	0.23	0.00	0.00	0.00	5.99
	S65	0.11	0.02	0.01	0.12	0.01	0.01	0.00	0.00	0.00	0.28
	S76	1.65	0.25	0.15	1.70	0.19	0.16	0.00	0.00	0.00	4.10
	SA330J	0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.00	0.00	0.00	0.02
	SA341G	0.46	0.07	0.04	0.47	0.05	0.04	0.00	0.00	0.00	1.14
SA350D	17.05	2.59	1.58	17.59	1.98	1.65	0.00	0.00	0.00	42.44	
SA355F	1.31	0.20	0.12	1.35	0.15	0.13	0.00	0.00	0.00	3.26	
SC300C	3.13	0.48	0.29	3.23	0.36	0.30	0.00	0.00	0.00	7.79	
Helicopter Subtotal		47.23	7.18	4.36	48.73	5.48	4.57	0.00	0.00	0.00	117.55
Total		266.82	21.87	13.66	252.18	34.14	16.04	107.17	7.18	0.00	833.40

Notes:

1. Total operations are equal to arrivals plus departures, plus two times the number of touch-and-go cycles, since each touch-and-go cycle is counted as two operations.
2. Several of the listed INM aircraft types are FAA-approved modeling substitutes for multiple aircraft types as discussed in Section 5.1.5.1.
3. Aircraft types highlighted in bold font are “**user-defined aircraft**” as discussed in Section 5.1.5.2.
4. Some subtotals may not add due to rounding.

Table 5 Forecast 2016 Annual Average Day Operations
 Source: SH&E and HMMH, 2011

Aircraft Category	INM Aircraft Type	Departures			Arrivals			Touch & Go Cycles			Total
		Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	
Jet	737700	1.55	0.11	0.15	1.37	0.23	0.22	0.00	0.00	0.00	3.64
	737800	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.04
	727LAC	0.02	<0.01	<0.01	0.02	0.01	<0.01	0.00	0.00	0.00	0.04
	A3_RAY	0.28	0.01	0.00	0.26	0.02	0.00	0.00	0.00	0.00	0.57
	CIT3	1.11	0.13	0.09	1.16	0.08	0.08	0.00	0.00	0.00	2.65
	CL600	8.46	0.62	0.91	7.80	1.30	0.88	0.00	0.00	0.00	19.95
	CL601	0.01	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.04
	CNA500	5.04	0.26	0.45	4.37	0.84	0.54	0.00	0.00	0.00	11.50
	CNA55B	3.52	0.36	0.30	3.49	0.40	0.30	0.00	0.00	0.00	8.37
	CNA750	5.47	0.41	0.47	5.11	0.67	0.56	0.00	0.00	0.00	12.69
	CRJ9-ER	0.06	0.00	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.11
	DC93LW	<0.01	0.00	0.00	<0.01	<0.01	0.00	0.00	0.00	0.00	0.00
	ECLIPSE500	1.83	0.14	0.23	1.63	0.30	0.28	0.00	0.00	0.00	4.42
	EMB145	0.28	0.01	0.01	0.25	0.04	0.02	0.00	0.00	0.00	0.61
	F15E29	<0.01	<0.01	0.00	<0.01	0.00	0.00	0.00	0.00	0.00	0.00
	F16PW9	0.01	<0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
	F-18	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
	F5AB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	FAL20	0.14	0.02	<0.01	0.15	0.01	0.01	0.00	0.00	0.00	0.33
	FAL50	1.76	0.13	0.19	1.70	0.24	0.14	0.00	0.00	0.00	4.16
	FAL900	1.22	0.07	0.13	1.07	0.16	0.19	0.00	0.00	0.00	2.83
	GII	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	GIIB-HKB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	GIV_AG	14.59	1.05	1.59	11.80	2.89	2.54	0.00	0.00	0.00	34.47
	GV	4.21	0.42	0.45	3.58	0.84	0.66	0.00	0.00	0.00	10.16
	IA1125	3.76	0.29	0.36	3.41	0.60	0.41	0.00	0.00	0.00	8.84
	L25LAC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	L35LAC	18.60	1.44	2.74	16.17	3.39	3.23	0.00	0.00	0.00	45.56
LEAR25	0.86	0.04	0.02	0.74	0.06	0.12	0.00	0.00	0.00	1.84	
LEAR35	11.87	0.76	0.88	10.65	1.69	1.17	0.00	0.00	0.00	27.00	
MU3001	9.26	0.66	1.04	8.50	1.32	1.14	0.00	0.00	0.00	21.91	
T-38A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jet Subtotal		93.93	6.94	10.03	83.28	15.09	12.52	0.00	0.00	0.00	221.78
Turboprop	C130	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.05
	CNA208	2.46	0.16	0.20	2.48	0.29	0.04	0.00	0.00	0.00	5.64
	CNA441	7.80	0.40	0.32	7.38	0.78	0.37	0.00	0.00	0.00	17.06
	CVR580	0.00	0.00	<0.01	<0.01	<0.01	<0.01	0.00	0.00	0.00	0.01
	DHC6	16.98	0.81	1.24	15.49	2.23	1.31	0.00	0.00	0.00	38.05
	DHC830	0.02	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.04
	HS748A	0.17	<0.01	0.01	0.15	0.02	0.02	0.00	0.00	0.00	0.37
	PA42	0.17	0.04	<0.01	0.18	0.03	0.00	0.00	0.00	0.00	0.43
SD330	0.79	0.02	0.04	0.73	0.08	0.05	0.00	0.00	0.00	1.70	
Turboprop Subtotal		28.43	1.43	1.82	26.45	3.44	1.79	0.00	0.00	0.00	63.34

Aircraft Category	INM Aircraft Type	Departures			Arrivals			Touch & Go Cycles			Total
		Day	Evening	Night	Day	Evening	Night	Day	Evening	Night	
Twin Piston	BEC58P	110.09	7.04	0.32	105.02	12.04	0.40	52.20	3.50	0.00	346.30
	DC3	0.64	<0.01	<0.01	0.59	0.05	<0.01	0.00	0.00	0.00	1.28
	PA30	0.66	0.28	0.00	0.80	0.15	0.00	0.00	0.00	0.00	1.88
	PA31	3.02	0.29	0.04	2.31	1.02	0.02	0.00	0.00	0.00	6.70
Twin Piston Subtotal		114.40	7.62	0.37	108.71	13.26	0.43	52.20	3.50	0.00	356.17
Single Piston	GASEPF	0.00	0.00	0.00	0.00	0.00	0.00	31.32	2.10	0.00	66.83
	GASEPV	0.21	0.01	0.00	0.21	0.01	0.00	20.73	1.39	0.00	44.68
	T34	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
Single Piston Subtotal		0.22	0.01	0.00	0.22	0.01	0.00	52.05	3.49	0.00	111.54
Piston Subtotal		114.62	7.63	0.37	108.93	13.27	0.43	104.25	6.98	0.00	467.71
Helicopters	A109	1.08	0.16	0.10	1.11	0.12	0.10	0.00	0.00	0.00	2.68
	B206L	12.41	1.89	1.15	12.80	1.44	1.20	0.00	0.00	0.00	30.88
	B212	0.04	0.01	<0.01	0.04	<0.01	<0.01	0.00	0.00	0.00	0.09
	B222	0.07	0.01	0.01	0.07	0.01	0.01	0.00	0.00	0.00	0.16
	B407	0.62	0.09	0.06	0.64	0.07	0.06	0.00	0.00	0.00	1.54
	BO105	3.70	0.56	0.34	3.81	0.43	0.36	0.00	0.00	0.00	9.20
	CH47D	0.03	0.01	<0.01	0.04	<0.01	<0.01	0.00	0.00	0.00	0.09
	EC130	0.13	0.02	0.01	0.13	0.01	0.01	0.00	0.00	0.00	0.31
	H500D	1.01	0.15	0.09	1.04	0.12	0.10	0.00	0.00	0.00	2.51
	R22	6.14	0.93	0.57	6.33	0.71	0.59	0.00	0.00	0.00	15.27
	R44	2.88	0.44	0.27	2.97	0.33	0.28	0.00	0.00	0.00	7.16
	S65	0.13	0.02	0.01	0.14	0.02	0.01	0.00	0.00	0.00	0.33
	S76	1.97	0.30	0.18	2.03	0.23	0.19	0.00	0.00	0.00	4.89
	SA330J	0.01	<0.01	<0.01	0.01	<0.01	<0.01	0.00	0.00	0.00	0.02
	SA341G	0.55	0.08	0.05	0.56	0.06	0.05	0.00	0.00	0.00	1.36
SA350D	20.36	3.09	1.88	21.01	2.36	1.97	0.00	0.00	0.00	50.68	
SA355F	1.57	0.24	0.14	1.61	0.18	0.15	0.00	0.00	0.00	3.90	
SC300C	3.74	0.57	0.35	3.86	0.43	0.36	0.00	0.00	0.00	9.30	
Helicopter Subtotal		56.40	8.57	5.21	58.18	6.54	5.45	0.00	0.00	0.00	140.36
Total		293.38	24.56	17.42	276.84	38.34	20.19	104.25	6.98	0.00	893.20

Notes:

1. Total operations are equal to arrivals plus departures, plus two times the number of touch-and-go cycles, since each touch-and-go cycle is counted as two operations.
2. Several of the listed INM aircraft types are FAA-approved modeling substitutes for multiple aircraft types as discussed in Section 5.1.5.1.
3. Aircraft types highlighted in bold font are “**user-defined aircraft**” as discussed in Section 5.1.5.2.
4. Some subtotals may not add due to rounding.

5.1.5 Aircraft Noise and Performance Characteristics

The INM database contains noise and performance data for over one hundred different aircraft types. The program automatically accesses the applicable noise and performance data for operations by those aircraft. Noise data are in the form of SEL (see Appendix C.5) at a range of distances (from 200 feet to 25,000 feet) from a particular aircraft with engines at a specific thrust level. Performance data includes thrust, speed, and altitude profiles for takeoff and landing operations.

To model operations at VNY as accurately as feasible, it was necessary to obtain FAA approval for three “non-standard” INM applications:

- Use of “substitute” aircraft types for aircraft not included in the INM database
- Use of “user-defined” modeling inputs reflecting benefits of the most commonly used “noise abatement departure profile” (NADP) procedures at VNY and user-defined aircraft noise-power-distance (NPD) curve adjustments for the GIII aircraft with hushkits
- A non-standard descent angle to Runway 16R

The following subsections summarize these revisions.

5.1.5.1 INM Aircraft Type Substitutes

The aircraft types listed in the tables in Section 5.1.4 identify operations according to INM database aircraft types. Many of these types represent multiple aircraft models with comparable noise and performance characteristics. The INM database does not include data for every aircraft type. The database includes a lookup table that identifies approved “substitutes” for many types. However, that lookup table does not include some aircraft types modeled at VNY. For those aircraft types, recommendations for INM substitute aircraft were forwarded to the FAA for approval or identification of an alternate approved substitution.

Appendix G presents a copy of the LAWA request to FAA for guidance. Appendix H presents the FAA response. The noise contours presented in this document followed the FAA guidance.

5.1.5.2 User-Defined Aircraft Types

FAA recognizes that in some instances it is appropriate for airports to utilize “user-defined” aircraft noise and performance inputs to supplement standard INM database types. Appendix B in the “INM 7.0 User’s Guide and Technical Manual”³⁹ provides FAA direction for addressing non-standard modeling profiles; other FAA-published policies and procedures provide further guidance.⁴⁰

Appendix F provides copies of the LAWA request to FAA for guidance related to application of user-defined INM inputs for the following aircraft types: (1) Boeing 727, (2) Douglas A-3, (3) Lear

³⁹ Distributed by the FAA with the INM and updated electronically with each new INM release. See http://www.faa.gov/about/office_org/headquarters_offices/apl/research/models/inm_model/.

⁴⁰ Ralph Thompson, Manager, Airport Planning and Environmental Division, APP-400, “AEE and Airports Coordination Policy for Non-Standard Modeling Procedures and Methodology,” July 28, 2009, available at http://www.faa.gov/airports/environmental/policy_guidance/media/nonstd_inm_modeling.pdf.

25, (4) Lear 35, (5) Gulfstream IV, and (6) Gulfstream III with hushkit for recertification to Part 36 Stage 3. Appendix H presents the FAA response. The noise contours presented in this document followed the FAA guidance.

5.1.5.3 Non-Standard Descent Angle to Runway 16R

Runway 16R has an approach angle of 3.9°, while the other runways have the INM default approach angle of 3.0°. As required by FAA noise modeling protocol, LAWA submitted a request to the FAA for modification of the INM inputs to model the “non-standard” 3.9° approach on Runway 16R. Appendix F provides copies of the associated LAWA request. Appendix H presents FAA’s response approving this request.

5.1.6 VNY Runway Utilization

5.1.6.1 Fixed-Wing Aircraft

Runway utilization was developed from review of the following primary data sources:

- FAA Automated Radar Terminal System (ARTS) data for 2004 through 2010
- Runway use assumptions from the prior Part 150 study
- LAWA quarterly contour models
- LAWA noise and operations monitoring system data
- LAWA annual runway utilization
- Discussions with the FAA’s VNY Air Traffic Control Tower (ATCT) manager

Table 6 presents the modeled runway use for arrival and departure operations for all modeled cases for the fixed-wing aircraft split into the CNEL day (7:00 a.m.–7:00 p.m.), evening (7:00 p.m.–10:00 p.m.), and night (10:00 p.m.–7:00 a.m.).

Table 6 Runway Utilization for Fixed-Wing Aircraft Arrivals and Departures

Source: LAWA, FAA ARTS, and VNY ATCT

Aircraft Group	Runway	Departures			Arrivals		
		Day	Evening	Night	Day	Evening	Night
Jets	16L	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	16R	83.84%	81.80%	78.87%	83.06%	80.49%	85.80%
	34L	16.16%	18.20%	21.13%	16.94%	19.51%	14.20%
	34R	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Large Props (C130, CNA208, CVR580, DC3, DHC6, DHC830, HS748A, and SD330)	16L	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	16R	81.93%	83.80%	80.25%	81.30%	80.03%	79.67%
	34L	18.07%	16.20%	19.75%	18.70%	19.97%	20.33%
	34R	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Small Props	16L	22.93%	31.00%	23.38%	37.29%	24.95%	31.16%
	16R	59.00%	52.80%	56.87%	44.01%	55.08%	48.51%
	34L	11.90%	13.28%	19.75%	10.38%	13.83%	20.33%
	34R	6.17%	2.92%	0.00%	8.32%	6.14%	0.00%

Local pattern operations are limited to propeller aircraft. Approximately 90% of local patterns are flown on Runway 16L/34R, with a pattern altitude of 1,000 feet above field elevation (AFE), with a left pattern for 16L and a right pattern for 34R. Local patterns flown on Runway 16R/34L have a pattern altitude of 1,200 feet AFE, with a right pattern for Runway 16R and a left pattern for Runway 34L. Repetitive operations are not permitted during nighttime hours. Using an 80/20 split for south and north operations, respectively, resulted in the runway utilization rates for local patterns summarized in Table 7.

Table 7 Runway Utilization Rates for Local Pattern Operations
 Source: LAWA and FAA ATCT

Runway	Time of Day		
	Day	Evening	Night
16L	72.00%	72.00%	0.00%
16R	8.00%	8.00%	0.00%
34L	2.00%	2.00%	0.00%
34R	18.00%	18.00%	0.00%

5.1.6.2 Helipad Use

As discussed in Section 4.2, VNY helicopter operations operate primarily from the former National Guard ramp in the northwest section of the airport and from the ramp area in the southwest section. Modeling helipads were created in these two locations and are depicted on the 2011 existing condition and 2016 five-year forecast condition NEM figures (Figure 7 and Figure 8, respectively). Historic radar data were used to develop use rates for these two pads, as summarized in Table 8.

Table 8 Helipad Utilization Rates for Helicopter Arrivals and Departures
 Source: 2004–2005 ARTS Data, HMMH

Helipad	Departures			Arrivals		
	Day	Evening	Night	Day	Evening	Night
Northwest	52.78%	77.69%	56.03%	35.95%	37.10%	28.28%
Southwest	47.22%	22.31%	43.97%	64.05%	62.90%	71.72%

5.1.7 Flight Track Geometry and Use

FAA ARTS data from 2004 through 2010 were used to sample more than 200,000 actual flight tracks for use in developing INM modeling flight tracks, supplemented by LAWA and FAA ATCT input and reviews, in particular for the development of flight tracks for local pattern activity.

Aircraft were grouped into three major subgroups: jets, propeller aircraft, and helicopters, further broken down by arrivals, departures, and local pattern activity in the following 10 figures:

- Figure 10 Modeled Flight Tracks for Runway 16R and 34L Jet Arrivals
- Figure 11 Modeled Flight Tracks for Runway 16R and 34L Jet Departures
- Figure 12 Modeled Flight Tracks for Runway 16R and 34L Propeller Arrivals

- Figure 13 Modeled Flight Tracks for Runway 16L and 34R Propeller Arrivals
- Figure 14 Modeled Flight Tracks for Runway 16R and 34L Propeller Departures
- Figure 15 Modeled Flight Tracks for Runway 16L and 34R Propeller Departures
- Figure 16 Modeled Flight Tracks for Helicopter Arrivals
- Figure 17 Modeled Flight Tracks for Helicopter Departures
- Figure 18 Modeled Flight Tracks for Runways 16L/16R Local Patterns
- Figure 19 Modeled Flight Tracks for Runways 34L/34R Local Patterns

Tables following the figures define flight track utilization rates.

As required by Part 150, the flight track figures depict the modeled flight tracks out to at least 30,000 feet from brake release. To fit on a standard 8.5" by 11" in this document, they are at the scale of 1" to 8,000'. Part 150 requires that the modeled flight tracks be presented at the same scale as the Noise Exposure Map contours, which are at 1" to 2,000'. FAA guidelines permit airports to present the flight tracks on separate, unbound figures at this scale accompanying the Noise Exposure Map document. To comply with this requirement, each official copy of the document will include enlarged copies of the figures at the prescribed scale, in a sleeve at the end of the document.

To better represent the dispersal of actual operations, the INM permits the development of the central or "backbone" tracks and the addition of "sub-tracks" on either side of each backbone. Arrival and departure tracks were modeled using four subtracks on each side of the associated backbone; pattern operations were modeled using two subtracks on each side of the backbone. The overall width of the subtrack distribution was defined based on the area spanned by the actual radar tracks being modeled. The INM distributes the flight operations associated with each backbone track across the associated nine or five tracks using a "binomial probability distribution," as discussed in the "INM 7.0 User's Guide and Technical Manual."⁴¹

The flight track nomenclature for fixed-wing aircraft tracks consists of seven or eight characters:

- First digit = aircraft group (Jet or Propeller)
- Second through fourth digits = runway (16L, 16R, 34L, 34R)
- Fifth digit = type of operation (Arrival or Departure)
- Sixth and seventh digits = track number (01, 02, etc.)
- Eighth digit = intersection departure (I), if appropriate

Helicopter track nomenclature consists of HEL followed by three digits representing:

- First digit = operation (Arrival or Departure)
- Second and third digits = track number (01, 02, etc.).

Local pattern flight tracks were modeled using one backbone track for each runway.

Table 9 and Table 10 list the flight track utilization rates for fixed-wing departures and arrivals, respectively. Table 11 presents helicopter flight track utilization rates.

⁴¹ Op cit., page 108.



Note: All area shown on this figure is within the jurisdictional boundaries of Los Angeles County.

- | | | |
|---------------------------------------|--------------------|------------------|
| Modeled Backbone Arrival Track (16R) | Airport Boundary | Runway / Taxiway |
| Modeled Dispersed Arrival Track (16R) | Highway | Helicopter Pad |
| Modeled Backbone Arrival Track (34L) | Road | Railroad |
| Modeled Dispersed Arrival Track (34L) | Municipal Boundary | |



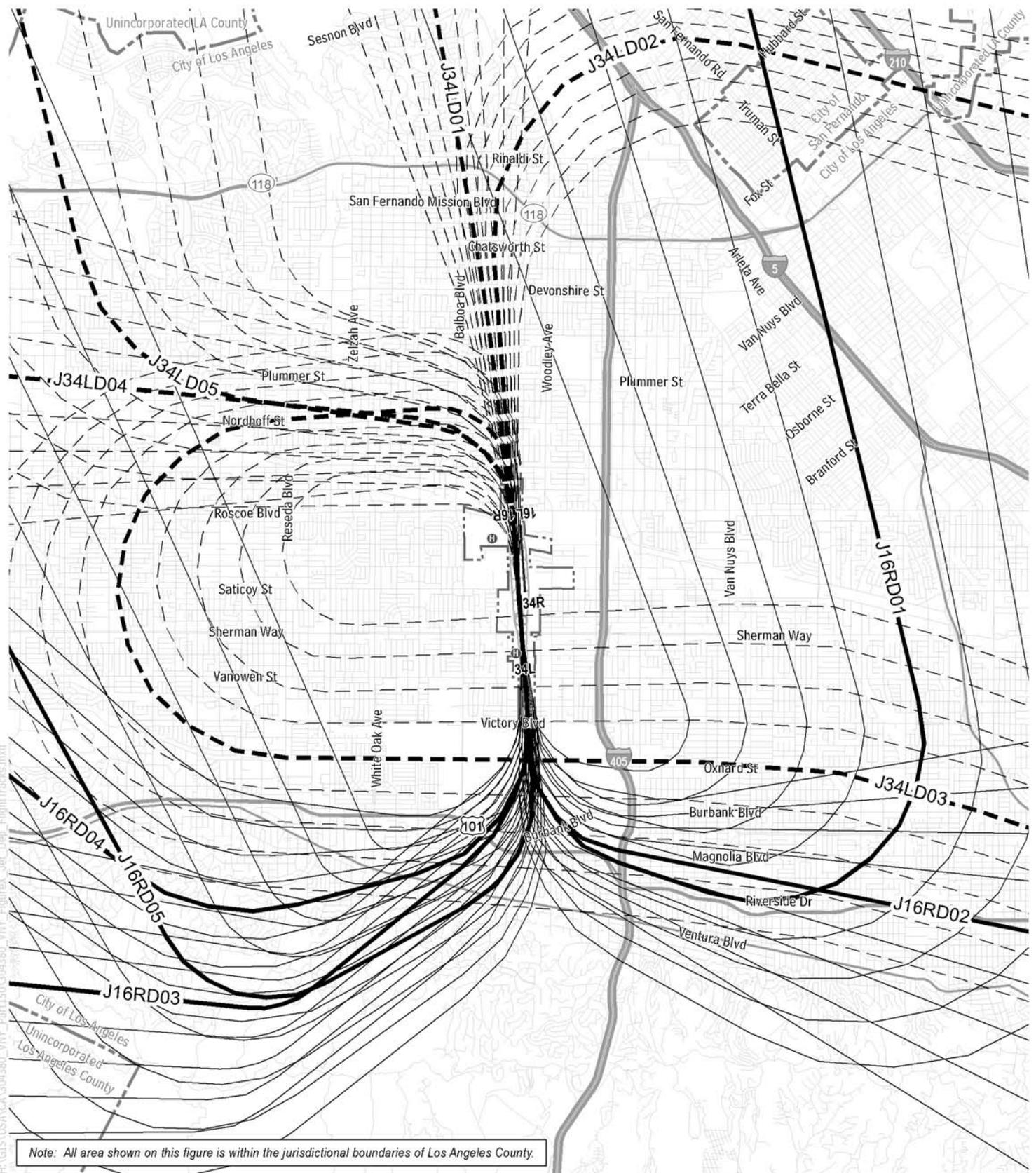
**Modeling Flight Tracks - Jet Arrivals
Runway 16R & 34L**

Figure: 10

Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)



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| Modeled Backbone Departure Track (16R) | Airport Boundary | Runway / Taxiway |
| Modeled Dispersed Departure Track (16R) | Highway | Helicopter Pad |
| Modeled Backbone Departure Track (34L) | Road | Railroad |
| Modeled Dispersed Departure Track (34L) | Municipal Boundary | |

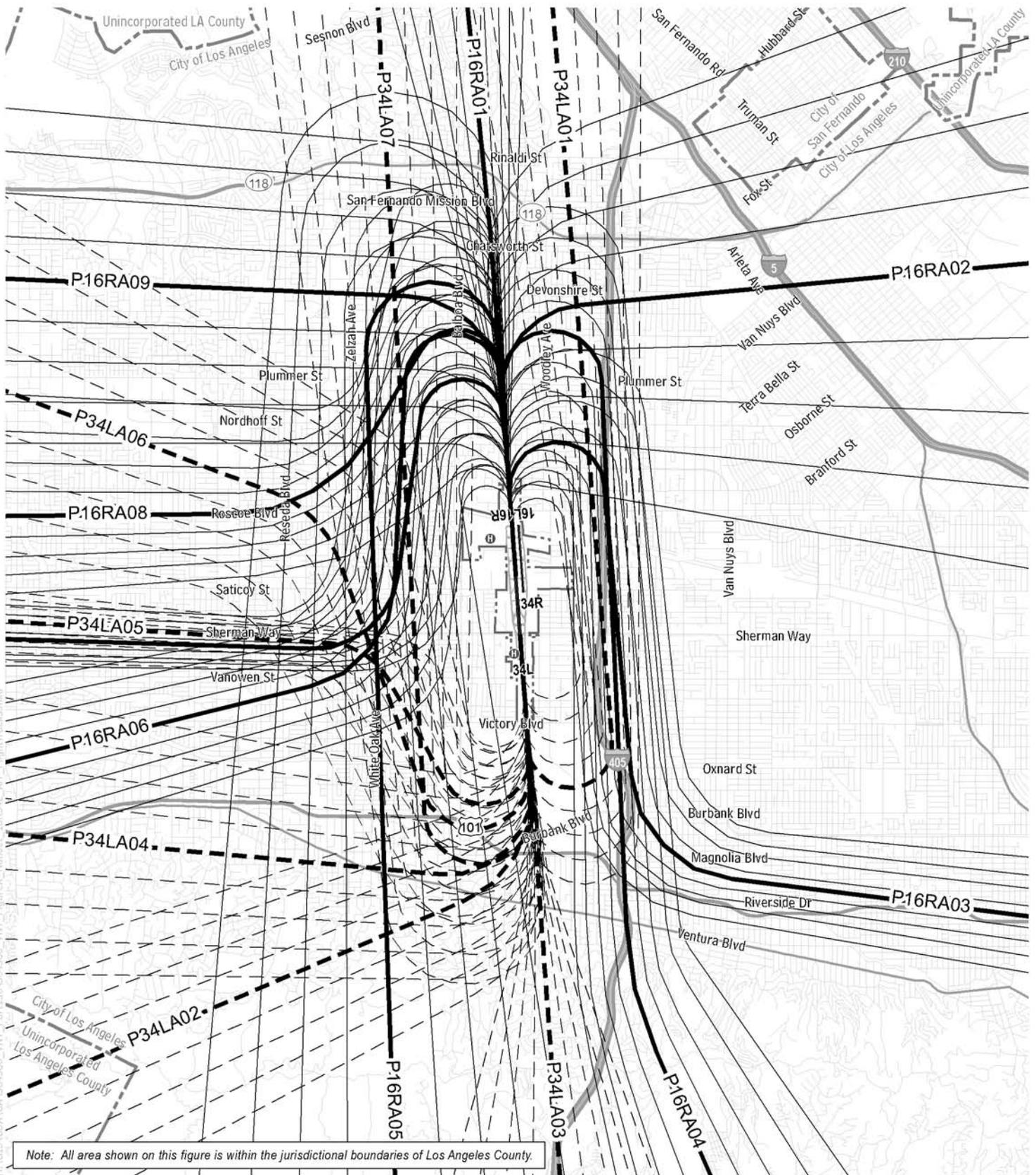
Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)



**Modeling Flight Tracks - Jet Departures
Runway 16R & 34L**

Figure: 11

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| | Modeled Backbone Arrival Track (16R) | | Modeled Backbone Arrival Track (34L) | | Runway / Taxiway |
| | Modeled Dispersed Arrival Track (16R) | | Modeled Dispersed Arrival Track (34L) | | Highway |
| | Modeled Backbone Arrival Track (34L) | | Modeled Dispersed Arrival Track (34L) | | Road |
| | Modeled Dispersed Arrival Track (16R) | | Modeled Dispersed Arrival Track (34L) | | Municipal Boundary |
| | Airport Boundary | | Helicopter Pad | | Railroad |



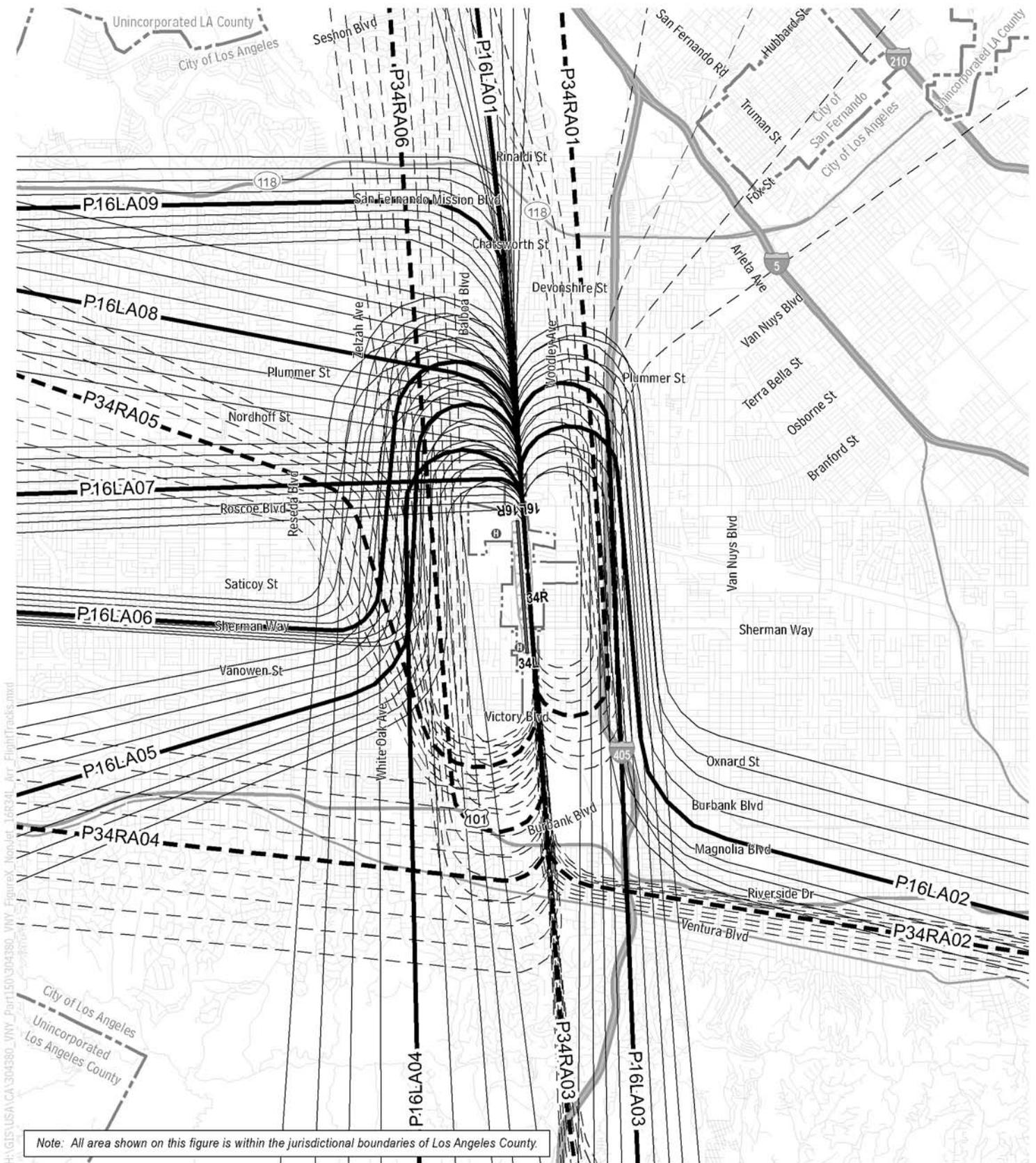
Modeling Flight Tracks - Non-Jet Arrivals
Runway 16R & 34L

Figure: 12

Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)



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Note: All area shown on this figure is within the jurisdictional boundaries of Los Angeles County.

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| | Modeled Backbone Arrival Track (16R) | | Modeled Dispersed Arrival Track (34L) | | Runway / Taxiway |
| | Modeled Dispersed Arrival Track (16R) | | Modeled Dispersed Arrival Track (16R) | | Highway |
| | Modeled Backbone Arrival Track (16R) | | Modeled Dispersed Arrival Track (16R) | | Road |
| | Modeled Dispersed Arrival Track (16R) | | Modeled Dispersed Arrival Track (34L) | | Municipal Boundary |
| | Modeled Dispersed Arrival Track (16R) | | Modeled Dispersed Arrival Track (34L) | | Helicopter Pad |
| | Modeled Dispersed Arrival Track (16R) | | Modeled Dispersed Arrival Track (34L) | | Railroad |



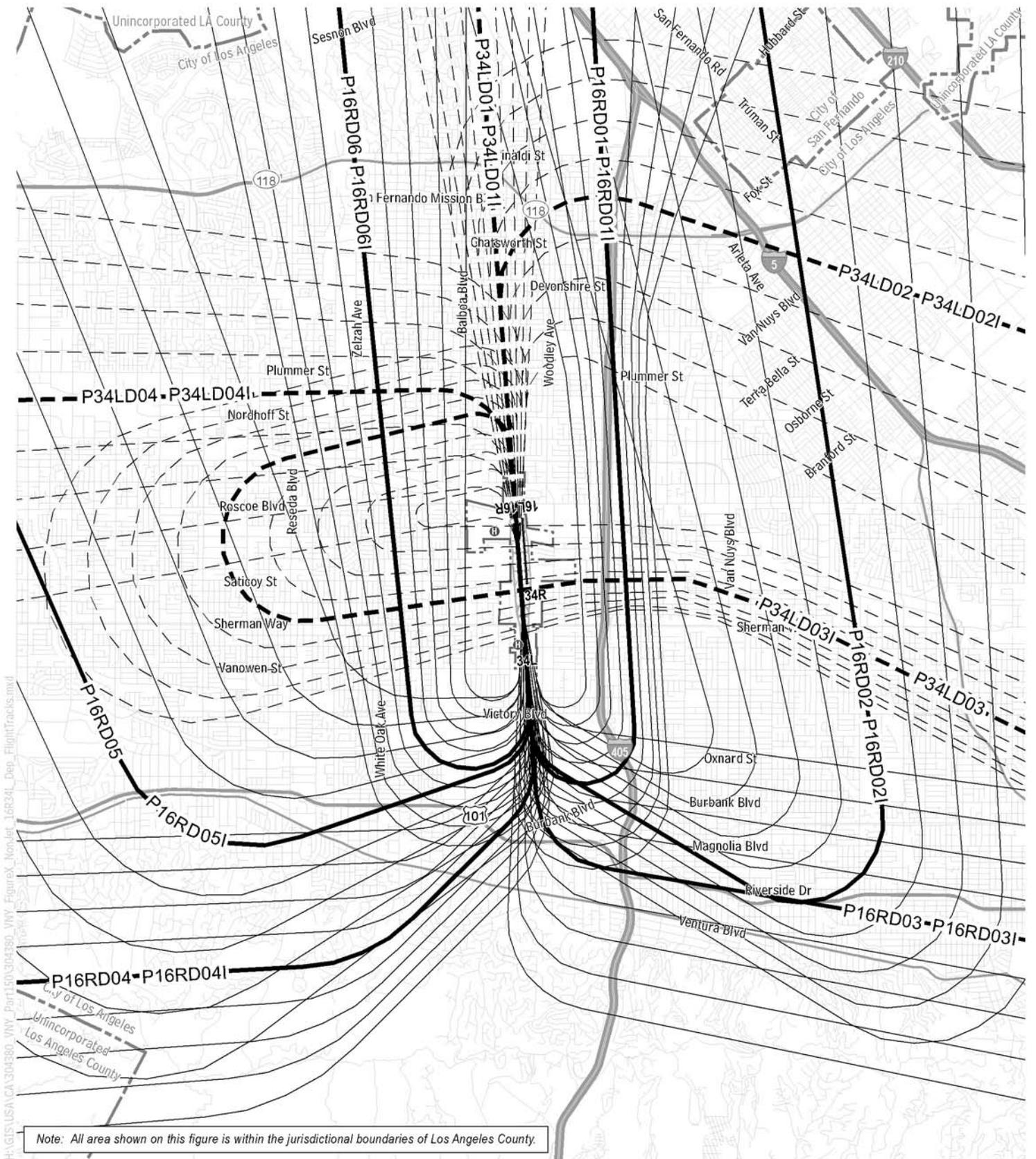
Modeling Flight Tracks - Non-Jet Arrivals
Runway 16L & 34R

Figure: 13

Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)



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| Modeled Backbone Departure Track (16R) | Airport Boundary | Runway / Taxiway |
| Modeled Dispersed Departure Track (16R) | Highway | Helicopter Pad |
| Modeled Backbone Departure Track (34L) | Road | Railroad |
| Modeled Dispersed Departure Track (34L) | Municipal Boundary | |



**Modeling Flight Tracks - Non-Jet Departures
Runway 16R & 34L**

Figure: 14

Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)



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| Modeled Backbone Departure Track (16R) | Airport Boundary | Runway / Taxiway |
| Modeled Dispersed Departure Track (16R) | Highway | Helicopter Pad |
| Modeled Backbone Departure Track (34L) | Road | Railroad |
| Modeled Dispersed Departure Track (34L) | Municipal Boundary | |

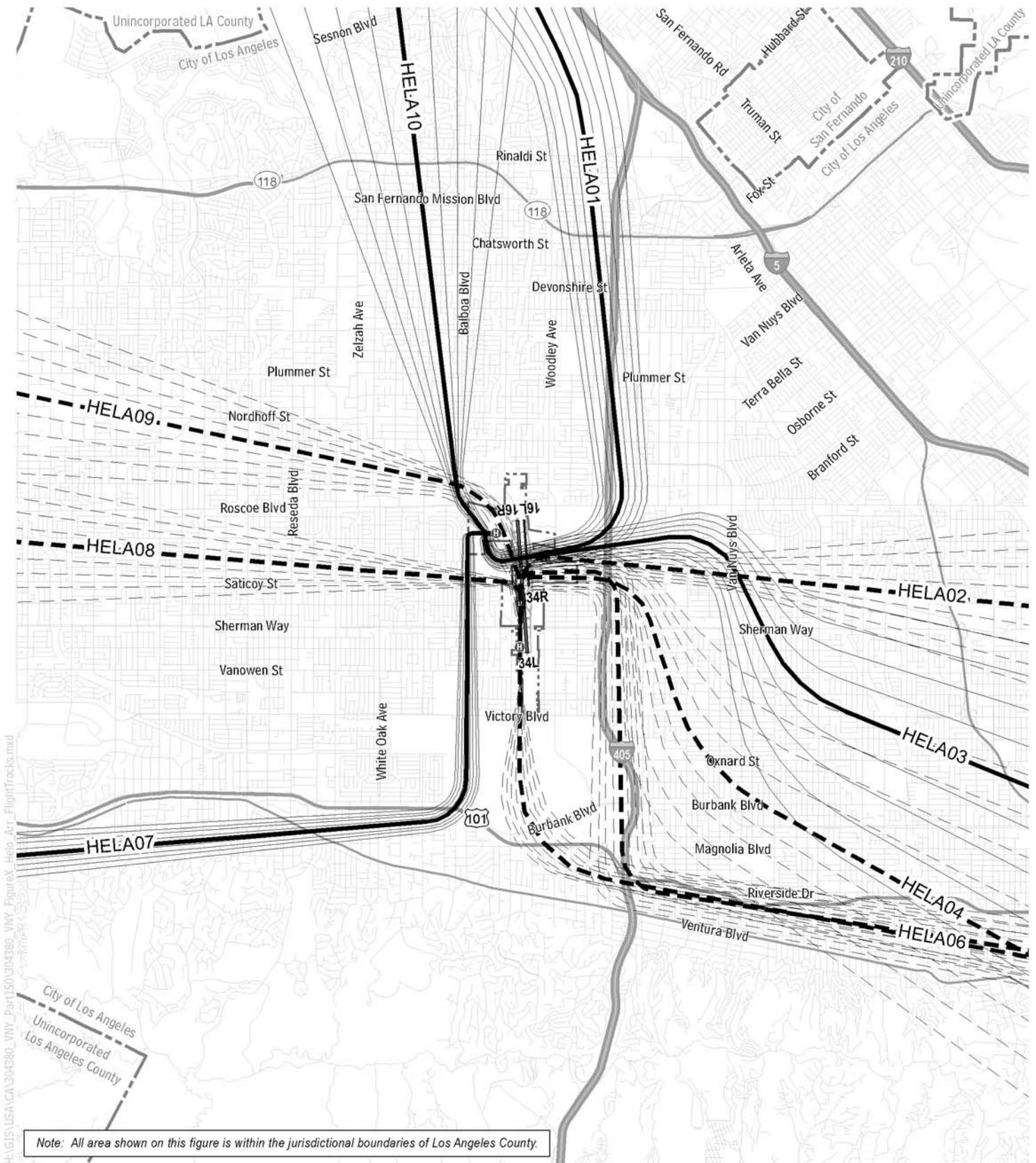
Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)



**Modeling Flight Tracks - Non-Jet Departures
Runway 16L & 34R**

Figure: 15

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|--|---------------------------------------|--|--------------------|--|------------------|
| | Modeled Backbone Arrival Track (HNW) | | Airport Boundary | | Runway / Taxiway |
| | Modeled Dispersed Arrival Track (HNW) | | Highway | | Helicopter Pad |
| | Modeled Backbone Arrival Track (HSW) | | Road | | Railroad |
| | Modeled Dispersed Arrival Track (HSW) | | Municipal Boundary | | |



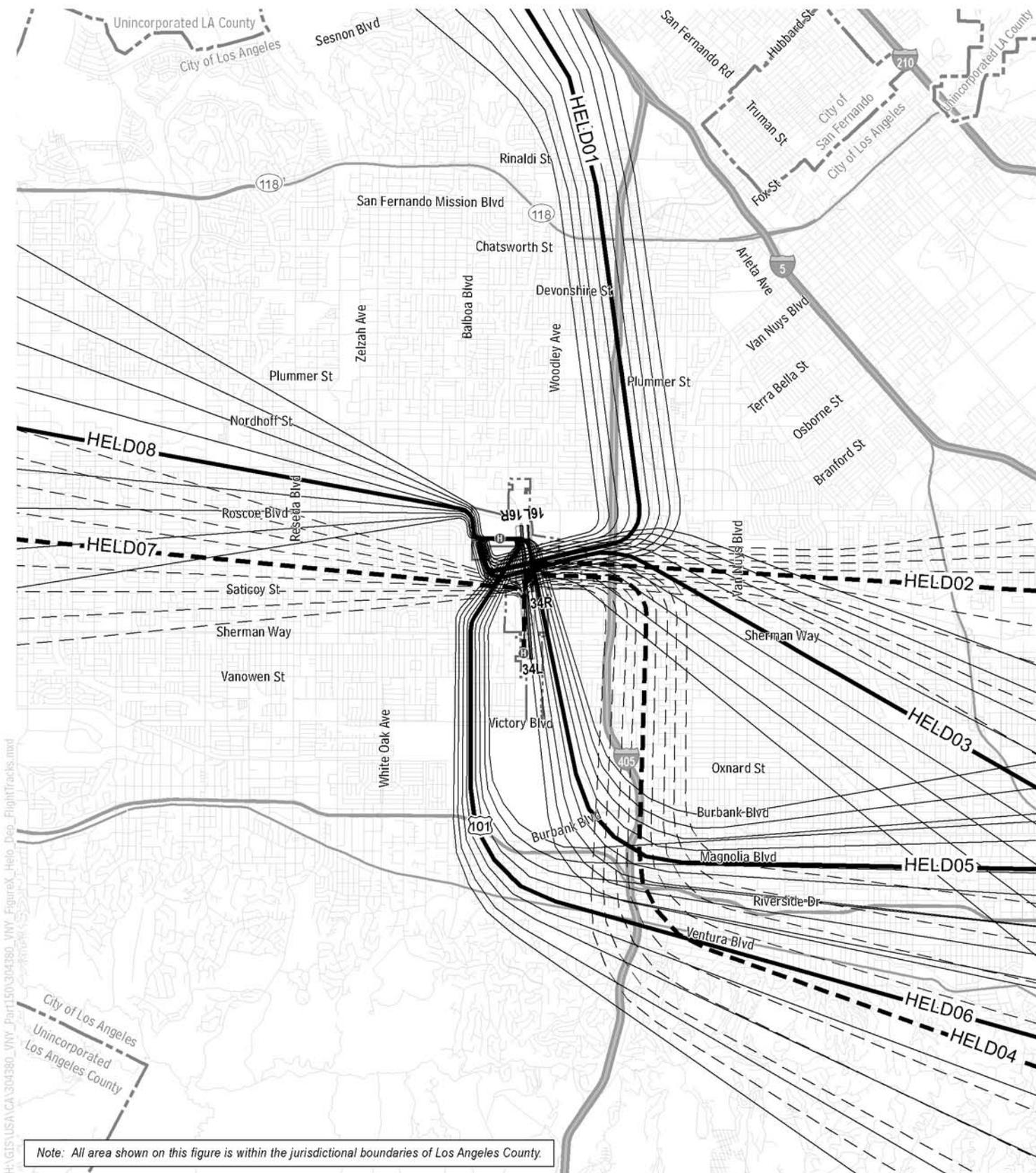
Modeling Flight Tracks - Helicopter Arrivals

Figure: 16

Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)



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| | Modeled Backbone Departure Track (HNW) | | Airport Boundary | | Runway / Taxiway |
| | Modeled Dispersed Departure Track (HNW) | | Highway | | Helicopter Pad |
| | Modeled Backbone Departure Track (HSW) | | Road | | Railroad |
| | Modeled Dispersed Departure Track (HSW) | | Municipal Boundary | | |



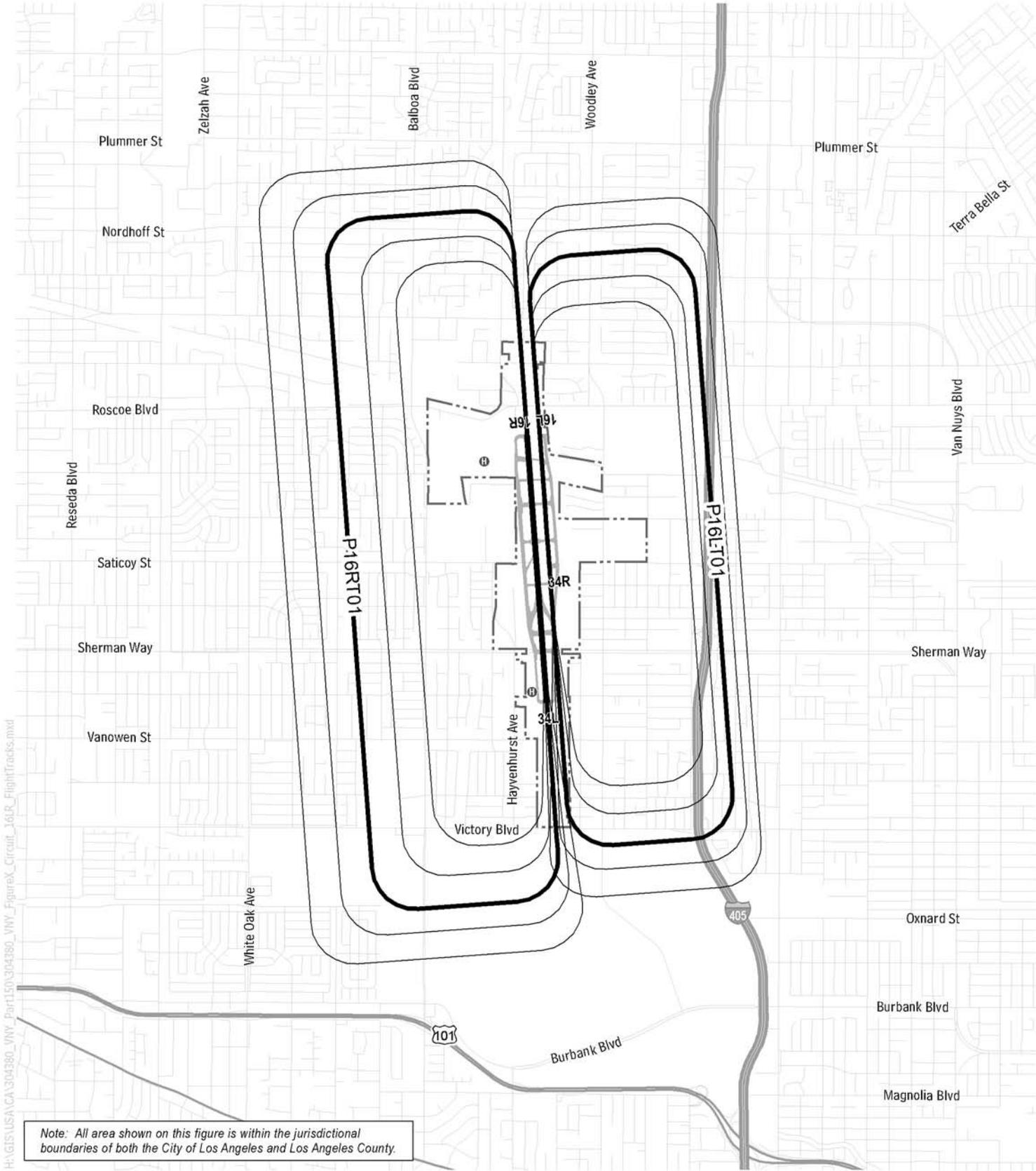
Modeling Flight Tracks - Helicopter Departures

Figure: 17

Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)



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Note: All area shown on this figure is within the jurisdictional boundaries of both the City of Los Angeles and Los Angeles County.

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| Modeled Backbone Circuit Track | Airport Boundary | Runway / Taxiway |
| Modeled Dispersed Circuit Track | Highway | Helicopter Pad |
| | Road | Railroad |



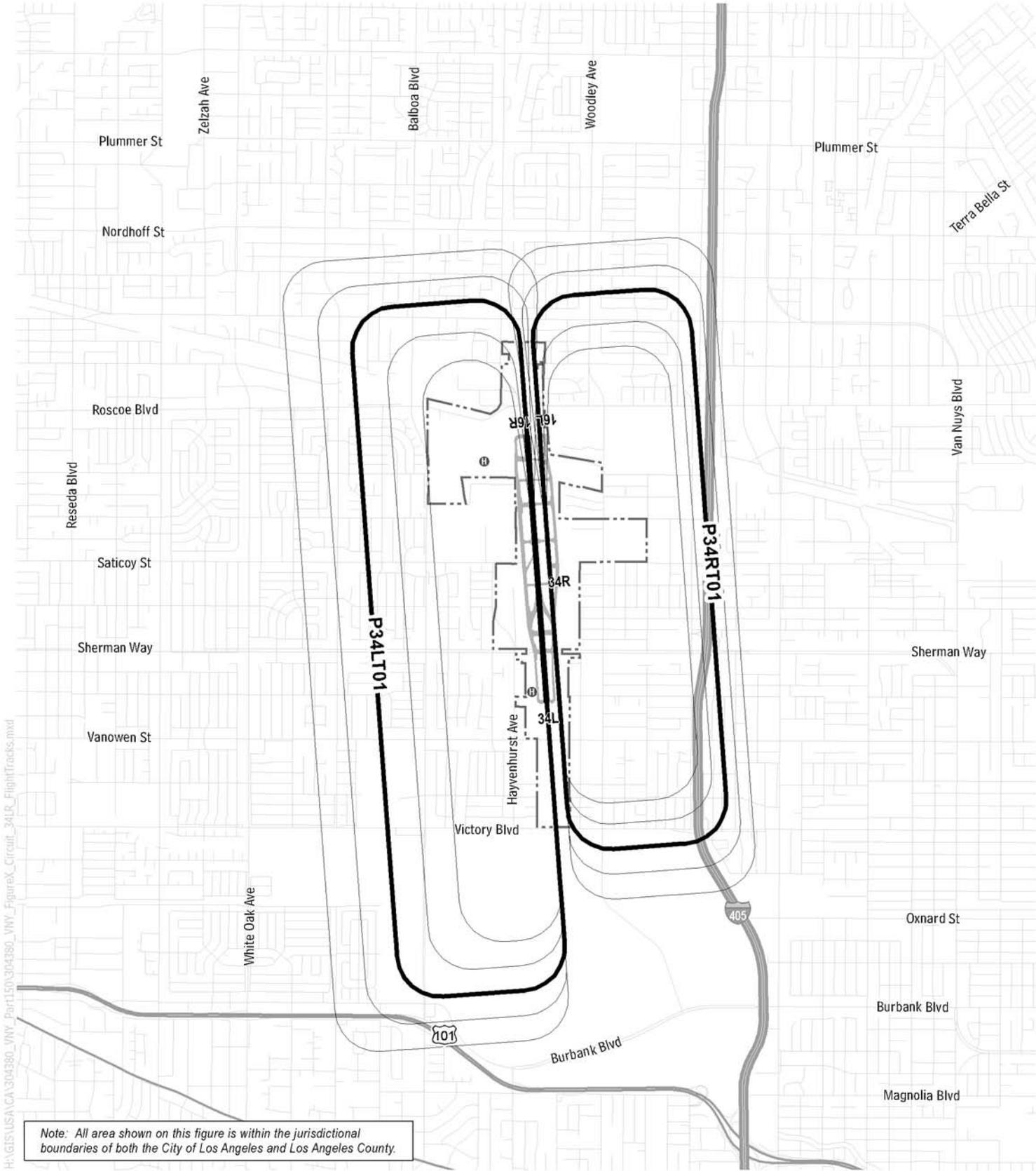
Modeled Flight Tracks - Runway 16 Traffic Pattern

Figure: 18

Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)



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Note: All area shown on this figure is within the jurisdictional boundaries of both the City of Los Angeles and Los Angeles County.

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| Modeled Backbone Circuit Track | Airport Boundary | Runway / Taxiway |
| Modeled Dispersed Circuit Track | Highway | Helicopter Pad |
| | Road | Railroad |



Modeled Flight Tracks - Runway 34 Traffic Pattern

Figure: 19

Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)



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Table 9 Fixed-Wing Departure Flight Track Utilization Rates

Source: ARTS 2004–2005 data, FAA ATCT, HMMH

Aircraft Group	Runway/ Helipad	Track Name	Day	Evening	Night	
Jet	16R	J16RD01	0.5469	0.5043	0.5673	
		J16RD02	0.1331	0.2155	0.1714	
		J16RD03	0.0939	0.0560	0.0082	
		J16RD04	0.0185	0.0216	0.0327	
		J16RD05	0.2076	0.2026	0.2204	
	34L	J34LD01	0.1053	0.1154	0.3334	
		J34LD02	0.0351	0.0000	0.0000	
		J34LD03	0.0947	0.0769	0.0588	
		J34LD04	0.2912	0.3846	0.2745	
		J34LD05	0.4737	0.4231	0.3333	
Propeller	16L	P16LD01	0.1545	0.0000	0.0000	
		P16LD01I	0.0273	0.0000	0.0000	
		P16LD02	0.0773	0.0000	0.0000	
		P16LD02I	0.0136	0.0000	0.0000	
		P16LD03	0.2575	0.8500	0.8500	
		P16LD03I	0.0455	0.1500	0.1500	
		P16LD04	0.2318	0.0000	0.0000	
		P16LD04I	0.0409	0.0000	0.0000	
		P16LD05	0.1288	0.0000	0.0000	
		P16LD05I	0.0228	0.0000	0.0000	
	16R	P16RD01	0.0139	0.0065	0.0177	
		P16RD01I	0.0025	0.0011	0.0031	
		P16RD02	0.0887	0.0392	0.1240	
		P16RD02I	0.0157	0.0069	0.0219	
		P16RD03	0.2996	0.3794	0.3010	
		P16RD03I	0.0529	0.0670	0.0531	
		P16RD04	0.2494	0.1373	0.0531	
		P16RD04I	0.0440	0.0242	0.0094	
		P16RD05	0.1300	0.2354	0.3365	
		P16RD05I	0.0229	0.0415	0.0594	
	34L	P34LD01	0.1337	0.1417	0.1889	
		P34LD01I	0.0236	0.0250	0.0333	
		P34LD02	0.2340	0.2361	0.0000	
		P34LD02I	0.0413	0.0417	0.0000	
		P34LD03	0.1003	0.1889	0.0000	
		P34LD03I	0.0177	0.0333	0.0000	
		P34LD04	0.3820	0.2833	0.6611	
		P34LD04I	0.0674	0.0500	0.1167	
		34R	P34RD01	0.0507	0.0000	0.0000
			P34RD01I	0.0089	0.0000	0.0000
	P34RD02		0.1142	0.2125	0.0000	
	P34RD02I		0.0202	0.0375	0.0000	
	P34RD03		0.1015	0.1063	0.1308	
	P34RD03I		0.0179	0.0188	0.0231	
	P34RD04		0.5836	0.5312	0.7192	
	P34RD04I		0.1030	0.0937	0.1269	

Table 10 Fixed-Wing Arrival Flight Track Utilization Rates

Source: ARTS 2004–2005 data, FAA ATCT, HMMH

Aircraft Group	Runway/ Helipad	Track Name	Day	Evening	Night
Jet	16R	J16RA01	0.6910	0.6643	0.6854
		J16RA02	0.0592	0.0474	0.0955
		J16RA03	0.0219	0.0146	0.0169
		J16RA04	0.0116	0.0000	0.0112
		J16RA05	0.1622	0.1898	0.1180
		J16RA06	0.0541	0.0839	0.0730
	34L	J34LA01	0.1039	0.1096	0.2791
		J34LA02	0.0794	0.1781	0.1628
		J34LA03	0.2627	0.2192	0.1395
		J34LA04	0.1222	0.1918	0.0698
Propeller	16L	P16LA01	0.3124	0.2000	0.2500
		P16LA02	0.0707	0.0800	0.0000
		P16LA03	0.0629	0.2800	0.0000
		P16LA04	0.1257	0.1600	0.2500
		P16LA05	0.0864	0.0667	0.0000
		P16LA06	0.0334	0.0000	0.0000
		P16LA07	0.0609	0.0267	0.5000
		P16LA08	0.2181	0.1333	0.0000
		P16LA09	0.0295	0.0533	0.0000
	16R	P16RA01	0.3949	0.2536	0.4685
		P16RA02	0.0303	0.0700	0.0759
		P16RA03	0.0618	0.0773	0.0506
		P16RA04	0.0194	0.2464	0.0633
		P16RA05	0.0947	0.0894	0.1139
		P16RA06	0.0750	0.0556	0.0253
		P16RA07	0.0336	0.0290	0.0000
		P16RA08	0.0472	0.0169	0.0759
		P16RA09	0.2431	0.1618	0.1266
	34L	P34LA01	0.0851	0.0556	0.0217
		P34LA02	0.1234	0.2083	0.6957
		P34LA03	0.1929	0.4028	0.1304
		P34LA04	0.2199	0.1250	0.1087
		P34LA05	0.0227	0.0278	0.0000
		P34LA06	0.1560	0.0694	0.0000
		P34LA07	0.2000	0.1111	0.0435
	34R	P34RA01	0.3748	0.0000	0.0000
		P34RA02	0.0313	0.2000	0.2000
		P34RA03	0.2188	0.6000	0.6000
		P34RA04	0.2188	0.0000	0.0000
		P34RA05	0.0625	0.2000	0.2000
P34RA06		0.0938	0.0000	0.0000	

Table 11 Helicopter Flight Track Utilization Rates

Source: ARTS 2004–/2005 data, FAA ATCT, HMMH

Operation	Helipad	Track Name	Day	Evening	Night
Departures	Northwest	HELD01	0.1272	0.2673	0.1231
		HELD03	0.3991	0.4850	0.5076
		HELD05	0.3158	0.1090	0.1077
		HELD06	0.0702	0.0793	0.0308
	HELD08	0.0877	0.0594	0.2308	
	Southwest	HELD02	0.1176	0.2760	0.2941
		HELD04	0.5197	0.3102	0.2549
HELD07		0.3627	0.4138	0.4510	
Arrivals	Northwest	HELA01	0.3179	0.4494	0.3171
		HELA03	0.4271	0.3188	0.4146
		HELA07	0.1722	0.1159	0.1463
		HELA10	0.0828	0.1159	0.1220
	Southwest	HELA02	0.1190	0.2137	0.2115
		HELA04	0.2881	0.1966	0.2982
		HELA05	0.1840	0.2649	0.1346
		HELA06	0.1710	0.1880	0.2597
		HELA08	0.1022	0.0769	0.0384
		HELA09	0.1357	0.0599	0.0576

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6 PUBLIC CONSULTATION

Part 150 sets the following consultation-related requirements for airports to follow when preparing NEMs:

Each map, and related documentation submitted under this section must be developed and prepared in accordance with appendix A of this part, or an FAA approved equivalent, and in consultation with states, and public agencies and planning agencies whose area, or any portion of whose area, of jurisdiction is within the [CNEL] 65 dB contour depicted on the map, FAA regional officials, and other Federal officials having local responsibility for land uses depicted on the map. This consultation must include regular aeronautical users of the airport. The airport operator shall certify that it has afforded interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations. Each map and revised map must be accompanied by documentation describing the consultation accomplished under this paragraph and the opportunities afforded the public to review and comment during the development of the map. One copy of all written comments received during consultation shall also be filed with the Regional Airports Division Manager.⁴²

The balance of this section summarizes steps that LAWA undertook that exceeded these requirements.

6.1 Consultation with FAA to Obtain Required Noise-Modeling Approvals

Section 5.1.5 describes consultation undertaken with FAA to obtain all required approvals of forecasts, user-defined modeling inputs, and non-standard noise modeling substitutions. As discussed in that section, Appendices F, G, H, and I provide comprehensive documentation of related correspondence with the FAA, including the following items:

- Appendix F, “Requests to FAA Regarding User-Defined Aircraft in INM Version 7.0b, Noise-Power-Distance Curve Adjustments for the GIII Aircraft with Hushkits, and a Non-Standard Descent Angle to Runway 16R,” which includes:
 - August 31, 2010 letter from Mr. Scott Tatro (LAWA Environmental Affairs Officer) to Mr. Victor Globa (Environmental Protection Specialist, FAA Western-Pacific Region, Los Angeles Airports District Office), regarding “Request for Approval of Integrated Noise Model User-Defined Profiles in Support of the Noise Exposure Map Update at Van Nuys Airport.”
 - The August 31 letter included attachments (which also are presented in Appendix F) providing detailed technical background and related correspondence supporting the requests for approvals of user-defined profiles for: (1) Clay Lacy Lear 25 Departure Profile, (2) Clay Lacy Lear 35 Departure Profile, (3) Clay Lacy Boeing 727 Departure Profile, (4) Air Group Gulfstream IV Departure profile, (5) Raytheon A-3 Departure Profile, (6) Gulfstream III with Hushkits, and (7) Runway 16R Aircraft Arrival Profiles for 3.9 Degree Descent Angle.

⁴² The draft was provided during the NEMs development process when sufficient information was available to “[afford] interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations.” Op cit., § 150.21 (b).

- Appendix G, “Requests to FAA Regarding Non-Standard Aircraft Type Modeling Substitutions,” which includes:
 - October 19, 2010 letter from Mr. Scott Tatro (LAWA Environmental Affairs Officer) to Mr. Victor Globa (Environmental Protection Specialist, FAA Western-Pacific Region, Los Angeles Airports District Office), regarding “Request for Approval of Integrated Noise Model User-Non-Standard Aircraft Substitutions in Support of the Noise Exposure Map Update at Van Nuys Airport.”
- Appendix H, “Consolidated FAA Response to LAWA Requests for Non-Standard Modeling practices,” which includes:
 - March 14, 2011 from Mr. Victor Globa (Environmental Protection Specialist, FAA Western-Pacific Region, Los Angeles Airports District Office) to Mr. Scott Tatro (LAWA Environmental Affairs Officer), which responded to the LAWA requests presented in Appendices F and G.
- Appendix I, “Documentation Related to FAA Review and Approval of Noise Exposure Map Forecasts,” which includes:
 - March 31, 2011 approval letter from Mr. Victor Globa (Environmental Protection Specialist, FAA Western-Pacific Region, Los Angeles Airports District Office) to Mr. Scott Tatro (LAWA Environmental Affairs Officer).
 - March 3, 2011 letter from Mr. Scott Tatro (LAWA Environmental Affairs Officer) to Mr. Victor Globa (Environmental Protection Specialist, FAA Western-Pacific Region, Los Angeles Airports District Office), regarding “Request for Review and Approval of Van Nuys Part 150 Noise Exposure Map Update Forecasts.”
 - February 7, 2011 Memorandum from Peter Stumpp (SH&H) to Ted Baldwin (HMMH), regarding “Van Nuys Aircraft Operations Forecasts for Noise Exposure Map Update.”

6.2 Draft NEMs Notice, Review, and Comment

LAWA prepared a draft NEMs document and made it available for public review and comment during a 33-day comment period, which ran from October 7 – November 9, 2011.

Throughout the comment period, a hard copy, printed and bound version of the draft NEM was available for viewing from 9:00 a.m. - 3:30 p.m., on normal business days at the VNY administration offices, which are centrally located within the 65 dB CNEL NEMs contours at 16461 Sherman Way, Suite 300, Van Nuys, CA 91406. No party came to the offices to review the hard copy document during the comment period.

The LAWA notices identified: (1) physical and internet addresses at which the draft document was available for review, (2) physical and email addresses to which comments could be submitted, (3) the comment deadline, and (4) a point of contact for any inquiries.

Appendix J provides copies of documentation related to the steps LAWA took in advance of and during the comment period, to make the draft NEMs document available for public review and comment, including:

- LAWA announced the public review and comment period through a notice on the VNY website, advertisements in two local newspapers of general circulation covering at least the area within the

65 dB CNEL contours, and a general press release. This notification included the following related items presented in Appendix J:

- Notice on the VNY website including links to the entire NEM document and to individual sections (Appendix J.1)
- Notice (legal advertisement) run in the Los Angeles Times, Friday, October 7, 2011 (Appendix J.2)
- Notice (legal advertisement) run in the Daily News, October 7, 2011 (Appendix J.3)⁴³
- LAWA sent letters announcing the review and comment period to all airport tenants holding leases directly with LAWA, with a request that they notify subtenants. This announcement covered all tenants who are themselves regular aeronautical users or who support regular aeronautical users (e.g., FBOs), and included a request that the tenants post the notice in a location at their facility where it could be seen by such regular aeronautical users. Appendix J.5 provides a sample letter. These letters went to:
 - Mr. Curt Castagna, Aerolease Associates LLC, 3333 E. Spring Street, Long Beach, CA 90806
 - Mr. Curt Castagna, Aerolease West LLC, 3333 E. Spring, Street, Long Beach, CA 90806
 - Mr. Duane Feuerhelm, Air Center Aviation, 16231 Waterman Drive, Van Nuys, CA 91406
 - Mr. Harold Lee, Air Sources Inc., 16700 Roscoe Boulevard, Van Nuys, CA 91406
 - Mr. Craig Walker, Castle & Cooke, 7415 Hayvenhurst Place, Van Nuys, CA 91406
 - Mr. Randy Rudnick, Century Aero Club Inc., 7552 Hayvenhurst Avenue, Van Nuys, CA 91406
 - Mr. Clay Lacy, Clay Lacy Aviation Inc., 7435 Valjean Avenue, Van Nuys, CA 91406
 - Mr. Richard Sykes, Condor Squadron Officer & Airman, 7625 Hayvenhurst Avenue, Suite 5 Van Nuys, CA 91406
 - Ms. Irene Saltzman, Department of General Services, City Hall South, Room 201, 111 East First Street, Los Angeles, CA 90012
 - Mr. Dan Doitch, Green Hornets Flying Circus, 16431 Vanowen Street, Van Nuys, CA 91406
 - Mr. Tony Marlow, Hawker Beechcraft Corporation, 7240 Hayvenhurst Avenue, Van Nuys, CA 91406
 - Judge James Di Guiseppe, J.E.C. Enterprises, 7743 Woodley Avenue, Van Nuys, CA 91406
 - Mr. Phillip Struyk, L.A. Unified School District, 16550 Saticoy Street, Van Nuys, CA 91406
 - Mr. Bruce Barber, L.A. City Fire Department, 1700 Stadium Way, Room 109, Los Angeles, CA 90012
 - Chief John Buck, L.A. City Fire Department - Helicopter Unit, 8060 Balboa Boulevard, Van Nuys, CA 91406
 - Ms. Margie Oldenkamp, M.P.G. Aviation Inc., 7646 Hayvenhurst Ave., Van Nuys, CA 91406
 - Mr. Tim Wray, Maguire Aviation Inc., 7155 Valjean Avenue, Van Nuys, CA 91406
 - Mr. Richard Hart, National Helicopter Service & Engineering Company, 16700 Roscoe Boulevard, Van Nuys, CA 91406

⁴³ Appendix J.4 also presents a “dailynews.com” article run on October 11, 2011.

- Mr. Jim Davis, Pentastar Aviation / BaseNet, 16644 Roscoe Boulevard, Van Nuys, CA 91406
- Mr. Luis Robles, Raytheon Company, 16101 Saticoy Street, Van Nuys, CA 91406
- Ms. Erin Killam, Schaefer Air Service, 16425 Vanowen Street, Van Nuys, CA 91406
- Mr. Mark Sullivan, Skytrails Aviation, 16233 Vanowen Street, Suite 201, Van Nuys, CA 91406
- Mr. Nick Mosich, Southwest Aviation, 16425 Hart Street, Suite 103, Van Nuys, CA 91406
- Mr. Pierre Moroni, Syncro Aircraft Interiors, 7701 Woodley Avenue, Suite 100, Van Nuys, CA 91406
- Mr. Chuck Thornton Jr., Thornton Corporation, 1220 Virginia Road, San Marino, CA 91108
- Mr. Bob Mays, Western Commander Associates, 16700 Roscoe Boulevard, Van Nuys, CA 91406
- LAWA addressed the requirement to consult with the FAA and all public agencies with land use control jurisdiction within the 65 dB CNEL contours by sending copies of the draft NEM to the FAA Western-Pacific Region, Los Angeles Airports District Office (ADO), the VNY Air Traffic Control Tower (ATCT), the Los Angeles City Planning Department, the Los Angeles County Airport Land Use Commission (ALUC), and the two Los Angeles City Council members representing districts (6th and 12th) that fall partially within the 65 dB CNEL contours, and requesting their review and feedback. Appendix J.6 presents a sample of the letter sent to the ADO, the City Planning Department, and the ALUC. Appendix J.7 presents a sample of the letter sent to the two City Council members and to the ATCT. These letters went to:
 - Mr. Victor Globa, Environmental Protection Specialist, Federal Aviation Administration, Western-Pacific Region, Los Angeles Airports District Office, 15000 Aviation Boulevard, Lawndale, CA 90261
 - Ms. Robin Dybvik, VNY FAA Air Traffic Control Tower, 7550 Hayvenhurst Place, Van Nuys, CA 91406
 - Mr. Kevin Keller, Senior City Planner, City Planning, Los Angeles City Hall, Suite 667, 200 N. Spring St., Los Angeles, CA 90012
 - Ms. Susana Franco-Rogan, Airport Land Use Commission, Los Angeles County Regional Planning, 320 West Temple Street, Los Angeles, CA 90012
 - Honorable Tony, Cardenas, Councilmember - 6th District, Van Nuys City Hall Office, 14410 Sylvan Street, Suite 215, Van Nuys, CA 91401
 - Honorable Mitchell Englander, Councilmember - 12th District, Northridge District Office, 18917 Nordhoff St., Suite 18, Northridge, CA 91324

6.3 Public Presentations

LAWA met twice with the VNY Citizens Advisory Council (CAC) to present and respond to questions regarding the draft NEMs. Appendix K presents materials documenting these presentations. Both sessions were at normally scheduled and publicly advertised CAC meetings (the evening of the first Tuesday of the month). The meetings are advertised on the VNY website and open to all interested parties. The NEM topic was included on each meeting agenda under current actions (“Staff Reports”).

The first meeting was on October 4, 2011, which provided LAWA with a timely opportunity to brief the committee immediately in advance of the start of the comment period. LAWA provided CAC members with access to the draft NEM in advance of the meeting, via LAWA's VNY website, with notice to the committee members via email. LAWA staff made a PowerPoint presentation at the first meeting. Based on the discussion at the first meeting, the CAC Chair requested that LAWA staff provide a further summary and opportunity for discussion of the draft NEM at the next (November 1, 2011) meeting, after the committee members and other attendees had additional opportunity to review the draft.

Appendix K presents a copy of the October 4, 2011 PowerPoint presentation, and the meeting agenda and minutes for each meeting. The Part 150 NEM was item 1.A. of the October 4, 2011 meeting, and item 1.B. of the November 1, 2011 meeting, and is addressed under those sections of each associated agenda and minutes.

As noted in the minutes for the November 1, 2011 meeting, there were no further CAC requests or comments at the conclusion of the discussion of the draft NEM at that session.

6.4 Documentation of Comments and Follow-Up

Consistent with the Part 150 requirement⁴⁴ that copies of all written comments received during consultation be filed with the FAA's Regional Airports Division Manager, Appendix L presents copies of the 13 written comments received, including consideration of emails as "written." These written comments were received from the following parties.

- Ms. Ellen Bagleman, 1634 Hamlin Street, Lake Balboa, CA 91406
- Mr. Lawrence Calabro, Northridge, CA
- Mr. John Carmona (no address given)
- Mr. Omar Galo (no address given)
- Mr. Roger Gerchas, Northridge, CA
- Mr. Victor Globa, Environmental Protection Specialist, Federal Aviation Administration, Western-Pacific Region, Airports Division, Los Angeles Airports District Office, P.O. Box 92007, Los Angeles, CA 90009-2007
- Mr. Stan Kramer, 6 Maverick Lane, Bell Canyon, CA 91307
- Mr. William P. Mouzis, 16647 Gilmore Street, Lake Balboa, CA 91406
- Ms. Diana Sanchez (no address given)
- Ms. Linda Satorius, Board Member, on behalf of the Professional Helicopter Pilots Association
- Mr. Gerald A. Silver, President, Homeowners of Encino, CA
- Mr. Bruce Spiegel, 9024 Rubio Avenue, North Hills, CA 91343
- Ms. Renee Suran, Woodland Hills, CA

⁴⁴ Op cit., § 150.21 (b). This approach ensures that all reviewers of the NEMs document have access to these same comments.

Many of the comments presented general or specific opinions and observations regarding aircraft noise impacts; abatement procedures; airport benefits; the LAWA Residential Soundproofing Program, and other government regulations, policies, and procedures related to aircraft noise. As these comments do not present any “views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations,” they do not require any revision to the NEMs documentation. However, LAWA appreciates this input and will take it into consideration in its continuing noise management efforts at VNY.

The 13 comments are addressed in order below.

1. Ms. Ellen Bagleman, 1634 Hamlin Street, Lake Balboa, CA 91406

Ms. Bagleman’s comments present her opinions and views regarding the manner LAWA, the FAA, and elected officials address aircraft noise, and suggest the need for action by the U.S. Congress. LAWA will take this input into consideration in its continuing noise management efforts at VNY.

Ms. Bagleman’s comments do not include any “views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations.” Therefore, her comments did not require any revision to the NEMs documentation.

2. Mr. Lawrence Calabro, Northridge, CA

Mr. Calabro’s comments present his opinion regarding helicopter noise, which he and his wife find to be bothersome only very infrequently. LAWA will take this input into consideration in its continuing noise management efforts at VNY.

Mr. Calabro’s comments do not include any “views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations” which Part 150 requires LAWA to request during the NEMs consultation process. Therefore, his comments did not require any revision to the NEMs documentation.

3. Mr. John Carmona (no address given)

Mr. Carmon’s comments present observations regarding the LAWA Residential Soundproofing Program and potential ideas for noise abatement measures to consider, including expanded soundproofing eligibility. LAWA will take this input into consideration in its continuing noise management efforts at VNY. As noted in Section 3.3.1, potential expansion of the Residential Soundproofing Program is a principal purpose of this update to the VNY NEMs.

Mr. Carmon’s comments do not include any “views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations.” Therefore, his comments did not require any revision to the NEMs documentation.

4. Mr. Omar Galo (no address given)

Mr. Galo submitted an email to the draft NEMs comment email address requesting information regarding application for the Residential Soundproofing Program. An appropriate LAWA representative has contacted him to respond to his inquiry.

Mr. Galo's comments do not include any "views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations." Therefore, his comments did not require any revision to the NEMs documentation.

5. Mr. Roger Gerchas, Northridge, CA

Mr. Gerchas provides general comments regarding the noise issue at VNY, particularly stressing the need for all stakeholders to work together. LAWA will take his input into consideration in its continuing noise management efforts at VNY.

Mr. Gerchas' comments do not include any "views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations" which Part 150 requires LAWA to request during the NEMs consultation process. Therefore, his comments did not require any revision to the NEMs documentation.

6. Mr. Victor Globa, Environmental Protection Specialist, Federal Aviation Administration, Western-Pacific Region, Airports Division, Los Angeles Airports District Office, P.O. Box 92007, Los Angeles, CA 90009-2007

Mr. Globa presents eight comments. These comments and LAWA's responses are presented below.

- 1) LAWA's intentions are identified in Section 6 regarding its Public Consultation Process. It is not clear who the identified parties are that were notified of the pending NEMs review. Please provide a table identifying which agencies, sponsors and the general public was notified.

Response: Section 6 has been completed with detailed documentation of the entire consultation process, including identification of all identified parties that were notified and description of the notification processes, supplemented by copies of notification materials and comments received (in appendices identified in Section 6).

- 2) All consulted parties including the public should have access and an opportunity to comment on documents that the FAA will review such as the larger unbound flight track maps that are not provided.

Response: Every hard copy of the official NEMs document will include the larger unbound flight track maps. In addition, a copy of the NEMs document with the larger unbound flight track maps will be available for public review at the VNY administration offices, which are centrally located within the 65 dB CNEL NEMs contours at 16461 Sherman Way, Suite 300, Van Nuys, CA 91406. As discussed in Section 6.2, no party came to the VNY administration offices to review the hard copy document during the comment period; commenters took advantage of the electronic copy available on the VNY website, for which the availability of larger unbound figures is not relevant.

- 3) Once comments are received and incorporated the document will need to go for a 30-day FAA Line of Business Review. The Los Angeles Airports District Office will notify LAWA when the Draft document is ready to be received. The copy should be identified as a Draft or Draft Final not Final due to incomplete review.

Response: LAWA will submit multiple copies of the NEMs documentation to the FAA consistent with Part 150 requirements.

- 4) The NEM's and Flight Track maps do not identify the City of Los Angeles. Please identify the jurisdiction.

Response: The NEMs and flight track figures identify the encompassed jurisdictional boundaries over the entire mapped area, not just within the 65 dB CNEL contour as required by the FAA's Part 150 checklist. For further clarification in response to this comment, the notation regarding these jurisdictions has been moved from the NEMs legend (where it was located in the draft document) to the mapped area, as requested.

- 5) See page F-3, August 31, 2010, LAWA letter requesting INM changes. Also add October 19, 2010 LAWA request letter and March 14, 2011, FAA response letter in Appendices.

Response: These letters were provided in Appendix G and Appendix H, respectively, of the draft NEMs, as they are in this submission. For further clarification in response to this comment, Section 6.1 of this document lists these and other elements of Appendices F, G, H, and I which document all correspondence with the FAA regarding non-standard INM modeling.

- 6) Add dates to the Ordinances that indicate noise or access restrictions.

Response: Consistent with City of Los Angeles practices, the dates that the City Council acted on each ordinance are presented in the end of each ordinance reproduced in Appendix D. For further clarification in response to this comment, a table is included at the beginning of the appendix that lists the ordinances, their formal noise and access restriction elements, the sections of this document that discuss them, and the dates on which they were passed by the City Council and approved by the Mayor.

- 7) Page iii Complete Sponsor's Certification before submitting for FAA Line of Business Review

Response: LAWA will complete the certification before submission.

- 8) Specific clarifications are identified in the attached NEM checklist.

Response: The clarifications of the preceding comments provided in the NEM checklist attached to Mr. Globa's comments are noted and addressed as indicated in the preceding responses. Section 1.4 of this document presents an updated NEMs checklist.

7. Mr. Stan Kramer, 6 Maverick Lane, Bell Canyon, CA 91307

Mr. Kramer notes that his comment relates to an area outside the NEMs boundary. He requests that the "western San Fernando Valley foothill area be included in any noise pollution reduction plans, and that he be directed "to the appropriate person in the FAA to transmit my comment."

Mr. Kramer's comments do not include any "views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations" which Part 150 requires LAWA to request during the NEMs consultation process. Therefore, his comments did not require any revision to the NEMs documentation.

LAWA has directly forwarded his comments to the FAA on his behalf, by including them in this document.

8. Mr. William P. Mouzis, 16647 Gilmore Street, Lake Balboa, CA 91406

Mr. Mouzis' comments present his opinions and views regarding the manner LAWA, the FAA, pilots, and aircraft owners address aircraft noise, and suggest the need for action by the U.S. Congress. LAWA will take this input into consideration in its continuing noise management efforts at VNY.

Mr. Mouzis' comments do not include any "views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations." Therefore, his comments did not require any revision to the NEMs documentation.

9. Ms. Diana Sanchez (no address given)

Ms. Sanchez states her appreciation for the economic benefits of the airport.

Ms. Sanchez' comments do not include any "views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations." Therefore, her comments did not require any revision to the NEMs documentation.

10. Ms. Linda Satorius, Board Member, on behalf of the Professional Helicopter Pilots Association

Ms. Satorius notes the Professional Helicopter Pilots Association (PHPA) support for Noise Compatibility Program (NCP) Measure 11, "Improve communications between the airport, the FAA, helicopter operators, and residents in an effort to reduce the impact and negative perception of helicopter operations." as described in Section 3.4.2 of this document. She summarizes related actions in which the PHPA is engaged.

Ms. Satorius' comments do not include any "views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations." Therefore, her comments did not require any revision to the NEMs documentation.

11. Mr. Gerald A. Silver, President, Homeowners of Encino, CA

On behalf of the Homeowners of Encino, Mr. Silver expresses concern "that the noise exposure maps show no reduction in the number of residents or dwellings in the 65 CNEL, during the next five-year period. He notes that "[i]n fact there is a slight increase in the population and dwellings affected by VNY noise." He states that "[t]his raises the question of how effective is the VNY noise mitigation program, and is the money spend on soundproofing homes paying noise reduction dividends."

Mr. Silver is correct in his interpretation of the forecast changes in CNEL and encompassed residents and dwelling units. The effectiveness of the LAWA Residential Soundproofing Program is discussed in Section 3.3.1, and shown graphically by the treated parcels indicated graphically in the NEM figures in Section 4.2.

Mr. Silver notes that VNY aircraft noise extends beyond the 65 dB CNEL contour, and states that more needs to be done to expand the VNY noise abatement program, including additional and more aggressive use restrictions. He also urges LAWA to challenge FAA denials of noise control

measures that LAWA proposed in the Noise Compatibility Program element of the original Part 150 study.

Mr. Silver's comments do not include any "views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations." Therefore, his comments did not require any revision to the NEMs documentation.

Mr. Silver's concluding comment requested additional outreach. In response to this request, which Mr. Silver repeated at the October 4, 2011 Citizens Advisory Council (CAC) meeting (see minutes reproduced in Appendix K), LAWA addressed the draft NEMs a second time at the following monthly meeting, on November 1, 2011, after the committee members and other attendees had the opportunity to review the draft for four additional weeks, as discussed in Section 6.3. As noted in the minutes for the November 1, 2011 meeting, there were no further CAC requests or comments at the conclusion of the discussion of the draft NEM at that session.

12. Mr. Bruce Spiegel, 9024 Rubio Avenue, North Hills, CA 91343

Mr. Spiegel requested information regarding application for the Residential Soundproofing Program. An appropriate LAWA representative has contacted him to respond to his inquiry.

Mr. Spiegel's comments do not include any "views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations." Therefore, her comments did not require any revision to the NEMs documentation.

13. Ms. Renee Suran, Woodland Hills, CA

Ms. Suran addresses helicopter operations. She notes that helicopter noise does not bother her that much, but that they rattle her windows in a way that frightens her.

Ms. Suran's comments do not include any "views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations." Therefore, her comments did not require any revision to the NEMs documentation.

**APPENDIX A FAA ACCEPTANCE OF PREVIOUS NOISE
EXPOSURE MAPS, AND RELATED FAA AND LAWA
COMMUNICATIONS REGARDING MAP
CERTIFICATION**

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

Western-Pacific Region
Los Angeles Airports District Office

P.O. Box 92007
Los Angeles, CA 90009

April 20, 2009

Ms. Gina Marie Lindsey
Executive Director, Los Angeles World Airports
Los Angeles International Airport
1 World Way
Los Angeles, CA 90045

Dear Ms. Lindsey:

**Van Nuys Airport
Acceptance of Noise Exposure Maps
and Review of Noise Compatibility Program**

This letter is to notify you that the Federal Aviation Administration (FAA) has evaluated and accepted the Noise Exposure Maps and supporting documentation dated December 2008 for the Van Nuys Airport. In accordance with Section 103(a)(1) of the Aviation Safety and Noise Abatement Act of 1979 (the Act), as amended, we have determined that:

1. The 2001 Community Noise Equivalent Level (CNEL) noise contours and supporting documentation meet the requirements for the current Noise Exposure Map as of the date of submission as set forth in Title 14, Code of Federal Regulations (CFR), Part 150, *Airport Noise Compatibility Planning*, Section 150.21, and are accordingly accepted under this Part.
2. The projected 2006 aircraft operations, the 2006 (Future) CNEL noise contours and supporting documentation are accepted as the description of the future conditions as set forth in Part 150, and are accordingly accepted under this Part.

FAA's acceptance of the Noise Exposure Maps is limited to the determination that the maps were developed in accordance with the procedures contained in Appendix A of Part 150. Such acceptance does not constitute approval of your data, information, or plans.

The FAA will publish a notice in the *Federal Register* announcing the acceptance of the Noise Exposure Maps for Van Nuys Airport. The FAA's acceptance of these Noise Exposure Maps under Part 150 in no way approves or endorses a Noise Compatibility Program, potential related federal funding of projects identified in such a program, or any related operating restrictions at the subject airport.

In addition, the FAA has formally received the Noise Compatibility Program for Van Nuys Airport, effective today. Preliminary review of the submitted material indicates that it conforms to the requirements for the submittal of Noise Compatibility Programs, but that further review will be necessary prior to approval or disapproval of the program.

2

The formal review period, limited by law to a maximum of 180-days, will be completed on or before October 16, 2009. The public comment period ends on June 18, 2009.

Should any questions arise concerning the precise relationship of specific properties to Noise Exposure Contours depicted on the Noise Exposure Maps Update, you should note that the FAA will not be involved in any way in the determination of relative locations of specific properties with regard to the depicted noise contours, or in interpreting the maps to resolve questions concerning, for example, which properties should be covered by the provision of Section 107 of the Act. These functions are inseparable from the ultimate land use control and planning responsibilities of local government. These local responsibilities are not changed in any way under Part 150 or through FAA's acceptance of your Noise Exposure Maps Update. Therefore, the responsibility for the detailed overlaying of noise contours onto the maps depicting properties on the surface rests exclusively with you the airport operator, or those public agencies and planning agencies with which consultation is required under Section 103 of the Act. The FAA relies on the certification by you under 150.21 of FAR Part 150, that the statutorily required consultation has been accomplished.

Your notice of this determination, and the availability of the Noise Exposure Maps, which when published at least three (3) times in a newspaper of general circulation in the county where the affected properties are located, will satisfy the requirements of Section 107 of the Act. A sample publication announcement has been enclosed for your use.

Your attention is called to the requirements of Section 150.21 (d) of Part 150, involving the prompt preparation and submission of revisions to these maps, if any actual or proposed change in the operation of the subject airport might create any substantial, new noncompatible land use in any areas depicted on the maps.

Thank you for your continued interest in Noise Compatibility Planning.

Sincerely,



Brian Q. Armstrong
Manager, Los Angeles Airports District Office

Enclosure

cc: APP-600, LAX-600

SAMPLE

NOISE EXPOSURE MAP ACCEPTANCE PUBLIC ANNOUNCEMENT IN LOCAL NEWSPAPER – TO BE PUBLISHED THREE TIMES

Pursuant to Section 107(a) & (b) [Title 49, United States Code, Section 47506] of the Airport Safety and Noise Abatement Act of 1979, as amended, notice is hereby given that on April 20, 2009, the Federal Aviation Administration has completed its evaluation of, and has formally accepted the Noise Exposure Maps Van Nuys Airport, located in Van Nuys, California that were prepared pursuant to Title 14, Code of Federal Regulations, Part 150 (14 CFR Part 150). These maps and supporting documentation are available for public review at the offices of the Aviation Director, Los Angeles World Airports, One World Way, Los Angeles, California 90045.



U.S. Department
of Transportation
Federal Aviation
Administration

Western-Pacific Region
Los Angeles Airports District Office

Federal Aviation Administration
P.O. Box 92007
Los Angeles, CA 90009-2007

July 23, 2008

Mr. Roger Johnson
Deputy Executive Director
Los Angeles World Airports
1 World Way
Los Angeles, CA 90045-5803

**Van Nuys Airport Part 150
Noise Exposure Map and Noise Compatibility Review**

Dear Mr. Johnson:

I have received your revisions dated April 17, 2008, associated with the Part 150 Noise Compatibility Study at Van Nuys Airport (VNY). After reviewing the document, we came across two issues that must be addressed before we accept the noise exposure maps. Both of these requirements were added to 14 CFR Part 150 in 2004:

- 1) While the 2006 actual operations comparison shows a decrease overall compared to the original Part 150 forecast, §150.21(d) (2) indicates that *"If, after submission of a noise exposure map under paragraph (a) of this section, any change in the operation of the airport would significantly reduce noise over existing noncompatible uses that is not reflected in either the existing conditions or forecast noise exposure map on file with the FAA, the airport operator shall, in accordance with this section, promptly prepare and submit a revised noise exposure map. A change in the operation of the airport creates a significant reduction in noise over existing noncompatible uses if that change results in a decrease in the yearly day-night average sound level of 1.5 dB or greater in a land area which was formerly noncompatible but is thereby made compatible under Appendix A (Table 1)."*
- 2) The map scale provided identified in Section IV: Map, Scale, Graphics, and Data Requirements does not meet the 1" to 2,000' requirement identified in Section §150.103 (b) (1). It states *"A map of the airport and its environs at an adequately detailed scale (not less than 1 inch to 2,000 feet) indicating runway length, alignments, landing thresholds, takeoff start-of-roll points, airport boundary, and flight tracks out to at least 30,000 feet from the end of each runway."*

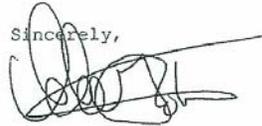
You stated that operations have gone down since the Noise Exposure Maps were first prepared. If the CNEL contour has not decreased by 1.5 dB or greater over noncompatible land uses, the FAA can accept the 2001 existing conditions NEM documentation, as representative of existing conditions at VNY, from the date of your last submission (2008). If forecast operations for at least five years beyond 2008 (2013) will not produce a CNEL 1.5 dB increase or decrease over noncompatible land uses at VNY, we can accept your 2006 forecast year NEM as representing 2013.

You will need to provide certification in a letter to us (\$150.21(d) (4) (e) "Each map, or revised map, and description of consultation and opportunity for public comment, submitted to the FAA, must be certified as true and complete under penalty of 18 U.S.C. 1001.") providing factual statements to this effect once you have completed a review of the VNY part 150 existing and forecast operations data.

Assuming you can certify the NEMs are representative of 2008 and 2013, we will accept them as meeting Part 150 requirements and we will move forward with the 180-day review of the NCP.

We allow the map scale you provided. However, if there is 1.5 dB decrease in land area, the Noise Exposure Maps will once again need to go through the public consultation identified in §150.21(b) "Each map, and related documentation submitted under this section must be developed and prepared in accordance with appendix A of this part, or an FAA approved equivalent, and in consultation with states, and public agencies and planning agencies whose area, or any portion of whose area, of jurisdiction is within the $L_{dn}65$ dB contour depicted on the map, FAA regional officials, and other Federal officials having local responsibility for land uses depicted on the map. This consultation must include regular aeronautical users of the airport. The airport operator shall certify that it has afforded interested persons adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the draft noise exposure map and descriptions of forecast aircraft operations. Each map and revised map must be accompanied by documentation describing the consultation accomplished under this paragraph and the opportunities afforded the public to review and comment during the development of the map. One copy of all written comments received during consultation shall also be filed with the Regional Airports Division Manager." The map scale requirements will need updating, as well.

We have tried to be responsive to LAWA's requests for FAA help, as well as actions taking place at other LAWA airports. We apologize for the delay in the review of VNY's part 150 update. We look forward to completing this project in a timely manner.

Sincerely,


Victor Globa
Environmental Protection Specialist

Brian Armstrong, LAX-600
Mark McClardy, AWP-600
Mia Ratcliff, AWP-610
Dave Kessler, AWP-610.1
Victoria Catlett, APP-400



Los Angeles World Airports

December 5, 2008

Mr. Victor Globa
Environmental Protection Specialist
Los Angeles Airports District Office
Western Pacific Region
Federal Aviation Administration
P.O. Box 92007
Los Angeles, CA 90009-2007

LAX

LA/Ontario

LA/Palmdale

Van Nuys

City of Los Angeles

Antonio R. Villarraigosa
Mayor

Board of Airport
Commissioners

Alan I. Rotherberg
President

Valeria C. Velasco
Vice President

Joseph A. Aredes
Michael A. Lawson
Sylvia Patsouras
Fernando M. Torres-Gil
Walter Zifkin

Gina Marie Lindsey
Executive Director

Re: Van Nuys Airport Part 150 – Noise Exposure Maps

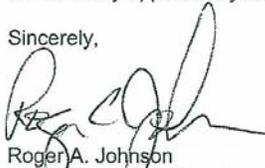
Dear Mr. Globa:

Los Angeles World Airports (LAWA) appreciates your continued assistance in finalizing the Van Nuys Airport (VNY) Part 150. LAWA is providing the attached information in response information requested in a letter dated July 23, 2008 (copy attached for reference). In that letter, you indicated that in order for the FAA to approve the Noise Exposure Maps (NEMs), LAWA must certify that the NEMs we submitted to you are representative of current existing conditions and at least five-year forecast conditions, and do not result in a decrease in noise levels of 1.5 dB or greater.

Attached to this letter is a memo from our consultant Harris Miller Miller and Hanson, Inc. (HMMH) who was tasked by LAWA to assess the current and future operations and noise levels, and compare those levels to the NEMs for 2001 and 2006, respectively. The HMMH analysis concluded a 1.4 dB decrease in the CNEL levels between current operations and forecasts when compared to those within the Part 150. We believe this meets 1.5 dB criteria established under Part 150.

Therefore, LAWA hereby certifies that the 2001 and 2006 NEMs are representative of current and future conditions. As stated in your letter, LAWA anticipates FAA acceptance of the NEMs, as well as commencement of the 180-day review of the NCP. We certainly appreciate your assistance in moving this process forward.

Sincerely,


Roger A. Johnson
Deputy Executive Director

RJ:ST

Enclosures

cc: Brian Armstrong, LAX-600
Mark McClardy, AWP-600
Mia Ratcliff, AWP-600
Victoria Catlett, APP-400

Dave Kessler, AWP-610.1
Scott Tatro, LAWA
Dennis Quilliam, LAWA

HARRIS MILLER MILLER & HANSON INC.

8880 Cal Center Dr., suite 430
Sacramento, CA 95826
Tel. (916) 368-0707
Fax (916) 368-1201

TECHNICAL MEMORANDUM

To: Mr. Scott Tatro
Environmental Affairs Officer
Los Angeles World Airports
Environmental Services Division
Noise Management
7301 World Way West
Los Angeles, CA 90045

From: Robert Behr, Gene Reindel, Ted Baldwin

Date: December 4, 2008

Subject: Comparing VNY Part 150 Contours

Reference: HMMH Job Number 300701.013



1. INTRODUCTION

The Federal Aviation Administration (FAA) has requested additional information related to the January 2003 Van Nuys Airport (VNY) Part 150. The delay in time since the submittal has resulted in the FAA questioning whether the 2001 and 2006 noise exposure contours in the Part 150 study adequately represent the current existing conditions (2008) and at least five-year forecast (2013 or beyond), respectively, as required under 14 CFR Part 150. As a result of this FAA request, Los Angeles World Airports (LAWA) requested Harris Miller Miller & Hanson Inc. (HMMH) to provide an analysis that would satisfy the FAA in the most expeditious manner.

The primary area to address was stated in the July 23, 2008 FAA letter to LAWA regarding the review of the Part 150 study:

While the 2006 actual operations comparison shows a decrease overall compared to the original Part 150 forecast, §150.21(d)(2) indicates that "If, after submission of a noise exposure map under paragraph (a) of this section, any change in the operation of the airport would significantly reduce noise over existing noncompatible uses that is not reflected in either the existing conditions or forecast noise exposure map on file with the FAA, the airport operator shall, in accordance with this section, promptly prepare and submit a revised noise exposure map. A change in the operation of the airport creates a significant reduction in noise over existing noncompatible uses if that change results in a decrease in the yearly day-night average sound level of 1.5 dB or greater in a land area which was formerly noncompatible but is thereby made compatible under Appendix A (Table 1)."

2. RESULTS AND CONCLUSIONS

Application of the FAA's Area Equivalent Method (AEM) screening tool reveals that the 2009 and 2014 operations and fleet mixes from the Draft Environmental Impact Report (DEIR) for the VNY Noisier Aircraft Phaseout result in approximately a 1.4 dB decrease in CNEL compared to the 65 dB CNEL for the Part 150 2001 and 2006 contours, respectively. *Therefore, the AEM indicates that the 2001 and 2006 contours in the VNY Part 150 represent the current baseline (2009) and five-year forecast (2014) conditions within FAA's 1.5 dB threshold of significance.*

HARRIS MILLER MILLER & HANSON INC.

Comparing VNY Part 150 Contours
 December 4, 2008
 Page 2

3. ANALYSIS APPROACH

HMMH recommended that this analysis utilize the following steps:

1. Determine the operations level for the most recent 12 months for which data are available. (This period turned out to be the fiscal year ending September 30, 2008 or "FYE September 2008.")
2. Compare the FYE September 2008 operations level to the 2007 and 2009 operations estimates developed for the VNY Noisier Aircraft Phaseout DEIR, to select the analysis year from that study to represent "current" conditions. If the overall operations for the most recent twelve months are within 15%¹ of what was modeled for 2007 and / or 2009, the detailed fleet mix for the year with the closest operations level would be used to represent "current" conditions. (Since the 2007 and 2009 analyses were conducted early in 2008, there have been no changes in overall fleet mix, runway use, flight tracks, operating procedures, airport layout, or other factors that might affect the representativeness of the DEIR contours vis-à-vis the most recent 12 months; so overall activity level is the only factor to consider in selecting the most representative year.) Ideally, the analysis will indicate that 2009 is the most representative of existing conditions, since the FAA is likely to be reviewing the LAWA response on this matter in 2009.
3. Use the FAA's AEM screening process to compare the selected analysis year from the DEIR to the VNY Part 150 2001 baseline year.
4. Use the AEM to compare 2014 year forecast operations from the DEIR analysis to the VNY Part 150 2006 forecast. The 2014 forecast satisfies the Part 150 requirement that the forecast case be for a year at least five years past the baseline.
5. The AEM screening will determine if the existing and forecast condition contours from the DEIR are within 1.5 dB of the 2001 and 2006 Part 150 contours.



4. TOWER COUNT ANALYSIS AND FORECAST OPERATIONS

HMMH solicited the services of SH&E to analyze the most recent 12 months of tower counts (the last or fourth quarter of CY 2007 and first three quarters of CY 2008) and develop the fleet mix following the same procedures used in developing the baseline fleet mixes for the VNY DEIR. Table 1 compares the results for this period to the Part 150 2001 baseline and for 2007 and 2009 from the DEIR.

Aircraft Group	Part 150 Baseline 2001	DEIR 2007	DEIR 2009	FYE September 2008
GA Jet	30,779	48,143	51,815	44,107
GA Propeller and Turboprop	254,476	104,871	123,374	118,900
Helicopters	48,685	61,298	68,226	63,809
Training	129,725	98,715	85,115	103,951
Military	-	321	293	255
Privately Owned Former Military	-	659	659	659
Overflights	-	76,565	78,902	70,777
Total	463,665	390,572	408,384	402,458

Note: The Part 150 baseline did not break out military, privately owned former military, and overflights into separate categories; those operations were integrated into the other categories.

¹ The FAA's "FAR Part 150 Noise Exposure Map Checklist - Part II," §III.B identifies 15% as the maximum allowable variation for considering overall operations levels equivalent in comparisons of this type.

HARRIS MILLER MILLER & HANSON INC.

Comparing VNY Part 150 Contours
 December 4, 2008
 Page 3

The FYE September 2008 operations are within 3% of 2007 and 1.5% of 2009; well within the FAA's 15% limit. Based on this comparison, the operations and fleet mix for the 2009 forecast are most representative of current conditions and the appropriate basis for the AEM comparison to the Part 150 2001 baseline.

Table 2 compares the operations from the Part 150 forecast for 2006 to those for the DEIR 2014 forecast that will be compared using the AEM to quantify any increase or decrease in the forecast 65 CNEL contour. The 2014 forecast is within 4% of the 2006 forecast; once again well within FAA's 15% limit.

Aircraft Group	Part 150 Forecast 2006	DEIR 2014
GA Jet	42,942	83,449
GA Propeller and Turboprop	262,061	129,814
Helicopters	51,831	82,212
Training	136,884	90,354
Military	-	293
Privately Owned Former Military	-	659
Overflights	-	89,183
Total	493,718	475,964

Note: The Part 150 forecast did not break out military, privately owned former military, and overflights into separate categories; those operations were integrated into the other categories.

5. AREA EQUIVALENT METHOD ANALYSIS

As stated in the "Area Equivalent Method User's Guide, Version 7.0," January 2008:

"The Area Equivalent Method (AEM) is a screening procedure used to simplify the assessment step in determining the need for further analysis with the Integrated Noise Model (INM) as part of Environmental Assessments and Impact Statements (EA/EIS) and Federal Aviation Regulations (FAR) Part 150 studies. AEM is a mathematical procedure that provides an estimated change in noise contour area for an airport given the types of aircraft and the number of operations for each aircraft. The noise contour area is a measure of the size of the landmass enclosed within a level of noise as produced by a given set of aircraft operations.

The noise contour metric is the Day-Night Average Sound Level (DNL) which provides a single quantitative rating of a noise level over a 24-hour period. This rating involves a 10-dBA penalty to aircraft operations during the nighttime (between 10 PM and 7 AM) to account for the increased annoyance in the community.

The AEM produces noise contour areas (in square miles) for the DNL 65 dBA noise level and the purpose of AEM is to screen for significant impact within the 65 dBA contour area. The user may specify other contour levels to obtain supplemental information. The AEM is used to develop insight into the potential increase or decrease of noise resulting from a change in aircraft operations".

The noise contour metric for California is the Community Noise Equivalent Level (CNEL) which adjusts aircraft operations during the evening (7 PM to 10 PM) upward by a factor of three (which is approximately equal to a 4.77 dB penalty on each operation). Since the AEM only accepts inputs for the day and night periods defined for DNL, the evening operations are multiplied by three and added to the daytime operations to account for the CNEL evening penalty.

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**APPENDIX B FAA RECORD OF APPROVAL FOR NOISE
COMPATIBILITY PROGRAM AND RELATED
FEDERAL REGISTER NOTICE**

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

Western-Pacific Region
Los Angeles Airports District Office

P.O. Box 92007
Los Angeles, CA 90009

November 9, 2009

Ms. Gina Marie Lindsey
Executive Director, Los Angeles World Airports
Los Angeles International
1 World Way
Los Angeles, CA 90045

Dear Ms. Lindsey:

**Van Nuys Airport
FAR Part 150 Noise Compatibility Program**

The Federal Aviation Administration (FAA) has evaluated the Noise Compatibility Program (NCP) for the above referenced airport, prepared to comply with 14 Code of Federal Regulations Part 150. The recommended NCP proposed by the City of Los Angeles, Los Angeles World Airports is described in Section V of the Program. I am pleased to inform you that the Associate Administrator for Airports has approved three (3) of fourteen (14) Noise Abatement elements, Two (2) of three (3) Noise Mitigation elements, two (2) of (2) Land Use Planning elements, and eight (8) of sixteen (16) Program Management elements. The specific FAA action for each NCP element is set forth in the enclosed Record of Approval. The effective date of this approval is October 16, 2009. All of the FAA actions on your program recommendations are more fully described in the Record of Approval.

The FAA also has concerns about the length of time it has been since the NEMs were developed and the length of time since the general public was involved in the process. The NCP shows the public involvement process ended in 2001. The NEMs are based on operational data that is older than 10 years. While we received certification from you, in accordance with 14 C.F.R. 150.21, that the NEMs were representative of conditions at the airport for the existing and forecast timeframe as of the date you submitted the documentation in 2007, we believe it would be appropriate to review and revise your NEMs under 14 C.F.R. 150.21 due to their age.

Each Airport NCP developed in accordance with FAR Part 150 is a local program and not a Federal program. The FAA does not substitute its judgment for that of the airport sponsor with respect to which measures should be recommended for action. The FAA's approval, disapproval or other action of the Part 150 program recommendations is based on the approval criteria in Part 150 and applicable sections of the statute (49 U.S.C. section 475). FAA's decisions are limited to the following determinations:

a. The Noise Compatibility Program was developed in accordance with the provisions and procedures of FAR Part 150;

b. Program measures are reasonably consistent with achieving the goals of reducing existing incompatible land uses around the airport and preventing the introduction of new incompatible land uses;

c. Program measures would not create an undue burden on interstate or foreign commerce, unjustly discriminate against types or classes of aircraft, or intrude into areas preempted by the Federal government; and

d. Program measures relating to the use of flight procedures can be implemented within the period covered by the program without derogating safety, adversely affecting the efficient use and management of the navigable airspace and air traffic control responsibilities of the Administrator prescribed by law.

Specific limitations with respect to FAA's approval of an Airport Noise Compatibility Program are delineated in FAR Part 150, Section 150.5. Approval is not a determination concerning the acceptability of land uses under Federal, State or local law. Approval does not, by itself, constitute a FAA implementation action. A request for Federal action or approval to implement specific Noise Compatibility Measures may be required. Prior to an FAA decision on the request to implement the action, an environmental review of the proposed action may be required. Approval does not constitute a commitment by the FAA to financially assist in the implementation of the program nor a determination that all measures covered by the program are eligible for grant-in-aid funding from the FAA. Where Federal funding is sought, requests for project grants must be submitted to the FAA's Los Angeles, Airports District Office.

The FAA will publish a notice in the *Federal Register* announcing the approval of this Noise Compatibility Program. You are not required to give local official notice, however, you may do so if you wish.

Thank you for your continued interest in noise compatibility planning. If you have questions concerning this matter, please contact Victor Globa, Environmental Protection specialist at 310/725-3637.

Sincerely,



Brian Q. Armstrong
Manager, Los Angeles Airports District Office

Enclosure

cc: AWP-600, APP-400

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RECORD OF APPROVAL
14 CFR PART 150
NOISE COMPATIBILITY PROGRAM**



VAN NUYS AIRPORT

VAN NUYS, CALIFORNIA

[Signature]
Assistant Administrator for Aviation Policy
Planning, and Environment, AEP-1

10/15/09 ✓
Date CONCUR NONCONCUR

[Signature]
for Chief Counsel, AGC-1

10/15/09 ✓
Date CONCUR NONCONCUR

[Signature]
Associate Administrator for Airports, ARP-1

10/16/09 ✓
Date APPROVED DISAPPROVED

**Record of Approval
Van Nuys Airport
Noise Compatibility Program**

INTRODUCTION

The Van Nuys Airport Noise Compatibility Program Report with Noise Exposure Maps and Noise Compatibility Program Mitigation Measures (NEM/NCP) describes the current and future noncompatible land uses based on the parameters as established in Title 14, Code of Federal Regulations (CFR), Part 150, *Airport Noise Compatibility Planning*. The noise compatibility program includes fourteen recommended noise abatement elements, three noise mitigation elements, two land use planning elements, and sixteen program management elements. These measures are summarized in pages 62 through 77 of Section V of the NEM/NCP.

The approvals listed herein include approval of actions that the airport recommends be taken by the Federal Aviation Administration (FAA). It should be noted that these approvals indicate only that the actions would, if implemented, be consistent with the purposes of 14 CFR Part 150. The approvals do not constitute decisions to implement the proposed actions or a commitment by the FAA to provide federal financial assistance for these actions. Later decisions concerning possible implementation of these actions may be subject to applicable environmental or other procedures or requirements.

The recommendations below summarize, as closely as possible, the airport operator's recommendations in the noise compatibility program and are cross-referenced to the program. The statements contained within the summarized recommendations and before the indicated FAA approval, disapproval or other determination do not represent the opinions or decisions of the FAA.

NOISE ABATEMENT ELEMENTS

1. Van Nuys Helicopter Policy. [Measure #5]

Description: Formulate and adopt local plans and ordinances as necessary to regulate the establishment and operation of new helicopter landing facilities in the general area. Monitor, maintain and adjust plans and ordinances over time. (NCP Page 64, NCP Pages 82-83; Volume 1 of 3, Helicopter Study dated November 1991)

The purpose of this measure is to develop plans for the siting of new helicopter facilities and establish operational procedures. Both location and operating criteria are important in minimizing the impact of helicopter operations on noncompatible and sensitive areas. A primary objective of this planning effort would be to develop location criteria that take into account sensitivities of the impacted areas as well as operational needs of the operators to achieve an optimal balance.

There are currently eight primary routes out of VNY for helicopter operators. The planning process would evaluate whether there should be any adjustments to these tracks. Secondly, the plan would identify those locations for helicopter landing facilities that have the closest access to each of the tracks and would minimize noise impacts.

Quantification of the noise benefits would await the completion of the planning and approval process. One key feature of the plan should be the strengthening of steps to have helicopter operators maintain close compliance with existing (or potentially revised) tracks. Another important factor to be considered is establishing minimum altitudes for helicopters within safety constraints. This factor is addressed in other measures of the NCP as well. Addressing these

factors in the most appropriate manner and taking into account the cumulative benefits of all helicopters measures should ensure a significant reduction from noise impacts or nuisance factors associated with helicopters in the area around VNY.

FAA Action: Approved for study. The NCP indicates in several meeting minutes, which were open for public comment, that helicopter operations are problematic around VNY. The helicopter study, while completed in 1991, provides some insight into the MSL altitude at which helicopters fly due to glide slope, fixed wing patterns, and separation requirements.

That portion of the measure that recommends adoption of local plans and ordinances as necessary to regulate the establishment and operation of new helicopter landing facilities is Disapproved.

2. West Side Operations. [Measure #6]

Description: Investigate whether to encourage helicopter pilots operating west of VNY to increase their altitude 300 feet which may be accommodated under the existing Burbank BUR) glideslope. (NCP Pages 64 and 83; Volume 1 of 3 Helicopter Study dated November 1991)

This measure would initiate an investigation and analysis as to whether it would be feasible to encourage helicopter operations to increase their altitude by 300 feet in the area west of the airport. BUR, which is located approximately 7 miles east of VNY, has one of its approach patterns go over VNY. This measure could determine whether the approach pattern in the area west of the airport is high enough to accommodate an increase in operating altitude of helicopters flying beneath the BUR pattern.

Pending the determination of the investigation, the altitude for helicopters could be raised the suggested 300 feet. If this increase were to be made mandatory or otherwise have compliance assured, it would provide relief to residents in the area from the nuisance noise factor that is experienced from helicopters. The primary advantage of such a measure would probably be realized outside of the CNEL 65 dB contour via single event and overflight benefits.

FAA Action: Disapproved. The FAA review indicates that changing the altitude of helicopters in the area would increase complexity for both controllers and pilots. It has been discussed with pilots and controllers who have indicated it would be difficult to implement and add complexity to the congested airspace. Because the NCP did not include a quantitative analysis, and the narrative indicates the proposal would likely derive benefits outside of the sponsor's selected CNEL noise contour study area, implementation would not be justified for purposes of noise mitigation. (pages 14-15).

3. Helicopter Training Facility. [Measure #7]

Description: This measure recommends conducting testing and research to determine whether a helicopter training facility would be appropriate on the Bull Creek Site. Such a facility would preclude the need for helicopters to leave the airport to train elsewhere. Any such facility would be limited in the number of operations allowed as determined by the study. (NCP Page 64, NCP Page 83; Volume 1 of 3 Helicopter Study dated November 1991).

The objective of this measure is to reduce helicopter training operations that can now only be met at other airports. If it is determined that a facility at the Bull Creek Site could be provided, plans would have to be developed to set a schedule for development and the scope of the facility. Quantification of noise benefits would depend on how many operations could be diverted. By establishing such a facility at VNY it would provide a good opportunity to directly instill the philosophy of flying friendly and mitigating noise impacts. The curriculum could stress the need

VNY ROA

to follow noise abatement procedures and advocate potentially new procedures to be developed in the NCP.

FAA Action: Disapproved. The airport has no authority to regulate numbers of operations; such action would be subject to analysis and approval under 14 CFR Part 161. Also, the NCP does not provide sufficient information to determine whether the Bull Creek Site would be noise beneficial and there appears to be conflicting information in the Helicopter study, which indicates there is opposition to helicopter operations in the Bull Creek area (see pages 4, 9, 12, 15-17) because it is noise-sensitive. Due to the age of the study(ies), updated land use information also would be needed to determine whether there are new noncompatible land uses that might be affected should operations be shifted to this site.

4. Improve Use of Established [Helicopter] Routes. [Measure #8]

Description: This measure recommends developing a program to require helicopter operators to fly along established routes, in particular Stagg Street instead of Saticoy Street, and be encouraged to maximize operations over the least noise sensitive areas such as the industrial development to the east and the Flood Control Basin to the south. (NCP Page 65, NCP Page 84; Volume 1 of 3 Helicopter Study dated November 1991).

Emphasis is placed on the need for pilots to adhere to the Stagg Street track instead of some operators flying over Saticoy Street. It also calls for the further encouragement of helicopter operators to fly over industrial areas east and the Flood Control Basin to the south to avoid noise sensitive areas. The purpose is to initiate development of a program to ensure compliance with these and other operational procedures. Quantification of noise benefits would have to wait for the specific aspects of the program to be developed. As with other helicopter related measures, much of the benefit to be realized would be outside the CNEL 65 dB noise contour and not necessarily mitigate or affect the contour to a great extent. The measure would improve the nuisance factors typically associated with helicopter operations around VNY.

FAA Action: Disapproved. FAA review of the recommendation indicates an increase in the use of Stagg Street arrival/departure procedures would create a safety hazard for ATC and it is not acceptable for this reason. Increased use of the Stagg Street route will increase the frequency of traffic crossing over mid-field and produce unacceptable levels of risk to safety. It also is noted that the documentation states an analysis of benefits was not conducted, and that it is not likely that benefits will occur within the CNEL noise contours of the official NEMs.

5. Bull Creek [Helicopter] Route to Balboa. [Measure #9]

Description: Investigate the feasibility of moving the Bull Creek route to the west, over Balboa Boulevard, to reduce noise over residents in the Creek area. Surface traffic on the Balboa Boulevard route should mask some of the noise from helicopters. This recommendation should be considered, but careful evaluation is needed by local residents and pilots. (NCP Page 65, NCP Page 84, Volume 1 of 3 Helicopter Study dated November 1991).

This measure reiterates the intent to evaluate the noise abatement efficacy of current helicopter tracks to determine whether adjustments should be made. The specific measure focuses on the potential to move the track currently over Bull Creek westerly to Balboa Boulevard. The purpose of this measure would be to *initiate a feasibility study* to evaluate the effectiveness of the proposal, incorporating feedback from local residents to account for subjective interpretation of noise impacts and mitigation. Because of the close proximity of the helicopter track over Bull Creek to the western sideline of the CNEL 65 dB, movement of the track to Balboa Boulevard may only have a marginal effect on the CNEL 65 dB contour. This is because the track is essentially outside the 65 dB, which would lessen the effect and as indicated previously,

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helicopter sound energy is basically subsumed by higher emitting jet operations. However, the primary benefit of the measure would be to minimize the nuisance effect on the residents located between Bull Creek and airport.

FAA Action: Disapproved. The NCP recommends additional study to determine whether this measure is feasible. The 1991 Helicopter Study suggests the Bull Creek area is noise sensitive, but indicates a shift to Balboa Boulevard would require helicopters to fly over more residential areas and a school, and that more testing is needed to determine whether it is feasible (p 17). The NCP should provide more information on the noise benefits or disbenefits of shifting operations to this proposed route. Also, without more current land use information, it is not possible to tell whether new noncompatible land uses would be impacted or benefitted should the route be shifted.

6. [Altitude of] Public Service [Helicopter] Fleets. [Measure #10]

Description: This measure recommends that LAWA work toward enactment of an ordinance that would require City-owned helicopters to maintain specific altitudes (depending on fixed wing conflicts), except when a mission requires a lower altitude or an orbiting maneuver. Under FAA regulations, helicopters must now be at 500 feet altitude within the Van Nuys Airport Air Traffic Area (ATA), which extends five miles in all directions from the airport. The ordinance would require helicopters within and outside the Van Nuys ATA to maintain sufficient altitude so as not to be a nuisance to local residents, particularly when they are transiting an area. The sufficient altitude would be determined during development of the ordinance but, at a minimum, would maintain the 500 feet already currently flown in the ATA. (NCP Pages 65-66 and NCP Page 85; Volume 1 of 3, Helicopter Study, November 1991).

The objective is to accomplish one of the elements of the overriding helicopter policy described previously (see Noise Abatement Element 1, above). This measure differs from other measures by the recommendation that an ordinance be developed which would mandate compliance with prescribed altitudes.

Initially, a study would need to be done to identify the most appropriate altitude, or if necessary multiple altitudes, at which public service helicopters can safely and efficiently operate. One of the issues to be addressed is the practice of police helicopters flying low while traveling from one point to another. They engage in this practice to maintain observations on the ground of criminal activity or related problems to which they might need to respond or alert patrols on the ground. The study would need to confirm whether this practice needs to be done all of the time or if it could be limited to specified conditions.

Other such practices for all public service helicopters would need to be evaluated to determine if there are optional practices that cause noise impacts but can be adjusted to raise altitudes. The conditions necessary to enable altitude changes would be articulated within the context of the ordinance. The level of reduction of noise impacts would depend on the establishment of the specific conditions when helicopters would operate at the prescribed altitudes. From these factors a determination can be made as to how many operations would be affected and how this would translate into a measurable reduction in nuisance from helicopter noise.

FAA Action: Disapproved. This measure recommends a local ordinance to enforce study-recommended altitudes. Aircraft altitudes may not be established by local ordinance.

Any study of possible changes to the airspace in the vicinity of VNY must be conducted in consultation with the FAA's Air Traffic Organization because of the potential impacts on airspace safety and efficiency. Should a study recommend changes in altitude that are demonstrated to

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be safe, they may be submitted for approval under 14 CFR Part 150. These changes must include a quantified noise benefit to demonstrate the measure meets part 150 approval criteria.

7. Establish Noise Abatement and Departure Techniques for all Aircraft Departing VNY. [Measure #12]

Description: This measure recommends modified or reduced noise takeoff that would vary according to aircraft type, size, and weight. Some aircraft might be required to fly a steeper takeoff profile while others would find it necessary to use a more shallow profile. The takeoff parameters for aircraft would be established through continuous measurement of individual aircraft noise levels using approved manufacturers or NBAA procedures. (NCP Pages 66-67 and NCP Pages 86-87).

This measure, in concert with [Measure #13] is the heart of the NCP. The purpose of the measures is to establish flight procedures that will significantly reduce noise impacts from aircraft departures. Initially, approved manufacturers or NBAA noise abatement procedures would be used and these would be evaluated and where necessary modified to improve their effectiveness. Data on noise levels is constantly recorded by LAWA's monitoring system, which surrounds VNY with seven noise monitors that are routinely calibrated. In conjunction with FAA ARTS data, the noise level of operations can be determined and used to analyze whether modified procedures are working or should be adjusted.

Modifications were made to arrival profiles in the INM for certain aircraft types. The user defined profiles were adjusted to reflect typical operational characteristics for ILS landings. These are elevated at VNY because of surrounding terrain. Normally arrivals land at 3.9 degrees. This parameter was incorporated into the INM for the study.

Departure profile modifications for certain aircraft types represent the mitigated noise levels that result from complying with the Fly Friendly procedures tailored for applicable aircraft. The modified profiles were developed by the consulting firm and approved by the FAA. A full description of the methodology is in Volume 3 of 3 of the Appendices to the study. The modified departure profiles were done for the noisiest jets, including the Falcon 20, G11B, and Lear 25.

FAA Action: Approved as voluntary. Exhibits 2 and 3 provide benefits information of implementing the Fly Friendly Program. That program could benefit several thousand people within the CNEL 65 dB noise contour.

8. Establish Noise Abatement and Departure Procedures. [Measure #13]

Description: This measure recommends the adoption of Scenario 9 of the Part 150 scenarios as the NCP, based on reduced take-off thrust power settings within safety levels for all jet departures and prohibit aircraft having Part 36 takeoff noise levels in excess of 74 dBA (excluding emergency flights), between the hours of 10:00 p.m. and 7:00 a.m. (These procedures are commonly referred to as the Fly Friendly Program) (NCP Pages 19-20, NCP Page 67, NCP Pages 87-88; Exhibits 2 and 3 of the NCP report comparing forecast conditions with and without mitigation measures).

The purpose of this measure is to implement the intent of noise abatement flight departure procedures for jets identified as a result of [Measure #12]. Since the mid 1990's, a voluntary program has been in place to fulfill the noise mitigation objectives of the measures. As a result of voluntary compliance with the fly friendly procedures, there has been a significant decrease in the size of the CNEL 65 dB noise contour, and a more than 28 percent reduction in the number of residential units impacted within the forecast noise contour (excluding the 1160 residential units

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expected to be insulated during the period). Reference should be made to Exhibits 2 and 3 for a comparative analysis of the CNEL 65 dB contour with and without the Fly Friendly program.

The majority of jet operators comply with the procedures that have been established for their aircraft type and reach the noise level threshold reductions targeted. Pilots who do not meet the threshold are sent a letter requesting voluntary compliance. With the formal adoption of this important measure, the favorable responses with requests to comply should continue to be strengthened. Consideration should be given to accelerating or intensifying the current follow up to violators. The objective should be to evaluate alternative means to achieve optimal compliance and implement those most effective. The thresholds should be periodically reviewed to make adjustments, minimizing noise impacts within bounds of pilot safety and considering undue burden on operators.

The other component of the measure proposes to expand the curfew hours. Resolution 12655 was adopted in 1981 established a noise regulation for VNY. An element of the ordinance is a nighttime curfew between 11 pm and 7am for all jets exceeding 74 dBA on departure. In 1997, an amendment was adopted, extending the curfew to 10 pm – 7 am. The purpose of this NCP measure is to emphasize and reinforce the intent of that amending ordinance.

FAA Action: Approved in part, as voluntary; disapproved in part pending compliance with 14 CFR Part 161. Scenario 9 consists of several measures submitted as a "package" and includes procedures subject to 14 CFR Part 161.

The measure related to existing flight procedures continuing at the airport on a voluntary basis is approved as voluntary. The NCP narrative indicates this measure is effective and provides a quantifiable noise benefit.

Any changes to the voluntary nature of the Fly Friendly program or adjustments to flight profiles is disapproved. Such changes would need to be separately reviewed, for reasons of aviation safety and efficiency, by the FAA. Part 161 applies to measures that would reduce the total number or hours of Stage 2 or Stage 3 aircraft operations at the airport. Extending the curfew hours would require compliance with 14 CFR Part 161 and the Airport Noise and Capacity Act of 1990 (ANCA), 49 U.S.C. 47524(b).

9. Runway Policy – Full Length Departure. [Measure #15]

Description: This measure recommends that a "top of the runway" departure policy, (taking off at the furthest end of the runway), is part of this NCP as a reiteration of existing policy for jet aircraft. (NCP Page 68, NCP Page 89-90).

It has long been a policy at VNY that intersection departures are not permitted for jet aircraft. Only small piston and turbo prop aircraft use intersection departures. All jets use the full runway length. The primary intent of this measure is to reiterate and confirm existing airport policy. The purpose of the measure is to ensure that all jet aircraft have the fullest possible opportunity to gain as much altitude as possible before flying over residential areas. With respect to southerly departures from runway 16R, aircraft that depart from the north will be higher when flying over the south. This is further mitigated because there is a golf course and the Flood Control basin further south, allowing aircraft to reach even greater heights before beginning their turn. As indicated in the technical analysis, about 80 percent of the departures are made to the south.

Conversely, northern departures from runway 34L would provide a similar advantage for residents north. Although northerly departures do not have open space, most departures are to the south and therefore the greater benefit is achieved. It would be difficult to quantify the mitigating effect this action would have on the CNEL contour because of the variability of each

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departure profile. This measure would effectively continue a practice that has already been in place for jet aircraft. Implementation should maintain a considerable reduction to ground level noise impacts in comparison to allowing intersection departures.

FAA Action: Disapproved. There is no analysis to demonstrate the measure's noise benefits and the FAA cannot determine how the measure contributes to improving the noise environment around the Airport. This disapproval does not prohibit or discourage continuation of existing practices to use the full runway length outside the part 150 program.

10. Raising Burbank (Bob Hope Airport) Glideslope. [Measure #25]

Description: This measure recommends continued coordinated research with the FAA to investigate the feasibility of raising the approach glideslope to Bob Hope (BUR) to allow an increase in operating altitude for helicopter and fixed wing operations. If feasible, practical, and safe, this could raise air space over VNY by as much as 1,500 to 2,000 feet. LAWA shall request the FAA to conduct a study resulting in increasing the glideslope angle for Bob Hope Airport's Runway 8 ILS approach to the maximum practicable so that operational altitudes at VNY can be raised without conflict with Bob Hope Airport Traffic. A 1,500 to 2,000 foot AGL maximum altitude would be required for helicopters. (NCP pages 72-73, 96-97, and Volume 1 of 3 Background, Helicopter Study dated November 1991)

NCP [Measure #6] recommends coordination with the FAA to investigate the feasibility of raising the glide slope to BUR to allow an increase of approximately 300 feet for helicopter operations in the vicinity of VNY. Reference was made to a similar measure being approved in the BUR 150 study. In their approval statement, the FAA indicated that ATCT at BUR currently assign higher altitudes to helicopters to the extent feasible considering weather and traffic flow.

This measure calls for further cooperation between FAA and the airport to study implementation of minimum operating altitudes. Any final determination will be subject to FAA approval and implementation.

It seems appropriate to refer this measure to the LAWA Helicopter Task Force. Some of the items to be addressed would be the fact that current data is probably insufficient to enforce the proposal and that there are safety issues regarding airspace. One of the questions to be considered would be where the altitude restrictions would be placed. All of these factors need to be addressed and resolved before determining noise reduction impacts. Any increase in altitude will contribute to less helicopter noise nuisance around VNY.

FAA Action: Disapproved. While this measure proposes only to maintain communication between the FAA for both BUR and VNY on this issue, the FAA has already examined the feasibility of the proposal. The FAA has concerns regarding the "ripple" effect the change to glideslope would cause within the Southern California Terminal Radar Control (TRACON) airspace around VNY. Traffic is already constrained by multiple regulated airspace areas and high terrain nearby. Raising the glideslope at BUR would require additional changes to vertical altitude for separation purposes. This will create the loss of significant designated altitude when there is an aircraft executing the Instrument Landing System (ILS) to BUR. Loss of any altitude will be detrimental to air traffic operations in the vicinity.

THE FOLLOWING MEASURES, AND THOSE IDENTIFIED AS PROGRAM MANAGEMENT ELEMENTS 14, 15, AND 16, ARE IDENTIFIED IN THE NCP AS MEASURES SUBJECT TO 14 CFR PART 161.

11. Maximum Daytime Noise Limits. [Measure #32]

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Description: Subject to a Part 161 Study, maximum daytime noise limits for aircraft operating at the airport could be established. Subject to findings and conclusions of the Part 161 Study, an ordinance would be developed to establish a daytime maximum noise limit of 77 dBA for aircraft operating at the airport. (NCP Page 76, NCP Page 104)

The purpose of this measure is to reduce noise by prohibiting the operation of aircraft that are demonstrably above a prescribed noise level. When the measure was originally proposed, the 77 dBA limit was established to distinguish between Stage 2 and Stage 3 aircraft operating at VNY at the time. All aircraft under 77 dBA should by definition be Stage 3. To the extent new Stage 3 fly at VNY are above 77 dBA, the application of this measure to Stage 3 would require a Part 161 analysis. It would therefore be prudent to include this in the overall context of a comprehensive evaluation. One issue is clarification as to why the measure would establish a daytime limit as opposed to all non-curfew hours. This measure may be one of the most onerous proposals in the NCP in terms of cost on the existing aircraft operators. Alternatives should be considered.

FAA Action: Disapproved pending compliance with Part 161. The NCP does not quantify noise benefits derived from implementing this measure. As recognized in the NCP the proposed measure constitutes an airport noise and access restriction that could only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 CFR Part 161. ANCA and Part 161 apply to restrictions affecting Stage 2 and Stage 3 aircraft operations. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under part 150 is being sought. Other issues also must be addressed under part 150 including the measure's impacts on aircraft that are not Stage 2 or Stage 3.

12. Limit on Stage 3 Jets. [Measure #33]

Description: This measure recommends that a cap on the number of Stage 3 jets that may be based at VNY be established. (NCP Page 76, NCP Pages 105-106).

The purpose of this measure is to reduce noise by limiting the number of Stage 3 aircraft that operate at VNY. It has been suggested that without a cap on growth of Stage 3 jets, there will be an increase in the noise contour, which could overshadow all other noise control measures. This assertion would need to be verified by quantified analysis.

FAA Action: Disapproved pending compliance with Part 161. The NCP does not quantify the noise benefits. The measure proposes to examine this recommendation in detail in a part 161 study. As recognized in the NCP the proposed measure constitutes an airport noise and access restriction that could only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 CFR Part 161. ANCA and Part 161 apply to restrictions affecting Stage 2 and Stage 3 aircraft operations. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under part 150 is being sought. Other issues also must be addressed under part 150 including the measure's impacts on aircraft that are not Stage 2 or Stage 3.

13. Expansion of Curfew. [Measure #34]

Description: Subject to a part 161 study, curfew provisions currently contained in the Van Nuys Noise Abatement and Curfew Regulation could be expanded.

(A) The existing 10 pm to 7 am curfew would be expanded to include all non-emergency jets.

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(B) The existing 10 pm to 7 am curfew on all non-emergency jets would be expanded to include non-emergency helicopter operations. This proposed measure would be subject to further evaluation within the context of the part 161 study. (NCP Page 76, NCP Pages 106-107).

The purpose of this measure would be to expand the existing curfew to reduce noise impacts. A nighttime curfew has been in effect at VNY for over 20 years. The curfew hours were recently extended from 11 pm to 7 am, to 10 pm to 7 am. All non-emergency aircraft with a departure noise level of 74 dBA are prohibited from taking off during those curfew hours. This measure would extend the curfew to all jet operations, including the quietest ones at 74 dBA and below.

It would probably take a substantial number of aircraft operations below 74 dBA to make a measurable difference in the contour size or number of impacted uses. The actual contours and level of impact area would have to be demonstrated through a comparison of scenarios. The results could be used to make an initial determination as to whether the proposal appeared to be warranted. With respect to the helicopter curfew, several factors would need to be considered, as noted on page 107 of the NCP.

FAA Action: Disapproved pending compliance with Part 161. The NCP does not quantify the noise benefits. As recognized in the NCP the proposed measure constitutes an airport noise and access restriction that could only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 CFR Part 161. ANCA and Part 161 apply to restrictions affecting Stage 2 and Stage 3 aircraft operations. A clarifying point – the extension of the curfew hours to 10 pm is grandfathered under ANCA only as it applies to Stage 2 aircraft. Applicability of the expanded curfew hours to Stage 3 aircraft would be subject to Part 161. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under part 150 is being sought. Other issues also must be addressed under part 150 including the measure's impacts on aircraft that are not Stage 2 or Stage 3.

14. Cap/Phase-Out of Helicopters. [Measure#35]

Description: Subject to a part 161 study, a cap or phase-out of the current fleet of helicopters would be investigated. This measure also would be forwarded to the Helicopter Task Force, as an item that should be considered. Pending the outcome of the investigation into the feasibility and desirability of the measure by the Task Force, the proposed measure would be subject to further evaluation within the context of the part 150 study. (NCP Pages 77 and NCP Pages 107-108).

The objective of this measure is to evaluate whether to place a limit on the number of helicopters that can operate at VNY or consider phasing out all helicopter operations. The intent is to reduce the noise impact associated with those operations. As reflected throughout the NCP, helicopter noise is a nuisance factor. The evaluation of placing a cap on the number of helicopters that operate, or eliminating them, should be compared to other proposed measures, such as raising operational altitudes or adjusting tracks to determine whether other steps can be taken that are less draconian to achieve reductions in noise impacts.

FAA Action: Disapproved pending compliance with Part 161. The NCP does not quantify the noise benefits. As recognized in the NCP the proposed measure constitutes an airport noise and access restriction that could only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 CFR Part 161. ANCA and Part 161 apply to restrictions affecting Stage 2 and Stage 3 aircraft operations, including helicopters. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under part 150 is being sought. Other issues also must be addressed under part 150 including the measure's potential discriminatory effect against a class of aircraft.

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NOISE MITIGATION ELEMENTS

1. Insulation. [Measure #2]

Description: This measure recommends installation of sound attenuation in three stages: (A) – undertake and validate an acoustical insulation program and estimate representative housing types within the 70 CNEL contour. (B) Establish eligibility for residential acoustical insulation in greater VNY areas subject to impacts of CNEL 65 or greater. Initial target will be households within the 70 CNEL; (C) Expand eligibility to include the 65 CNEL contour. If any portion of a lot lies within the 65 CNEL then it should be included. Continue acoustical insulation until all houses or apartment units impacted are insulated. (NCP Pages 62 and 79 and Exhibit # 3).

FAA Action: Approved for homes constructed before October 1, 1998. The FAA's policy published in the Federal Register April 3, 1998 (Volume 63, Number 64), states that the FAA will not approve Federal funding to mitigate noise-sensitive land uses constructed after October 1, 1998. This element would improve land use compatibility in the vicinity of the airport. The NEM/NCP updated information states approximately 232 homes per year are being insulated (page 47). Since the time the NCP was completed, it is estimated that somewhere near 900 homes remain to be insulated. Structures recommended for inclusion in the program and the scope of the program will be required prior to approval for federal funding.

In order to be eligible for federal funding, the project is subject to compliance with FAA Order 5100.38C. Homes that have already been acoustically treated by the City of Los Angeles prior to approval of the Part 150 study cannot be made eligible for federal AIP or PFC funding.

2. Construction and Capital Improvement. [Measure #4]

Description: This measure recommends three elements: (A) construction of airfield improvements shown on the current Airport Layout Plan. (B) Provide the means to develop neighborhood enhancement projects with a focus on noise mitigation (i.e., sound walls, landscaping). (C) Construct a hush house on the airfield to suppress jet engine maintenance noise, with the location to be determined after further study. (NCP Pages 63 and 81)

Part A would pertain to measures intended to improve safety and convenience. This would include signage, even transitions between taxiways/runways, and other construction or development to enhance smooth operation on the airfield. This should help alleviate the noise impacts associated with delays, idling, and possibly overflights.

Parts B and C are directed toward enhancement projects that abate ground noise level sources. These would include sound walls and landscaping between residences and primary hot spots on the airfield such as maintenance areas and runway ends where runups occur.

Part C specifically refers to the construction of a hush house which would be used to muffle the sound of aircraft during engine runups during maintenance. This would pertain in those situations where it is practical to take an aircraft to such a facility. A program would be undertaken to evaluate the location and scope of these improvements. It is possible to quantify the noise reduction of facilities such as sound walls and a hush house. However, without specific design parameters, it would be speculative as to what extent the mitigation would result. In particular, the length, height and width of a sound wall would be important determinants of the program to be developed before realistic noise reduction quantification could be generated.

FAA Action: Disapproved. Part A - The NCP indicates this measure is to improve airfield efficiency, and not to improve noise although it states there may be secondary noise benefits that are not quantified. Parts B and C - The NCP appears to present these as potential noise

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mitigation concepts, but does not include any quantitative analysis regarding the expected decibel/CNEL reduction in noise. The NCP also does not indicate where these types of ground noise mitigating barriers should be located to improve the noise environment to residences near the airport, nor the number of residences or residents expected to benefit. The FAA cannot determine how the measure contributes to improving the noise environment around the Airport.

3. Financial Assistance. [Measure #22]

Description: This measure recommends the development of a program to provide financial assistance to residents who are interested in moving out of the noise impact area. (NCP Pages 71 and 94).

Several levels of financial assistance could be evaluated within the context of this measure to determine what is most cost effective in helping to achieve the goal of reducing noncompatible land uses. Recommendations in the measure include property acquisition, loan guarantees and purchase assurance for residential property located in the 65 dB CNEL contour. Loan guarantees might be provided to residents who wish to purchase outside the impacted area, but have trouble securing a loan. Voluntary purchase assurance within the impact area could be established with relocation assistance to find new residences outside the impact area. The specific elements of how much is provided and what period of time would be determined during the development of the program, subject to revisions as the program evolved.

The purchase assurance program would be voluntary and not involve eminent domain. A revolving fund could be established for ongoing resources by redeveloping noncompatible uses to compatible, selling them, and putting proceeds into the fund. Residences that have a commercial and industrial use adjacent to them and not readily a part of an established neighborhood could have higher priority, to be most effective.

The primary benefit is to reduce noncompatible housing units in the CNEL 65 dB. It is conceivable that a significant portion of the housing units within the CNEL 65 dB could be removed over an extended period of time. It should be recognized that many of the homes within the CNEL 65 dB are part of established neighborhoods and would more appropriately be addressed within the context of the insulation program outlined in [Measure #2] of this NCP.

FAA Action: Approved for noncompatible development that existed as of October 1, 1998.

Some proposed elements of this measure may not be eligible for financial assistance. Federal participation is based on the FAA's mitigation policy, published in the Federal Register April 1998. It states that beginning October 1, 1998, the FAA will approve remedial noise mitigation measures (sound insulation, acquisition, purchase assurance, etc.) under Part 150 only for noncompatible development that exists as of that date.

Noncompatible development that occurred after October 1, 1998, may only be addressed in Part 150 programs with preventive noise mitigation measures (land use controls, comprehensive plan, zoning regulations, subdivision regulations, building code, etc.). In order for the land acquisition, purchase assurance, sales assurance or transaction assurance to be eligible for federal funding, the project is subject to compliance with FAA Order 5100.38C, paragraph 811. The Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act also must be followed.

LAND USE PLANNING ELEMENTS

1. ALUC [Measure #1]

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Description: This measure recommends that Los Angeles County adopt an Airport Land Use Commission (ALUC) Airport Comprehensive Land Use Plan (CLUP) for VNY and environs reflecting the provisions of the VNY Part 150 Study. (NCP Pages 62 and 79).

The purpose of this measure is to emphasize that all of the applicable measures in the NCP are fully considered when revisions are made to the CLUP for VNY. These include changes in local land use plans, zone changes, purchase assurance programs, and other financial incentives that will contribute to the objective of the Plan.

FAA Action: Approved. Amending the various comprehensive plans is within the authority of the land use planning departments. The Federal Government has no control over local land use planning.

2. Additional Development Within Impact Area [Measure #3]

Description: This measure recommends that Los Angeles City Planning Department adopt measures to restrict the introduction of new housing within the projected 65 dB CNEL contour, unless the property is soundproofed and an aviation easement granted in favor of the airport. Maintain and monitor the General Plan over time to assure airport/community compatibility; and encourage owners of undeveloped land to voluntarily develop property consistent with State Noise Standards. (NCP Pages 63 and 80).

This measure feeds into the scope of the ALUC plan and establishes an objective that is independent of the plan to minimize noncompatible land uses within the impacted area. It is preferable to remove and/or prevent noncompatible land uses but decisions of this sort are primarily at the discretion of the City Planning Department. It is important that in order for this measure to reach its objective every effort be made to maintain communication with the City Planning Department and any other applicable planning agencies and individual property owners.

FAA Action: Approved with respect to preventing the introduction of new housing.

The portion of this measure that permits new noncompatible development within the DNL 65 dB, even with sound attenuation and/or easement, is inconsistent with the FAA's guidelines and 1998 policy and is disapproved for the purposes of Part 150. This decision relates to the measure's consistency with the purposes of Part 150. This measure is within the authority of the LAWA and local planning jurisdiction. The Federal Government has no control over local land use planning.

PROGRAM MANAGEMENT ELEMENTS

1. Improved Communications [Helicopter Operations]. [Measure #11]

Description: This measure recommends that LAWA initiate a program between VNY, the FAA, helicopter operators, and residents in an effort to reduce the impact and negative perception of helicopter operations. Residents would be encouraged to provide as much information as possible regarding helicopter infringements, to increase follow-up by the airport and improve self-policing by helicopter operators and individual pilots. (NCP Page 66 and NCP Pages 85-86; Volume 1 of 3, Helicopter Study dated November 1991).

This measure would establish procedures and guidelines for helicopter operators to minimize their noise impact on the community. There would be three phases: First – initiate an open forum where all of the parties involved can meet and share ideas on how to balance each of their respective needs. The parties would include residents who are impacted, operators causing the impacts, and those who have varying levels of responsibility in controlling the noise impacts. The

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Helicopter Task Force for VNY in conjunction with the Citizens Advisory Committee would likely be the best vehicles for this. Second – identify and document all the conditions and procedures agreed upon in the form of a guidebook for helicopter operations. The guidebook would build on existing policies and expand upon them to include the objectives outlined in other NCP measures and others that evolve from the Task Force. Particularly this measure would be developed in conjunction with [Measure #5] which concerns operating procedures of helicopter operators. The guidebook would be a dynamic document subject to adjustments as practical applications and effectiveness are determined. Third – improved communications goal would be to continue to have ongoing feedback from all participants on the efficacy and applicability of the guidebook. Periodic open forums would continue to allow exchange. Communication also would be maintained through individual comments and complaints made to the noise abatement officer [Measure #23]. The Officer could also coordinate the comments and use them to recommend potential procedure changes to be considered in open forum.

FAA Action: Establishing means for improved communication is approved.

Any recommended change to existing flight procedures not approved in this NCP and any flight procedures or flight tracks not already in place at VNY are disapproved for inclusion in the guidebook. Such changes would need to be separately reviewed, for reasons of aviation safety and efficiency, by the FAA. Noise mitigation measures must be accompanied by an analysis demonstrating their noise benefits. Changes in flight procedures normally also need an appropriate environmental analysis.

2. Signage. [Measure #14]

Description: Re-sign the airport at every departure point/intersection of both runways with signs that can be read both day and night that provide the following: A) Please Fly Quietly; B) Departing South: No Turns Before the Flood Basin; C) Departing North; No Turns Before 1,800 MSL. On intersection signs only, the following words should be included: Intersection Departures Are Not Allowed Between 10:00 p.m. and 7:00 a.m. Implement immediately with larger, clearer signs being posted at every run-up area describing recommended noise abatement procedures, including altitudes and locations at which turns should be initiated after departure, and noise sensitive areas avoided. Maintain program over time. (NCP Page 67 and NCP Pages 88-89).

Benefits depend on compliance with [Measures #12 and #13]. The purpose is to facilitate the intent of other measures with the overriding objective to reduce noise impacts. An important element of this measure should be to continuously evaluate the effectiveness of the signs by interviewing pilots as to their interpretation of the signs and how they can be made more concise and communicate the intended message. The evaluation also should include observing the correlation between pilot awareness and their actual behavior patterns. It should be determined whether the signage is positively affecting the pilots' achieving the intended goals. The content may be adjusted periodically to reflect the conclusions of the ongoing evaluations.

The signs should strive to achieve two distinct objectives – the first is to provide messages that are concise and specifically reinforce complying with known guidelines and procedures to minimize noise. The second would be to provide sufficient information to pilots to ensure they are aware of the procedures.

FAA Action: Approved for procedures already in effect at the airport.

Placement (location) and the number of signs, to ensure airfield safety, and final wording on signage must be separately approved as part of implementing the measure and may make voluntary procedures mandatory. This measure would remind pilots of the noise abatement

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procedures in place and is considered a program management tool. It is intended to improve compliance with voluntary noise abatement procedures already in place.

3. Noise Roundtable. [Measure #16]

Description: This measure recommends that a Noise Roundtable be established to review progress on the implementation of the Part 150 Program. In an effort to reduce noise impacts, the Roundtable could make adjustments to allow for the implementation of additional noise measures which might be recommended over time, if they become technically and economically feasible. (NCP Pages 68-69 and NCP Page 90)

The Noise Roundtable will act as a review board for at least two years after recommendations of various scenarios identified in the NCP are fully implemented, with the understanding that the part 150 study would be continued. The roundtable would be charged with holding annual community meetings, or more frequently as warranted, to discuss the status of the part 150 program and recommended adjustments. LAWA should annually monitor aircraft noise levels and the level of activity at the airport to determine if significant and unexpected changes have occurred to the base year NEM and to determine if the part 150 program is being successfully implemented.

The results of noise monitoring should be provided at annual public meetings to discuss progress of the part 150 plan and to educate and inform users and the affected communities. Discussion with users regarding community complaints associated with operations should also be included. Recommendations for updating the NEMs and part 150 program should be provided if unexpected changes occur before the 5-year period and significantly affect the land use compatibility situation around the airport, and/or the noise abatement cost assumptions used to develop the current plan.

Personnel from LAWA currently monitor noise levels and the level of operations through a permanent monitoring system. The results are manifested in quarterly reports submitted to the Los Angeles County Aviation Division and State DOT. The data maintained in that program can be utilized in upgrades to the INM, which is the proper modeling vehicle within the context of part 150, to demonstrate changes in noise levels. Significant deviations from NEM assumptions can be evaluated from this process.

This measure relates to several other NCP measures, which would support the objectives of those measures. NCP [Measure #18] establishes an automatic feedback system for the communities. NCP [Measure #19] establishes a formalized tenant associated willing to communicate with pilots that don't voluntarily comply with the Fly Neighborly program and procedures established at VNY. This measure [#16] should contribute to the optimal effectiveness of all of the other active measures to mitigate noise impacts by providing oversight and suggested means of improving the intent of those measures.

FAA Action: Approved. The Noise Roundtable can act as a forum for discussion of noise issues, and assist in tracking NCP progress. The Noise Roundtable has no authority to make adjustment to NCP measures. It may make recommendations to the airport operator for changes to VNY's existing NCP.

4. Noise Management Monitoring System. [Measure #17]

Description: This measure recommends that VNY establish a noise monitoring and flight track system with software and database that feature the ability to positively identify all aircraft. Establish, maintain and update over time an automated data system that will provide the following information for turbojet and turbofan operations (arrivals and departures)

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- Aircraft N number sorting by aircraft type
- Aircraft type, owner, and pilot
- Part 36-3F listed noise departure level (most current version)
- NBAA or manufacturer's noise abatement operational level, and
- Actual operational noise level recorded by VNY monitors.

LAWA should contract with an acoustic consultant to calibrate VNY microphones to permit accurate and consistent real time monitoring of noise abatement procedures for jet departures. LAWA should install, with FAA permission, a radio receiver with dictaphone capabilities that will identify airport tower clearance "N" numbers and real time operation information. At the steering committee meeting, it was emphasized to investigate the ability to obtain such equipment, and to not use the equipment for enforcement of any pre-set noise thresholds. (NCP page 69 and NCP Pages 91-92).

The purpose of this measure is to establish a system that provides immediate feedback to pilots when they exceed established noise standards. [Measure #18] of the NCP (Automatic Feedback System) refers to ANOMS type monitoring with the capability to interface with FAA's ARTS data. Currently, the noise monitoring system at VNY must rely on ARTS data to fully identify aircraft. The FAA requires ARTS data can be provided only after a delay of several days. Faster response time, ideally real time, should enhance pilot direct awareness of the noise problem being created by violation of the noise regulation, which hopefully would bring about a more positive reaction to mitigate that noise. Reference can be made to other measures in the NCP, including [Measures #12 and #13], for additional related comments.

The FAA has advised this measure involves the acquisition of a noise monitoring system and that consideration of such is appropriate pursuant to B150.7(b). Implementation would not be subject to the requirements of part 161 so long as the use of the equipment is for monitoring only and does not extend to enforcement.

FAA Action: Approved for purposes of Part 150. This measure would provide data to the airport on existing noise and flight procedures and flight track adherence and implementation, and enable LAWA to improve its ability to monitor the effectiveness of its Part 150 Program. Approval of this measure does not obligate the FAA to participate in funding the acquisition or installation of the permanent noise monitors and associated equipment. Note, for the purpose of aviation safety, this approval does not extend to the use of monitoring equipment for enforcement purposes by in-situ measurement of any pre-set noise thresholds.

5. Automated Feedback System. [Measure #18]

Description: This measure recommends that VNY establish an automated feedback system to those in the community such that residents are assured that data kept on a daily basis is accurate and reliable. Acquire ANOMS, or similar system that has the capability to interface with ARTS 3 data, track aircraft by altitude, provide a hard copy of individual flight information characteristics, and provide automated noise monitoring correspondence capabilities. LAWA should maintain and upgrade over time. (NCP Page 70 and NCP Pages 92-93).

This will reiterate and expand upon the existing system that provides information to interested citizens. The measure is tied directly to the preceding [Measure #17] dealing with the noise management monitoring system as well as other measures that are intended to facilitate open and clear communication with those affected by noise. The more quickly and accurately information can be relayed, the greater the sense of reliability that can be conveyed.

Reliance must be placed on the FAA's ARTS data. LAWA operates a PASSUR system that can describe an aircraft's trajectory, altitude, and correlate to monitored noise levels. However, to

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determine ownership of the specific aircraft, LAWA must obtain this information through ARTS data. The FAA has a policy to not release the ARTS data until three days after an event occurs to allow them to protect sensitive information. The information cannot be fully relayed to interested citizens until after the FAA releases it. However, obtaining the data within three days should be timely and enable relatively quick responses to noise violations and by doing so help facilitate the objectives of [Measure #13] and other measures.

FAA Action: Approved. This measure would provide data to the airport and enable LAWA to improve its ability to monitor the effectiveness of its Part 150 Program and to address citizen noise queries. Approval of this measure does not obligate the FAA to participate in funding the acquisition or installation of the permanent noise monitors and associated equipment. Note, for the purpose of aviation safety, this approval does not extend to the use of monitoring equipment for enforcement purposes by in-situ measurement of any pre-set noise thresholds.

6. Tenant Association. [Measure #19]

Description: This measure recommends that VNY establish a more formalized tenant association willing to communicate with violating pilots, to voluntarily comply with the "Fly Neighborly" programs and procedures established at Van Nuys Airport. (NCP Page 70 and NCP Pages 92-93).

This measure continues with another aspect of optimizing communication between affected parties to achieve the most effective results from each of the NCP measures. A tenant association has existed for many years at VNY. The intent is to seek ways to enhance the relationship between tenants and community members. It would add another dimension to the functions of this association by formerly (sic) establishing procedures that will foster compliance with the Fly Neighborly program.

The tenant association is probably in the best position to effectively communicate with its pilot members the need to follow the objectives of the Fly Neighborly program. The association, in conjunction with other affected parties, can develop and adopt policies and guidelines to formerly (sic) advise pilots on the most appropriate operational procedures to use to mitigate noise while still fulfilling their individual objectives. After such policies and guidelines are established, it can become a routine matter of advising pilots and thereby contribute to the reduction in noise impacts. The quantification of those noise reductions would be manifested in the specific measures for the Fly Friendly program.

FAA Action: Approved in part. The measure intends to use the tenant association to provide reminders to pilots of noise abatement measures already in place at the airport and to improve communications between member tenants and the community. [Measure #16] also is a means to communicate between parties.

This approval does not extend to solutions the tenant association may recommend via formal policies, or any proposal to change existing operational procedures. These must be vetted through the FAA to determine their impacts on aviation safety and efficiency.

7. ATIS Message. [Measure #20]

Description: This measure recommends that the FAA, a partner in this project, change its regional policy to allow local control towers to add a brief "Fly Quietly" message to its Automatic Terminal Information System (ATIS). Provide a message on the ATIS system that states: "Due to excessive aircraft noise levels, aircraft operating at VNY should fly in a friendly manner, utilizing NBAA or manufacturer's noise abatement procedures. The program should be maintained over time. (NCP Pages 70 and 93).

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The purpose of this measure is to reinforce the comprehensive concept of communicating to pilots in a variety of ways the importance of making every effort to Fly Quietly over noise sensitive areas. The measure is intended to work in concert with the measures that would promote open communication, broaden the function of the tenant association, expand the messages of signage on the airfield, and provide feedback to pilots with the overriding objective to adhere to noise abatement procedures whenever possible. Collectively, these efforts help support Fly Friendly. Noise reduction is dependent on the level of compliance.

FAA Action: Disapproved. Revised Order 7110.65, Air Traffic Control, no longer provides for noise abatement advisories. Noise abatement advisories may be published in the Airport Facilities Directory and pilot handouts. Other measures recommended in the NCP for communication with pilots also could achieve the same goal.

8. Marketing Policy. [Measure #21]

Description: This measure recommends that airport management develop and adopt a noise sensitive marketing policy for VNY that will encourage the voluntary introduction of quieter aircraft into VNY operations and discourage the use of noisier aircraft. (NCP Page 71 and NCP 93-94).

This measure was suggested during public discussions held by the Steering Committee. Based on the assumption the measure does not contemplate mandatory enforcement of policies to prohibit noisy aircraft, this measure is desirable for the NCP. The LAWA has programs that reach out to desired types of industries and market its airports. Ideally, these could be adapted to incorporate policies and approaches that would encourage quieter aircraft at VNY. If the proposed measure anticipates marketing to mandate rather than encourage quieter aircraft, it would most likely require part 161, which would be handled separately. Quantification of noise benefits would be predicted on types and levels of aircraft targeted in the policy.

FAA Action: Approved as voluntary. Approved for voluntary marketing approaches, as contemplated in this measure. Implementation of this measure is considered to be within the authority of LAWA. Marketing expenses are not eligible for Federal funding assistance. Any mandatory enforcement of this policy would constitute an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), 49 U.S.C. 47524(b), and 14 CFR Part 161.

9. Noise Abatement Officer. [Measure #23]

Description: Continue the position of a full-time noise abatement officer as part of the Van Nuys Airport Manager's Office who working with the Airport Security, can continually monitor jet aircraft departures, report them to the Airport Manager and the community in terms of amount of noise generated on departure. The officer shall be responsible for operation of the permanent monitoring system, serve as a community liaison regarding noise issues, coordinating aircraft pilots and collection and response to noise complaints.

Develop a program to improve formal lines of communication between the FAA, the airport, and aircraft operators on noise abatement procedures. Within the context of general guidance to the noise abatement officer in communication with aircraft operators, the VNY noise complaint system should be improved to provide greater feedback to operators and link complaints to actual noise reduction measures. The function of the noise complaint system should be expanded to effectuate reductions in noise and not merely to be used for public relations purposes. (NCP Page 71 and NCP Pages 95-96).

There are two purposes for this measure: (1) establish full assurance that a noise abatement officer will continue as a permanent position at VNY. (2) provide overall guidance as to the

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primary functions of the position. As indicated, the position is permanent at VNY, which receives support from LAWA's environmental management division in discharging the responsibilities suggested herein. The officer would work with airport security to continually monitor jet aircraft departures and report them to the manager and the community in terms of noise generated.

The measure also calls for establishment of a framework for development of a program to improve formal lines of communication. In addition to monitoring noise events, the officer will coordinate with pilots and citizens and provide written and verbal responses to noise complaints. Reference should be made to the comments in preceding measures with respect to improving the complaint/feedback system. In particular, the intent of dealing with improved feedback to pilots and the community and broader communication among all parties is addressed within this measure, which provides the Noise Abatement Officer as the means to carry out these objectives.

FAA Action: Approved. Implementation of this measure is considered to be within the authority of LAWA.

10. Noise Abatement Information. [Measure #24]

Description: This measure recommends that airport management compile available information on noise abatement procedures from manufacturers, pilots, and noise offices at other general aviation airports to be made available to pilots operating at VNY. (NCP Pages 72 and 96).

The intent of this measure is to establish an ongoing effort to maintain the most up to date and effective information on noise abatement procedures that might be available from a variety of sources. This information should be made available to all pilots operating out of VNY and they should be encouraged to follow the applicable procedures whenever possible. The extent to which the measure will result in a reduction in noise will depend on the availability of new procedures and would be reflected in periodic evaluations as to their effectiveness.

FAA Action: Disapproved. Noise abatement procedures are airport specific and must be evaluated for effectiveness at individual airports. Any new procedures proposed for noise mitigation at VNY may not be implemented prior to study to determine whether they can be implemented safely and efficiently, and whether they are noise beneficial.

11. Lease Policy. [Measure #26]

Description: Recommend that it be a policy of the Board of Airport Commissioners (BOAC) to add to any future new leaseholders a requirement that they only station (base) Stage 3 aircraft at Van Nuys Airport. New leaseholders are being defined as Fixed Based Operators (FBO's) who are not currently on this airport but who wish to move onto the airport in the future. The requirement would only apply to based aircraft and not to itinerant aircraft. Based aircraft are defined as any aircraft which is parked, hangared, or tied down at VNY for more than 90 days. (NCP Page 73 and NCP Page 97-98).

The objective is to address the number of Stage 2 aircraft based and operating at VNY. The intent corresponds with and supports the philosophy of the ordinance adopted by the BOAC and the city council that established the non-addition rule for Stage 2 jets. That philosophy is to allow existing Stage 2 jets to continue to operate while no new Stage 2 jets are introduced to the fleet of based jets at VNY. The lease policy would only apply to new leaseholds and therefore not cause an undue burden on existing leaseholds.

By restricting the introduction of new Stage 2 aircraft the potential growth of noise would be less. The limiting effect of the non-addition rule was incorporated into the forecast for jet operations by setting the growth of applicable aircraft to zero after the year 2002. This adjustment to the forecast kept the annual operations for Stage 2 jets for 2003-2006 the same as 2002. The

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reduction in those operations that otherwise would have occurred are reflected in the smaller contours for 2006. This lease policy measure supports the non-addition rule and therefore its contribution to noise impact reduction is reflected in the forecast adjustments.

FAA Action: Disapproved for purposes of part 150. The stated intent of this measure is to enforce through leases the requirements of the non-addition rule¹.

The NCP analysis includes very little information beyond that included in this ROA. FAA's review must include a determination that the measure reduces and/or prevents the introduction of noncompatible land uses, that it does not impose an undue burden on interstate or foreign commerce (including any unjust discrimination), and that it does not affect aircraft safety or efficiency (see section 150.33 for a detailed discussion of FAA review and approval criteria).

While the non-addition rule as it applies to Stage 2 aircraft is "grandfathered" and not subject to 14 CFR Part 161, this lease requirement has not been evaluated under 14 CFR Part 150. The measure does not discuss the potential impacts on owners of non-staged, Stage 1 and other non-Stage 2 aircraft. Also, it appears to apply only to jet aircraft, which could be unjustly discriminatory.

12. Air Traffic Control Tower. [Measure #27]

Description: This measure recommends that airport management request the FAA to upgrade the VNY Airport Traffic Control Tower from a level 3 tower to Level 4 tower. An upgrade to a level 4 control tower would result in more efficient and improved operational control and could provide for increased tower personnel on duty to support the recommendation that the tower be operated 24 hours a day. (NCP Pages 73-74 and NCP Pages 98-99).

The intent of this measure is to enhance communication and oversight of VNY operations during the nighttime hours when noncompatible uses are most sensitive to aircraft operations. The hours between 10:45 pm and 5:45 am when the tower is closed are critical to noise abatement efforts. The FAA does not have responsibility to enforce LAWA or City ordinances with respect to noise, but if the tower were open the controllers would be able to communicate directly with arriving and departing pilots. This is particularly evident with itinerant operators who may not be familiar with noise abatement procedures at VNY.

As indicated previously, the VNY Noise Abatement and Curfew Regulation contains several provisions that apply when the tower is closed. These provisions are all important to pursuing control of noise during the most sensitive hours. Keeping the tower open during these hours will allow the tower personnel to communicate directly with pilots on an operating procedure that the pilot may otherwise not know about. More significantly, this communication can be delivered in real time to allow the pilot to respond during the operation and before potential violation of airport noise rules. It not only would help prevent that particular violation but would provide a more meaningful reinforcement to the noise abatement procedure than by correspondence after the fact.

FAA Action: Disapproved. Specific standards must be met prior to extending hours of operation at any ATC facility. These are based primarily on numbers of hourly operations, but may take critical safety issues into account. FAA does not enforce locally enacted noise rules. Keeping the tower open solely for the purpose of noise abatement does not meet these criteria. FAA Order JO 7232.5G, Changing Operating Hours for Terminal Facilities, describes FAA's tower requirements.

¹ The FAA determined in August 1997 that the non-addition rule is "grandfathered" under the Airport Noise and Capacity Act of 1990 (recodified at 49 U.S.C. 47521 et seq.)

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13. Aircraft "N" Numbers. [Measure #28]

Description: This measure recommends that larger "N" numbers be required on aircraft. Larger "N" numbers on aircraft, particularly on the bottom side of the wings, would enhance a citizen's ability to identify an aircraft, thereby better enabling utilization of the noise complaint procedures. (NCP Pages 74 and 99).

This measure would provide a certain ability to enable complainants to identify aircraft that they believe are in violation of noise policies or regulations. The primary emphasis with regard to identifying errant aircraft will be the other systems that have been described, including monitoring and the connections with the FAA's radar data. However, a measure to enlarge the N numbers on aircraft may provide some assistance to those who wish to attempt to identify violating aircraft in this manner. To this extent the measure may contribute marginally to noise reduction.

FAA Action: Disapproved for purposes of part 150. There is insufficient information to demonstrate a measurable noise benefit. The requirements for N-number placement and size are contained in 14 CFR Part 45.29. That regulation indicates there is a minimum size requirement, and does not prohibit an aircraft owner increasing the size of the aircraft identifying number. The NCP discussion indicates larger N numbers are intended to help people identify aircraft that may be violating noise rules at the airport and could have a marginal contribution to noise reduction. Other noise monitoring and tracking measures in the NCP intended as Program Management measures would accomplish a similar goal.

THE FOLLOWING MEASURES, AND THOSE IDENTIFIED IN THIS ROA AS NOISE ABATEMENT MEASURES 11, 12, 13, AND 14 ARE DESCRIBED IN THE NCP AS SUBJECT TO 14 CFR PART 161.

14. Incentives and Disincentives in Rental Rates. [Measure # 29]

Description: Subject to a part 161 study, this measure recommends a system of incentives and disincentives could be established to encourage greater user of quieter aircraft and less use of noisier aircraft. Subject to the findings and conclusions of the Part 161 Study, a program would be developed to have rental rates for leases and tie downs correlated to the level of noise generated by the aircraft to encourage quieter aircraft usage. (NCP Pages 74-75 and NCP Pages 100-102).

The NCP includes a detailed discussion at pages 100-102. Briefly, the measure is intended to: Establish a financial disincentive of sufficient magnitude to discourage noisier aircraft. Approaches could include establishing a correlation between rental rates for new leases for hangar space and tie downs with the level of noise generated by aircraft using the facility. It might use AC 36 decibel levels for the aircraft. Several issues would have to be addressed under 14 CFR Part 161. For example, NCP discussion indicates the measure may be disparate because it would apply only to existing tenants and not itinerant operators. Financial impacts on operators to which it applies would have to be compared with benefits derived and the measure result in a quantifiable justification.

An alternative to the proposal would be to apply the market rental rate to the quietest aircraft and add incrementally penalties to each noise level of aircraft above it. The most probable negative effect of such a measure would be to impose financial hardships on owners with the least resources to adapt to the measure.

FAA Action: Disapproved for purposes of part 150 pending compliance with Part 161. The NCP provides discussion but no technical analysis or quantification of the expected benefits. The NCP mentions the potential for unjust discrimination and burden on commerce, which also must be analyzed under 14 CFR Part 150.

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As recognized in the NCP the proposed incentives and disincentives in rental rates for based aircraft could constitute an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), 49 U.S.C. 47521 et seq., and 14 CFR Part 161. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150. For FAA action under Part 150, additional analysis needs to be included addressing impacts of the proposal on non-Stage 2 and Stage 3 aircraft.

15. Incentives and Disincentives in Landing Fees. [Measure #30]

Description: Subject to a part 161 study, a program would be developed to establish differential landing fees with higher fees for noisier aircraft and lower fees for quieter aircraft. (NCP Page 75 and NCP Pages 102-103).

This measure is similar to that proposed under [Measure #29], above, at FAA Program Management Measure 14 in this ROA. The purpose would be to establish financial disincentives of sufficient magnitude to discourage the use of noisier aircraft. Differential landing fees could be established with higher fees for the noisier aircraft and lower fees for quieter aircraft. It should be based on the single event noise level for each aircraft as listed in the most recent FAA AC 36 to avoid discrimination.

The measure would be subject to similar considerations as the preceding measure on rent adjustments and would require a part 161 analysis. The approach to landing fees, as with the preceding one, is predicated on the concept that an airport operator and the community incurs a noise cost from the operators of noisier aircraft and it is appropriate to apportion the fees to address these costs.

It would apply to all aircraft including itinerant. The second advantage is that it has inherent flexibility that the rent restrictions would not. An owner would have the opportunity to adjust operations to reduce landings, reducing the overall financial impact, with a commensurate reduction in business revenues, without having to replace or move the aircraft.

Other approaches are discussed in the NCP at page 103.

FAA Action: Disapproved for purposes of part 150 pending compliance with Part 161. As recognized in the NCP the proposed incentives and disincentives in landing fees for aircraft could constitute an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 CFR Part 161. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under part 150 is being sought. Other issues also must be addressed under part 150 including the measure's impacts on aircraft that are not Stage 2 or Stage 3, and a quantification of noise benefits derived from implementing this measure.

16. Expansion of Fines. [Measure #31]

Description: Subject to a part 161 study, a system of fines would be developed to be imposed on aircraft operators who violate policies at VNY. Increased fines would have a deterrent effect on aircraft operators who violate existing ordinances at VNY. The existing voluntary Fly Friendly program would be made a mandatory program with penalties. After two violations, operators who violate the "Fly Neighborly" program would be fined \$500 for the third noisy operation. The fourth citation fine would be \$1,000, and the fifth, \$2,000. Any operator who receives a sixth citation letter would be banned from using the airport. (NCP Page 75 and NCP Pages 103-104).

FAA Action: Disapproved for purposes of part 150 pending compliance with 14 CFR Part 161. The Fly Friendly procedures currently are voluntary at the airport, and a high compliance rate has

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been achieved. The pilot in command has responsibility for the safe operation of aircraft, and may not always be able to comply with the procedures. As recognized in the NCP the proposed expansion of fines to mandate compliance with a voluntary program constitutes an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), 49 U.S.C. 47524(b), and 14 CFR Part 161. Other issues also must be addressed under part 150 including the measure's impacts on aircraft that are not Stage 2 or Stage 3, and a quantification of noise benefits derived from implementing this measure.

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address, a description and the location of the records requested, and verification of identity (such as, a statement under penalty of perjury that the requester is the individual who he or she claims to be).

RECORD ACCESS PROCEDURES:

Individuals seeking to access their information in this system should apply to the System Manager by following the same procedure as indicated under "Notification Procedure."

CONTESTING RECORD PROCEDURES:

Individuals seeking to contest their information in this system should apply to the System Manager by following the same procedure as indicated under "Notification Procedure."

RECORD SOURCE CATEGORIES:

Driver information is obtained from roadside driver/vehicle inspections and crash reports submitted by State and local law enforcement agencies and from investigations performed by State and Federal investigators. State officials and FMCSA field offices forward safety information to MCMIS soon after it has been compiled and processed locally.

EXEMPTIONS CLAIMED FOR THE SYSTEM:

Pursuant to subsection (k)(2) of the Privacy Act (5 USC 552a), portions of this system are exempt from the requirements of subsections (c)(3), (d), (e)(4)(C)-(I) and (f) of the Act, for the reasons stated in DOT's Privacy Act regulation (49 CFR Part 10, Appendix, Part II, at A.8.

Dated: December 8, 2009.

Habib Azarsina,

Departmental Privacy Officer.

[FR Doc. E9-29770 Filed 12-14-09; 8:45 am]

BILLING CODE 4910-9X-P

DEPARTMENT OF TRANSPORTATION

Surface Transportation Board

[STB Docket No. AB-303 (Sub-No. 35X)]

Wisconsin Central Ltd.—Abandonment Exemption—in Outagamie County, WI

Wisconsin Central Ltd. (WCL),¹ has filed a verified notice of exemption under 49 CFR 1152 Subpart F—*Exempt Abandonments* to abandon its line of railroad between mileposts 111.0 and 112.9, a distance of 1.9 miles in Kaukauna, Outagamie County, WI. The line traverses United States Postal

¹ WCL is a wholly owned subsidiary of Canadian National Railway Company.

Service Zip Code 54130, and there are no stations on the line.

WCL has certified that: (1) No local traffic has moved over the line for at least 2 years; (2) there is no overhead traffic on the line; (3) no formal complaint filed by a user of rail service on the line (or by a state or local government entity acting on behalf of such user) regarding cessation of service over the line either is pending with the Surface Transportation Board or with any U.S. District Court or has been decided in favor of complainant within the 2-year period; and (4) the requirements at 49 CFR 1105.7 (environmental report), 49 CFR 1105.8 (historic report), 49 CFR 1105.11 (transmittal letter), 49 CFR 1105.12 (newspaper publication), and 49 CFR 1152.50(d)(1) (notice to governmental agencies) have been met.

As a condition to this exemption, any employee adversely affected by the abandonment shall be protected under *Oregon Short Line R. Co.—Abandonment—Goshen*, 360 I.C.C. 91 (1979). To address whether this condition adequately protects affected employees, a petition for partial revocation under 49 U.S.C. 10502(d) must be filed.

Provided no formal expression of intent to file an offer of financial assistance (OFA) has been received, this exemption will be effective on January 14, 2010, unless stayed pending reconsideration. Petitions to stay that do not involve environmental issues,² formal expressions of intent to file an OFA under 49 CFR 1152.27(c)(2),³ and trail use/rail banking requests under 49 CFR 1152.29 must be filed by December 28, 2009. Petitions to reopen or requests for public use conditions under 49 CFR 1152.28 must be filed by January 4, 2010, with the Surface Transportation Board, 395 E Street, SW., Washington, DC 20423-0001.

A copy of any petition filed with the Board should be sent to WCL's representative: Jeremy M. Berman, 29 N. Wacker Dr., Suite 920, Chicago, IL 60606.

If the verified notice contains false or misleading information, the exemption is void *ab initio*.

² The Board will grant a stay if an informed decision on environmental issues (whether raised by a party or by the Board's Section of Environmental Analysis (SEA) in its independent investigation) cannot be made before the exemption's effective date. See *Exemption of Out-of-Service Rail Lines*, 5 I.C.C.2d 377 (1989). Any request for a stay should be filed as soon as possible so that the Board may take appropriate action before the exemption's effective date.

³ Each OFA must be accompanied by the filing fee, which currently is set at \$1,500. See 49 CFR 1002.2(f)(25).

WCL has filed both an environmental report and a historic report that address the effects, if any, of the abandonment on the environment and historic resources. SEA will issue an environmental assessment (EA) by December 18, 2009. Interested persons may obtain a copy of the EA by writing to SEA (Room 1100, Surface Transportation Board, Washington, DC 20423-0001) or by calling SEA, at (202) 245-0305. Assistance for the hearing impaired is available through the Federal Information Relay Service (FIRS) at 1-800-877-8339. Comments on environmental and historic preservation matters must be filed within 15 days after the EA becomes available to the public.

Environmental, historic preservation, public use, or trail use/rail banking conditions will be imposed, where appropriate, in a subsequent decision.

Pursuant to the provisions of 49 CFR 1152.29(e)(2), WCL shall file a notice of consummation with the Board to signify that it has exercised the authority granted and fully abandoned the line. If consummation has not been effected by WCL's filing of a notice of consummation by December 15, 2010, and there are no legal or regulatory barriers to consummation, the authority to abandon will automatically expire.

Board decisions and notices are available on our Web site at: <http://www.stb.dot.gov>.

Decided: December 8, 2009.

By the Board, Joseph H. Dettmar, Acting Director, Office of Proceedings.

Kulunie L. Cannon,
Clearance Clerk.

[FR Doc. E9-29720 Filed 12-14-09; 8:45 am]

BILLING CODE 4915-01-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Approval of Noise Compatibility Program for Van Nuys Airport, Van Nuys, CA

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice.

SUMMARY: The Federal Aviation Administration (FAA) announces its findings on the noise compatibility program submitted by City of Los Angeles, Los Angeles World Airports under the provisions of 49 U.S.C. 47501 *et seq.* (formerly the Aviation Safety and Noise Abatement Act, hereinafter referred to as "the Act") and 14 Code of Federal Regulations (CFR) part 150 (hereinafter referred to as "Part 150").

On April 20, 2009, the FAA determined that the noise exposure maps submitted by Los Angeles World Airports under Part 150 were in compliance with applicable requirements. On October 16, 2009, the FAA approved the Van Nuys Airport noise compatibility program. Fifteen (15) of the thirty-five (35) total number of recommendations of the program were approved. No program elements relating to new or revised flight procedures for noise abatement were proposed by the airport operator.

DATES: *Effective Date:* The effective date of the FAA's approval of the Noise Compatibility Program for Van Nuys Airport is October 16, 2009.

FOR FURTHER INFORMATION CONTACT: Victor Globa, Environmental Protection Specialist, Federal Aviation Administration, Los Angeles Airports District Office, Mailing Address: P.O. Box 92007, Los Angeles, California 90009-2007. Street Address: 15000 Aviation Boulevard, Lawndale, California 90261. Telephone: 310/725-3637. Documents reflecting this FAA action may be reviewed at this same location.

SUPPLEMENTARY INFORMATION: This notice announces that the FAA has given its overall approval to the Noise Compatibility Program for Van Nuys Airport, effective October 16, 2009.

Under section 47504 of the Act, an airport operator who has previously submitted a Noise Exposure Map may submit to the FAA a Noise Compatibility Program which sets forth the measures taken or proposed by the airport operator for the reduction of existing non-compatible land uses and prevention of additional non-compatible land uses within the area covered by the Noise Exposure Maps. The Act requires such programs to be developed in consultation with interested and affected parties including local communities, government agencies, airport users, and FAA personnel.

Each airport noise compatibility program developed in accordance with Part 150 is a local program, not a Federal program. The FAA does not substitute its judgment for that of the airport proprietor with respect to which measures should be recommended for action. The FAA's approval or disapproval of Part 150 program recommendations is measured according to the standards expressed in Part 150 and the Act and is limited to the following determinations:

a. The Noise Compatibility Program was developed in accordance with the provisions and procedures of Part 150;

b. Program measures are reasonably consistent with achieving the goals of

reducing existing non-compatible land uses around the airport and preventing the introduction of additional non-compatible land uses;

c. Program measures would not create an undue burden on interstate or foreign commerce, unjustly discriminate against types or classes of aeronautical uses, violate the terms of airport grant agreements, or intrude into areas preempted by the Federal Government; and

d. Program measures relating to the use of flight procedures can be implemented within the period covered by the program without derogating safety, adversely affecting the efficient use and management of the navigable airspace and air traffic control systems, or adversely affecting other powers and responsibilities of the Administrator prescribed by law.

Specific limitations with respect to FAA's approval of an airport noise compatibility program are delineated in Part 150, § 150.5. Approval is not a determination concerning the acceptability of land uses under Federal, state, or local law. Approval does not by itself constitute an FAA implementing action. A request for Federal action or approval to implement specific noise compatibility measures may be required. Prior to an FAA decision on a request to implement the action, an environmental review of the proposed action may be required. Approval does not constitute a commitment by the FAA to financially assist in the implementation of the program nor a determination that all measures covered by the program are eligible for grant-in-aid funding from the FAA under applicable law contained in Title 49 U.S.C. Where federal funding is sought, requests for project grants must be submitted to the FAA Los Angeles Airports District Office in the Western-Pacific Region.

The Van Nuys Airport study contains a proposed noise compatibility program comprised of actions designed for phased implementation by airport management and adjacent jurisdictions from July 16, 2008 to (or beyond) the year 2013. It was requested that the FAA evaluate and approve this material as a Noise Compatibility Program as described in section 47504 of the Act. The FAA began its review of the program on April 20, 2009, and was required by a provision of the Act to approve or disapprove the program within 180 days (other than the use of new or modified flight procedures for noise control). Failure to approve or disapprove such program within the 180-day period shall be deemed to be an approval of such program.

The submitted program contained 35 proposed actions for noise abatement, noise mitigation, land use planning and program management on and off the airport. The FAA completed its review and determined that the procedural and substantive requirements of the Act and Part 150 have been satisfied. The overall program was approved by the FAA, effective October 16, 2009.

FAA approval was granted for fifteen (15) specific program measures. The approved measures included such items as: [Measure #1] Airport Land Use Compatibility (ALUC) Plan; [Measure #16] Noise Roundtable; [Measure #18] Automated Feedback System; and [Measure #23] Noise Abatement Officer. One (1) measure; [Measure #11] Improved Communications [Helicopter Operations] was approved for improving means of communication; but disapproved for any changes to existing flight procedures not approved in the NCP and flight tracks; [Measure #14] Signage was approved for procedures already in effect at the airport; [Measure #3] Additional Development Within Impact Area is approved with respect to preventing the introduction of new housing but the portion of the measure that permits new noncompatible development within the DNL 65 dB, even with sound attenuation and/or easement is disapproved for purposes of Part 150 since it is inconsistent with the FAA's guidelines and 1998 policy; [Measure #17] Noise Management Monitoring System is approved for purposes of Part 150. Approval of this measure does not obligate the FAA to participate in funding the acquisition or installation of the permanent noise monitors and associated equipment. Note, for the purpose of aviation safety, this approval does not extend to the use of monitoring equipment for enforcement purposes by in-situ measurement of any pre-set noise thresholds; [Measure #5] Van Nuys Helicopter Policy is approved for study, however, the portion of the measure that recommends adoption of local plans and ordinances as necessary to regulate the establishment and operation of new helicopter landing facilities is disapproved; [Measure #12] Establish Noise Abatement and Departure Techniques for All Aircraft Departing Van Nuys was approved as a voluntary measure since the measure refers to the existing voluntary Fly Friendly program. Any changes to the voluntary nature of the Fly Friendly program or an adjustment to flight profiles is disapproved; [Measure #21] Marketing Policy has been approved as voluntary. Any mandatory enforcement of this

policy would constitute an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990, 49 U.S.C. 47524(b), and 14 CFR part 161; [Measure #13] Establish Noise Abatement and Departure Procedures was approved in part, as voluntary; disapproved in part pending compliance with 14 CFR part 161. The measure related to maintaining the existing flight procedure at the airport is approved as voluntary. Any changes to the voluntary nature of the Fly Friendly program or adjustments to flight profiles is disapproved; [Measure #19] Tenant Association has been approved in part. This approval does not extend to solutions or recommendations by the Tenant Association to existing operational procedures. These must be vetted through the FAA to determine their impacts on aviation safety and efficiency; [Measure #2] Insulation and [Measure #22] Financial Assistance have been approved for homes or noncompatible development that was constructed or existed before October 1, 1998. Homes acoustically treated by the City of Los Angeles prior to approval of the Part 150 study cannot be made eligible for federal AIP or PFC funding.

FAA disapproved twenty (20) specific program measures. The disapproved measures included: [Measure #4] Construction and Capital Improvement was disapproved due to lack of quantifiable benefits identified and the FAA not being able to determine how the measure contributes to improving the noise environment around the airport; [Measure #6] West Side Operations was disapproved due to lack of quantitative analysis and the changes in altitudes would increase complexity for pilots and controllers; [Measure #7] Helicopter Training Facility was disapproved since the airport does not have authority to regulate numbers of operations; such action would be subject to analysis and approval under 14 CFR part 161. Also, the NCP does not provide sufficient information to determine that there would be a noise benefit; [Measure #8] Improve Use of Established [Helicopter] Routes was disapproved since the recommended Stagg Street arrival/departure procedure would create a safety hazard for FAA Air Traffic Control. It is also noted that the NCP states that an analysis of benefits was not conducted, and that it is not likely that benefits will occur within the CNEL noise contours of the official NEMs; [Measure #9] Bull Creek [Helicopter] Route to Balboa was disapproved since the 1991 Helicopter Study indicates a shift in helicopter

traffic to Balboa Boulevard would require helicopters to fly over more residential areas and a school. Without current land use information, it is not possible to tell whether new noncompatible land uses would be impacted or benefitted should the route be shifted; [Measure #10] [Altitude of] Public Service [Helicopter] Fleets was disapproved since aircraft altitudes may not be established by local ordinance. Any study of possible changes to the airspace in the vicinity of Van Nuys Airport must be conducted in consultation with the FAA's Air Traffic Organization because of the potential impacts on airspace service and efficiency. Should a study recommend changes in altitude that are demonstrated to be safe, they may be submitted for approval in 14 CFR part 150; [Measure #15] Runway Policy— Full Length Departure was disapproved since there is no analysis to demonstrate the measure's noise benefits and the FAA cannot determine how the measure contributes to improving the noise environment around the Airport. This disapproval does not prohibit or discourage continuation of exiting practices to use the full runway length outside the Part 150 program; [Measure #20] Automatic Terminal Information Service (ATIS) Message was disapproved since FAA Order 7110.65 Air Traffic Control, no longer provides for noise abatement advisories; [Measure #24] Noise Abatement Information was disapproved since noise abatement procedures are airport specific and must be evaluated for effectiveness at individual airports. Any new procedures proposed for noise mitigation at VNY may not be implemented prior to conducting a study to determine whether they can be implemented safely and efficiently, and whether they are noise beneficial; [Measure #25] Raising Burbank (Bob Hope Airport) Glideslope was disapproved since the FAA has concerns regarding the "ripple" effect the change to the glideslope would cause within the Southern California Terminal Radar Control (TRACON) airspace around VNY. Traffic is already constrained by multiple regulated airspace areas and high terrain nearby. Raising the glideslope at Bob Hope Airport would require additional changes to vertical altitude for separation changes. This will create the loss of significant designated altitude when there is an aircraft executing the Instrument Landing System to Bob Hope Airport. Loss of any altitude will be detrimental to air traffic operations in the vicinity; [Measure #27] Air Traffic

Control Tower (ATC) was disapproved since specific standards must be met prior to extending the hours of operation at any ATC facility. FAA does not enforce locally enacted noise rules. Keeping the tower open solely for the purpose of noise abatement does not meet these criteria; [Measure #26] Lease Policy which was disapproved for purposes of Part 150 since the NCP analysis includes very little information on the measure. The measure appears to apply only to jet aircraft, which could be unjustly discriminatory and it does not discuss potential impacts on owners of non-staged, Stage 1 and other non-Stage 2 aircraft; [Measure #28] Aircraft "N" Numbers were disapproved for purposes of Part 150 since there is insufficient information to demonstrate a measurable noise benefit; [Measure #29] Incentives and Disincentives in Rental Rates was disapproved since the proposed measure could constitute an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990, 49 U.S.C. 47521 et seq., and 14 CFR part 161; [Measure #30] Incentives and Disincentives in Landing Fees was disapproved since the proposed measure could constitute an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 CFR part 161; [Measure #31] Expansion of Fines was disapproved since the measure proposes to expand fines to mandate compliance with a voluntary Fly Friendly program that constitutes an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), 49 U.S.C. 47524(b), and 14 CFR part 161; [Measure #32] Maximum Daytime Noise Limits was disapproved since the NCP does not quantify noise benefits derived from implementing this measure and this measure constitutes an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 CFR part 161. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under Part 150 is being sought; [Measure #33] Limit on Stage 3 Jets was disapproved since the NCP does not quantify the noise benefits and this measure constitutes an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 CFR part 161. The completed Part 161 analysis may be

submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under Part 150 is being sought; [Measure #34] Expansion of Curfew was disapproved since the NCP does not quantify the noise benefits and this measure constitutes an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990 (ANCA), and 14 CFR part 161. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under Part 150 is being sought; and [Measure #35] Cap/Phase-Out of Helicopters was disapproved since the NCP does not quantify the noise benefits and this measure constitutes an airport noise and access restriction that may only be adopted after full compliance with the Airport Noise and Capacity Act of 1990, and 14 CFR part 161. The completed Part 161 analysis may be submitted for FAA reconsideration of this measure under Part 150 if an FAA determination under Part 150 is being sought. These determinations are set forth in detail in a Record of Approval signed by the Associate Administrator for Airports (ARP-1) on October 16, 2009. The Record of Approval, as well as other evaluation materials and the documents comprising the submittal, are available for review at the FAA office listed above and at the administrative offices of the City of Los Angeles, Los Angeles World Airports.

The Record of Approval also will be available on-line at: http://www.faa.gov/airports_airtraffic/airports/environmental/airport_noise/part_150/states/.

Issued in Hawthorne on December 4, 2009.

Mark A. McClardy
Manager, Airports Division, Western-Pacific Region.

[FR Doc. E9-29755 Filed 12-14-09; 8:45 am]

BILLING CODE 4910-13-P

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of Availability regarding a Finding of No Significant Impact (FONSI): K Street, 24th Street, NW., to 7th Street, NW., Washington, DC.

SUMMARY: The FHWA, in coordination with the District Department of Transportation (DDOT), is issuing a Finding of No Significant Impact (FONSI) for improvements to the K Street Corridor in northwest

Washington, DC to efficiently accommodate multi-modal travel, including an exclusive transitway within a portion of the existing street right-of-way.

FOR FURTHER INFORMATION CONTACT: Federal Highway Administration, District of Columbia Division: Mr. Michael Hicks, Environmental/Urban Engineer, 1900 K Street, Suite 510, Washington, DC 20006-1103, Telephone number 202-219-3513, e-mail: michael.hicks@dot.gov; or Mr. Faisal Hameed, Program Manager, Project Development & Environment, Transportation Policy & Planning Administration, District Department of Transportation, 2000 14th Street, NW., 7th Floor, Washington, DC 20009, Regular Office Hours 8:30 a.m. to 4:30 p.m., Telephone number 202-671-2326, e-mail: faisal.hameed@dc.gov.

SUPPLEMENTARY INFORMATION: The FHWA, in coordination with DDOT, is issuing a FONSI for the preferred alternative, Alternative 2, as identified in the Final Environmental Assessment for K Street, 24th Street, NW., to 7th Street, NW., Washington, DC. This project would reconstruct existing K Street to provide an exclusive two-way, two-lane, center transitway, flanked by medians on either side that include bus platforms, and three general purpose lanes in each direction. Parking and loading would be accommodated in the curb lanes during off-peak hours. Bicycles would be accommodated in the curb lanes. The determination that the proposed undertaking will not have a significant impact on the environment has been made pursuant to the Council on Environmental Quality's regulations (40 CFR 1500) for implementing the National Environmental Policy Act.

Electronic Access

An electronic copy of this document may be downloaded, using a computer, modem and suitable communications software, from the Government Printing Office's Electronic Bulletin Board Service at (202) 512-1661. Internet users may reach the Office of the Federal Register's home page at: <http://www.nara.gov/fedreg> and the Government Printing Office's Web site at: <http://www.access.gpo.gov/nara>.

The FONSI will be available for public review at: <http://www.fhwa.dot.gov/dcddiv/projects.htm> or <http://www.ddot.dc.gov/kstreetEA>.

Authority: 23 U.S.C. 315; 49 CFR 1.48

Mark Kehrl,
Division Administrator.
[FR Doc. E9-29771 Filed 12-14-09; 8:45 am]
BILLING CODE 4910-22-P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Notice of Final FAA Decision on Proposed Airport Access Restriction

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Notice.

SUMMARY: The Airport Noise and Capacity Act of 1990 (hereinafter referred to as "the Act" or "ANCA") provides notice, review, and approval requirements for airports seeking to impose noise or access restrictions on Stage 3 aircraft operations that become effective after October 1, 1990. 49 U.S.C. 47521 *et seq.*

The Federal Aviation Administration (FAA) announces that it has disapproved the application for an airport noise and access restriction submitted by the Burbank Glendale Pasadena Airport Authority (BGPAA) for Bob Hope Airport (BUR) under the provisions of 49 U.S.C. 47524 of the ANCA, and 14 CFR part 161. The FAA determined that the application does not provide substantial evidence the restriction meets the six statutory conditions for approval under ANCA and part 161. The FAA's decision was issued October 30, 2009.

DATES: Effective Date: The effective date of the FAA's decision on the application for a mandatory noise and access restriction at BUR is October 30, 2009. The FAA found the application was completed on May 5, 2009 (74 FR 29530). The FAA opened a docket for public comment (FAA-2009-0546). The FAA received nearly 150 separate comments, which were considered during the FAA's evaluation of the BGPAA application.

FOR FURTHER INFORMATION CONTACT: Victoria L. Catlett, Planning and Environmental Division, APP-400, 800 Independence Avenue, SW., Washington, DC 20591. E-mail address: vicki.catlett@faa.gov. Telephone number 202-267-8770.

SUPPLEMENTARY INFORMATION: On February 3, 2009, FAA received BGPAA's initial request for approval of a full, mandatory night-time curfew at Bob Hope Airport as described in the attached application. The application states "Pursuant to FAR Part 161.311(d) the Authority is seeking a full, mandatory night-time curfew as described in the attached application. The [BGPAA] is not seeking any other alternative restriction." On March 5, 2009, FAA determined that the application was complete except for the

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APPENDIX C NOISE TERMINOLOGY

C.1 Introduction

Noise is a very complex physical quantity. The properties, measurement, and presentation of noise involve specialized terminology that is often difficult to understand. To assist reviewers in interpreting the complex noise metrics used in evaluating airport noise, this appendix introduces eight acoustical descriptors of noise, roughly in increasing degree of complexity:

- Decibel, dB
- A-Weighted Decibel, dBA
- Maximum A-Weighted Sound Level, Lmax
- Sound Exposure Level, SEL
- Single Event Noise Exposure Level, SENEL
- Equivalent A-Weighted Sound Level, Leq
- Day-Night Average Sound Level, DNL
- Community Noise Equivalent Level, CNEL

These noise metrics form the basis for the majority of noise analysis conducted at airports in California and the U.S. as a whole.

C.2 Decibel, dB

All sounds come from a sound source -- a musical instrument, a voice speaking, an airplane passing overhead. It takes energy to produce sound. The sound energy produced by any sound source is transmitted through the air in sound waves -- tiny, quick oscillations of pressure just above and just below atmospheric pressure. The ear detects these oscillating pressures interpreting it as "sound."

Our ears are sensitive to a wide range of sound pressures. Although the loudest sounds that we hear without pain have about one million times more energy than the quietest sounds we hear, our ears are incapable of detecting small differences in these pressures. Thus, to better match how we hear this sound energy, we compress the total range of sound pressures to a more meaningful range by introducing the concept of sound pressure level.

Sound pressure level (SPL) is measured in decibels (dB). Decibels are logarithms of a ratio, the numerator being the pressure of the sound source of interest, and the denominator being the reference pressure (equivalent to the quietest sound that an average healthy young adult can hear):

$$\text{Sound Pressure Level (SPL)} = 20 * \text{Log} \left(\frac{P_{\text{source}}}{P_{\text{reference}}} \right) \text{dB}$$

The logarithmic conversion of sound pressure to sound pressure level means that the quietest sound that we can hear (the reference pressure) has a sound pressure level of about 0 dB, while the loudest sounds that we hear without pain have sound pressure levels of about 120 dB. Most sounds in our day-to-day environment have sound pressure levels on the order of 30 to 100 dB.

Because decibels are logarithmic, combining decibels is unlike common arithmetic. For example, if two sound sources each produce 100 dB and they are then operated together, they produce 103 dB -- not the 200 decibels we might expect. Four equal sources operating simultaneously produce another three decibels of noise, resulting in a total sound pressure level of 106 dB. For every doubling of the number of equal sources, the sound pressure level goes up another three decibels. A tenfold increase in the number of sources makes the sound pressure level go up 10 dB. A hundredfold increase makes the level go up 20 dB, and it takes a thousand equal sources to increase the level 30 dB.

If one noise source is much louder than another, the two sources together will produce virtually the same sound pressure level (and sound to our ears) as the louder source alone. For example, a 100 dB source plus an 80 dB source produce approximately 100 dB when operating together (actually, 100.04 dB). The louder source "masks" the quieter one. But if the quieter source gets louder, it will have an increasing effect on the total sound pressure level such that, when the two sources are equal, as described above, they produce a level three decibels above the sound of either one by itself.

Conveniently, people also hear or interpret sound pressure in a logarithmic fashion. Two useful rules of thumb to remember when comparing sound pressure levels are: (1) a 6 to 10 dB increase is generally perceived to be about a doubling of loudness, and (2) changes in sound pressure level of less than about three decibels are not readily detectable outside of a laboratory environment.

C.3 A-Weighted Decibel, dBA

An important characteristic of sound is its frequency, or "pitch." This is the per-second rate of repetition of the sound pressure oscillations as they reach our ear, expressed in units known as Hertz (Hz), formerly called cycles per second.

When analyzing the total noise of any source, acousticians often break the noise into frequency bands to determine how much is low-frequency noise, how much is middle-frequency noise, and how much is high-frequency noise. This breakdown is important for two reasons:

- Our ear is better equipped to hear mid and high frequencies and is less sensitive to lower frequencies. Thus, we find mid- and high-frequency noise more annoying.
- Engineering solutions to a noise problem are different for different frequency ranges. Low-frequency noise is generally harder to control.

The normal frequency range of hearing for most people extends from a low of about 20 Hz to a high of about 10,000 to 15,000 Hz. People respond to sound most readily when the predominant frequency is in the range of normal conversation, typically around 1,000 to 2,000 Hz. The acoustical community has defined several "filters," which approximate this sensitivity of our ear and thus, help us to judge the relative loudness of various sounds made up of many different frequencies.

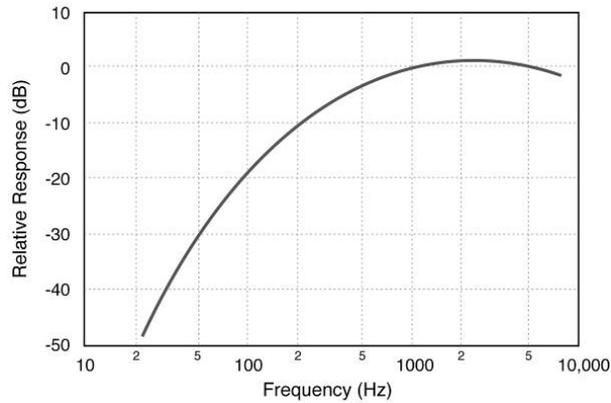
The "A" filter (or "A weighting") does this best for most environmental noise sources. A-weighted sound levels are measured in decibels, just like unweighted. To avoid ambiguity, A-weighted sound levels should be identified as such (e.g. "an A-weighted sound level of 85 dB") or in an abbreviated form (e.g. "a sound level of 85 dBA") where the "A" indicates the sound level has been A-weighted.

Government agencies in the U.S (and most governments worldwide) recommend or require the use of A-weighted sound levels for measuring, modeling, describing, and assessing aircraft sound levels (and sound levels from most other transportation and environmental sources).

Figure C-1 depicts A-weighting adjustments to sound from approximately 20 Hz to 10,000 Hz.

Figure C-1 Frequency-Response Characteristics of Various Weighting Networks

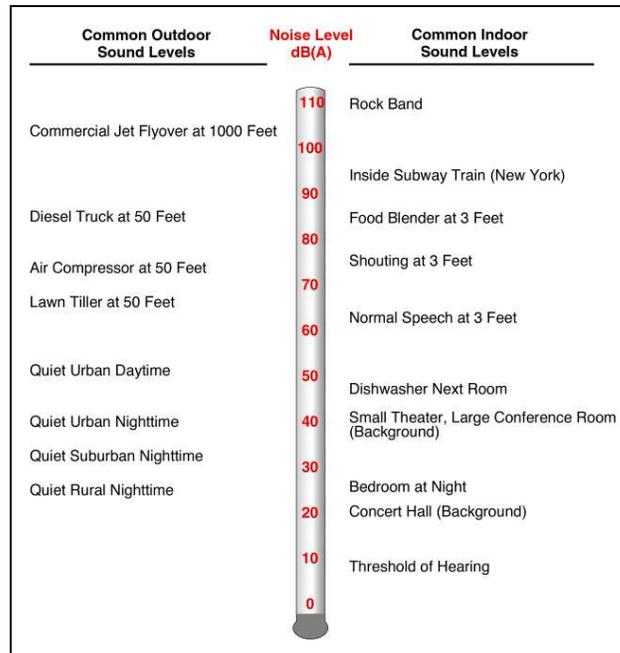
Source: HMMH, 2011



The A-weighted filter significantly de-emphasizes those parts of the total noise at lower and higher frequencies (below about 500 Hz and above about 10,000 Hz) where we do not hear as well. The filter has very little effect, or is nearly "flat," in the middle range of frequencies between 500 and 10,000 Hz where we hear quite easily. Because this filter generally matches our ears' sensitivity, sounds having higher A-weighted sound levels are usually judged to be louder than those with lower A-weighted sound levels, a relationship which otherwise might not be true. It is for this reason that acousticians normally use A-weighted sound levels to evaluate environmental noise sources.

Figure C-2 depicts representative A-weighted sound levels for a variety of common sounds.

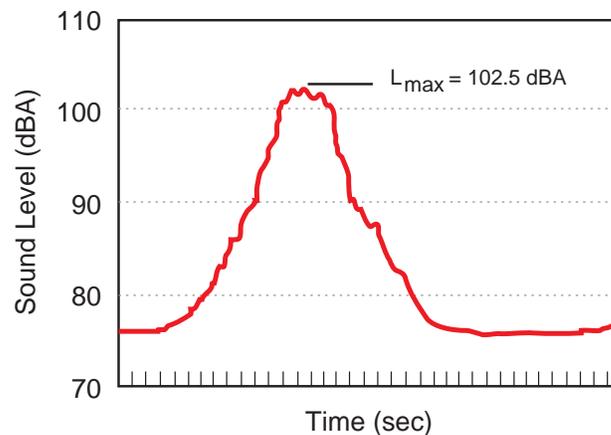
Figure C-2 Representative A-Weighted Sound Levels
 Source: HMMH, 2011



C.4 Maximum A-Weighted Sound Level, L_{max}

An additional dimension to environmental noise is that A-weighted levels vary with time. For example, the sound level increases as an aircraft approaches, then falls and blends into the background as the aircraft recedes into the distance (though even the background varies as birds chirp, the wind blows, or a vehicle passes by). This is illustrated in Figure C-3.

Figure C-3 Variation in the A-Weighted Sound Level over Time
 Source: HMMH, 2011



Because of this variation, it is often convenient to describe a particular noise "event" by its maximum sound level, abbreviated as L_{max} (or L_{Amax} , if the decibel abbreviation dB is used). In Figure C-3 the L_{max} is approximately 102.5 dBA.

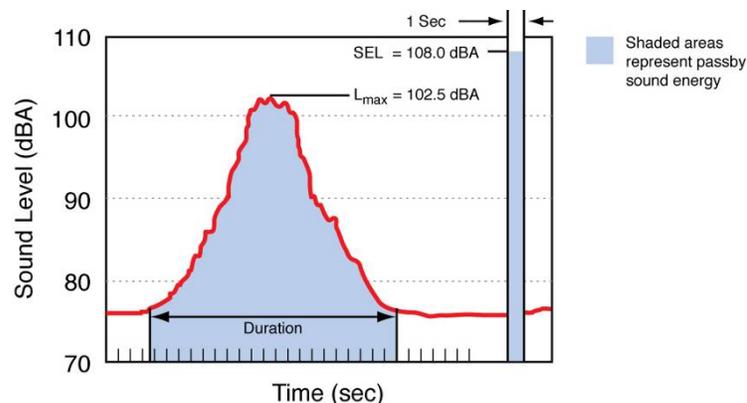
While the maximum level is easy to understand, it suffers from a serious drawback when used to describe the relative "noisiness" of an event such as an aircraft flyover; i.e., it describes only one dimension of the event and provides no information on the event's overall, or cumulative, noise exposure. In fact, two events with identical maximum levels may produce very different total exposures. One may be of very short duration, while the other may continue for an extended period and be judged much more annoying. The next sections introduce two closely related measures that account for this concept of a noise "dose," or the cumulative exposure associated with an individual "noise event" such as an aircraft flyover.

C.5 Sound Exposure Level, SEL

The most commonly used measure of cumulative noise exposure for an individual noise event, such as an aircraft flyover, is the Sound Exposure Level, or SEL. SEL is a summation of the A-weighted sound energy over the entire duration of a noise event. SEL expresses the accumulated energy in terms of the one-second-long steady-state sound level that would contain the same amount of energy as the actual time-varying level.

In simple terms, SEL "compresses" the energy into a single second. Figure C-4 depicts this compression:

Figure C-4 Graphical Depiction of Sound Exposure Level
Source: HMMH, 2011



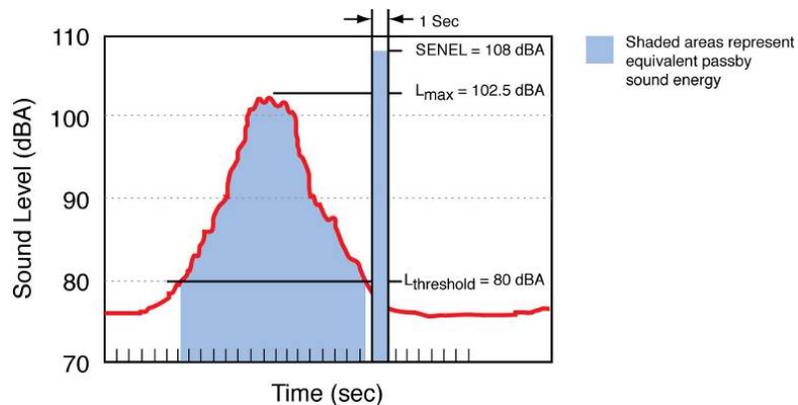
Note that because SEL is normalized to one second, it almost always will be higher than the event's L_{max} . In fact, for most aircraft flyovers, SEL is on the order of five to 12 dB higher than L_{max} .

C.6 Single Event Noise Exposure Level, SENEL

Caltrans Division of Aeronautics noise standards regulations (discussed in Section 2.2) require use of a measure called the Single Event Noise Exposure Level, or SENEL, to describe the cumulative noise exposure for an individual noise event, such as an aircraft flyover. SENEL is a very slight variation on SEL. Just like SEL, it is the one-second-long steady-state level that contains the same amount of energy as the actual time-varying level. However, unlike SEL, it is calculated only over the period when the level exceeds a selected threshold.

Figure C-5 depicts the SENEL concept for the noise event used in the Figure C-4 SEL example, but with an 80 dB SENEL threshold value. Note that even though the SENEL is calculated over a shorter duration, both metrics have the value of 108 dB. This situation is typical for most noise events; for all but very unusual noise events, as long as the threshold is at least 10 dB below the maximum level, the SEL and SENEL values will be within 0.1 dB.

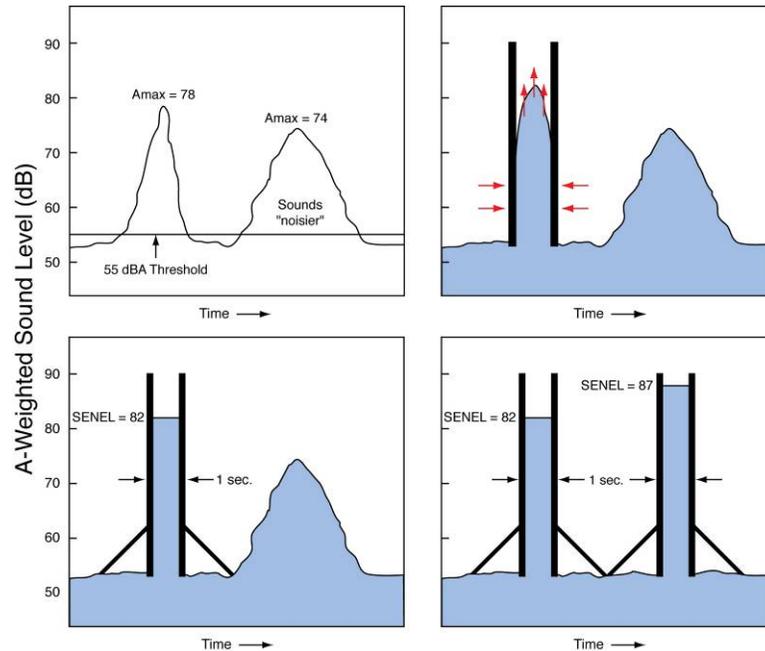
Figure C-5 Graphical Depiction of Single Event Noise Exposure Level
Source: HMMH, 2011



Because SENEL is a cumulative measure, a higher SENEL can result from either a louder or longer event, or some combination. Figure C-6 provides a representative example: The longer duration noise event on the right results in a higher SENEL than the event on the left, even though it has a lower L_{max}.

Figure C-6 Graphical Depiction of Single Event Noise Exposure Level for Two Noise Events with Different Maximums and Durations

Source: HMMH, 2011



SEL and SENEL provide bases for comparing noise events that generally match our impression of their overall “noisiness,” including the effects of both duration and level; the higher the SEL or SENEL, the more annoying a noise event is likely to be.

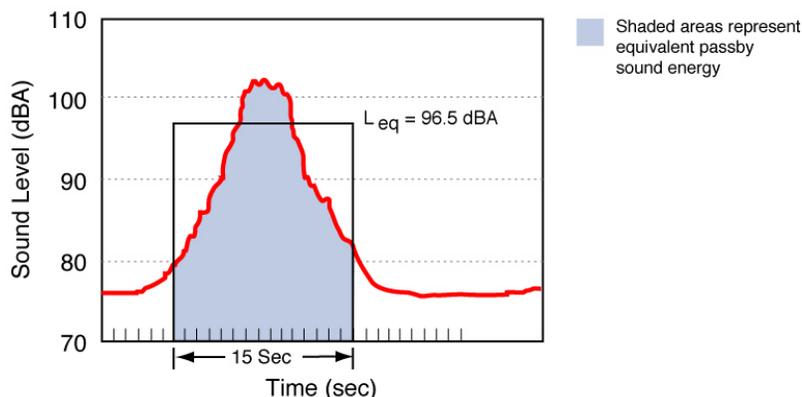
C.7 Equivalent A-Weighted Sound Level, Leq

The Equivalent Sound Level, abbreviated Leq, is a measure of the exposure resulting from the accumulation of sound levels over a particular period of interest; e.g., an hour, an eight-hour school day, nighttime, or a full 24-hour day. The applicable period should always be identified or clearly understood when discussing the metric.

Leq may be thought of as a constant sound level over the period of interest that contains as much sound energy as the actual varying level. It is a way of assigning a single number to a time-varying sound level. This is illustrated in Figure C-7.

Figure C-7 Example of a One-Minute Equivalent Sound Level

Source: HMMH, 2011



In airport noise applications, L_{eq} is often presented for consecutive one-hour periods to illustrate how the hourly noise dose rises and falls throughout a 24-hour period as well as how certain hours are significantly affected by a few loud aircraft.

C.8 Day-Night Average Sound Level, DNL or Ldn

The previous sections address noise measures that account for short term fluctuations in A-weighted levels as sound sources come and go affecting the overall noise environment. The Day-Night Average Sound Level (DNL or Ldn) represents a 24-hour A-weighted noise dose. DNL is essentially equal to the 24-hour A-weighted L_{eq} , with one important adjustment: noise occurring at night – from 10 pm through 7 am – is “factored up.” The factoring up can be made in one of two ways:

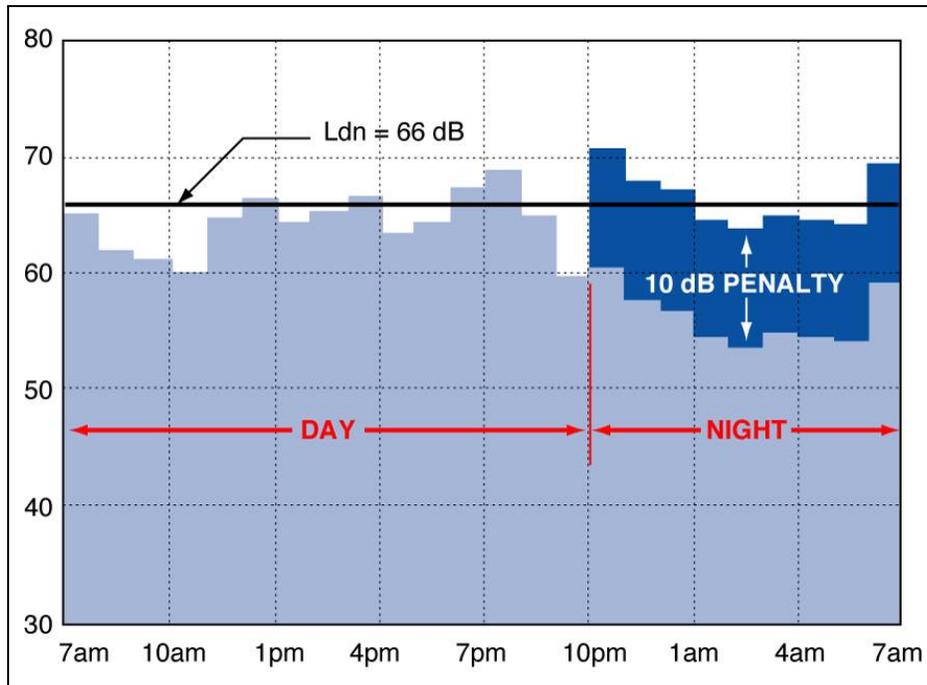
- Weighting, by counting each nighttime noise contribution 10 times; e.g., if DNL is calculated by summing the SEL of aircraft operations over a 24-hour period, each nighttime operation is represented by 10 identical daytime operations.
- Penalizing, by adding 10 dB to all nighttime noise contributions; e.g., if DNL is calculated from the SEL of aircraft operations occurring over a 24-hour period, 10 dB are added to the SEL values for nighttime operations.

The 10 dB adjustment accounts for our greater sensitivity to nighttime noise and the fact lower ambient levels at night tend to make noise events, such as aircraft flyovers, more intrusive.

Figure C-8 depicts this adjustment graphically.

Figure C-8 Example of a Day-Night Average Sound Level Calculation

Source: HMMH, 2011



Most aircraft noise studies utilize computer-generated estimates of DNL, determined by adding up the energy from the SELs from each event, with the 10 dB penalty / weighting applied to night operations. Computed values of DNL are often depicted as noise contours reflecting lines of equal exposure around an airport (much as topographic maps indicate contours of equal elevation). The contours usually reflect long-term (annual average) operating conditions, taking into account the average flights per day, how often each runway is used throughout the year, and where over the surrounding communities the aircraft normally fly. Alternative time frames may also be helpful in understanding shorter term aspects of a noise environment.

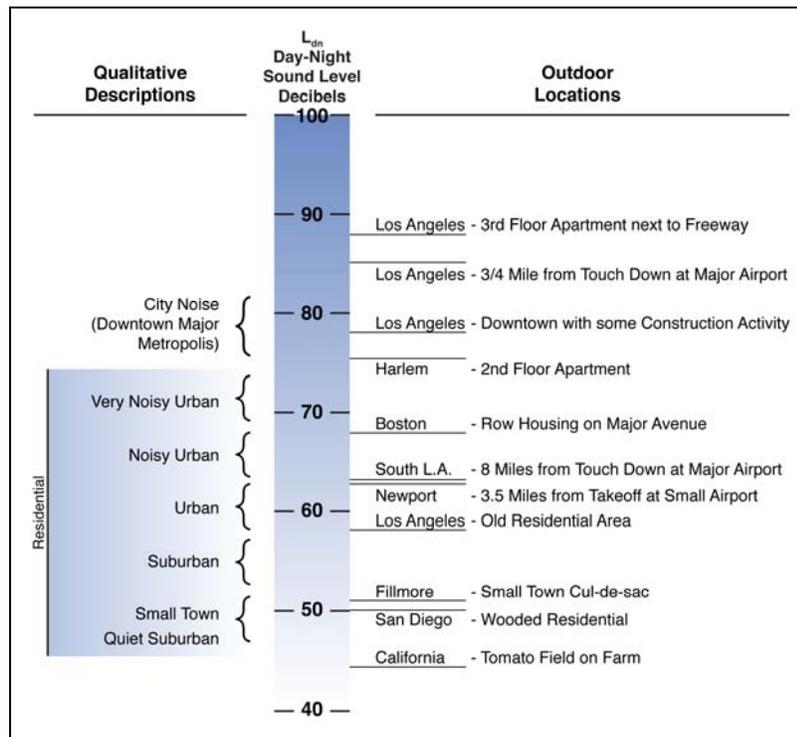
Why is DNL used to describe noise around airports? The U.S. Environmental Protection Agency identified DNL as the most appropriate measure of evaluating airport noise based on the following considerations:

- It is applicable to the evaluation of pervasive long-term noise in various defined areas and under various conditions over long periods of time.
- It correlates well with known effects of noise on individuals and the public.
- It is simple, practical, and accurate. In principal, it is useful for planning as well as for enforcement or monitoring purposes.
- The required measurement equipment, with standard characteristics is commercially available.
- It was closely related to existing methods currently in use.

Representative values of DNL in our environment range from a low of 40 to 45 dB in extremely quiet, isolated locations, to highs of 80 or 85 decibels immediately adjacent to a busy truck route. DNL would typically be in the range of 50 to 55 dB in a quiet residential community and 60 to 65

decibels in an urban residential neighborhood. Figure C-9 presents representative outdoor DNL values measured at various U.S. locations.

Figure C-9 Examples of Measured Day-Night Average Sound Levels
 Source: HMMH, 2011



When preparing environmental noise analyses, the FAA considers a change of 1.5 dB within the DNL 65 dB contour to be “significant.” If a change of 1.5 dB is observed, analysts should look between the 60 and 65 dB contours to see if there are areas of change of 3 dB or more; this is also considered “significant impact.”

Section C.2 provided rules of thumb for interpreting moment-to-moment changes in sound level; the following table presents guidelines for interpreting changes in cumulative exposure:

Table C-1 Guidelines for Interpreting Changes in Cumulative Exposure
 Source: HMMH, 2011

DNL Change	Community Response	Mitigation
0 – 2 dB	May be noticeable	Abatement may be beneficial
2 – 5 dB	Generally noticeable	Abatement should be beneficial
Over 5 dB	A change in community reaction is likely	Abatement definitely beneficial

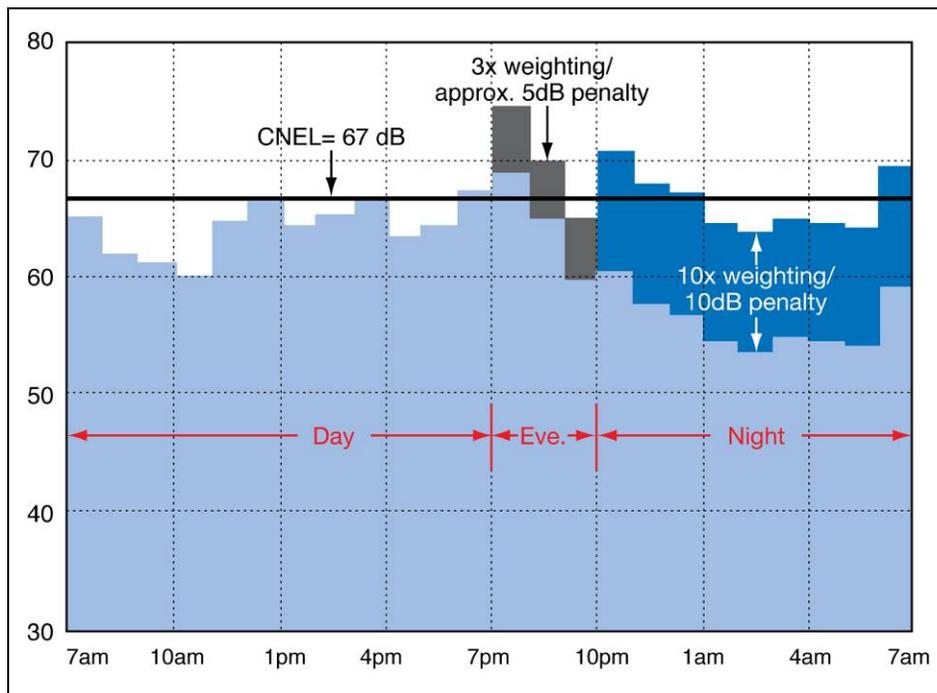
Most public agencies dealing with noise exposure, including the Federal Aviation Administration (FAA), Department of Defense, and Department of Housing and Urban Development (HUD), have adopted DNL in their guidelines and regulations. As noted in the following section, the state of California requires the use of a variant of DNL for use in airport noise assessments.

C.9 Community Noise Equivalent Level, CNEL

California Division of Aeronautics noise standards regulations (discussed in Section 2.2) require use of a slight variation of DNL to express cumulative A-weighted noise exposure over any number of days – the Community Noise Equivalent Level (CNEL). CNEL differs from DNL in one way: It adds an “evening” (7 pm – 10 pm) period during which noise events are weighted by a factor of three, which is mathematically equivalent to adding approximately a 4.77 dB penalty. Figure C-10 depicts this adjustment graphically.

Figure C-10 Example of a Community Noise Equivalent Level Calculation

Source: HMMH, 2011



Unless noise exposure is calculated for an unlikely situation where there is no noise-producing activity during the evening period (an unlikely situation) CNEL will always be greater than DNL. However, from a practical standpoint this difference is rarely more than one decibel. For this reason, the DNL values shown in Figure C-9 are reasonably representative of CNEL values for the same environments, as are guidelines for interpreting changes in exposure presented in Table C-1. FAA applies the same criteria for thresholds of significant change in CNEL that they have set for DNL.

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APPENDIX D VNY NOISE ORDINANCES

The following reproductions of the VNY noise ordinances are from LAWA's VNY website (under the "Airport Info / Noise Management / Documents / Noise Abatement and Curfew Regulation" tab).

These ordinances, their formal noise and access restriction elements, the sections of this document that discuss them, and the dates on which they were passed by the City Council and approved by the Mayor are as follow:

Ordinance # and Name	Formal Noise or Access Restriction Elements (and Section in this Document that Discusses Them in Detail)	Date Passed by the City Council	Date Approved by the Mayor
155727, Van Nuys Noise Abatement and Curfew Regulation	Ordinance Sec. 2, Curfew (see Section 3.2.6 of this document) Ordinance Sec. 3, Repetitive Aircraft Operations (see Section 3.2.4 of this document) Ordinance Sec. 5, Run-Ups (see Section 3.2.5 of this document)	Aug. 5, 1981	Aug. 10, 1981
171889, Amendment to Van Nuys Noise Abatement and Curfew Regulation	Ordinance Sec. 2.1, Curfew, also known as "Additional Curfew Hour" (see Section 3.2.6 of this document)	Dec. 19, 1997	Jan. 7, 1998
173215, Amendment to Van Nuys Noise Abatement and Curfew Regulation	Ordinance Sec. 5.1, Non-Addition Rule (see Section 3.2.7 of this document)	Apr. 18, 2000	May 5, 2000 (See note)
181106, Amendment to Van Nuys Noise Abatement and Curfew Regulation	Ordinance Sec. 5.2 and 5.3, Maximum Noise Levels and Exemptions from Maximum Noise Levels, also known as "Noisier Aircraft Phaseout" (see Section 3.2.8 of this document)	Feb. 26, 2010	Mar. 9, 2010

Note: As noted at the end of the ordinance: "The Mayor returned said ordinance to the City Clerk on May 5, 2000 without his approval or his objections in writing, being more than 10 days after the same was presented to the Mayor. Said ordinance shall become effective and be as valid as if the Mayor had approved and signed it. (Section 30, City Charter)"

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Disclaimer:

For your convenience and quick reference, we have provided the ordinance establishing a noise abatement and curfew regulation for aircraft operating at Van Nuys Airport, as well as three other ordinances that amend this ordinance. In the event of a discrepancy between the language provided here and the actual applicable ordinances, the language of the actual ordinance shall govern. The four ordinances to which we refer are as follows:

The Basic Curfew Ordinance	155727	The Non-Addition Rule	173215
The Additional Curfew Hour	171889	The Noisier Jet Phase Out	181106

To review a copy the actual ordinances, please refer to the applicable City Webpage listed under each specific ordinance below.

ORDINANCE NO. 155727

An Ordinance approving a Regulation adopted by Resolution No. 12655 of the Board of Airport Commissioners of the City of Los Angeles, which Resolution established a noise abatement and curfew regulation for aircraft operating at Van Nuys Airport and incorporated by reference Advisory Circular 36-3A published by the Federal Aviation Administration.

THE PEOPLE OF THE CITY OF LOS ANGELES
DO ORDAIN AS FOLLOWS:

Sec. 1. The Regulation adopted by Resolution No; 12655 of the Board of Airport Commissioners on June 17, 1981, is hereby approved. Said Regulation contained in said resolution provides for the establishment of a noise abatement regulation for aircraft at Van Nuys Airport and is in words and figures as follows:

VAN NUYS NOISE ABATEMENT AND CURFEW REGULATION

SECTION 1. Definitions: Except where the context otherwise requires, the following terms, when used in this regulation, shall have the following definitions:

- (a) Advisory Circular 36-3A – Estimated maximum A – Weighted Sound Levels for Airplanes at Part-36 Appendix “C” Locations – Takeoff – as set forth in United States Department of Transportation, Federal Aviation Administration, Advisory Circular 36-3A, dated June 11, 1980, attached as Exhibit “A” to this regulation and made a part hereof as though set forth in full, and as said Advisory Circular may be amended from time to time.
- (b) Aircraft – All fixed-wing aircraft driven by one or more propeller, turbojet, or turbo fan engines.
- (c) Airport – Van Nuys Airport.

- (d) Airport Manager – Van Nuys Airport Manager.
- (e) Board – Board of Airport Commissioners of the City of Los Angeles as described in Article XXIV, Section 238, et seq. Of the Charter of the City of Los Angeles.
- (f) dBA – A – weighted sound pressure level.
- (g) Depart – The movement of an aircraft from the time it commences its departure until it is airborne.
- (h) General Manager – General Manager of the Department of Airports, as described and defined in Article VI, Section 70 et seq. And Article XXIV, Section 238, et seq. Of the Charter of the City of Los Angeles.
- (i) Person – An individual, partnership, business, corporation, joint venture, or any entity responsible for an aircraft operation.
- (j) Repetitive Operation – A practice operation, including but not limited to “touch and go” or “stop and go” operations, which utilizes an Airport runway to land where the aircraft after touching down or landing takes off again within five minutes. However, this definition does not include such operations as are necessary because of safety considerations or weather phenomena.
- (k) Run-up – The ground testing or revving of an aircraft engine not immediately connected to contemporaneous air operation.
- (l) “Stop and Go” Operation – The action by an aircraft consisting of a landing, followed by a complete stop on the runway, and then a takeoff from that point.
- (m) “Touch and Go” Operation – The action by an aircraft consisting of a landing and departure on a runway without stopping or exiting the runway.
- (n) For the purposes of this regulation, all times are local Pacific Standard Time, unless Daylight Savings Time is in force and, in such event, it shall be used.

SECTION 2. Curfew. No aircraft may depart from Van Nuys Airport between the hours of 11:00 p.m. and 7:00 a.m. of the following day, except those aircraft listed below:

- (a) Military aircraft and any government owned or operated aircraft involved in law enforcement, emergency, fire or rescue operations.
- (b) Aircraft whose estimated takeoff noise levels, as set forth in Federal Aviation Administration Advisory Circular 36-3A (or in any revision, supplement or replacement thereof listing the noise levels) are equal to or less than 74 dBA.
- (c) Aircraft of a type or class not included in Advisory Circular 36-3A, for which evidence has been furnished to the Board that the departure noise of said aircraft will not exceed the established noise value limitation of 74.0 dBA set forth in Advisory Circular 36-3A. When furnishing evidence that an aircraft has the ability to depart and not exceed the dBA level of 74.0, the person producing such evidence shall be required to provide appropriate information to validate conclusions and ability to comply with this regulation. The Board reserves the right to validate the aircraft’s compliance ability through utilization of actual flight noise measurements.
- (d) Aircraft which have been identified by the Federal Aviation Administration in writing as having a 74.0 dBA or lower takeoff noise level although such figure is not published in Advisory Circular 36-3A.
- (e) Aircraft engaged in a bona fide medical or life-saving emergency for which acceptable evidence has been submitted in writing to the General Manager within seventy-two (72) hours prior to or subsequent to said departure.

SECTION 3. Repetitive Aircraft Operations.

- (a) No person shall engage in repetitive operations in any propeller powered aircraft between the hours of 10:00 p.m. and 7:00 a.m. of the following day from June 21 through September 15, and between the hours of 9:00 p.m. and 7:00 a.m. of the following day, from September 16 through June 20.
- (b) No person shall engage in repetitive operations in any turbo-jet or fan jet powered aircraft, at any time, at Airport.

SECTION 4. Preferential Runway. Between the hours of 11:00 p.m. and 7:00 a.m. of the following day, weather and traffic permitting, all aircraft shall depart on Runway 16R and shall arrive on Runway 34L of Airport unless instructed otherwise by the Federal Aviation Administration Air Traffic Controller.

SECTION 5. Run-ups. No person shall test or run-up an aircraft engine for maintenance purposes between the hours of 7:00 p.m. and 7:00 a.m. of the following day. Engine run-ups shall be conducted only in areas designated in writing by the General Manager.

SECTION 6. Presumption. For the purposes of this regulation, the beneficial owner of an aircraft shall be rebuttably presumed to be the pilot of the aircraft with authority to control the aircraft's operations, except that where the aircraft is leased, the lessee shall be presumed to be the pilot.

In the case of any pilot training operation in which both an instructor and student pilot are in the aircraft operated in violation of any provision of this regulation, the instructor shall be rebuttably presumed to have caused such violation.

SECTION 7. Enforcement and Penalties.

- (a) Civil Penalties. In addition to any other remedy provided for by this regulation or elsewhere, any person who violates any provision of this regulation shall be liable for a civil penalty not to exceed seven hundred and fifty (\$750) dollars.

Any person who violates any provision of this regulation for a second time within one year of a prior violation shall be liable for a civil penalty not to exceed one thousand five hundred (\$1500) dollars upon such second violation.

Any person who violates any provision of this regulation for a third or any subsequent time within a three (3) year period shall be liable for a civil penalty not to exceed three thousand five hundred (\$3500) dollars.

Civil penalties shall be assessed and recovered in a civil action brought in the name of the City of Los Angeles by the City Attorney of Los Angeles in any court of competent jurisdiction in Los Angeles County. Funds recovered thereby shall be placed in the Airport Revenue Fund.

- (b) Denial of Use of Airport. In the event any person has violated any provision of this regulation three (3) or more times within a three-year period of the first violation, then for a period of three years thereafter, such person shall be deemed a persistent violator and be denied permission to depart from Airport in an aircraft owned, borrowed, rented or leased by such person and denied the right to lease, rent or use space for any aircraft (including tie-down) at Airport.
- (c) Exclusion of Aircraft for Violations. In the event an aircraft has been operated in violation of any provisions of this regulation on three or more occasions within a three-year period of the first violation, whether piloted by the same or different individuals, then it shall be presumed that future operations of said aircraft will result in continued violations. The Airport Manager shall thereafter deny said aircraft permission for a period of three years to tie-down, be based at, or take off from Airport provided, however, that a new owner, who has not operated the aircraft or caused it to be operated in violation of this regulation, shall be entitled to appeal such decision to the Airport Manager upon furnishing satisfactory evidence of a change in both the operating personnel and ownership of such aircraft. Upon receiving such evidence, the Airport Manager shall restore all rights to said aircraft.
- (d) Other Enforcement. The provisions of this regulation may be judicially enforced by injunction or other relief deemed appropriate by any court of competent jurisdiction.

Any person, except employees of the Federal Aviation Administration acting in the course and scope of their employment, who counsels, aids, assists, or abets any other person in the operation of any aircraft in violation of this regulation is subject to the same penalty provisions as are specified in this section.

The remedies described herein shall be deemed to be cumulative, and, the election to seek any remedy shall not be deemed to be a waiver of other remedies nor a bar to seek more than one remedy for the same violation of this regulation.

SECTION 8. Savings Clause. If any section, subsection, sentence, clause or phrase of this regulation is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this regulation. The City Council hereby declares that it would have passed this regulation and each section, subsection, sentence, clause and phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

SECTION 9. Designated Officers and Employees. The General Manager, and such other City employees as are designated by the General Manager, shall have the duty and authority to enforce the provisions of this regulation.

Sec. 2. The City Clerk shall certify to the passage of this ordinance and cause the same to be published in some daily newspaper printed and published in the City of Los Angeles.

I hereby certify that the foregoing ordinance was introduced at the meeting of the Council of the City of Los Angeles of July 29, 1981 and was passed at its meeting of August 5, 1981.

REX E. LAYTON, City Clerk

File No. 73-2158 S1 & S2, 77-4557

[See actual signed ordinance for pertinent names and signatures.]

To view a copy of the actual signed ordinance, please go to the following City Webpage:
http://clkrep.lacity.org/onlinedocs/1973/73-2158_ord_155727.pdf

_____]

ORDINANCE NO. 171889

An Ordinance approving a Regulation adopted by Resolution No. 20030 of the Board of Airport Commissioners of the City of Los Angeles amending Ordinance 155,727 of the City of Los Angeles, known as the Van Nuys Noise Abatement and Curfew Regulation, to add Section 2.1 extending the curfew hours at Van Nuys Airport.

THE PEOPLE OF THE CITY OF LOS ANGELES
DO ORDAIN AS FOLLOWS:

Section 1. The Regulation, adopted by Resolution No. 20030 of the Board of Airport Commissioners on December 4, 1997, is hereby approved. Said Regulation contained in said Resolution provides an additional curfew hour for aircraft at Van Nuys Airport.

Section 2. Ordinance 155,727 of the City of Los Angeles is hereby amended by adding one new section to read as follows:

Section 2.1. Curfew. Except for aircraft exempted by subdivisions (a) through (e) of Section 2, no aircraft may depart from Van Nuys Airport between the hours of 10:00 p.m. and 11:00 p.m. The provisions of this section shall not be applicable to any aircraft certificated as Stage 3 pursuant to 14 Code of Federal Regulations Part 36.

Section 3. The City Clerk shall certify to the passage of this ordinance and cause the same to be published in some daily newspaper printed and published in the City of Los Angeles.

I hereby certify that the foregoing ordinance was passed by the Council of the City of Los Angeles, at its meeting of DEC 19, 1997.

J. MICHAEL CAREY, City Clerk

File No. 97-1639

[See actual signed ordinance for pertinent names and signatures.]

To view a copy of the actual signed ordinance, please go to the following City Webpage:
http://clkrep.lacity.org/onlinedocs/1997/97-1639_ORD_171889_02-12-1998.pdf

ORDINANCE NO. 173215

An Ordinance approving a Regulation adopted by Resolution 20736 of the Board of Airport Commissioners of the City of Los Angeles amending Ordinance 155,727 of the City of Los Angeles, known as the Van Nuys Noise Abatement and Curfew Regulation, to add Section 5.1 and subsection (gg) to Section 1, thereby adding a Non-addition Rule at Van Nuys Airport.

THE PEOPLE OF THE CITY OF LOS ANGELES
DO ORDAIN AS FOLLOWS:

Section 1. The Regulation, adopted by Resolution No. 20736 of the Board of Airport Commissioners on July 28, 1999, is hereby approved. Said Regulation contained in said Resolution provides an additional noise abatement regulation for aircraft at Van Nuys Airport.

Section 2. Ordinance 155,727 of the City of Los Angeles is hereby amended by adding one new section and one new subsection to read as follows:

SECTION 5.1. Non-addition.

No person or tenant may tie down, park or hangar any aircraft at Van Nuys Airport, whose Advisory Circular 36-3G takeoff noise level equals or exceeds 77 dBA, for more than thirty (30) days in any calendar year, unless said aircraft is an exempt based aircraft.

EXEMPTION A – STAGE 3: The provisions of this section shall not be applicable to any aircraft certificated as Stage 3 pursuant to 14 Code of Federal Regulations Part 36.

EXEMPTION B – REPAIR AND MAINTENANCE: Notwithstanding the restrictions of Section 5.1, a Stage 2 aircraft with a takeoff noise level in excess of 77 dBA may be parked, tied down or hangared at Airport in excess of the 30 day limit [and such additional time as is necessary] to perform major repairs or refurbishment, required maintenance inspections or systems installations and warranty work (hereinafter “work”) provided all of the following conditions are fully satisfied:

- (a) Prior to the day of arrival of the aircraft at Airport, the Airport Manager receives a written “work notice” containing the anticipated date of arrival, the name of the aircraft owner and operator, the aircraft type and registration “N” number, the name of the company or entity contracted to perform the work, a description of the work to be performed, and an estimate of the duration of the stay; and
- (b) The aircraft is not being charged a tie-down fee or other use fee by an Airport tenant; and

- (c) The aircraft owner or operator obtains a written permit from the Airport Manager authorizing an exemption under this subsection prior to or within 24 hours of arrival of the aircraft at Airport; and
- (d) The aircraft owner or operator complies with all conditions and terms stated in the written permit granted by the Airport Manager, including but not limited to mandatory daytime hours for flight arrivals and departures; and
- (e) The aircraft owner or operator provides written notice of departure to the Airport Manager within 24 hours of departure from the Airport.

EXEMPTION C – REPLACEMENT: Until December 31, 2005, notwithstanding the provisions of Section 5.1, an exempt based stage 2 aircraft, as defined in Section 1, subsection (gg), may be replaced with another stage 2 aircraft exceeding 77dBA (“replacement stage 2 aircraft”), provided all of the following apply:

- a) The stage 2 aircraft being replaced will no longer be based at Airport; and
- b) Calculated on the date of replacement, the replacement stage 2 aircraft has an Advisory Circular 36-3G takeoff noise level not exceeding 85 dBA; and
- c) The replacement stage 2 aircraft, after January 1, 2011, shall not be tied down, parked or hangared at Van Nuys Airport for more than thirty (30) days in any calendar year.

A replacement stage2 aircraft exceeding 77dBA shall not be considered an “exempt based aircraft”, nor shall it continued presence at Van Nuys Airport under Exemption C ever entitle it to “exempt based aircraft” status.

Section 1, Subsection (gg).

- (gg) Exempt Based Aircraft – All aircraft which were parked, tied down or hangared at Airport for ninety (90) days or more during the twelve (12) months immediately preceding December 31, 1999.

Section 3. The City Clerk shall certify to the passage of this ordinance and cause the same to be published in some daily newspaper printed and published in the City of Los Angeles.

I hereby certify that the foregoing ordinance was passed by the Council of the City of Los Angeles, at its meeting of April 18, 2000.

J. MICHAEL CAREY, City Clerk

[See actual signed ordinance for pertinent names and signatures.]

Said ordinance was presented to the Mayor on April 24, 2000; the Mayor returned said ordinance to the City Clerk on May 5, 2000 without his approval or his objections in writing, being more than 10 days after the same was presented to the Mayor.
Said ordinance shall become effective and be as valid as if the Mayor had approved and signed it. (Section 30, City Charter)
C.F. 97-1639-S1

To view a copy of the actual signed ordinance, please go to the following City Webpage:
http://clkrep.lacity.org/onlinedocs/1997/97-1639-S1_ORD_173215_06-10-2000.pdf

ORDINANCE NO. 181106

An ordinance approving a Regulation proposed by Resolution No. 17154 and revised by Resolution 23779 of the Board of Airport Commissioners of the City of Los Angeles amending Ordinance No. 155,727, known as the Van Nuys Noise Abatement and Curfew Regulation, to add Sections 5.2 and 5.3, thereby adopting maximum noise levels for aircraft operations at Van Nuys Airport.

THE PEOPLE OF THE CITY OF LOS ANGELES
DO ORDAIN AS FOLLOWS:

Section 1. The Regulation, proposed by Resolution No. 17154 of the Board of Airport Commissioners on June 13, 1990, and revised by Resolution No. 23779 is hereby approved. The Regulation contained in Resolution No. 23779 provides an additional noise abatement regulation for aircraft at Van Nuys Airport (VNY).

Sec. 2. Ordinance No. 155,727 of the City of Los Angeles is amended by adding two new sections to read as follows:

SEC. 5.2. Aircraft Operations - Maximum Noise Levels. No person shall pilot, operate, or permit to be operated any aircraft in violation of the following:

- (a) On or after January 1, 2009: No aircraft may arrive or depart the Airport whose Advisory Circular 36-3A, as amended (AC-36-3), takeoff noise level equals or exceeds 85dBA.
- (b) On or after January 1, 2011: No aircraft may arrive or depart the Airport whose AC36-3 takeoff noise level equals or exceeds 83 dBA
- (c) On or after January 1, 2014: No aircraft may arrive or depart the Airport whose AC36-3 takeoff noise level equals or exceeds 80 dBA
- (d) On or after January 1, 2016: No aircraft may arrive or depart the Airport whose AC36-3 takeoff noise level equals or exceeds 77 dBA

SEC. 5.3. Exemptions from Maximum Noise Levels. The following aircraft shall be exempt from the provisions of Section 5.2 of this Regulation:

- (a) Aircraft certified as Stage 3 or Stage 4 pursuant to 14 Code of Federal Regulations Part 36.
- (b) Military aircraft and any government-owned or operated aircraft involved in law enforcement, emergency, fire or rescue operations.
- (c) Aircraft of a type or class not included in AC 36-3 for which evidence has been furnished to the Board that the departure noise of the aircraft will not exceed the applicable takeoff noise

level restriction set forth in Section 5.2 of this Regulation. An applicant for an exemption under this subsection shall provide appropriate information to validate the aircraft's ability to comply with this Regulation. The Board reserves the right to validate the aircraft's compliance ability through the utilization of actual flight noise measurements.

- (d) Aircraft that have been identified by the Federal Aviation Administration in writing as having a lower takeoff noise level than the applicable takeoff noise level restriction in Section 5.2.
- (e) Aircraft engaged in a bona fide medical or life-saving emergency for which acceptable evidence has been submitted in writing to the General Manager within 72 hours prior to or subsequent to the arrival or departure.
- (f) Aircraft exempted by federal or state law for bona fide medical or lifesaving emergency.
- (g) Historic Aircraft: Exemptions shall be provided to historic aircraft under the following conditions:
 - (1) Aircraft of types first flown prior to January 1, 1950, shall be exempt from the provisions of Section 5.2 of this Regulation.
 - (2) Military aircraft of types first flown on or after January 1, 1950, shall be exempt from the provisions of Section 5.2 of the Regulation until January 1, 2016.
 - (3) The Board shall review the exemption provisions related to historic aircraft on or before January 1, 2019, and every ten years thereafter, to consider and recommend appropriate revisions to this section of the Regulation.
- (h) Repair and Maintenance: Until January 1, 2016, exemptions shall be provided to aircraft conducting operations associated with performance of major repairs or major alternations, required maintenance inspections related to major repairs or major alterations, or systems installations and warranty work (collectively, "work") provided all of the following conditions are fully satisfied:
 - (1) Prior to the day of arrival of the aircraft the Airport Manager receives a written "work notice" containing the anticipated date of arrival, the name of the aircraft owner and operator, the aircraft type and registration "N" number, the name of the company or entity contracted to perform the work, a description of the work to be performed and an estimate of the duration of the stay; and
 - (2) The aircraft is not being charged a tie-down fee or other use fee by an Airport tenant; and
 - (3) The aircraft owner or operator obtains a written permit from the Airport Manager authorizing an exemption under this subsection prior to or within 24 hours of arrival of the aircraft at the Airport; and

(4) The application for the aforementioned written permit identifies any flight test operations that will be conducted at VNY that are associated with the work; and

(5) The aircraft owner or operator complies with all conditions and terms stated in the written permit granted by the Airport Manager, including but not limited to mandatory daytime hours for flight arrivals, departures, and any test operations associated with the work; and

(6) The aircraft owner or operator provides written notice of departure to the Airport Manager within 24 hours of departure from the Airport.

For purposes of the exemption, "major repairs" and "major alterations" are defined by FAR Part 43, Appendix A and do not include "preventive maintenance" as defined by FAR Part 43, Appendix A.

- (i) Permanently departing aircraft: A one-time exemption shall be provided to an aircraft departing the Airport on a permanent basis provided the aircraft owner or operator obtains a written permit from the Airport Manager authorizing an exemption and the owner and operator complies with all conditions set forth in that permit.

Sec. 3. The City Clerk shall certify to the passage of this ordinance and have it published in accordance with Council policy, either in a daily newspaper circulated in the City of Los Angeles or by posting for ten days in three public places in the City of Los Angeles; one copy on the bulletin board located at the Main Street entrance to the Los Angeles City Hall East; and one copy on the bulletin board located at the Temple Street entrance to the Los Angeles County Hall of Records.

I hereby certify that this ordinance was passed by the City Council of the City of Los Angeles, at its meeting of Feb 26, 2010.

JUNE LAGMAY, City Clerk

File No. 09-1112

[See actual signed ordinance for pertinent names and signatures.]

To view a copy of the actual signed ordinance, please go to the following City Webpage:
http://clkrep.lacity.org/onlinedocs/2009/09-1112_ord_181106.pdf

**APPENDIX E FAA OPINION REGARDING ANCA GRANDFATHER
STATUS OF NOISIER AIRCRAFT PHASEOUT WITH
STAGE 3 AND STAGE 4 EXEMPTIONS**

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U.S. Department
of Transportation
Federal Aviation
Administration

Office of the Associate Administrator
for Airports

800 Independence Ave., SW.
Washington, DC 20591

MAR 19 2009

Ms. Gina Marie Lindsey
Executive Director, Los Angeles World Airports
Los Angeles International Airport
1 World Way
Los Angeles, CA 90045

Dear Gina Marie:

Gina Marie

Shortly after receiving your February 2 letter about the proposed "Van Nuys Noisier Aircraft Phaseout Ordinance," my staff arranged a conference call with Mr. Tatro of your staff. The call included VNY's consultant and city attorney representatives as well.

We have reviewed your response to my December 11, 2008 inquiry, the original proposed ordinance and the draft proposed revision that addresses the 7-year phase out. We believe the phase out rule is grandfathered under the Airport Noise and Capacity Act of 1990 (ANCA), if the Board of Airport Commissioners (Board) votes in favor of an alternative restriction. Specifically, LAWA staff stated they would ask the Board to take action on a less restrictive alternative and associated draft ordinance already evaluated and published in the environmental impact report. The alternative provided for exemptions to Stage 3 and Stage 4 aircraft. Applying this exemption would ensure the proposed phaseout is grandfathered.

As we stated during the telephone call, the phaseout, with exemptions, would be grandfathered under the ANCA and not subject to the statute's requirements. However, restrictions must still meet standards under preexisting Federal law. This includes Federal grant obligations. Airport noise and access restrictions must be fair and reasonable, not unjustly discriminatory, and may not impose an undue burden on interstate or foreign commerce. LAWA should thoroughly examine the ability of the proposed restriction to meet these requirements as part of the local process to consider adoption of the restriction.

Mr. Tatro has agreed to keep our offices informed as the proposal makes its way through the local regulatory process. Thank you for offering to work with us on this important issue.

Sincerely,

Catherine M. Laag

Catherine M. Laag
Acting Associate Administrator
for Airports

Thank you for your help. Tatro

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APPENDIX F REQUESTS TO FAA REGARDING USER-DEFINED AIRCRAFT IN INM VERSION 7.0B, NOISE-POWER-DISTANCE CURVE ADJUSTMENTS FOR THE GIII AIRCRAFT WITH HUSHKITS, AND A NON-STANDARD DESCENT ANGLE TO RUNWAY 16R

As discussed in Section 5.1.5, LAWA requested FAA guidance and approval on three matters: (1) user-defined aircraft in the INM Version 7.0b, (2) noise-power-distance (NPD) curve adjustments for the GIII aircraft with hushkits, and (3) a non-standard descent angle to Runway 16R. The following pages present copies of LAWA's request on this matter.

Appendix H presents FAA's response to these requests. The noise contours presented in this document followed the FAA guidance.

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August 31, 2010

Victor Globa
Environmental Protection Specialist
Federal Aviation Administration
Western-Pacific Region
Los Angeles Airports District Office
P.O. 92007
Los Angeles, CA 90009-2007

Subject: Request for Approval of Integrated Noise Model User-defined Profiles in Support of the Noise Exposure Map Update at Van Nuys Airport

LAX
LA/Ontario
Van Nuys
City of Los Angeles
Antonio R. Villaraigosa
Mayor
Board of Airport Commissioners
Alan I. Rothenberg
President
Valeria C. Velasco
Vice President
Joseph A. Avodas
Michael A. Liencon
Fernando M. Torres-Gil
Walter Zifon
Gina Marie Lindsey
Executive Director

Dear Mr. Globa:

Los Angeles World Airports would like to request the Federal Aviation Administration's (FAA) approval of user-defined profiles to be used in updating the Noise Exposure Maps (NEMs) for Van Nuys Airport (VNY). As you know, the FAA accepted the existing VNY NEMs in April of 2009. The FAA issued the Record of Approval (ROA) for the VNY Part 150 Noise Compatibility Plan (NCP) in October of 2009. In the transmittal of the ROA, the FAA had some concern with the fact that the operational data used to develop the NEMs was now over 10 years old, and indicated that it would be appropriate for LAWA to revise the NEMs due to their age.

LAWA is developing existing and forecast noise exposure contours for VNY in support of the FAA Part 150 NEM Update. Consistent with FAA policies and procedures, we are submitting this package of written requests for approval to use some user-defined aircraft profiles in the Integrated Noise Model (INM) Version 7.0b based on local operator procedures, npd curve adjustments for GIII aircraft with hushkits, and the non-standard descent angle to Runway 16R.

For the recently conducted Part 161 Study and Noisier Aircraft Phase-out for VNY, the FAA approved requests for noise abatement departure profiles for the Lear 25, Lear 35, and Boeing 727 aircraft operated by Clay Lacy Aviation, the Gulfstream IV aircraft operated by the Air Group, and the A-3 aircraft operated by Raytheon. The User-defined profiles for these aircraft types are submitted for FAA/AEE review in accordance with the INM 7.0 User's Guide, "Appendix B: FAA Profile Review and Checklist." The profile information submitted for FAA review and approval is included as attachments to this cover letter. Since these approvals were with a previous version of the INM, each attachment begins with an updated comparison of the departure SEL values for the standard and user-defined profiles derived from INM 7.0b followed by the previous submittal and FAA approval letter. INM Study "EW_INM70b_sdy" is included in a zip file to this overall submittal.

In addition, for VNY the FAA approved a user-defined aircraft for the Gulfstream III (GIII) recertified to 14 CFR Part 36 Stage 3 via hushkit installations. With the publishing of aircraft certification data in FAA AC36-1H for the GIIIB/GIII with hushkits, this analysis has been revised to reflect this additional information.



1 World Way Los Angeles California 90045-6803 Mail PO. Box 92216 Los Angeles California 90009-2216 Telephone 310 646 5262 Internet www.lawa.aero

Victor Globa
Environmental Protection Specialist
Federal Aviation Agency
August 31, 2010
Page 2 of 2

The analysis is included in an attachment along with the previous submittal and FAA approval letter. INM Study "EW_HUSHKIT_INM70b_sdy" is included in a zip file to this overall submittal.

The final attachment is a request for approval to modify the existing arrival profiles for aircraft that would arrive at VNY on Runway 16R which has a 3.9-degree descent angle for both visual and ILS approaches. This modification would be limited to those aircraft types which land on Runway 16R and which have procedure profiles identified in INM. The only requested change is to alter the descent angle from 3.0 to 3.9 degrees. Aircraft with "profile points" appear to have few operations on Runway 16R and therefore it would not be cost effective to derive revised approach profiles for these limited few aircraft. INM Study "EW_INM70b_sdy" is included in a zip file to this overall submittal.

The INM studies and inputs files are provided in an attached zip file to the email transmitting this request.

LAWA requests that the FAA approve the use of these user-defined departure and arrival profiles and npd curve derivations in INM 7.0b for the VNY NEM Update. If you have any specific comments or questions related to this request, please feel free to contact Robert Behr of Harris Miller Miller & Hanson (HMMH) at (916) 368-0707, ext. 2226 or me at (424) 646-6499.

Thank you for your assistance on this matter.

Sincerely yours,



Scott Tatro
Environmental Affairs Officer

SMT:mw

Attachments (submitted electronically only):

Clay Lacy Lear 25 Departure Profile
Clay Lacy Lear 35 Departure Profile
Clay Lacy Boeing 727 Departure Profile
Air Group Gulfstream IV Departure Profile
Raytheon A-3 Departure Profile
Gulfstream III with Hushkits
Runway 16R Aircraft Arrival Profiles for 3.9-degree Descent Angle
ZIP File with INM 7.0b Studies and Detailed Hushkit Calculation Spreadsheet

cc: M. Feldman
R. Freeman
R. Behr

T:\ENVMGT\2010\010180SMT\PCDOCS#273770v1

HARRIS MILLER MILLER & HANSON INC.

VNY Noise Exposure Maps Update

Clay Lacy Lear 25 Departure Profile

This memorandum requests FAA approval of a user-defined departure profile for the Lear 25 flown by Clay Lacy Aviation for use in the VNY NEMs Update.

For the recently conducted Part 161 Study and Noisier Aircraft Phase-out for VNY, HMMH requested and FAA approved the user-defined departure profile for the Clay Lacy Lear 25. The previous analysis, which used INM 6.2, and FAA approval are included as attachments. The revised SEL comparison using INM7.0b is shown in the following tables.

**Table 1 Departure SEL Values for Proposed Lacy Lear25 Profile versus Lear25 Standard Profile
 Calculated with INM 7.0b using standard atmospheric conditions**

Grid Points (nmi) Distance from start- of-take-off-roll	Lear25 (SEL, dB)	Lacy Lear25 (SEL, dB)	Difference (dB)
0.5	145.2	145.2	0.0
1.0	121.2	116.0	-5.2
1.5	112.6	109.6	-3.0
2.0	108.0	105.3	-2.7
2.5	105.1	102.9	-2.2
3.0	101.3	100.6	-0.7
3.5	99.3	99.3	0.0
4.0	97.6	98.4	0.8
4.5	96.4	97.2	0.8
5.0	95.2	96.0	0.8
5.5	94.1	95.0	0.9
6.0	92.8	93.8	1.0
6.5	91.6	92.4	0.8
7.0	90.5	91.4	0.9
7.5	89.5	90.4	0.9
8.0	88.5	89.3	0.8
8.5	87.6	88.4	0.8
9.0	86.7	87.4	0.7
9.5	85.9	86.6	0.7
10.0	85.0	85.7	0.7

In addition to the standard procedure, Clay Lacy Aviation indicated that they use a departure weight between 12,000 and 13,000 pounds (lbs), rather than the INM standard weight of 15,000 lbs. The table below is a comparison using the lower weight profiles.

HARRIS MILLER MILLER & HANSON INC.

INM User-defined Aircraft Request – Lear 25
Page 2

**Table 2 Departure SEL Values for Proposed Lacy Lear25 Profile versus Lear25 Lower Weight Profile
Calculated with INM 7.0b using standard atmospheric conditions**

Grid Points (nmi) Distance from start- of-take-off-roll	Lear25 (SEL, dB)	Lacy Lear25 (SEL, dB)	Difference (dB)
0.5	130.3	130.3	0.0
1.0	116.0	112.1	-3.9
1.5	108.7	105.9	-2.8
2.0	104.5	102.6	-1.9
2.5	100.5	100.0	-0.5
3.0	98.3	98.9	0.6
3.5	96.6	97.4	0.8
4.0	95.1	96.0	0.9
4.5	93.6	94.4	0.8
5.0	91.9	93.0	1.1
5.5	90.5	91.4	0.9
6.0	89.1	90.0	0.9
6.5	87.9	88.7	0.8
7.0	86.8	87.5	0.7
7.5	85.7	86.4	0.7
8.0	84.6	85.3	0.7
8.5	83.7	84.3	0.6
9.0	82.7	83.4	0.7
9.5	81.2	82.3	1.1
10.0	78.3	80.5	2.2

HARRIS MILLER MILLER & HANSON INC.

945 University Avenue, Suite 201
Sacramento, California 95825
T 916.568.1116
F 916.568.1201
W www.hmmh.com

July 7, 2006

Mr. Sandy Liu
Federal Aviation Administration
Office of Environment and Energy
800 Independence Ave., SW
Washington, DC 20591

Subject: Request for Approval of User Changes to the Integrated Noise Model, Lear 24/25
Reference: HMMH Project Number 300701

Dear Mr. Liu:

This letter is a request for approval of user changes to the Integrated Noise Model (INM) version 6.2 for use at Van Nuys (VNY) airport. These changes involve augmenting the standard departure profiles in the INM with actual procedures as flown by pilots operating at VNY.

Section 1 – Background

We are submitting this request for written approval for changes to the Integrated Noise Model standard profiles in support of a Van Nuys Airport FAR Part 161 study. Los Angeles World Airports (LAWA), the proprietor of VNY, is the sponsor of the study.

This letter contains data on the Lear 24/25 operating procedures as provided by Clay Lacy Aviation. We will send similar letters containing data for other aircraft operating at VNY which also are flown differently than modeled in the INM. In support of the Part 161 process, we held a meeting on January 24, 2006 with personnel from Clay Lacy Aviation, a Fixed Base Operator (FBO) at VNY, to determine how they operate their Lear 2X series aircraft. Clay Lacy Aviation's approval of our modeling of this procedure is documented in Appendix A. We refer to this procedure as the Clay Lacy procedure in this document.

Section 2 – Statement of Benefit

The differences between the standard INM departure and the Clay Lacy procedure are primarily due to the lower thrust levels used in the Clay Lacy procedure. The standard INM procedure uses 100% power up to 1,500 feet Above Field Elevation (AFE) during departure; the Clay Lacy procedure uses 100% power up to 400 feet AFE, then reduces to 94%, with a reduction to 91% at 1,000 feet AFE. This power setting is held to 3,000 feet AFE when the power is increased to 97%, which corresponds with the maximum climb power of the standard INM procedure. The Lear 24/25 has enough excess power to maintain the required climb gradient in the event of an engine failure at any point in the Clay Lacy procedure.

The lower thrust setting of the Clay Lacy procedure provides a noise benefit for the area within about 3.5 nautical miles (nm) from the brake release point. Beyond this distance, the Clay Lacy procedure is slightly louder than the INM standard due to the lower climb gradient, and hence lower altitude, until climb thrust is applied.

HARRIS MILLER MILLER & HANSON INC.

Lear 25 Request for Approval of User Changes to INM
July 7, 2006
Page 2

In addition to the procedure described above, Clay Lacy Aviation also indicated that they use a departure weight between 12,000 and 13,000 pounds (lbs), rather than the INM standard weight of 15,000 lbs. We modeled both the standard INM procedure and the Clay Lacy procedure using an aircraft weight of 12,500 lbs to determine the impact of the lower weights on noise at the ground. The Clay Lacy procedure provides a similar benefit compared to the INM standard procedure when the lighter weight is used.

Section 3 – Analysis Demonstrating Benefit

The analysis shows the Clay Lacy procedure provides noise benefits from 1 to 3 nautical miles from the brake release point. The benefit is highest (5.3 dB, SEL) at 1 nm from the brake release point, with the benefit decreasing as the aircraft continues down the flight track. At 3.5 nm, the procedure provides little benefit, and beyond that point, the Clay Lacy procedure gives a slight noise increase, with a consistent maximum penalty of about 1.0 dB (SEL) between 4 and 8 nm from brake release.

Table 1 shows the SEL results under the flight path from the Clay Lacy procedure; the standard INM departure profile is presented for comparison.

Error! Reference source not found. shows the SEL results under the flight path for the Clay Lacy procedure for the lower weight of 12,500 lbs; the standard INM procedure, which was also run with this lighter weight, is given for comparison. At the lower weight, the benefit of the Clay Lacy procedure drops from a maximum of 5.3 dB, SEL to 4.0 dB, SEL. The distance from brake release to where the procedure changes from a benefit to an increase in impact is also smaller, but we believe the benefits of the Clay Lacy procedure near the airport are still significant and that the procedure should be used.

Section 4 – Concurrence on Aircraft Performance

A letter from Clay Lacy Aviation stating agreement with these procedures is found in Appendix A.

Section 5 – Certification of New Parameters

The aircraft performance characteristics provided by Clay Lacy Aviation have been translated into INM procedure steps using standard engineering practice. We developed no new aircraft performance coefficients for this study. The procedure steps data in this study conform to the rules given in the INM User's Guide and SAE-1845. We used net corrected thrust in units of pounds for all thrust settings.

Section 6 – Graphical and Tabular Comparison

Tables 3-8 and Figures 1-6 present the results of the modeling analysis by showing the altitude, airspeed, and net corrected thrust per engine of the modeled procedures as a function of distance from the brake release point.

If you have any questions or comments regarding the content of this letter, you can reach me via telephone at 916.568.1116 or via e-mail at rbehr@hmmh.com. Thank you for your consideration. I look forward to hearing back from you at your earliest convenience.

HARRIS MILLER MILLER & HANSON INC.

Lear 25 Request for Approval of User Changes to INM
July 7, 2006
Page 3

Sincerely yours,

HARRIS MILLER MILLER & HANSON INC.

Robert D. Behr
Senior Consultant

enclosures:

HARRIS MILLER MILLER & HANSON INC.

Lear 25 Request for Approval of User Changes to INM
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Table 1. Comparison of Noise Impacts from Brake Release for INM Standard and Clay Lacy Departure Procedures

INM Aircraft Model: LEAR25 Profile Weight: 15,000 lb

Distance from Brake Release (nm)	INM Standard, SEL (dBA)	Clay Lacy, SEL (dBA)	Difference SEL (dBA)
0.00	153.1	153.1	0.0
0.50	148.5	148.5	0.0
1.00	121.4	116.1	-5.3
1.50	112.4	109.4	-3.0
2.00	107.8	105.0	-2.8
2.50	104.8	102.5	-2.3
3.00	101.2	100.1	-1.1
3.50	99.0	98.9	-0.1
4.00	97.2	98.1	0.9
4.50	96.0	96.9	0.9
5.00	94.8	95.8	1.0
5.50	93.7	94.6	0.9
6.00	92.4	93.3	0.9
6.50	91.2	92.2	1.0
7.00	90.1	91.0	0.9
7.50	89.0	89.9	0.9
8.00	88.0	88.9	0.9
8.50	87.1	87.9	0.8
9.00	86.1	86.9	0.8
9.50	85.3	86.0	0.7
10.00	84.5	85.1	0.6

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Lear 25 Request for Approval of User Changes to INM
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Table 2. Comparison of Noise Impacts from Brake Release for INM Standard and Clay Lacy Departure Procedures at Lower Weight

INM Aircraft Model: LEAR25 Profile Weight: 12,500 lb

Distance from Brake Release (nm)	INM Standard, SEL (dBA)	Clay Lacy, SEL (dBA)	Difference SEL (dBA)
0.00	153.1	153.1	0.0
0.50	130.6	130.4	-0.2
1.00	115.9	111.9	-4.0
1.50	108.5	105.6	-2.9
2.00	104.3	102.3	-2.0
2.50	100.2	99.6	-0.6
3.00	98.0	98.6	0.6
3.50	96.2	97.1	0.9
4.00	94.7	95.7	1.0
4.50	93.1	94.0	0.9
5.00	91.5	92.6	1.1
5.50	90.0	91.0	1.0
6.00	88.7	89.6	0.9
6.50	87.4	88.2	0.8
7.00	86.2	87.0	0.8
7.50	85.1	85.8	0.7
8.00	84.1	84.8	0.7
8.50	83.1	83.7	0.6
9.00	82.1	82.8	0.7
9.50	80.6	81.6	1.0
10.00	77.7	79.8	2.1

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Lear 25 Request for Approval of User Changes to INM
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Table 3. INM Standard Lear 25 Departure Procedures

Step Number	Altitude Above Field Elevation (AFE), feet	Calibrated Airspeed, knots	Flaps	Thrust Setting
1	0.0	-	20	Max Takeoff
2	-	171	20	Max Takeoff
3	1500	-	20	Max Takeoff
4	-	196	10	Max Takeoff
5	3000	-	zero	Max Climb
6	-	250	zero	Max Climb
7	5500	-	zero	Max Climb
8	7500	-	zero	Max Climb
9	10000	-	zero	Max Climb

Table 4. Clay Lacy Lear 25 Departure Procedures

Step Number	Altitude Above Field Elevation (AFE), feet	Calibrated Airspeed, knots	Flaps	Thrust Setting
1	0.0	-	10	Max Takeoff
2	-	160	10	Max Takeoff
3	400	-	10	94% RPM
4	1000	-	10	94% RPM
5	1100	-	10	90% RPM
6	3000	-	zero	90% RPM
7	-	250	zero	Max Climb
8	5500	-	zero	Max Climb
9	7500	-	zero	Max Climb
10	10000	-	zero	Max Climb

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Table 5. INM Standard Lear 25 Departure Parameters

Profile Weight: 15,000 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Net Corrected Thrust per Engine, lb
0.00	0.0	35.0	2845.3
0.62	0.0	157.1	2527.2
0.95	214.6	172.7	2493.1
1.98	1500.0	176.0	2476.4
2.56	1824.7	202.8	2422.3
2.72	2026.3	203.4	2180.1
3.52	3000.0	206.3	2173.5
5.73	4222.7	268.1	2073.3
7.09	5500.0	273.3	2078.4
9.39	7500.0	281.9	2099.3
12.60	10000.0	293.1	2147.3

Table 6. Clay Lacy Lear 25 Departure Parameters

Profile Weight: 15,000 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Net Corrected Thrust per Engine, lb
0.00	0.0	35.0	2845.3
0.62	0.0	157.1	2527.2
0.70	57.7	161.3	2518.0
1.06	400.0	162.1	2092.0
1.61	1000.0	163.5	2092.0
1.74	1100.0	163.8	1898.0
3.60	3000.0	168.4	1898.0
3.76	3071.5	174.7	2239.6
6.22	4139.3	267.8	2073.2
7.66	5500.0	273.3	2078.4
9.97	7500.0	281.9	2099.3
13.17	10000.0	293.1	2147.3

HARRIS MILLER MILLER & HANSON INC.

Lear 25 Request for Approval of User Changes to INM
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Table 7. INM Standard Lear 25 Departure Parameters
 Profile Weight: 12,500 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Net Corrected Thrust per Engine, lb
0.00	0.0	35.0	2845.3
0.42	0.0	143.4	2554.9
0.80	253.5	172.8	2492.5
1.55	1500.0	176.0	2476.4
1.92	1712.4	202.4	2423.3
2.09	1972.8	203.2	2181.0
2.73	3000.0	206.3	2173.5
4.10	3757.3	266.2	2073.1
5.51	5500.0	273.3	2078.4
7.28	7500.0	281.9	2099.3
9.72	10000.0	293.1	2147.3

Table 8. Clay Lacy Lear 25 Departure Parameters
 Profile Weight: 12,500 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Net Corrected Thrust per Engine, lb
0.00	0.0	35.0	2845.3
0.42	0.0	143.4	2554.9
0.62	135.3	161.4	2516.8
0.75	400.0	162.1	2512.6
0.82	500.0	162.3	2092.0
1.17	1000.0	163.5	2092.0
1.25	1100.0	163.8	1898.0
2.68	3000.0	168.4	1898.0
2.84	3071.7	177.6	2239.6
4.44	3770.1	266.3	2073.1
5.84	5500.0	273.3	2078.4
7.61	7500.0	281.9	2099.3

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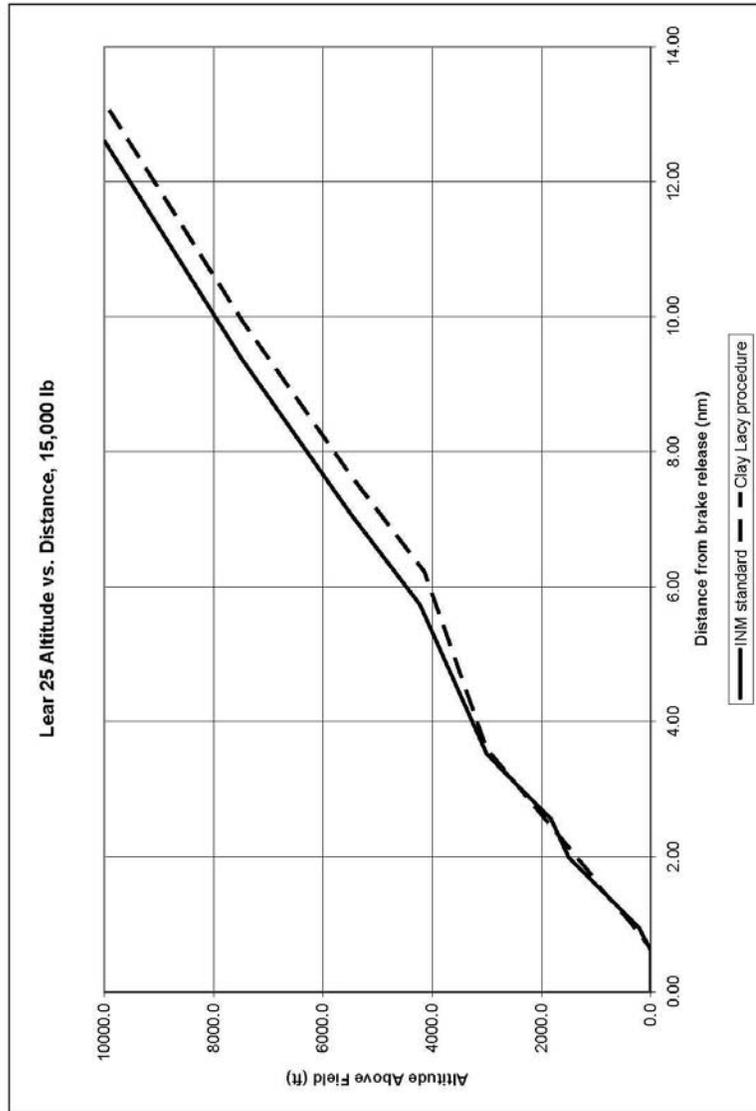


Figure 1. Altitude Profiles for Standard and Clay Lacy Procedures at Weight 15,000 Pounds

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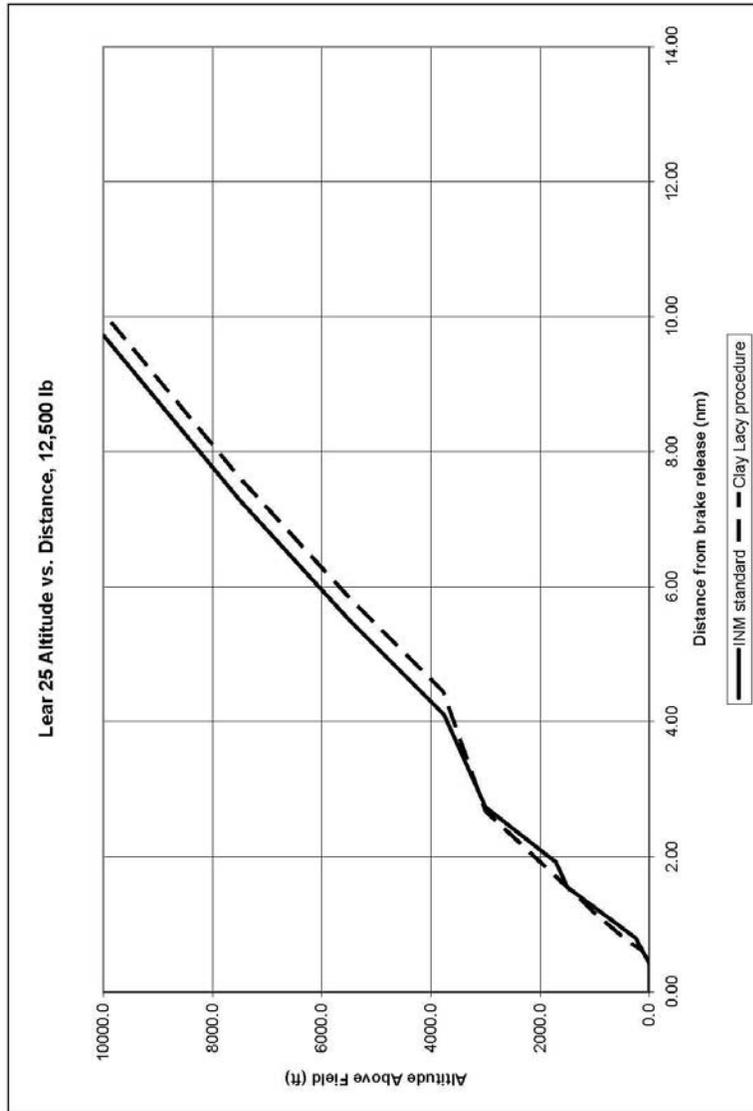


Figure 2. Altitude Profiles for Standard and Clay Lacy Procedures at Weight 12,500 Pounds

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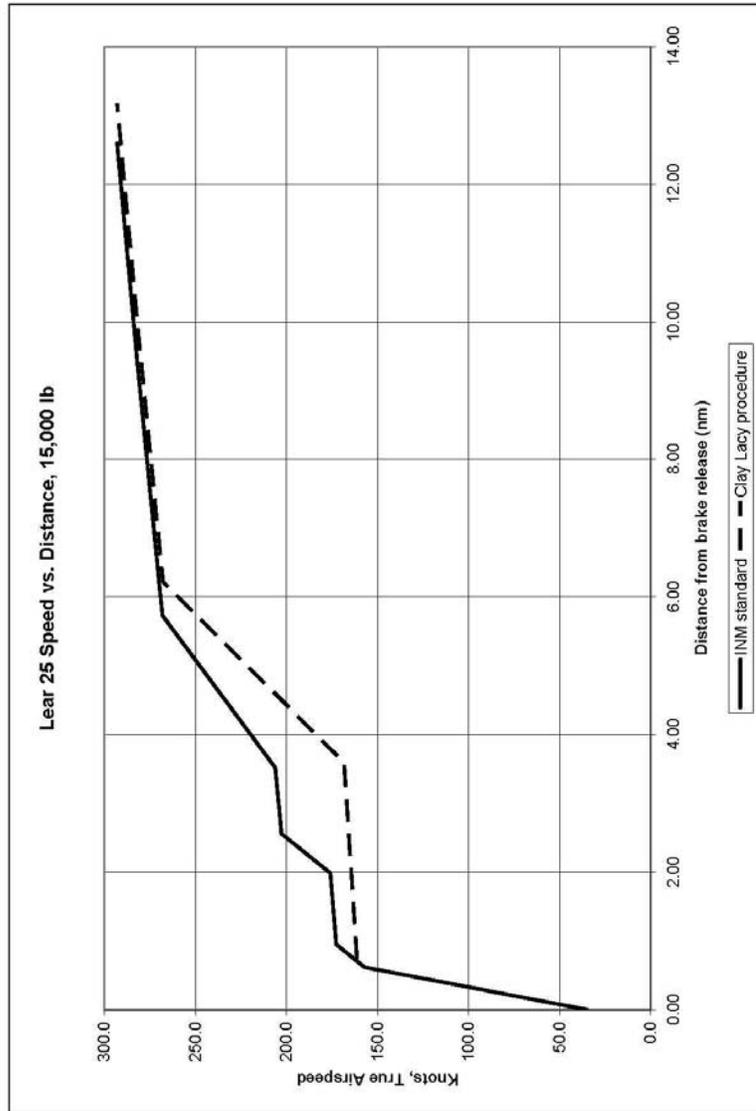


Figure 3. Airspeed Profiles for Standard and Clay Lacy Procedures at Weight 15,000 Pounds

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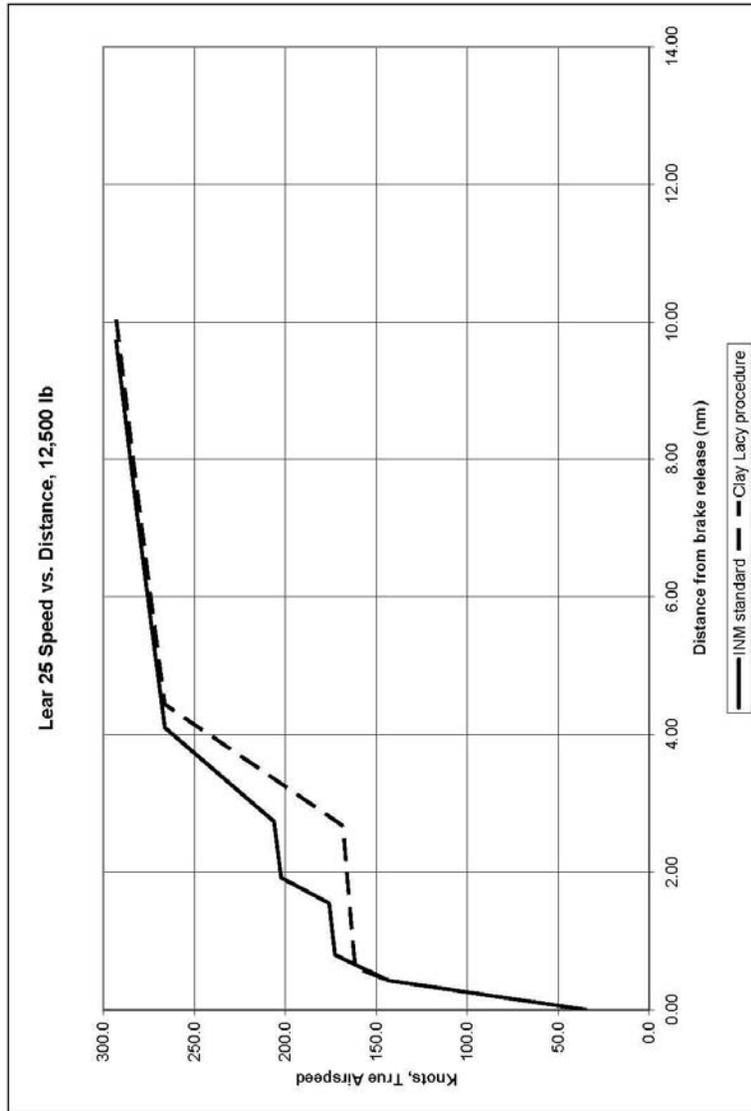


Figure 4. Airspeed Profiles for Standard and Clay Lacy Procedures at Weight 12,500 Pounds

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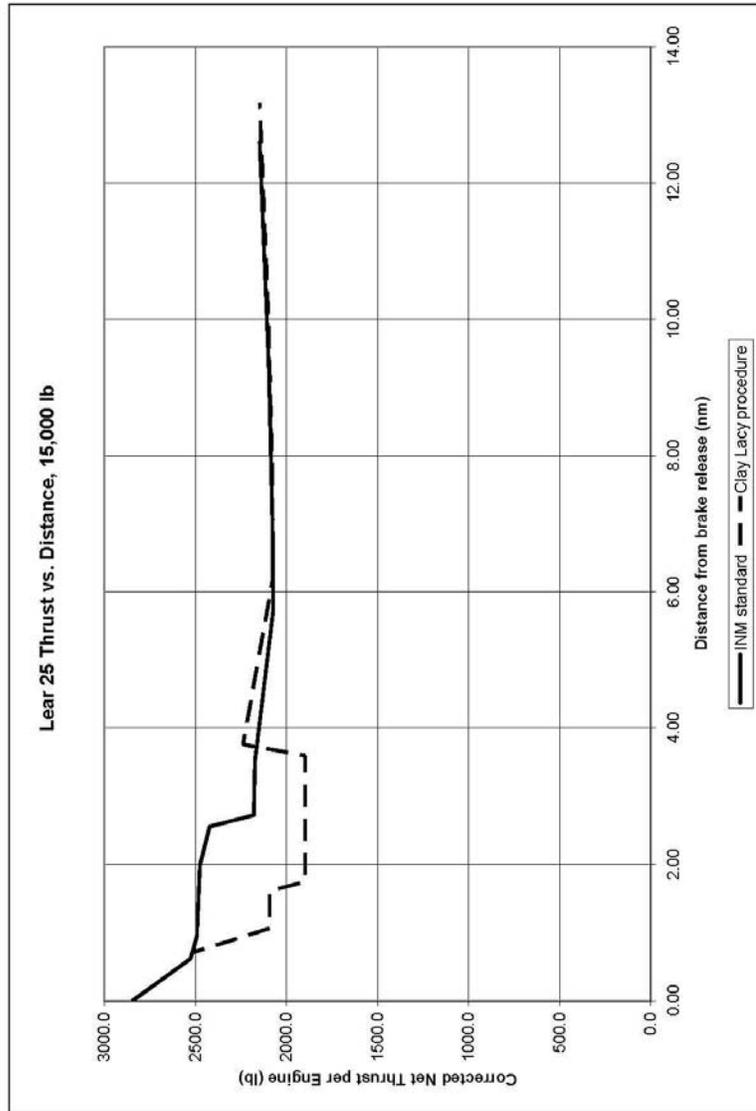


Figure 5. Thrust Profiles for Standard and Clay Lacy Procedures at Weight 15,000 Pounds

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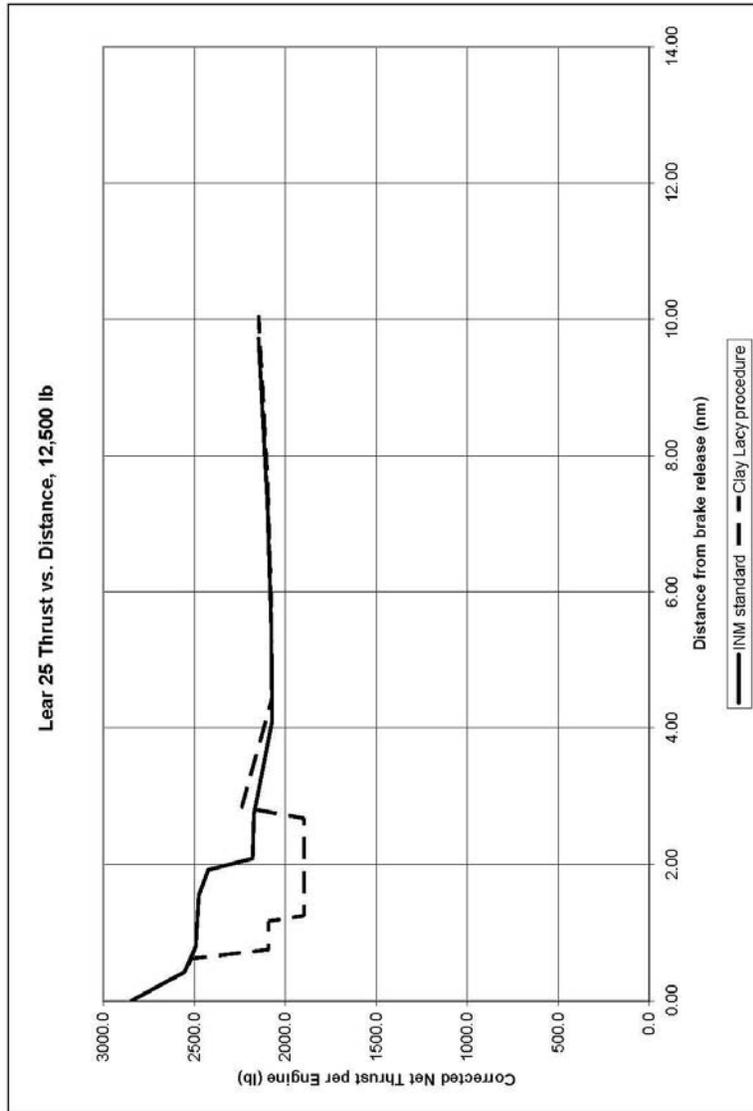


Figure 6. Thrust Profiles for Standard and Clay Lacy Procedures at Weight 12,500 Pounds

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Appendix A

07/06/2006 21:29 FAX 002

Review and Concurrence of VNY Aircraft Performance Data - Clay Lacy
March 29, 2006
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Clay Lacy Aviation concurrence with modeled procedures:

Clay Lacy Aviation certifies that the proposed profile for Lear 24/25 aircraft departing from Van Nuys Airport falls within reasonable bounds of the aircraft's performance.


Name

 PRESIDENT / CLAY LACY AVIATION
Position/ Title

HARRIS MILLER MILLER & HANSON INC.

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March 13, 2007

Dr. "Bill" Hua He
Federal Aviation Administration
Office of Environment and Energy
800 Independence Ave., SW
Washington, DC 20591

Subject: Supplemental Information for Lear 25 Non-Standard Departure Profiles at Van Nuys Airport

Reference: HMMH Project Number 300701

Dear Dr. He:



This letter is in response to questions raised regarding our request (previously submitted in July 2006) to use actual operator profiles for the Lear 25 aircraft when modeling in the Integrated Noise Model (INM) at Van Nuys Airport (VNY). The INM modeling is in support of the VNY FAR Part 161 study. Los Angeles World Airports (LAWA), the proprietor of VNY, is the sponsor of the study.

Section 1 – Background

In recent communications from the FAA, questions were raised concerning how certain values were calculated using standard engineering procedures. This document and attachments attempt to describe in detail the methodology employed using information from the INM Version 6.0 User's Guide and Technical Manual and SAE-AIR-1845 equations. We have also discussed the differences in this profile and the profile submitted under the VNY Part 150 study with LAWA representatives. They recommended/approved our submittal of this profile as it represents the current procedure flown at VNY by the major Lear 25 operator.

In support of the Part 161 process, we held a meeting on January 24, 2006 with personnel from Clay Lacy Aviation, a Fixed Base Operator (FBO) at VNY, to determine how they operate their Lear 2X series aircraft. After we gathered the data, we converted the data into the required format for the Integrated Noise Model.

As stated in our original letter of request, the differences between the standard INM departure and the proposed procedure are primarily due to the lower thrust levels used in the Clay Lacy procedure. The standard INM procedure uses maximum takeoff power up to 1,500 feet Above Field Elevation (AFE) during departure; the Clay Lacy procedure uses maximum takeoff power up to 400 feet AFE, then reduces to 94% RPM, with a reduction to 91% RPM at 1,000 feet AFE. The 91% RPM power setting is held to 3,000 feet AFE when the power is increased to 97% RPM, which corresponds with the maximum climb power of the standard INM procedure. The Lear 24/25 has enough excess power to maintain the required climb gradient in the event of an engine failure at any point in the Clay Lacy procedure.

Section 2 – Derivation of New Parameters

Data provided by Clay Lacy included the aircraft power setting, flap setting, altitude, and calibrated/indicated airspeed at various points in the profile as shown in the following table.

HARRIS MILLER MILLER & HANSON INC.

Supplemental Data for Lear 25 Request for Approval of User Changes to INM
 March 13, 2007
 Page 2

Clay Lacy Lear 25 Departure Procedures

Step Number	Altitude Above Field Elevation (AFE), feet	Calibrated Airspeed, knots	Flaps	Thrust Setting
1	0.0	-	10	Max Takeoff
2	-	160	10	Max Takeoff
3	400	-	10	94% RPM
4	1000	-	10	94% RPM
5	1100	-	10	91% RPM
6	3000	-	zero	91% RPM
7		250	zero	Max Climb
8	5500	-	zero	Max Climb
9	7500	-	zero	Max Climb
10	10000	-	zero	Max Climb



These aircraft performance characteristics were then translated into INM procedure steps by using standard engineering practice to determine the reduced thrust settings. The procedure steps data conform to the rules given in the INM User's Guide / Technical Manual and SAE-AIR-1845. We developed no new aircraft performance coefficients for this study. The procedure for the calculation of the thrust levels in corrected net thrust per engine in pounds follows with actual calculations in the attached spreadsheet.

The Lear aircraft do not have data coefficients in the thr_gnrl.dbf file to assist in converting N1 to pounds thrust. Data are included for three Cessna-types; therefore, it was decided to use a comparative method to determine the approximate Lear thrust levels. From the thr_gnrl.dbf file, we obtained the regression coefficients (E, F, G_A, G_B, H, K₁, K₂) for the Cessna INM types (CNA500, CNA55B, and CNA750) and used the SAE-AIR-1845 thrust equation:

$$F_n / \delta = E + F v + G_A h + G_B h^2 + H T_C + K_1 N_1 + K_2 N_1^2$$

where

- F_n / δ corrected net thrust per engine (pounds)
- v equivalent/calibrated airspeed (knots)
- h pressure altitude (feet) MSL
- T_C temperature (°C) at the aircraft
- E, F, G_A, G_B, H, K₁, K₂ regression coefficients
- N₁ power setting

From the thr_jet.dbf file we obtained the regression coefficients for the Lear aircraft as before, except for K₁ and K₂. We computed the corrected net thrust for the Cessna aircraft at a representative pressure altitude of 1,800 feet MSL and 160 knots calibrated airspeed for various N₁ levels (50 – 100). We then determined the percent of total thrust for each N₁ level and derived an average percent of total thrust for 91% and 94% N₁. These average percentages were then applied to the maximum thrust determined for the Lear aircraft through use of the equation above (without the K₁ and K₂ terms). The resulting corrected net thrust levels were then input into the INM procedure profile for the Lear aircraft (91% - 1898 pounds, 94% - 2086 pounds).

HARRIS MILLER MILLER & HANSON INC.

Supplemental Data for Lear 25 Request for Approval of User Changes to INM
 March 13, 2007
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Translated into INM Procedure

ACFT_ID	OP	PROF_ID1	PROF_ID2	STEP #	STEP_TYPE	FLAP	THR	PRM1	PRM2	PRM3
L25LAC	D	LACY	1	1	T	20	T	0.0	0.0	0.0
L25LAC	D	LACY	1	2	A	10	T	1698.0	160.0	0.0
L25LAC	D	LACY	1	3	C	10	T	400.0	0.0	0.0
L25LAC	D	LACY	1	4	C	10	U	500.0	0.0	2086.0
L25LAC	D	LACY	1	5	C	10	U	1000.0	0.0	2086.0
L25LAC	D	LACY	1	6	C	10	U	1100.0	0.0	1898.0
L25LAC	D	LACY	1	7	C	ZERO	U	3000.0	0.0	1898.0
L25LAC	D	LACY	1	8	A	ZERO	C	1500.0	250.0	0.0
L25LAC	D	LACY	1	9	C	ZERO	C	5500.0	0.0	0.0
L25LAC	D	LACY	1	10	C	ZERO	C	7500.0	0.0	0.0
L25LAC	D	LACY	1	11	C	ZERO	C	10000.0	0.0	0.0



Clay Lacy Lear 25 Profile Points
 Profile Weight: 12,500 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Net Corrected Thrust per Engine, lb
0.00	0.0	35.0	2833.39
0.42	0.0	144.5	2543.01
0.63	145.7	162.7	2505.24
0.77	400.0	163.3	2502.17
0.84	500.0	163.6	2086.00
1.20	1000.0	164.8	2086.00
1.29	1100.0	165.0	1898.00
2.77	3000.0	169.8	1898.00
2.94	3071.1	178.3	2238.21
4.67	3819.8	268.6	2074.19
6.08	5500.0	275.5	2084.77
7.92	7500.0	284.1	2111.79
10.44	10000.0	295.5	2167.60

Section 3 –Comparison with Measured Data

Noise monitor readings at permanent noise monitor V-7, located approximately two nautical miles from brake release for Runway 16R departures and near runway centerline, were gathered for the Lear 25 departures and compared to the INM results at the same point. The range of measured SEL values for the Lear 25 departures was 96 – 105 dBA. The modeled SEL for the Clay Lacy procedure was 102.2 dBA, near the center of the measured range of values. The modeled SEL for the Lear 25 Standard profile at V-7 was 104.2 dBA.

HARRIS MILLER MILLER & HANSON INC.

Supplemental Data for Lear 25 Request for Approval of User Changes to INM
March 13, 2007
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If you have any questions or comments regarding the content of this letter, you can reach me via telephone at 916.568.1116 or via e-mail at rbehr@hmmh.com. I hope this clarifies questions you had on our previous request. Thank you for your consideration. I look forward to hearing back from you at your earliest convenience.

Sincerely yours,

HARRIS MILLER MILLER & HANSON INC.



A handwritten signature in cursive script that reads "Robert D. Behr".

Robert D. Behr
Senior Consultant

Attachment: Lear 25 Data Sheet

Lear 25/35 Data Sheet
 Computation of cutback thrust levels in pounds, given N1 Levels

	E	F	G1	G2	H	K2	K3		
CNA500	1743.1	-1.84678	-2.01E-03	-1.56E-07	0	-4.97E+01	5.45E-01		
CNA55B	1373.8	-2.2903	-8.88E-05	3.23E-08	0	-4.49E+01	6.63E-01		
CNA750	4778.6	-6.56571	6.71E-04	-4.11E-07	0	-1.47E+02	1.97E+00		
LR25 (max)	2845.4	-2.03911	-1.68E-02	2.18E-06	0				
LR35 (max)	3412.2	-3.888	-4.41E-03	1.54E-06	0				
Speed	160								
Alt	1800								
Fn/(delta)	N1 Level		CNA500	CNA55B	CNA750			LEAR25	LEAR35
Absolute	50		354.02	422.42	1329.36				
	60		456.73	703.41	2034.52				
	70		668.43	1117.05	3134.64				
	80		989.14	1663.34	4629.72				
	90		1418.85	2342.29	6519.76				
	91		1467.81	2417.48	6730.49				
	94		1621.25	2651.02	7386.37				
	96		1728.99	2813.34	7843.37				
	100		1957.55	3153.90	8804.76			2496.0	2787.2
% of max thrust	50		18.1%	13.4%	15.1%				
	60		23.3%	22.3%	23.1%				
	70		34.1%	35.4%	35.6%				
	80		50.5%	52.7%	52.6% AVG				
	90		72.5%	74.3%	74.0%	73.6%	1.0%	1837.027	2051.324
	91		75.0%	76.7%	76.4%	76.0%	0.9%	1897.587	2118.948
	94		82.8%	84.1%	83.9%	83.6%	0.7%	2086.384	2329.77
	96		88.3%	89.2%	89.1%	88.9%	0.5%	2218.181	2476.941
	100		100.0%	100.0%	100.0%				



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

Office of Environment and Energy

800 Independence Ave., S.W.
Washington, D.C. 20591

April 4, 2007

Mr. Robert D Behr Jr.
Harris Miller Miller & Hanson Inc.
945 University Avenue, Suite 201
Sacramento, CA 95825

Dear Mr. Behr:

The Office of Environment and Energy has reviewed the proposed non-standard INM departure profiles for three aircraft (Lear 25, Boeing 727 and A3) submitted for aircraft modeling for Van Nuys Airport (VNY) in support of the Los Angeles World Airports (LAWA) FAA Part 161 Study. Our office has also reviewed the supplemental steps used in deriving the non-standard profiles.

Our office approves the proposed revision of the profiles, with the understanding that

- (1) The Clay Lacy Aviation has reviewed and verified that the proposed profiles for Lear25 and Boeing 727 are within the bounds of performance for the aircraft, and that the operators do in fact fly the procedure being modeled.
- (1) The Raytheon Flight Test Operations has reviewed and verified that the proposed profiles for A-3 are within the bounds of performance for the aircraft, and that the operators do in fact fly the procedure being modeled.

Please understand that approvals listed above are limited to this particular Part 161 Study. Any additional projects or non-standard INM input will require separate approval.

Sincerely,

A handwritten signature in cursive script that reads "M. Marsan".

Dr. Mehmet Marsan
Acting Manager
AEE/Noise Division

HARRIS MILLER MILLER & HANSON INC.

VNY Noise Exposure Maps Update

Clay Lacy Lear 35 Departure Profile

This memorandum requests FAA approval of a user-defined departure profile for the Lear 35 flown by Clay Lacy Aviation for use in the VNY NEMs Update.

For the recently conducted Part 161 Study and Noisier Aircraft Phase-out for VNY, HMMH requested and FAA approved the user-defined departure profile for the Clay Lacy Lear 35. The previous analysis, which used INM 6.2, and FAA approval are included as attachments. The revised SEL comparison using INM7.0b is shown in the following tables.

**Table 1 Departure SEL Values for Proposed Lacy Lear35 Profile versus Lear35 Standard Profile
 Calculated with INM 7.0b using standard atmospheric conditions**

Grid Points (nmi) Distance from start- of-take-off-roll	Lear35 (SEL, dB)	Lacy Lear35 (SEL, dB)	Difference (dB)
0.5	119.5	119.4	-0.1
1.0	104.8	100.7	-4.1
1.5	98.0	94.7	-3.3
2.0	94.1	89.9	-4.2
2.5	90.8	87.5	-3.3
3.0	86.7	85.4	-1.3
3.5	84.8	83.8	-1.0
4.0	83.1	84.4	1.3
4.5	81.8	83.3	1.5
5.0	80.6	82.0	1.4
5.5	79.5	80.7	1.2
6.0	78.4	79.6	1.2
6.5	77.3	78.4	1.1
7.0	76.3	77.3	1.0
7.5	75.4	76.2	0.8
8.0	74.6	75.4	0.8
8.5	73.7	74.6	0.9
9.0	73.0	73.7	0.7
9.5	72.4	73.0	0.6
10.0	71.7	72.4	0.7

HARRIS MILLER MILLER & HANSON INC.

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April 23, 2007

Dr. "Bill" Hua He
Federal Aviation Administration
Office of Environment and Energy
800 Independence Ave., SW
Washington, DC 20591

Subject: Request for Approval of User Changes to the Integrated Noise Model, Lear35
Reference: HMMH Project Number 300701

Dear Dr. He:



This letter is a request for approval of user changes to the Integrated Noise Model (INM) version 6.2a for use at Van Nuys (VNY) airport. These changes involve augmenting the standard departure profiles in the INM with actual procedures as flown by pilots operating at VNY.

Section 1 – Background

We are submitting this request for written approval for changes to the Integrated Noise Model standard profiles in support of a Van Nuys Airport FAR Part 161 study. Los Angeles World Airports (LAWA), the proprietor of VNY, is the sponsor of the study.

This letter contains data on the Lear 35 operating procedures. In support of the Part 161 process, we held a meeting on January 24, 2006 with personnel from Clay Lacy Aviation, a Fixed Base Operator (FBO) at VNY, to determine how they operate their Lear 35 aircraft. Clay Lacy Aviation's approval of our modeling of this procedure is documented in appendix A. We refer to this procedure as the Clay Lacy procedure in this document.

Section 2 – Statement of Benefit

The differences for the Lear 35 between the standard INM departure and the Clay Lacy departure procedures are primarily due to the lower thrust levels used at the start of the Clay Lacy procedure. The standard INM procedure uses maximum takeoff power up to 1,500 feet Above Field Elevation (AFE) during departure; the Clay Lacy procedure uses maximum takeoff power up to 400 feet AFE, then reduces to 94%, with a further reduction to 91% at 1,000 feet AFE. This power setting is held to 3,000 feet AFE, where the power is increased to 97%, which corresponds with the maximum climb power of the standard INM procedure. At the same track distance, the INM standard aircraft is at a higher altitude due to the greater thrust used, and so is farther from the ground at the point where the same thrust levels are used. This greater distance from the ground for the modeled INM aircraft gives a slightly lower noise level on the ground compared to the modeled Clay Lacy aircraft.

The power settings and procedure steps used in this analysis can be seen in the attached tables. The Lear 35 has enough excess power to maintain the required climb gradient in the event of an engine failure at any point in the Clay Lacy procedure.

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Section 3 – Analysis Demonstrating Benefit

The analysis shows the Clay Lacy procedure provides noise benefits from one to three and a half nautical miles from brake release. The benefit is highest (4.4 dB, SEL) at two nautical miles from brake release, with the benefit decreasing as the aircraft continues down the flight track. At four nautical miles and beyond, the Clay Lacy procedure gives a slight noise increase, with a consistent maximum penalty of about 1.4 dB (SEL) between four and six nautical miles from brake release.

Table 1 shows the SEL results under the flight path from the Clay Lacy procedure; the standard INM departure profile is presented for comparison.

Table 1 Comparison of Noise Impacts from Brake Release for INM Standard and Clay Lacy Departure Procedures

INM Aircraft Model: LEAR35 Profile Weight: 18,300 lb



Distance from Brake Release (nm)	INM Standard, SEL (dBA)	Clay Lacy, SEL (dBA)	Difference SEL (dBA)
0.00	144.6	144.6	0.0
0.50	119.3	119.3	0.0
1.00	104.6	100.7	-3.9
1.50	97.9	94.6	-3.3
2.00	94.1	89.7	-4.4
2.50	90.7	87.3	-3.4
3.00	86.6	85.2	-1.4
3.50	84.7	83.7	-1.0
4.00	83.0	84.4	1.4
4.50	81.8	83.3	1.5
5.00	80.6	82.0	1.4
5.50	79.5	80.9	1.4
6.00	78.4	79.6	1.2
6.50	77.1	78.4	1.3
7.00	76.2	77.2	1.0
7.50	75.3	76.1	0.8
8.00	74.5	75.3	0.8
8.50	73.7	74.5	0.8
9.00	73.0	73.7	0.7
9.50	72.3	73.0	0.7
10.00	71.6	72.3	0.7

Table 2 shows the INM Standard profile data and Table 3 shows the data provided by Clay Lacy including the aircraft power setting, flap setting, altitude, and calibrated/indicated airspeed at various points in the profile.

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Table 2. INM Standard Lear 35 Departure Procedures
 Profile Weight: 18,300 lb

Step Number	Altitude Above Field Elevation (AFE), feet	Calibrated Airspeed, knots	Flaps	Thrust Setting
1	0.0	-	20	Max Takeoff
2	-	158	20	Max Takeoff
3	1500	-	20	Max Takeoff
4	-	183	10	Max Takeoff
5	3000	-	zero	Max Climb
6	-	250	zero	Max Climb
7	5500	-	zero	Max Climb
8	7500	-	zero	Max Climb
9	10000	-	zero	Max Climb



Table 3. Clay Lacy Lear 35 Departure Procedures
 Profile Weight: 18,300 lb

Step Number	Altitude Above Field Elevation (AFE), feet	Calibrated Airspeed, knots	Flaps	Thrust Setting
1	0.0	-	10	Max Takeoff
2	-	160	10	Max Takeoff
3	400	-	10	94% RPM
4	1000	-	10	94% RPM
5	1100	-	10	91% RPM
6	3000	-	zero	91% RPM
7	-	250	zero	Max Climb
8	5500	-	zero	Max Climb
9	7500	-	zero	Max Climb
10	10000	-	zero	Max Climb

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Section 3.1 – Derivation of New Parameters

The Clay Lacy aircraft performance characteristics were then translated into INM procedure steps by using standard engineering practice to determine the reduced thrust settings. The procedure steps data conform to the rules given in the INM User’s Guide / Technical Manual and SAE-AIR-1845. We developed no new aircraft performance coefficients for this study. The procedure for the calculation of the thrust levels in corrected net thrust per engine in pounds follows with actual calculations in the attached spreadsheet (Appendix B).

The Lear aircraft do not have data coefficients in the thr_gnrl.dbf file to assist in converting N1 to pounds thrust. Data are included for three Cessna-types; therefore, it was decided to use a comparative method to determine the approximate Lear thrust levels. From the thr_gnrl.dbf file, we obtained the regression coefficients (E, F, GA, GB, H, K1, K2) for the Cessna INM types (CNA500, CNA55B, and CNA750) and used the SAE-AIR-1845 thrust equation:



$$F_n / \delta = E + F v + G_A h + G_B h^2 + H T_C + K_1 N_1 + K_2 N_1^2$$

where

- F_n / δ corrected net thrust per engine (pounds)
- v equivalent/calibrated airspeed (knots)
- h pressure altitude (feet) MSL
- T_C temperature (°C) at the aircraft
- E, F, G_A , G_B , H, K_1 , K_2 regression coefficients
- N_1 power setting

From the thr_jet.dbf file we obtained the regression coefficients for the Lear 35 aircraft as before, except for K_1 and K_2 . We computed the corrected net thrust for the Cessna aircraft at a representative pressure altitude of 1,800 feet MSL and 160 knots calibrated airspeed for various N_1 levels (50 – 100). We then determined the percent of total thrust for each N_1 level and derived an average percent of total thrust for 91% and 94% N_1 . These average percentages were then applied to the maximum thrust determined for the Lear aircraft through use of the equation above (without the K_1 and K_2 terms). The resulting corrected net thrust levels were then input into the INM procedure profile for the Lear aircraft (91% - 2119 pounds, 94% - 2330 pounds).

Table 4. Translated into INM Procedure

ACFT_ID	OP	PROF_ID1	PROF_ID2	STEP #	STEP_TYPE	FLAP	THR	PRM1	PRM2	PRM3
L35LAC	D	LACY	1	1	T	20	T	0.0	0.0	0.0
L35LAC	D	LACY	1	2	A	10	T	1698.0	160.0	0.0
L35LAC	D	LACY	1	3	C	10	T	400.0	0.0	0.0
L35LAC	D	LACY	1	4	C	10	U	500.0	0.0	2330.0
L35LAC	D	LACY	1	5	C	10	U	1000.0	0.0	2330.0
L35LAC	D	LACY	1	6	C	10	U	1100.0	0.0	2119.0
L35LAC	D	LACY	1	7	C	ZERO	U	3000.0	0.0	2119.0
L35LAC	D	LACY	1	8	A	ZERO	C	1500.0	250.0	0.0
L35LAC	D	LACY	1	9	C	ZERO	C	5500.0	0.0	0.0
L35LAC	D	LACY	1	10	C	ZERO	C	7500.0	0.0	0.0
L35LAC	D	LACY	1	11	C	ZERO	C	10000.0	0.0	0.0

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Table 5 shows the resulting profile points for the Clay Lacy Lear 35. For comparison purposes, Table 6 shows the profile points for the Standard INM profile.

Table 5. Clay Lacy Lear 35 Departure Parameters
 Profile Weight: 18,300 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Net Corrected Thrust per Engine, lb
0.00	0.0	35.0	3412.37
0.43	0.0	144.3	2854.93
0.73	184.9	161.4	2789.50
0.89	400.0	161.9	2788.72
0.99	500.0	162.2	2330.00
1.49	1000.0	163.4	2330.00
1.61	1100.0	163.6	2119.00
3.72	3000.0	168.3	2119.00
3.89	3071.3	173.0	2511.56
7.22	4514.5	269.0	2206.27
8.51	5500.0	273.1	2215.97
11.33	7500.0	281.6	2243.94
15.28	10000.0	292.8	2294.54



Table 6. INM Standard Lear 35 Departure Parameters
 Profile Weight: 18,300 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Net Corrected Thrust per Engine, lb
0.00	0.0	35.0	3412.37
0.43	0.0	144.3	2854.93
0.74	192.5	159.4	2797.25
1.85	1500.0	162.5	2794.75
2.44	1815.7	189.1	2697.74
2.60	1993.7	189.6	2427.98
3.53	3000.0	192.5	2431.08
6.64	4452.9	268.8	2205.76
8.01	5500.0	273.1	2215.97
10.84	7500.0	281.6	2243.94
14.79	10000.0	292.8	2294.54

Section 3.2 – Comparison with Measured Data

Noise monitor readings at permanent noise monitor V-7, located approximately two nautical miles from brake release for Runway 16R departures and near runway centerline, were gathered for the Lear 35 departures and compared to the INM results at the same point. The range of measured SEL values for the Lear 35 departures was 74 – 95 dBA. The modeled SEL for the Clay Lacy procedure was 89.7 dBA. The modeled SEL for the Lear 35 Standard profile at V-7 was 94.1 dBA.

Section 4 – Concurrence on Aircraft Performance

A letter from Clay Lacy Aviation stating agreement with these procedures is found in Appendix A.

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Section 5 – Certification of New Parameters

The aircraft performance characteristics provided by Clay Lacy Aviation have been translated into INM procedure steps as shown above. We developed no new aircraft performance coefficients for this study. The procedure steps data in this study conform to the rules given in the INM User's Guide and SAE-1845. We used net corrected thrust in units of pounds for all thrust settings.

Section 6 – Graphical and Tabular Comparison

Figures 1-3 present the results of the modeling analysis by showing the altitude, airspeed, and net corrected thrust per engine of the modeled procedures as a function of distance from the brake release point. These correspond to the tabular data previously shown.

If you have any questions or comments regarding the content of this letter, you can reach me via telephone at 916.568.1116 or via e-mail at rbehr@hmmh.com. Thank you for your consideration. I look forward to hearing back from you at your earliest convenience.



Sincerely yours,

HARRIS MILLER MILLER & HANSON INC.

A handwritten signature in cursive script that reads "Robert D. Behr".

Robert D. Behr
Senior Consultant

Attachment: Lear35_Data_Sheet .xls



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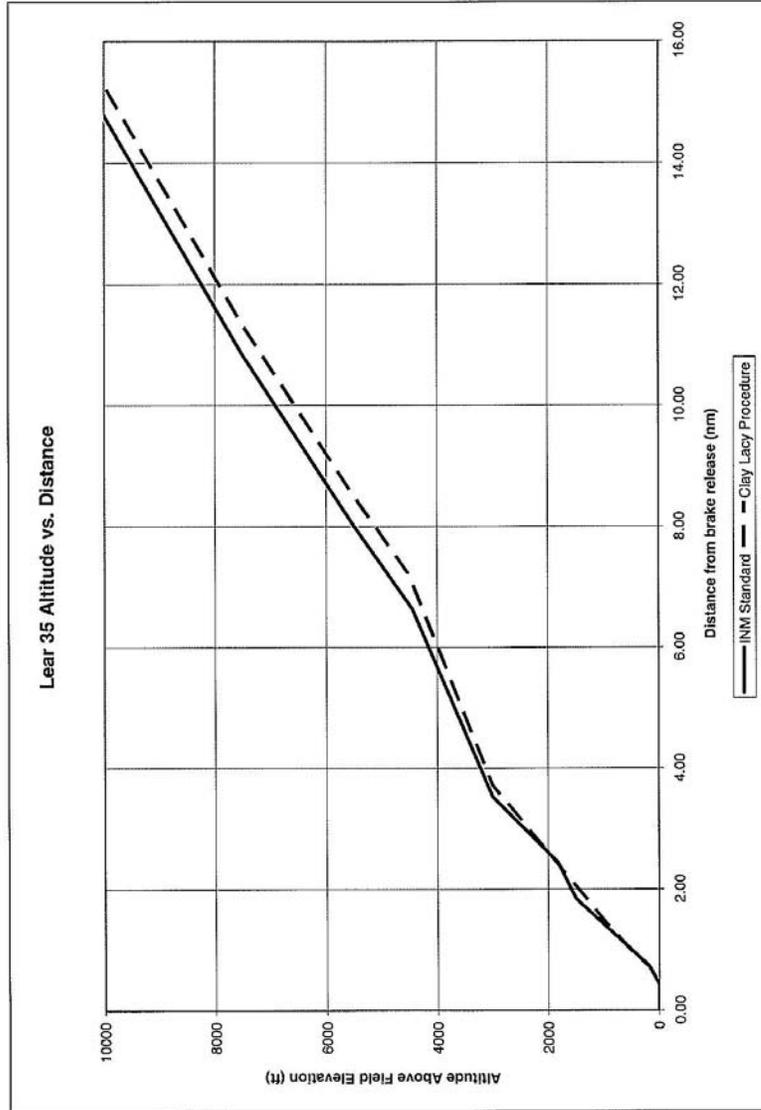


Figure 1. Altitude Profiles for Standard and Clay Lacy Procedures



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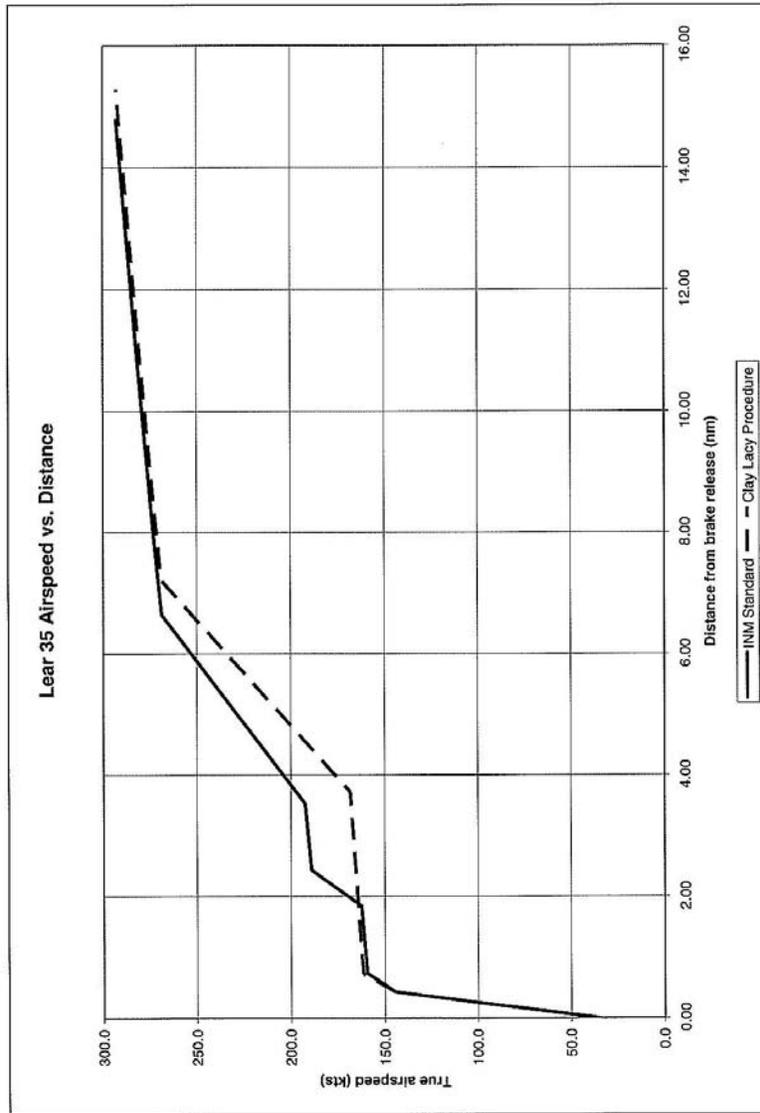


Figure 2. Airspeed Profiles for Standard and Clay Lacy Procedures



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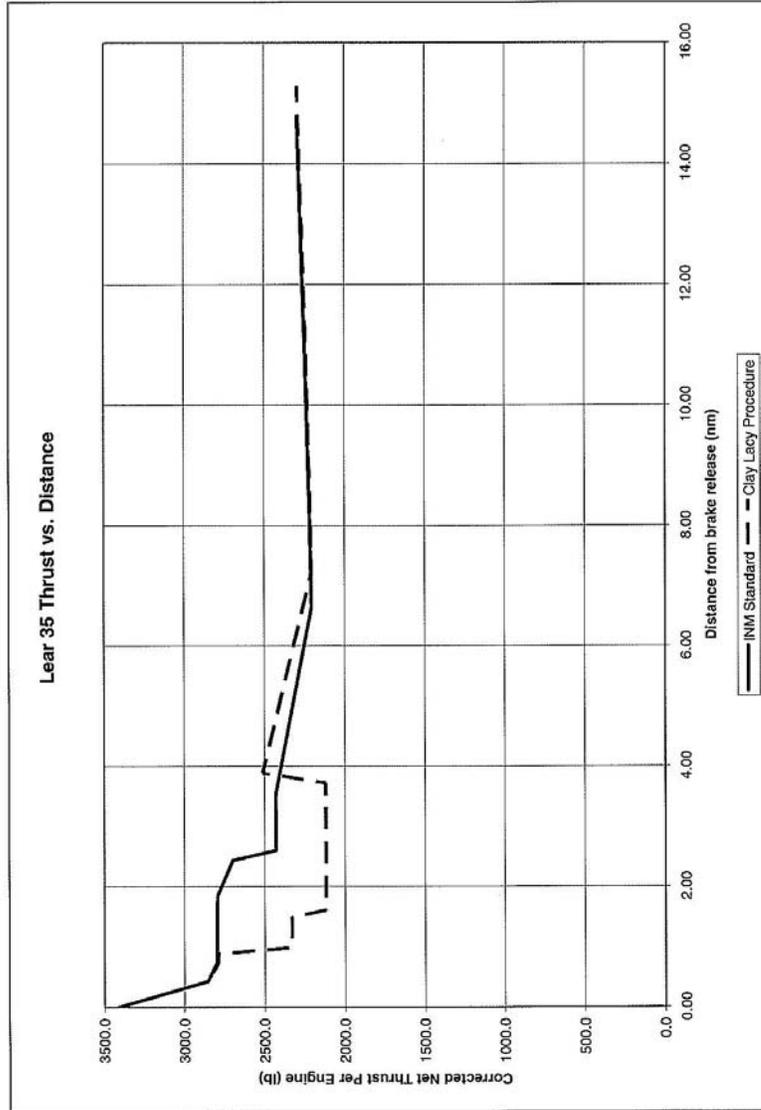


Figure 3. Thrust Profiles for Standard and Clay Lacy Procedures

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Appendix A

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CLAY LACY AVIATION

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Clay Lacy Aviation concurrence with modeled procedures:

Clay Lacy Aviation certifies that the proposed profile for Lear 35 aircraft departing from Van Nuys Airport provides a reasonably accurate representation of the typical departure procedure and falls within reasonable bounds of the aircraft's performance.


Name



CEO CLAY LACY AVIATION
Position/Title

Lear 25/35 Data Sheet

Computation of cutback thrust levels in pounds, given N1 Levels

	E	F	G1	G2	H	K2	K3		
CNA500	1743.1	-1.64678	-2.01E-03	-1.56E-07	0	-4.97E+01	5.45E-01		
CNA55B	1373.8	-2.2903	-8.88E-05	3.23E-08	0	-4.49E+01	6.63E-01		
CNA750	4778.6	-6.56571	6.71E-04	-4.11E-07	0	-1.47E+02	1.97E+00		
LR25 (max)	2845.4	-2.03911	-1.68E-02	2.18E-06	0				
LR35 (max)	3412.2	-3.888	-4.41E-03	1.54E-06	0				
Speed	160								
Alt	1800								
F _n (delta)	N1 Level		CNA500	CNA55B	CNA750			LEAR25	LEAR35
Absolute	50		354.02	422.42	1329.36				
	60		456.73	703.41	2034.52				
	70		668.43	1117.05	3134.64				
	80		989.14	1663.34	4629.72				
	90		1418.85	2342.29	6519.76				
	91		1467.81	2417.48	6730.49				
	94		1621.25	2651.02	7386.37				
	96		1728.99	2813.34	7843.37				
	100		1957.55	3153.90	8804.76			2496.0	2787.2
% of max thrust	50		18.1%	13.4%	15.1%				
	60		23.3%	22.3%	23.1%				
	70		34.1%	35.4%	35.6%				
	80		50.5%	52.7%	52.6% AVG				
	90		72.5%	74.3%	74.0%	73.8%	1.0%	1837.027	2051.324
	91		75.0%	76.7%	76.4%	76.0%	0.9%	1897.587	2118.948
	94		82.8%	84.1%	83.9%	83.6%	0.7%	2086.384	2329.77
	96		88.3%	89.2%	89.1%	88.9%	0.5%	2218.181	2476.941
	100		100.0%	100.0%	100.0%				



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

Office of Environment and Energy

800 Independence Ave., S.W.
Washington, D.C. 20591

May 4, 2007

Mr. Robert D Behr Jr.
Harris Miller Miller & Hanson Inc.
945 University Avenue, Suite 201
Sacramento, CA 95825

Dear Mr. Behr:

The Office of Environment and Energy has reviewed your proposed use of non-standard INM departure profile of Lear35 in aircraft noise modeling for Van Nuys Airport (VNY) in support of the Los Angeles World Airports (LAWA) FAA Part 161 Study. Our office has also reviewed the supplemental steps used in deriving the non-standard profiles.

Our office approves the proposed revision of the profiles, with the understanding that Clay Lacy Aviation has reviewed and verified that the proposed profile for Lear35 is within the bounds of performance for the aircraft, and that the operators do in fact fly the procedure being modeled.

Please understand that approvals listed above are limited to this particular Part 161 Study. Any additional projects or non-standard INM input will require separate approval.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Marsan".

Dr. Mehmet Marsan
Acting Manager
AEE/Noise Division

HARRIS MILLER MILLER & HANSON INC.

VNY Noise Exposure Maps Update

Clay Lacy Boeing 727 Departure Profile

This memorandum requests FAA approval of a user-defined departure profile for the Boeing 727 flown by Clay Lacy Aviation for use in the VNY NEMs Update.

For the recently conducted Part 161 Study and Noisier Aircraft Phase-out for VNY, HMMH requested and FAA approved the user-defined departure profile for the Clay Lacy Boeing 727. The previous analysis, which used INM 6.2, and FAA approval are included as attachments. The revised SEL comparison using INM7.0b is shown in the following tables.

**Table 1 Departure SEL Values for Proposed Lacy B727 Profile versus B727 Standard Profile
 Calculated with INM 7.0b using standard atmospheric conditions**

Grid Points (nmi) Distance from start- of-take-off-roll	B727 (SEL, dB)	Lacy B727 (SEL, dB)	Difference (dB)
0.5	138.8	138.3	-0.5
1.0	120.7	120.1	-0.6
1.5	109.6	105.1	-4.5
2.0	105.6	101.9	-3.7
2.5	103.5	99.5	-4.0
3.0	101.4	97.5	-3.9
3.5	95.0	96.0	1.0
4.0	93.6	94.6	1.0
4.5	92.2	93.4	1.2
5.0	91.1	92.2	1.1
5.5	90.0	91.4	1.4
6.0	89.2	91.6	2.4
6.5	88.4	90.7	2.3
7.0	87.6	89.8	2.2
7.5	87.0	89.0	2.0
8.0	86.3	88.3	2.0
8.5	85.6	87.6	2.0
9.0	85.0	86.9	1.9
9.5	84.4	86.1	1.7
10.0	83.9	85.5	1.6

HARRIS MILLER MILLER & HANSON INC.

945 University Avenue, Suite 201
Sacramento, California 95825
T 916.568.1116
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July 7, 2006

Mr. Sandy Liu
Federal Aviation Administration
Office of Environment and Energy
800 Independence Ave., SW
Washington, DC 20591

Subject: Request for Approval of User Changes to the Integrated Noise Model, 727

Reference: HMMH Project Number 300701

Dear Mr. Liu:

This letter is a request for approval of user changes to the Integrated Noise Model (INM) version 6.2 for use at Van Nuys (VNY) airport. These changes involve augmenting the standard departure profiles in the INM with actual procedures as flown by pilots operating at VNY.

Section 1 – Background

We are submitting this request for written approval for changes to the Integrated Noise Model standard profiles in support of a Van Nuys Airport FAR Part 161 study. Los Angeles World Airports (LAWA), the proprietor of VNY, is the sponsor of the study.

This letter contains data on the Boeing 727 operating procedures. The data are based on using the Stage 3 certificated 727EM2 (stage length 1; 156,000 lb) as the base aircraft. We will send similar letters containing data for other aircraft operating at VNY which also are flown differently than modeled in the INM. In support of the Part 161 process, we held a meeting on January 24, 2006 with personnel from Clay Lacy Aviation, a Fixed Base Operator (FBO) at VNY, to determine how they operate their Boeing 727 aircraft. Clay Lacy Aviation's approval of our modeling of this procedure is documented in appendix YY. We refer to this procedure as the Clay Lacy procedure in this document.

Section 2 – Statement of Benefit

The differences between the standard INM departure and the Clay Lacy procedure are primarily due to the lower thrust levels used in the Clay Lacy procedure from 500 to 3,000 feet Above Field Elevation (AFE). The standard INM procedure uses Maximum Takeoff power up until 200 knots are reached during departure; the takeoff flaps are set to 5 degrees and retracted during the acceleration portion of the departure. The Clay Lacy procedure uses Maximum Takeoff power up to 400 feet AFE, and then reduces to an Engine Pressure Ratio (EPR) of 1.8. This EPR setting is held to 3,000 AFE when the power is increased to Maximum Climb, which corresponds with the standard INM procedure. The Clay Lacy procedure also uses 15 degrees of flaps (due to the relatively short runway at VNY), which are maintained until 3,000 feet AFE is reached.

The lower thrust settings of the Clay Lacy procedure provide a noise benefit for the area within about three nautical miles (nm) from the brake release point. Beyond this distance, the Clay Lacy procedure is slightly louder than the INM standard due to the lower climb gradient, and hence lower altitude, until climb thrust is applied.

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B727 Request for Approval of User Changes to INM
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Section 3 – Analysis Demonstrating Benefit

The analysis shows the Clay Lacy procedure provides noise benefits from one to three nautical miles from the brake release point. The benefit is highest (4.4 dB, SEL) at 1.5 nm from the brake release point. Beyond 3.5 nm, the Clay Lacy procedure gives a slight noise increase, with a maximum penalty of about 2.5 dB (SEL) at 6 nm from the brake release point.

Table 1 shows the SEL results under the flight path from the Clay Lacy procedure; the standard INM departure profile is presented for comparison.

Section 4 – Concurrence on Aircraft Performance

A letter from Clay Lacy Aviation stating agreement with these procedures is found in Appendix A.

Section 5 – Certification of New Parameters

The aircraft performance characteristics provided by Clay Lacy Aviation have been translated into INM procedure steps using standard engineering practice. We developed no new aircraft performance coefficients for this study. The procedure steps data in this study conform to the rules given in the INM User's Guide and SAE-1845. We used net corrected thrust in units of pounds for all thrust settings.

Section 6 – Graphical and Tabular Comparison

Tables 2-5 and Figures 1-3 present the results of the modeling analysis by showing the altitude, airspeed, and net corrected thrust per engine of the modeled procedures as a function of distance from the brake release point.

If you have any questions or comments regarding the content of this letter, you can reach me via telephone at 916.568.1116 or via e-mail at rbehr@hmmh.com. Thank you for your consideration. I look forward to hearing back from you at your earliest convenience.

Sincerely yours,

HARRIS MILLER MILLER & HANSON INC.

Robert D. Behr
Senior Consultant

enclosures:

HARRIS MILLER MILLER & HANSON INC.

B727 Request for Approval of User Changes to INM
July 7, 2006
Page 3

Table 1. Comparison of Noise Impacts from Brake Release for INM Standard and Clay Lacy Departure Procedures

INM Aircraft Model: 727EM2 Profile Weight: 156,000 lb

Distance from Brake Release (nm)	INM Standard, SEL (dBA)	Clay Lacy, SEL (dBA)	Difference SEL (dBA)
0.00	145.1	145.1	0.0
0.50	142.3	142.1	-0.2
1.00	120.8	120.0	-0.8
1.50	109.5	105.1	-4.4
2.00	105.5	101.7	-3.8
2.50	103.3	99.3	-4.0
3.00	101.2	97.4	-3.8
3.50	95.0	95.8	0.8
4.00	93.4	94.4	1.0
4.50	92.0	93.1	1.1
5.00	90.9	92.0	1.1
5.50	90.0	91.2	1.2
6.00	89.1	91.6	2.5
6.50	88.4	90.7	2.3
7.00	87.4	89.8	2.4
7.50	86.9	88.9	2.0
8.00	86.2	88.1	1.9
8.50	85.5	87.5	2.0
9.00	84.8	86.9	2.1
9.50	84.3	86.0	1.7
10.00	83.7	85.5	1.8

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B727 Request for Approval of User Changes to INM
 July 7, 2006
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Table 2. INM Standard B727 Departure Procedures

Profile Weight: 156,000 lb

Step Number	Altitude Above Field Elevation (AFE), feet	Calibrated Airspeed, knots	Flaps	Thrust Setting
1	0.0	-	5	Max takeoff
2	1000	-	5	Max takeoff
3	-	170	5	Max takeoff
4	-	200	2	Max takeoff
5	-	210	zero	Max Climb
6	3000	-	zero	Max Climb
7	-	250	zero	Max Climb
8	5500	-	zero	Max Climb
9	7500	-	zero	Max Climb
10	10000	-	zero	Max Climb

Table 3. Clay Lacy B727 Departure Procedures

Profile Weight: 156,000 lb

Step Number	Altitude Above Field Elevation (AFE), feet	Calibrated Airspeed, knots	Flaps	Thrust Setting
1	0.0	-	15	Max takeoff
2	-	160	15	Max takeoff
3	400	-	15	Max takeoff
4	500	-	15	1.8 EPR
5	3000	-	15	1.8 EPR
6	-	210	zero	Max Climb
7	-	250	zero	Max Climb
8	5500	-	zero	Max Climb
9	7500	-	zero	Max Climb
10	10000	-	zero	Max Climb

HARRIS MILLER MILLER & HANSON INC.

B727 Request for Approval of User Changes to INM
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Table 4. INM Standard B727 Departure Parameters
 Profile Weight: 156,000 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Net Corrected Thrust per Engine, lb
0.00	0.0	35.0	14658.3
0.93	0.0	162.7	13453.4
1.87	1000.0	165.1	13816.3
2.11	1119.9	174.0	13781.5
3.00	1523.6	206.0	13595.4
3.16	1572.8	210.9	10682.0
3.36	1630.3	216.6	10618.2
5.16	3000.0	221.1	10838.5
6.95	3463.0	265.0	10588.8
9.97	5500.0	273.3	10916.7
13.16	7500.0	281.9	11238.5
17.50	10000.0	293.1	11640.7

Table 5. Clay Lacy B727 Departure Parameters
 Profile Weight: 156,000 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Net Corrected Thrust per Engine, lb
0.00	0.0	35.0	14658.3
0.83	0.0	154.3	13515.2
0.97	56.8	161.3	13485.5
1.30	400.0	162.1	13610.1
1.45	500.0	162.3	10330.0
5.63	3000.0	168.4	10360.0
5.80	3053.1	173.3	11243.7
7.51	3604.0	223.1	10935.6
9.37	4084.1	267.5	10688.8
11.50	5500.0	273.3	10916.7
14.68	7500.0	281.9	11238.5
19.03	10000.0	293.1	11640.7

HARRIS MILLER MILLER & HANSON INC.

B727 Request for Approval of User Changes to INM
July 7, 2006
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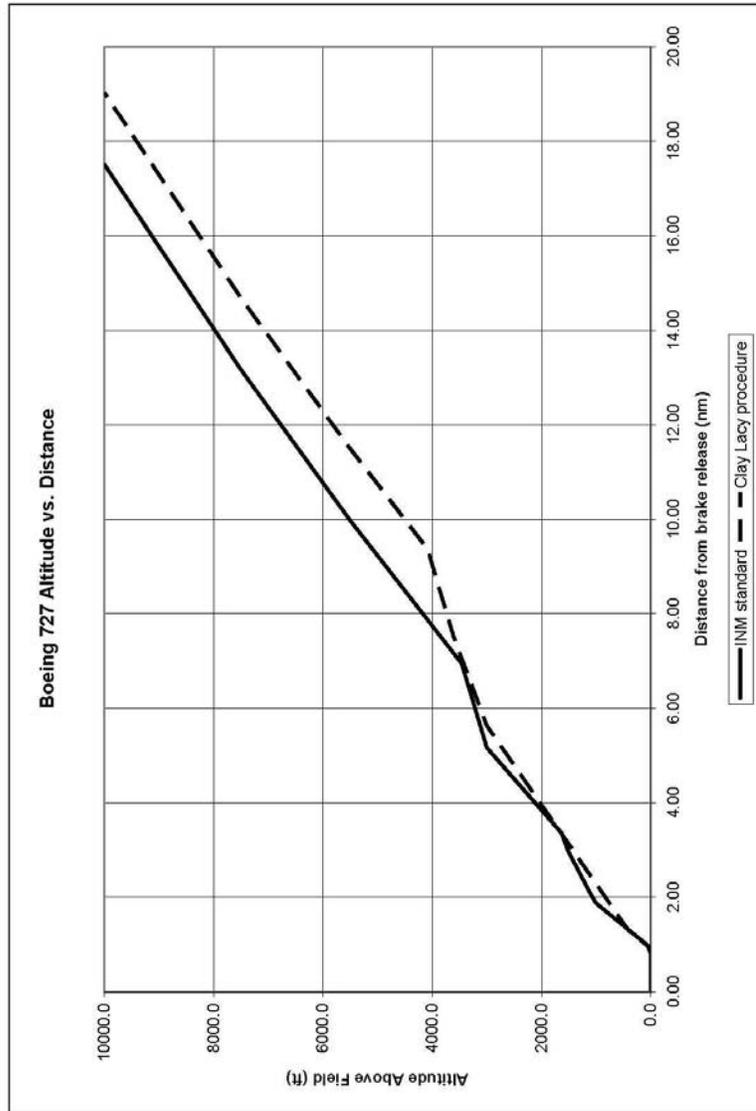


Figure 1. Altitude Profiles for Standard and Clay Lacy Procedures

HARRIS MILLER MILLER & HANSON INC.

B727 Request for Approval of User Changes to INM
July 7, 2006
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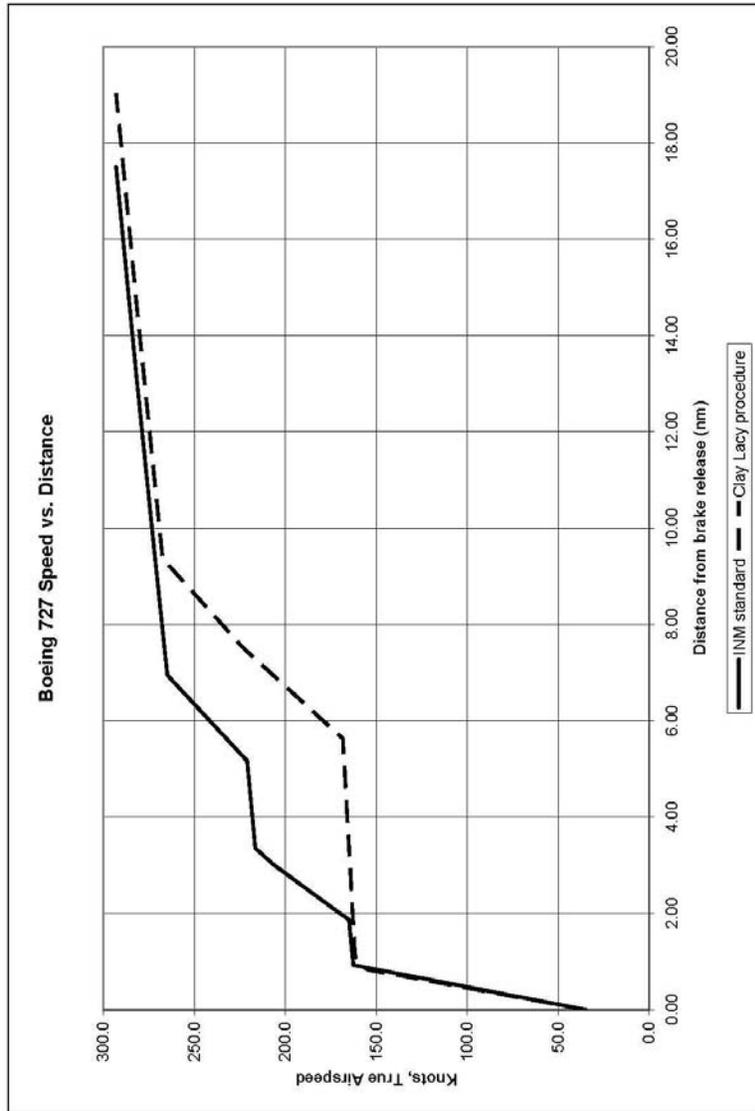


Figure 2. Airspeed Profiles for Standard and Clay Lacy Procedures

HARRIS MILLER MILLER & HANSON INC.

B727 Request for Approval of User Changes to INM
July 7, 2006
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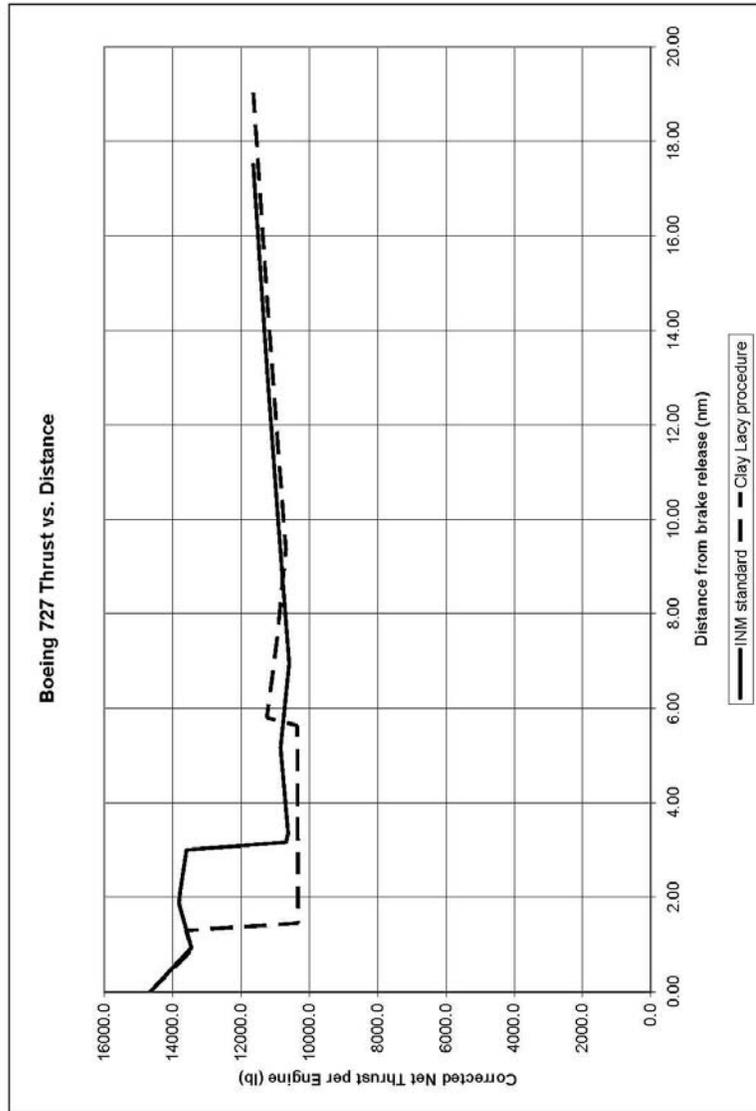


Figure 3. Thrust Profiles for Standard and Clay Lacy Procedures

HARRIS MILLER MILLER & HANSON INC.

B727 Request for Approval of User Changes to INM
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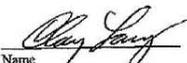
Appendix A

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Review and Concurrence of VNY Aircraft Performance Data - Clay Lacy
March 29, 2006
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Clay Lacy Aviation concurrence with modeled procedures:

Clay Lacy Aviation certifies that the proposed profile for Boeing 727 aircraft departing from Van Nuys Airport falls within reasonable bounds of the aircraft's performance.


Name

 **PRESIDENT/CLAY LACY AVIATION**
Position/Title

HARRIS MILLER MILLER & HANSON INC.

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March 13, 2007

Dr. "Bill" Hua He
Federal Aviation Administration
Office of Environment and Energy
800 Independence Ave., SW
Washington, DC 20591

Subject: Supplemental Information for Boeing 727 Non-Standard Departure Profiles at Van Nuys Airport

Reference: HMMH Project Number 300701

Dear Dr. He:



This letter is in response to questions raised regarding our request (previously submitted in June 2006) to use actual operator profiles for the Boeing 727 aircraft when modeling in the Integrated Noise Model (INM) at Van Nuys Airport (VNY). The INM modeling is in support of the VNY FAR Part 161 study. Los Angeles World Airports (LAWA), the proprietor of VNY, is the sponsor of the study.

Section 1 – Background

In recent communications from the FAA, questions were raised concerning how certain values were calculated using standard engineering procedures. This document and attachments attempt to describe in detail the methodology employed using information from the INM Version 6.0 User's Guide and Technical Manual and SAE-AIR-1845 equations.

In support of the Part 161 process, we held a meeting on January 24, 2006 with personnel from Clay Lacy Aviation, a Fixed Base Operator (FBO) at VNY, to determine how they operate their Boeing 727 aircraft. We received data directly from Clay Lacy which were then converted into the required format for the Integrated Noise Model.

As stated in our original letter of request, the differences between the standard INM departure for the 727EM2 Standard (Stage Length 1) and the Clay Lacy procedure are primarily due to the lower thrust levels used in the Clay Lacy procedure from 500 to 3,000 feet Above Field Elevation (AFE). The standard INM procedure uses Maximum Takeoff power up until 200 knots are reached during departure; the takeoff flaps are set to 5 degrees and retracted during the acceleration portion of the departure. The Clay Lacy procedure uses Maximum Takeoff power up to 400 feet AFE, and then reduces to an Engine Pressure Ratio (EPR) of 1.8. This EPR setting is held to 3,000 AFE when the power is increased to Maximum Climb, which corresponds with the standard INM procedure. The Clay Lacy procedure also uses 15 degrees of flaps (due to the relatively short runway at VNY), which are maintained until 3,000 feet AFE is reached.

Section 2 – Derivation of New Parameters

Data provided by Clay Lacy included the aircraft power setting, altitude, and calibrated/indicated airspeed at various points in the profile. These aircraft performance characteristics were then translated into INM procedure steps using standard engineering practice which is detailed below and in the attached spreadsheet. The procedure steps data conform to the rules given in the INM User's

HARRIS MILLER MILLER & HANSON INC.

Supplemental Data for Boeing 727 Request for Approval of User Changes to INM
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Guide / Technical Manual and SAE-AIR-1845. We developed no new aircraft performance coefficients for this study.

To develop the "cut-back" thrust levels in corrected net thrust per engine (pounds), we determined the true airspeeds at the corresponding altitudes. Based on a standard day and standard lapse rate, we used the INM thrust calculator to convert the 1.8 EPR to pounds thrust per engine.

The attached spreadsheet details the calculations of true airspeed from calibrated airspeed using INM Version 6.0 Technical Manual equations in Section 2.3.3 and SAE-AIR-1845 equation A5,

$$v_T = v \sigma^{-1/2}$$

where

- v_T is true airspeed in knots
- v is calibrated airspeed in knots
- σ is air density ratio at aircraft altitude



Clay Lacy B727 Departure Procedures
Profile Weight: 156,000 lb

Step Number	Altitude Above Field Elevation (AFE), feet	Calibrated Airspeed, knots	Flaps	Thrust Setting
1	0.0	-	15	Max takeoff
2	-	160	15	Max takeoff
3	400	-	15	Max takeoff
4	500	-	15	1.8 EPR
5	3000	-	15	1.8 EPR
6	-	210	zero	Max Climb
7	-	250	zero	Max Climb
8	5500	-	zero	Max Climb
9	7500	-	zero	Max Climb
10	10000	-	zero	Max Climb

Translated into INM Procedure

ACFT_ID	OP	PROF_ID1	PROF_ID2	STEP #	STEP_TYPE	FLAP	THR	PRM1	PRM2	PRM3
727LAC	D	LACY	1	1	T	15	T	0.0	0.0	0.0
727LAC	D	LACY	1	2	A	U-15	T	1000.0	160.0	0.0
727LAC	D	LACY	1	3	C	U-15	T	400.0	0.0	0.0
727LAC	D	LACY	1	4	C	U-15	U	500.0	0.0	10330.0
727LAC	D	LACY	1	5	C	U-15	U	3000.0	0.0	10330.0
727LAC	D	LACY	1	6	A	ZERO	C	1000.0	210.0	0.0
727LAC	D	LACY	1	7	A	ZERO	C	1000.0	250.0	0.0
727LAC	D	LACY	1	8	C	ZERO	C	5500.0	0.0	0.0
727LAC	D	LACY	1	9	C	ZERO	C	7500.0	0.0	0.0
727LAC	D	LACY	1	10	C	ZERO	C	10000.0	0.0	0.0

HARRIS MILLER MILLER & HANSON INC.

Supplemental Data for Boeing 727 Request for Approval of User Changes to INM
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Clay Lacy B727 Profile Points
Profile Weight: 156,000 lb



Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Net Corrected Thrust per Engine, lb
0.00	0.0	35.0	14979.4
0.77	0.0	155.5	13836.3
0.92	57.7	162.5	13807.0
1.25	400.0	163.3	13931.2
1.41	500.0	163.6	10330.0
5.86	3000.0	169.8	10330.0
6.03	3052.7	174.5	11559.5
7.76	3607.8	224.9	11252.0
9.65	4090.8	269.7	11005.7
11.77	5500.0	275.5	11232.5
14.97	7500.0	284.1	11554.3
19.33	10000.0	295.5	11956.5

Section 3 –Comparison with Measured Data

The number of Boeing 727 operations in a year was very small limiting the number of noise monitor measurements available for comparison. Fifteen noise monitor readings at permanent noise monitor V-7, located approximately two nautical miles from brake release for Runway 16R departures and near runway centerline, were gathered for the Boeing 727 departures and compared to the INM results at the same point. The range of measured SEL values for the Boeing 727 departures was 101 – 112 dBA. The modeled SEL for the Clay Lacy procedure was 102 dBA. The modeled SEL for the 727EM2 Standard (Stage Length 1) profile at V-7 was 105 dBA.

If you have any questions or comments regarding the content of this letter, you can reach me via telephone at 916.568.1116 or via e-mail at rbehr@hmmh.com. I hope this clarifies questions you had on our previous request. Thank you for your consideration. I look forward to hearing back from you at your earliest convenience.

Sincerely yours,

HARRIS MILLER MILLER & HANSON INC.



Robert D. Behr
Senior Consultant

Attachment: Boeing 727 Data Sheet



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

Office of Environment and Energy

800 Independence Ave., S.W.
Washington, D.C. 20591

April 4, 2007

Mr. Robert D Behr Jr.
Harris Miller Miller & Hanson Inc.
945 University Avenue, Suite 201
Sacramento, CA 95825

Dear Mr. Behr:

The Office of Environment and Energy has reviewed the proposed non-standard INM departure profiles for three aircraft (Lear 25, Boeing 727 and A3) submitted for aircraft modeling for Van Nuys Airport (VNY) in support of the Los Angeles World Airports (LAWA) FAA Part 161 Study. Our office has also reviewed the supplemental steps used in deriving the non-standard profiles.

Our office approves the proposed revision of the profiles, with the understanding that

- (1) The Clay Lacy Aviation has reviewed and verified that the proposed profiles for Lear25 and Boeing 727 are within the bounds of performance for the aircraft, and that the operators do in fact fly the procedure being modeled.
- (1) The Raytheon Flight Test Operations has reviewed and verified that the proposed profiles for A-3 are within the bounds of performance for the aircraft, and that the operators do in fact fly the procedure being modeled.

Please understand that approvals listed above are limited to this particular Part 161 Study. Any additional projects or non-standard INM input will require separate approval.

Sincerely,

A handwritten signature in cursive script that reads "M. Marsan".

Dr. Mehmet Marsan
Acting Manager
AEE/Noise Division

HARRIS MILLER MILLER & HANSON INC.

VNY Noise Exposure Maps Update

Air Group Gulfstream GIV Departure Profile

This memorandum requests FAA approval of a user-defined departure profile for the GIV flown by the Air Group for use in the VNY NEMs Update.

For the recently conducted Part 161 Study and Noisier Aircraft Phase-out for VNY, HMMH requested and FAA approved the user-defined departure profile for the Air Group GIV. The previous analysis, which used INM 6.2, and FAA approval are included as attachments. The revised SEL comparison using INM7.0b is shown in the following tables.

**Table 1 Departure SEL Values for Proposed Air Group GIV Profile versus GIV Standard Profile
 Calculated with INM 7.0b using standard atmospheric conditions**

Grid Points (nmi) Distance from start- of-take-off-roll	GIV (SEL, dB)	Air Group GIV (SEL, dB)	Difference (dB)
0.5	107.6	105.9	-1.7
1.0	92.1	91.5	-0.6
1.5	87.2	86.9	-0.3
2.0	84.1	83.8	-0.3
2.5	81.7	81.3	-0.4
3.0	80.2	79.7	-0.5
3.5	78.2	77.9	-0.3
4.0	76.9	76.7	-0.2
4.5	75.7	75.5	-0.2
5.0	74.6	74.2	-0.4
5.5	73.4	73.3	-0.1
6.0	72.4	72.3	-0.1
6.5	71.6	71.4	-0.2
7.0	70.9	70.5	-0.4
7.5	70.1	69.8	-0.3
8.0	69.4	69.1	-0.3
8.5	68.8	68.5	-0.3
9.0	68.2	67.8	-0.4
9.5	67.7	67.3	-0.4
10.0	67.2	66.7	-0.5

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June 9, 2006

Mr. Sandy Liu
Federal Aviation Administration
Office of Environment and Energy
800 Independence Ave., SW
Washington, DC 20591

Subject: Request for Approval of User Changes to the Integrated Noise Model, GIV

Reference: HMMH Project Number 300701

Dear Mr. Liu:

This letter is a request for approval of user changes to the Integrated Noise Model (INM) version 6.2 for use at Van Nuys (VNY) airport. These changes involve augmenting the standard departure profiles in the INM with actual procedures as flown by pilots operating at VNY.

Section 1 – Background

We are submitting this request for written approval for changes to the Integrated Noise Model standard profiles in support of a Van Nuys Airport FAR Part 161 study. Los Angeles World Airports (LAWA), the proprietor of VNY, is the sponsor of the study.

This letter contains data on the Gulfstream GIV operating procedures as provided by The Air Group. We will send similar letters containing data for other aircraft operating at VNY which also are flown differently than modeled in the INM. In support of the Part 161 process, we held a meeting on January 25, 2006 with personnel from The Air Group, a Fixed Base Operator (FBO) at VNY, to determine how they operate their GIV aircraft. The Air Group's approval of our modeling of this procedure is documented in Appendix A. We refer to this procedure as the Air Group procedure in this document.

Section 2 – Statement of Benefit

The Air Group procedure provides a benefit (maximum of -0.2 dBA, SEL) from 0.5 to 10 nautical miles (nm) from the brake release point.

Section 3 – Analysis Demonstrating Benefit

The differences between the standard INM departure and the Air Group procedure are primarily due to the different flaps schedule used in the Air Group procedure. The Air Group procedure reduces from 20 degrees of flaps at takeoff to 0 degrees of flaps at 400 feet Above Field Elevation (AFE). The standard INM GIV departure uses 20 degrees of flaps from takeoff up to 1,850 feet AFE. The intention of the Air Group procedure is to climb out from VNY at the maximum rate possible; the primary reason for this procedure is to quickly gain altitude to avoid conflicts with arrival traffic at neighboring Burbank airport.

The analysis shows the Air Group procedure provides noise benefits from 0.5 to 10 nautical miles from the brake release point. The benefit is a maximum (-1.7 dB, SEL, relative to the INM standard procedure) at 0.5 nm from the departure end, with the benefit decreasing as the aircraft continues down the flight track.

HARRIS MILLER MILLER & HANSON INC.

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Table 1 shows the SEL results under the flight path from the Air Group procedure; the standard INM departure profile is presented for comparison.

Section 4 – Concurrence on Aircraft Performance

A letter from Air Group stating agreement with these procedures is found in Appendix A.

Section 5 – Certification of New Parameters

The aircraft performance characteristics provided by the Air Group have been translated into INM procedure steps using standard engineering practice. We developed no new aircraft performance coefficients for this study. The procedure steps data in this study conform to the rules given in the INM User's Guide and SAE-1845. We used net corrected thrust in units of pounds for all thrust settings.

Section 6 – Graphical and Tabular Comparison

Tables 2-5 and Figures 1-3 present the results of the modeling analysis by showing the altitude, airspeed, and net corrected thrust per engine of the modeled procedures as a function of distance from the brake release point.

If you have any questions or comments regarding the content of this letter, you can reach me via telephone at 916.568.1116 or via e-mail at rbehr@hmmh.com. Thank you for your consideration. I look forward to hearing back from you at your earliest convenience.

Sincerely yours,

HARRIS MILLER MILLER & HANSON INC.

Robert D. Behr
Senior Consultant

enclosures:

HARRIS MILLER MILLER & HANSON INC.

AG - GIV Request for Approval of User Changes to INM
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Table 1. Comparison of Noise Impacts from Brake Release for INM Standard and Air Group Departure Procedures

INM Aircraft Model: GIV Profile Weight: 63,410 lb

Distance from Brake Release (nm)	INM Standard, SEL (dBA)	Air Group, SEL (dBA)	Difference SEL (dBA)
0.00	134.2	134.2	0.0
0.50	107.8	106.1	-1.7
1.00	91.6	90.7	-0.9
1.50	86.6	86.2	-0.4
2.00	83.4	83.1	-0.3
2.50	81.0	80.6	-0.4
3.00	79.7	79.5	-0.2
3.50	77.7	77.4	-0.3
4.00	76.4	76.2	-0.2
4.50	75.3	75.0	-0.3
5.00	74.1	73.4	-0.7
5.50	73.0	72.9	-0.1
6.00	71.7	71.9	0.2
6.50	71.0	71.0	0.0
7.00	70.2	70.1	-0.1
7.50	69.5	69.4	-0.1
8.00	68.8	68.7	-0.1
8.50	68.1	68.1	0.0
9.00	67.6	67.5	-0.1
9.50	67.0	66.9	-0.1
10.0	66.5	66.4	-0.1

HARRIS MILLER MILLER & HANSON INC.

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Table 2. INM Standard GIV Departure Procedures
 Profile Weight: 63,410 lb

Step Number	Altitude Above Field Elevation (AFE), feet	Calibrated Airspeed, knots	Flaps	Thrust Setting
1	0.0	-	20	Max takeoff
2	35.0	-	20	Max takeoff
3	-	159.2	20	Max takeoff
4	400	-	20	Max takeoff
5	600	-	20	Max Climb
6	750	-	20	Max Climb
7	1850	-	10	Max Climb
8	3000	-	10	Max Climb
9	-	250	zero	Max Climb
10	5000	-	zero	Max Climb
11	6000	-	zero	Max Climb
12	7000	-	zero	Max Climb
13	8000	-	zero	Max Climb
14	9000	-	zero	Max Climb
15	10000	-	zero	Max Climb

Table 3. Air Group GIV Departure Procedures
 Profile Weight: 63,410 lb

Step Number	Altitude Above Field Elevation (AFE), feet	Calibrated Airspeed, knots	Flaps	Thrust Setting
1	0	-	20	Max takeoff
2	35	-	20	Max takeoff
3	400	-	20	Max takeoff
4	-	160	zero	Max takeoff
5	2000	-	zero	Max Climb
6	3000	-	zero	Max Climb
7	-	250	zero	Max Climb
8	5000	-	zero	Max Climb
9	6000	-	zero	Max Climb
10	7000	-	zero	Max Climb
11	8000	-	zero	Max Climb
12	9000	-	zero	Max Climb
13	10000	-	zero	Max Climb

HARRIS MILLER MILLER & HANSON INC.

AG - GIV Request for Approval of User Changes to INM
 June 9, 2006
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Table 4. INM Standard GIV Departure Parameters
 Profile Weight: 63,410 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Net Corrected Thrust per Engine, lb
0.00	0.0	35.0	13181.0
0.45	0.0	147.0	11009.1
0.47	35.0	147.1	11011.1
0.70	209.3	160.8	10824.9
0.82	400.0	161.3	10835.9
0.90	500.0	161.5	8667.5
0.99	600.0	161.7	8690.3
1.12	750.0	162.1	8707.3
2.01	1850.0	164.8	8832.7
2.97	3000.0	167.6	8963.7
6.09	4573.4	269.5	8289.4
6.54	5000.0	271.3	8338.0
7.63	6000.0	275.4	8451.9
8.75	7000.0	279.7	8565.8
9.92	8000.0	284.1	8679.7
11.12	9000.0	288.5	8784.3
12.39	10000.0	293.1	8835.2

Table 5. Air Group GIV Departure Parameters
 Profile Weight: 63,410 lb

Distance from Brake Release, nm	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Net Corrected Thrust per Engine, lb
0.00	0.0	35.0	13181.0
0.45	0.0	147.0	11009.1
0.47	35.0	147.1	11011.1
0.68	400.0	147.9	11032.2
0.85	566.8	151.9	8791.5
1.34	1062.8	163.7	8735.4
2.07	2000.0	166.0	8842.2
2.88	3000.0	168.4	8956.1
5.04	3628.7	265.7	8181.7
6.47	5000.0	271.3	8338.0
7.56	6000.0	275.4	8451.9
8.69	7000.0	279.7	8565.8
9.85	8000.0	284.1	8679.7
11.06	9000.0	288.5	8784.3
12.32	10000.0	293.1	8835.2

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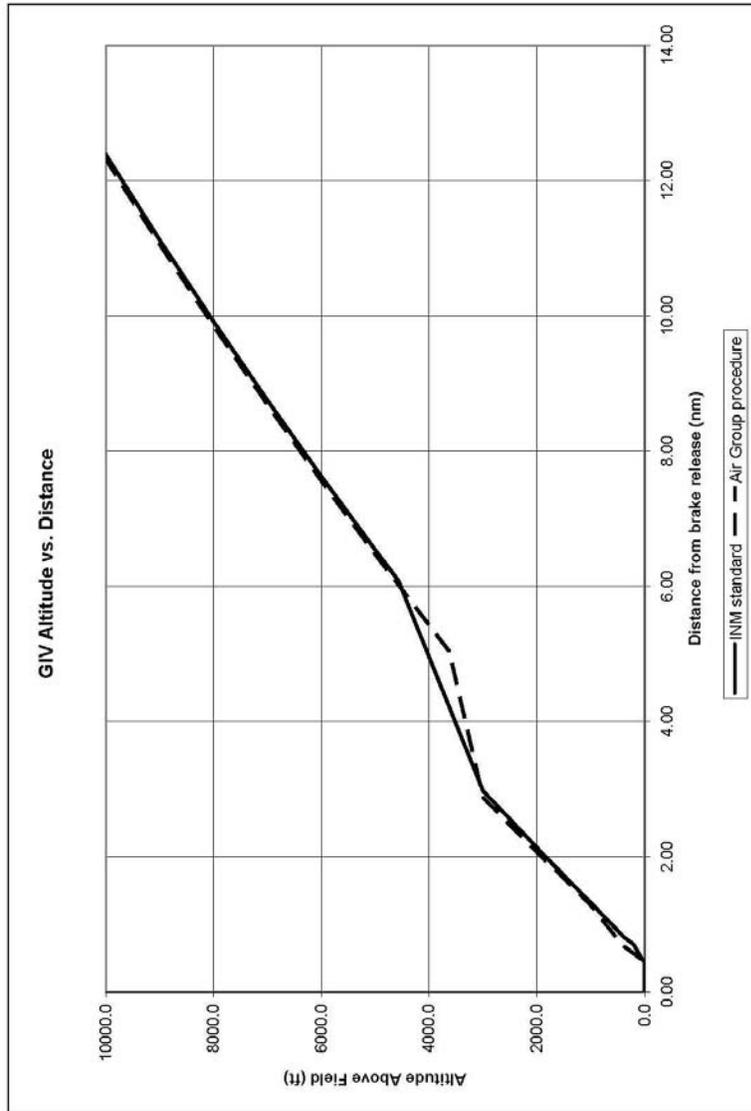


Figure 1. Altitude Profiles for Standard and Air Group Procedures

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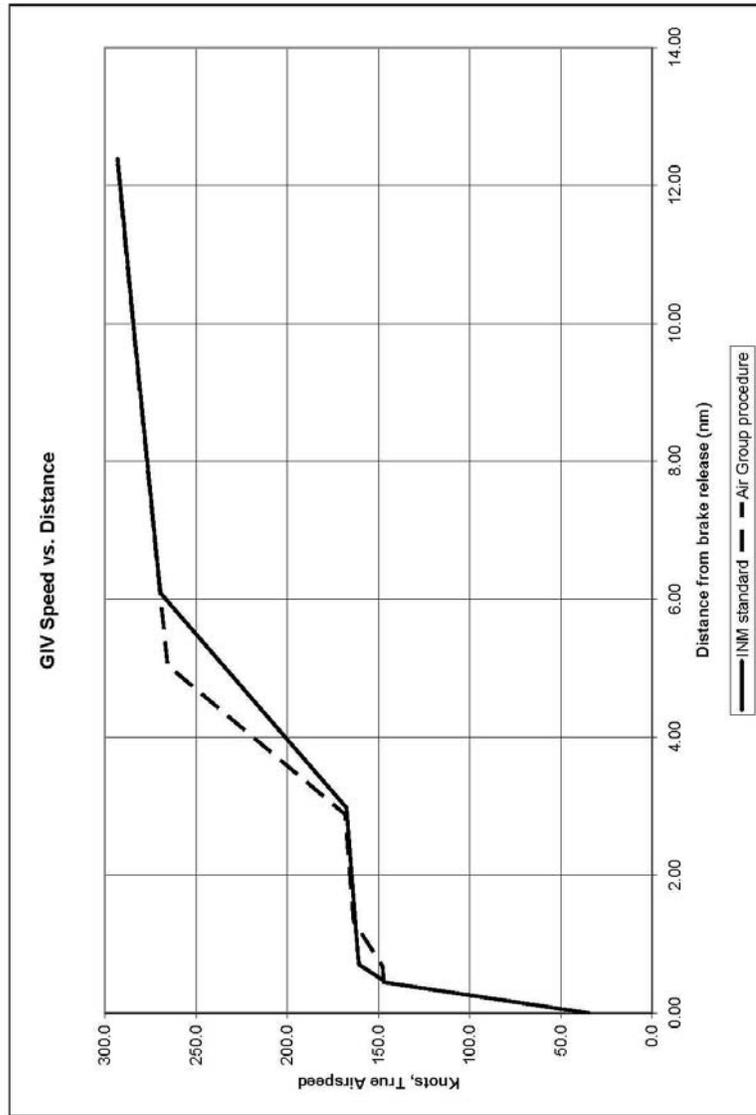


Figure 2. Airspeed Profiles for Standard and Air Group Procedures

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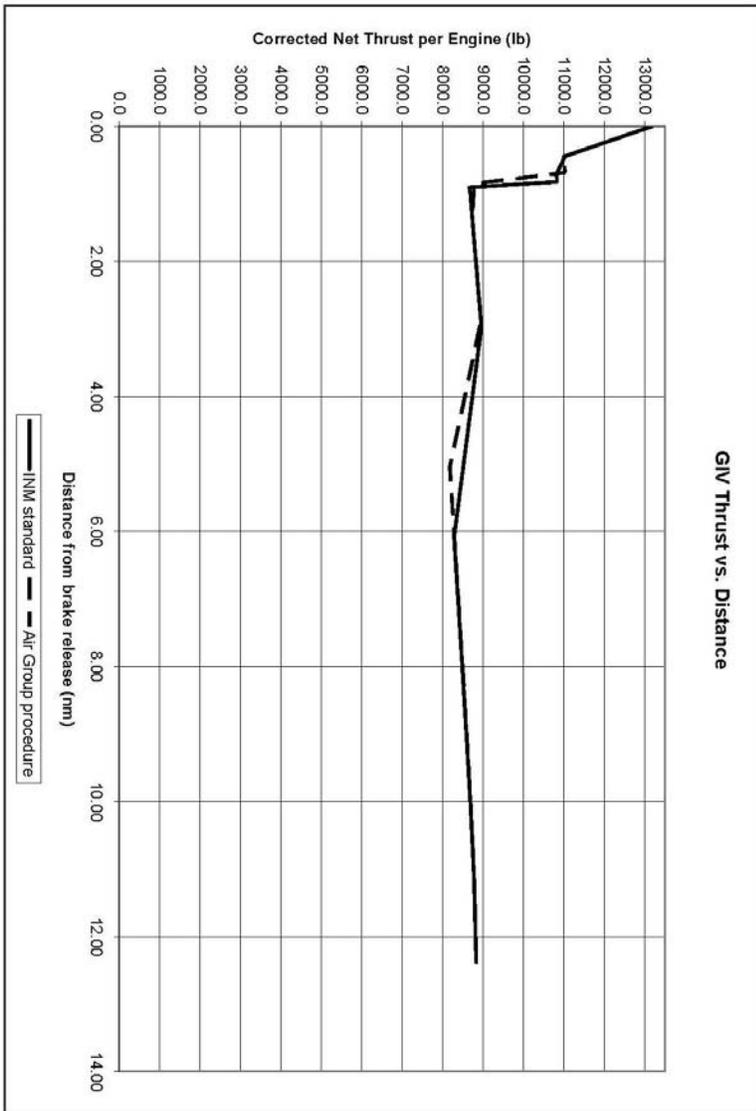


Figure 3. Thrust Profiles for Standard and Air Group Procedures

HARRIS MILLER MILLER & HANSON INC.

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APPENDIX A

B-8-08:14:48 (AG) File opa 11 818 608 7211

HARRIS MILLER MILLER & HANSON INC.

Review and Concurrence of VNY Aircraft Performance Data - Air Group
March 29, 2006
Page 4

The Air Group concurrence with modeled procedures:

The Air Group certifies that the proposed profile for Gulfstream IV aircraft departing from Van Nuys Airport falls within reasonable bounds of the aircraft's performance.

DAVID BAKER
Name

 Chief Pilot
Position/Title





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

Office of Environment and Energy

800 Independence Ave., S.W.
Washington, D.C. 20591

JUN 21 2006

Mr. Bob Behr
Harris Miller Miller & Hanson Inc.
945 University Ave., Suite 201
Sacramento, CA 95825

Dear Sirs:

The Office of Environment and Energy has reviewed the data submitted for the user defined departure profile data for the GIV and approves its use in the Van Nuys Airport FAR Part 161 study.

Please understand that this approval for use of the profile is limited to this particular Van Nuys Airport FAR Part 161 study. Any additional projects or non-standard INM input for VNY will require separate approval as will use of this profile for another site.

Sincerely,

Sandy Liu
AEE/Noise Division

HARRIS MILLER MILLER & HANSON INC.

VNY Noise Exposure Maps Update

Raytheon A-3 Departure Profile

This memorandum requests FAA approval of a user-defined departure profile for the A-3 flown by Raytheon for use in the VNY NEMs Update.

For the recently conducted Part 161 Study and Noisier Aircraft Phase-out for VNY, HMMH requested and FAA approved the user-defined departure profile for the Raytheon A-3. The previous analysis, which used INM 6.2, and FAA approval are included as attachments. The revised SEL comparison using INM7.0b is shown in the following tables.

**Table 1 Departure SEL Values for Proposed Raytheon A-3 Profile versus A-3 Standard Profile
 Calculated with INM 7.0b using standard atmospheric conditions**

Grid Points (nmi) Distance from start- of-take-off-roll	A-3 (SEL, dB)	Raytheon A-3 (SEL, dB)	Difference (dB)
0.5	134.0	130.6	-3.4
1.0	128.2	125.8	-2.4
1.5	123.3	122.2	-1.1
2.0	109.5	112.2	2.7
2.5	106.7	108.7	2.0
3.0	104.8	106.2	1.4
3.5	103.4	104.2	0.8
4.0	102.3	102.3	±0.0
4.5	101.3	100.7	-0.6
5.0	100.0	99.3	-0.7
5.5	98.6	97.9	-0.7
6.0	97.5	96.9	-0.6
6.5	97.0	96.0	-1.0
7.0	96.8	95.3	-1.5
7.5	96.7	94.4	-2.3
8.0	96.5	93.6	-2.9
8.5	96.4	92.9	-3.5
9.0	96.3	92.1	-4.2
9.5	96.2	91.3	-4.9
10.0	96.1	90.6	-5.5

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June 20, 2006

Sandy Liu
Federal Aviation Administration
Office of Environment and Energy
800 Independence Ave., SW
Washington, DC 20591

Subject: Request for Approval of User Changes to the Integrated Noise Model, A-3

Reference: HMMH Project Number 300701

Dear Mr. Liu:

This letter is a request for approval of user changes to the Integrated Noise Model (INM) version 6.2 for use at Van Nuys Airport (VNY). These changes involve augmenting the standard departure profiles in the INM with actual procedures as flown by pilots operating at VNY.

Section 1 – Background

We are submitting this request for written approval for changes to the Integrated Noise Model standard profiles in support of a Van Nuys Airport FAR Part 161 study. Los Angeles World Airports (LAWA), the proprietor of VNY, is the sponsor of the study.

This letter contains data on the Douglas A-3 (INM type A3) operating procedures as provided by Raytheon Flight Test Operations (Raytheon). We will send similar letters containing data for other aircraft operating at VNY which also are flown differently than modeled in the INM. In support of the Part 161 process, we received information from January-June 2006 from personnel at Raytheon, a Fixed Base Operator (FBO) at VNY, stating how they operate their A-3 aircraft. Raytheon's approval of our modeling of this procedure is documented in Appendix A. We refer to this procedure as the Raytheon procedure in this document.

Section 2 – Statement of Benefit

The Raytheon procedure provides a benefit (maximum of -6.4 dBA, SEL) from 0.0 to 1.5 nautical miles (nm) from the brake release point.

Section 3 – Analysis Demonstrating Benefit

The differences between the standard INM departure and the Raytheon procedure are primarily due to slightly different initial power settings during the takeoff roll and significant differences during the climb-out phase. The Raytheon procedure begins with a thrust setting of 96% RPM. Upon reaching 400 feet Above Field Elevation (AFE), the power is decreased to a power setting of 93%; this power setting is retained up to 10000 feet AFE. The standard INM A-3 departure uses 97% RPM during the ground roll, with an increase to 98% at rotation and up to 400 feet AFE. At 400 feet, the power is decreased to 93%.

The analysis shows the Raytheon procedure provides noise benefits from 0.0 to 1.5 nautical miles from the brake release point. After about 1.5 nm from brake release, the INM standard aircraft begins a power reduction to 93%, resulting in less noise under the flight path (maximum of 2.9 dBA, SEL, at 2.0 nm from brake release) than the Raytheon procedure due to the higher climb gradient and faster airspeeds of the standard procedure. Raytheon's chief test pilot has stated that the high speed (250

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A-3 Request for Approval of User Changes to INM
June 20, 2006
Page 2

knots at 700 feet AGL) and small climb gradient (5000 feet in 33 nm) of the INM standard procedure is impossible to accept in the high volume air traffic environment around VNY.

Table 1 shows the SEL results under the flight path from the Raytheon procedure; the standard INM departure profile is presented for comparison.

Section 4 – Concurrence on Aircraft Performance

A letter from Raytheon stating agreement with these procedures is found in Appendix A.

Section 5 – Certification of New Parameters

The aircraft performance characteristics provided by Raytheon have been translated into INM procedure steps using standard engineering practice. We developed no new aircraft performance coefficients for this study. The procedure steps data in this study conform to the rules given in the INM User's Guide and SAE-1845. We used % RPM for all thrust settings.

Section 6 – Graphical and Tabular Comparison

Tables 2-3 and Figures 1-3 present the results of the modeling analysis by showing the altitude, airspeed, and engine % RPM of the modeled procedures as a function of distance from the brake release point.

If you have any questions or comments regarding the content of this letter, you can reach me via telephone at 916.568.1116 or via e-mail at rbehr@hmmh.com. Thank you for your consideration. I look forward to hearing back from you at your earliest convenience.

Sincerely yours,

HARRIS MILLER MILLER & HANSON INC.

Robert D. Behr
Senior Consultant

enclosures:

HARRIS MILLER MILLER & HANSON INC.

A-3 Request for Approval of User Changes to INM
June 20, 2006
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Table 1. Comparison of Noise Impacts from Brake Release for INM Standard and Raytheon A-3 Departure Procedures

INM Aircraft Model: A3 Profile Weight: Standard 68,000 lb; Raytheon 69,400 lb

Distance from Brake Release (nm)	INM Standard, SEL (dBA)	Raytheon, SEL (dBA)	Difference SEL (dBA)
0.00	154.6	152.8	-1.8
0.50	134.1	130.6	-3.5
1.00	128.3	125.9	-2.4
1.50	123.6	122.3	-1.3
2.00	109.4	112.3	2.9
2.50	106.7	109.4	2.7
3.00	104.8	107.2	2.4
3.50	103.4	105.4	2.0
4.00	102.3	103.8	1.5
4.50	101.3	102.5	1.2
5.00	100.0	101.1	1.1
5.50	98.6	99.9	1.3
6.00	97.5	98.8	1.3
6.50	97.0	97.8	0.8
7.00	96.8	97.0	0.2
7.50	96.7	96.2	-0.5
8.00	96.5	95.5	-1.0
8.50	96.4	94.8	-1.6
9.00	96.3	94.0	-2.3
9.50	96.2	93.3	-2.9
10.00	96.1	92.6	-3.5

HARRIS MILLER MILLER & HANSON INC.

A-3 Request for Approval of User Changes to INM
June 20, 2006
Page 4

Table 2. INM Standard A-3 Departure Procedures

Profile Weight: 68,000 lb

Distance from Brake Release (nm)	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Power Parameter % RPM
0.00	0.0	35.0	97.0
0.20	0.0	105.0	98.0
1.48	400.0	190.0	98.0
1.81	700.0	250.0	93.0
3.13	1400.0	250.0	93.0
4.77	2100.0	250.0	93.0
6.09	3000.0	250.0	93.0
32.92	5000.0	250.0	93.0

Table 3. Raytheon A-3 Departure Procedures

Profile Weight: 69,400 lb

Distance from Brake Release (nm)	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Power Parameter % RPM
0.00	0.0	35.0	96.0
0.20	0.0	133.6	96.0
1.64	400.0	157.7	96.0
1.70	420.0	157.8	93.0
2.00	700.0	158.4	93.0
4.91	3000.0	190.4	93.0
19.11	10000.0	235.7	93.0

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A-3 Request for Approval of User Changes to INM
June 20, 2006
Page 5

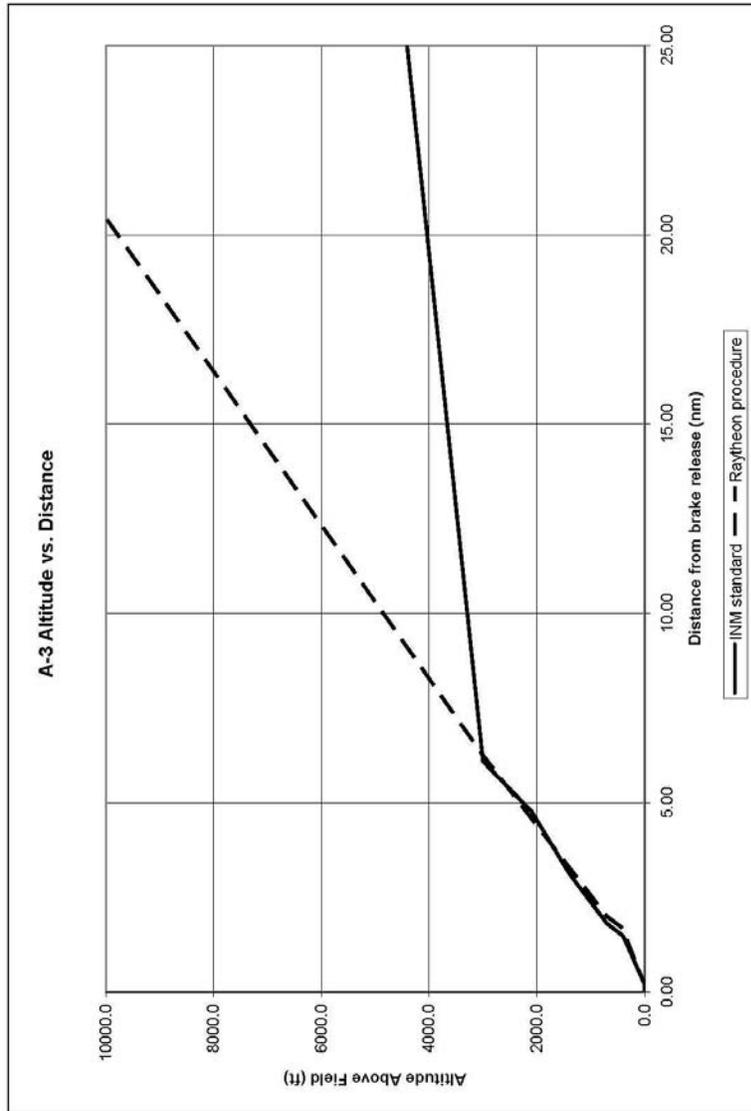


Figure 1. Altitude Profiles for Standard and Raytheon Procedures

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June 20, 2006
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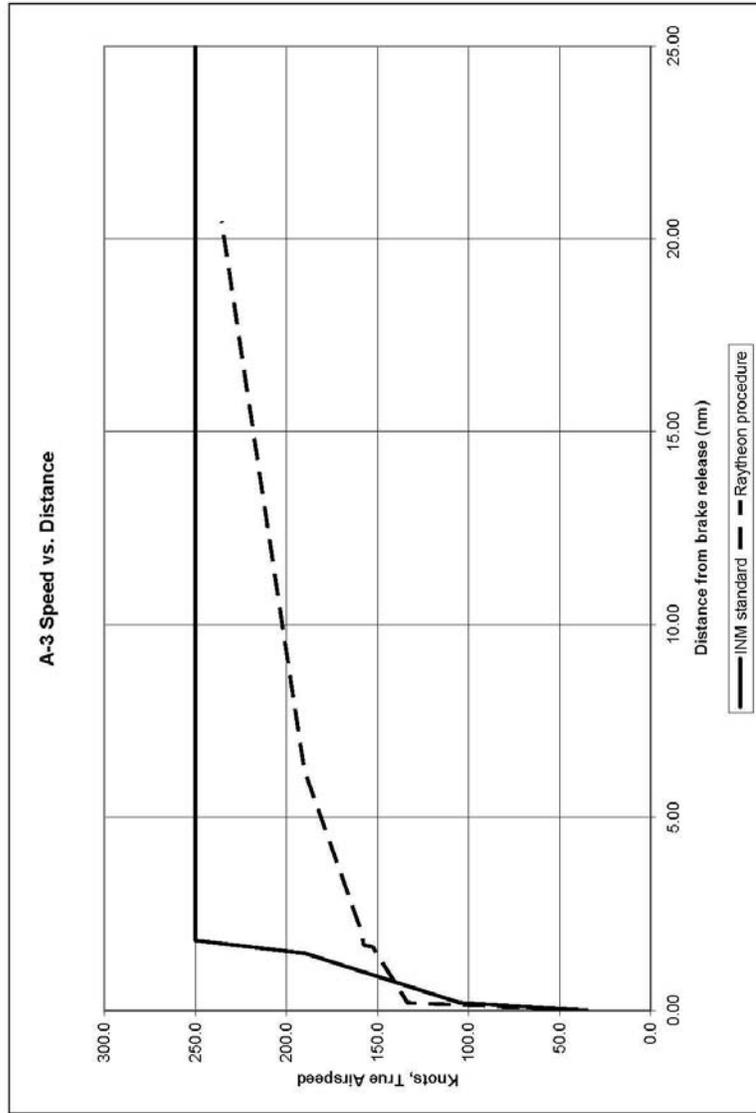


Figure 2. Airspeed Profiles for Standard and Raytheon Procedures

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A-3 Request for Approval of User Changes to INM
June 20, 2006
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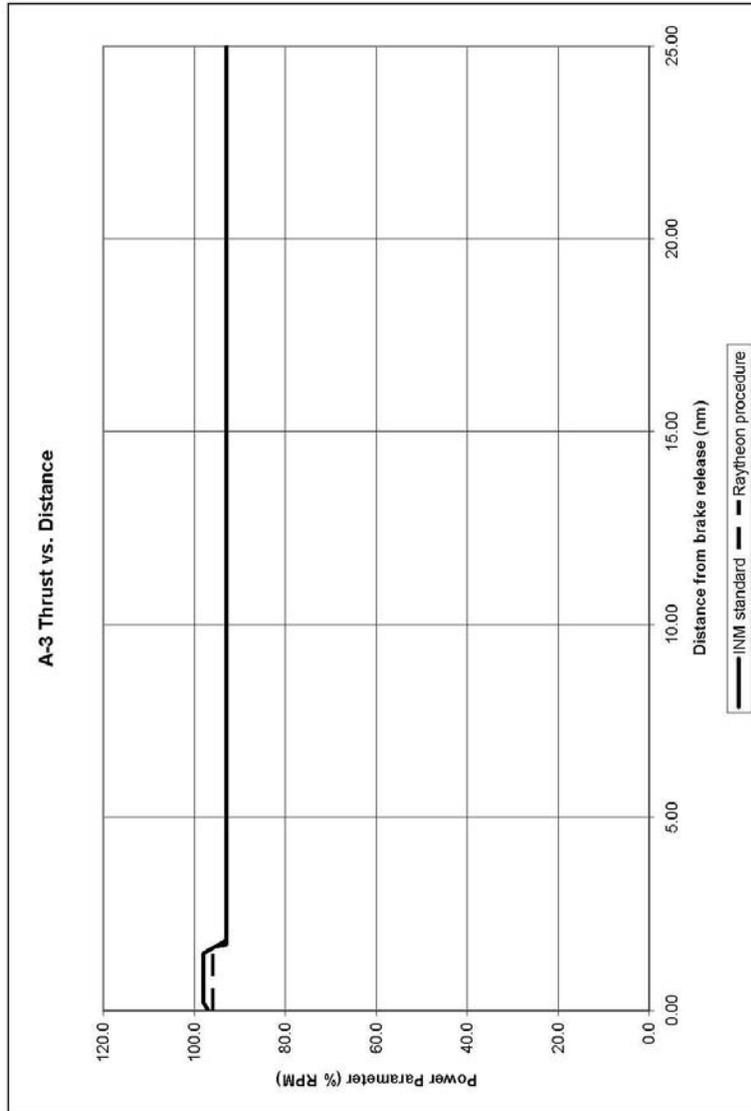


Figure 3. Thrust Profiles for Standard and Raytheon Procedures

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June 20, 2006
Page 8

APPENDIX A

Review and Concurrence of VNY Aircraft Performance Data - Raytheon
June 7, 2006
Page 4

Raytheon Flight Test Operations concurrence with modeled procedures:

Raytheon Flight Test Operations certifies that the proposed profile for A-3 aircraft departing from Van Nuys Airport falls within reasonable bounds of the aircraft's performance.


Name

 
Position/Title

JUN-19-2006 15:24 FROM:TQ 8183754587 10:916 568 1201 P.477

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March 13, 2007

Dr. "Bill" Hua He
Federal Aviation Administration
Office of Environment and Energy
800 Independence Ave., SW
Washington, DC 20591

Subject: Supplemental Information for A-3 Non-Standard Departure Profiles at Van Nuys Airport

Reference: HMMH Project Number 300701

Dear Dr. He:



This letter is in response to questions raised regarding our request (previously submitted in June 2006) to use actual operator profiles for the A-3 aircraft when modeling in the Integrated Noise Model (INM) at Van Nuys Airport (VNY). The INM modeling is in support of the VNY FAR Part 161 study. Los Angeles World Airports (LAWA), the proprietor of VNY, is the sponsor of the study.

Section 1 – Background

In recent communications from the FAA, questions were raised concerning how certain values were calculated using standard engineering procedures. This document and attachments attempt to describe in detail the methodology employed using information from the INM Version 6.0 User's Guide and Technical Manual and SAE-AIR-1845 equations.

In support of the Part 161 process, we received flight profile information from January-June 2006 from personnel at Raytheon, a Fixed Base Operator (FBO) at VNY, stating how they operate their A-3 aircraft. We worked directly with the Raytheon Chief Pilot to gather and record data during actual A-3 departure flights from VNY. The data were then converted into the required format for the Integrated Noise Model.

As stated in our original letter of request, the differences between the standard INM departure and the Raytheon procedure are primarily due to slightly different initial power settings during the takeoff roll and significant differences during the climb-out phase. The Raytheon procedure begins with a thrust setting of 96% RPM. Upon reaching 400 feet Above Field Elevation (AFE), the power is decreased to a power setting of 93%; this power setting is retained up to 10000 feet AFE. The standard INM A-3 departure uses 97% RPM during the ground roll, with an increase to 98% at rotation and up to 400 feet AFE. At 400 feet, the power is decreased to 93%.

Raytheon's chief test pilot has stated that the high speed (250 knots at 700 feet AFE and small climb gradient (5000 feet in 33 nm) of the INM standard procedure is impossible to accept in the high volume air traffic environment around VNY.

Section 2 – Derivation of New Parameters

Data provided by Raytheon included the aircraft power setting, altitude, rate of climb, and calibrated/indicated airspeed at various points in the profile. These aircraft performance characteristics were then translated into INM procedure steps using standard engineering practice which is detailed below and in the attached spreadsheet. The procedure steps data conform to the

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Supplemental Data for A-3 Request for Approval of User Changes to INM
 March 13, 2007
 Page 2

rules given in the INM User's Guide / Technical Manual and SAE-AIR-1845. We used % RPM for all thrust settings. We developed no new aircraft performance coefficients for this study.

The attached spreadsheet details the calculations of true airspeed from calibrated airspeed using INM Version 6.0 Technical Manual equations in Section 2.3.3 and SAE-AIR-1845 equation A5,

$$v_T = v \sigma^{1/2}$$

where

v_T is true airspeed in knots

v is calibrated airspeed in knots

σ is air density ratio at aircraft altitude



In addition, the attached spreadsheet shows the calculation of the distance traveled for each segment based on time and true airspeed (except for the provided Raytheon data at the 2 nm point) and then incorporated into the INM profile points file detailed in the table below.

Raytheon A-3 Departure Procedures
Profile Weight: 69,400 lb

Distance from Brake Release (nm)	Altitude Above Field Elevation (AFE), feet	True Airspeed, knots	Power Parameter % RPM
0.00	0.0	35.0	96.0
0.20	0.0	133.6	96.0
1.64	400.0	157.7	96.0
1.70	420.0	157.8	93.0
2.00	700.0	158.4	93.0
5.34	3000.0	190.4	93.0
17.77	10000.0	235.7	93.0

Section 3 –Comparison with Measured Data

As previously stated, specific cockpit procedure data were collected on several A-3 flights by Raytheon pilots. The chief pilot was well aware that the cockpit procedure variations would be compared for overall effects on noise monitor measurements. Noise monitor readings at permanent noise monitor V-7, located approximately two nautical miles from brake release for Runway 16R departures and near runway centerline, were gathered for the A-3 departures and compared to the INM results at the same point. The range of measured SEL values for the A-3 departures was 110.3 – 114.3 dBA. The modeled SEL for the Raytheon procedure was 112.2 dBA, nearly the center of the measured range of values. The modeled SEL for the A-3 Standard or Noisemap profile at V-7 was 109.4 dBA.

Section 4 –Other Observations

We noted that the INM standard points profile for the A-3 uses a constant "True Airspeed" of 250 knots from 700 feet through 5,000 feet AFE which is probably inconsistent with normal cockpit procedures to fly calibrated/indicated airspeed.

If you have any questions or comments regarding the content of this letter, you can reach me via telephone at 916.568.1116 or via e-mail at rbehr@hmmh.com. I hope this clarifies questions you had

HARRIS MILLER MILLER & HANSON INC.

Supplemental Data for A-3 Request for Approval of User Changes to INM
March 13, 2007
Page 3

on our previous request. Thank you for your consideration. I look forward to hearing back from you at your earliest convenience.

Sincerely yours,

HARRIS MILLER MILLER & HANSON INC.



Robert D. Behr
Senior Consultant

Attachment: A3 Data Sheet

A-3 Data Sheet
 Computation of data for profile points INM input

kts2fps 1.6878
 T 56.15077
 P 29.92
 E 799
 R 459.67
 L 0.003566
 EXP 5.256562
 gamma 1.4
 gas_constar 1716.2
 nm2ft 6076.116

A-3
 Ground roll 1200 Nmap

 First Seg
 altitude 400
 Distance 10000 1.645788
 KIAS 155
 KTAS 157.7548
 Power 96

Second Seg
 altitude 420
 ROC 1000
 ROC (ft/s) 16.66667
 KIAS 155
 KTAS 157.8014
 True (ft/s) 266.3372
 climb (rad) 0.062618
 Distance 10318.98 1.698285
 Power 93

Third Seg
 altitude 700
 ROC 1000
 ROC (ft/s) 16.66667
 time (sec) 16.8
 KIAS 155
 KTAS 158.4554
 True (ft/s) 267.441
 accel 0.065701
 Distance 12152.23 2
 Power 93

Fourth Seg
 altitude 3000
 ROC 2000
 ROC (ft/s) 33.33333

ISA Day
 Altitude, ROC, Power, KIAS from Raytheon

INM 6.0 Technical Manual 2.3.3
 theta delta sigma
 0.991757 0.957421 0.965379

theta delta sigma
 0.991619 0.956724 0.96481

SAE-AIR-1845 Equation A9

theta delta sigma
 0.989694 0.947001 0.956862

Based on Raytheon flight data (700 feet at 2 r

theta delta sigma
 0.973881 0.870122 0.893458

time (sec)	69			
KIAS	180			
KTAS	190.43			
True (ft/s)	321.4078			
accel	0.782127			
Distance	32467.51	5.343465	Equation based on velocity and acceleration ϵ	
Power	93			
Fifth Seg				
altitude	10000	theta	delta	sigma
ROC	2000	0.925754	0.666625	0.720089
ROC (ft/s)	33.33333			
time (sec)	210			
KIAS	200			
KTAS	235.6877			
True (ft/s)	397.7937			
accel	0.363743			
Distance	107983.7	17.77183		
Power	93			



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

Office of Environment and Energy

800 Independence Ave., S.W.
Washington, D.C. 20591

April 4, 2007

Mr. Robert D Behr Jr.
Harris Miller Miller & Hanson Inc.
945 University Avenue, Suite 201
Sacramento, CA 95825

Dear Mr. Behr:

The Office of Environment and Energy has reviewed the proposed non-standard INM departure profiles for three aircraft (Lear 25, Boeing 727 and A3) submitted for aircraft modeling for Van Nuys Airport (VNY) in support of the Los Angeles World Airports (LAWA) FAA Part 161 Study. Our office has also reviewed the supplemental steps used in deriving the non-standard profiles.

Our office approves the proposed revision of the profiles, with the understanding that

- (1) The Clay Lacy Aviation has reviewed and verified that the proposed profiles for Lear25 and Boeing 727 are within the bounds of performance for the aircraft, and that the operators do in fact fly the procedure being modeled.
- (1) The Raytheon Flight Test Operations has reviewed and verified that the proposed profiles for A-3 are within the bounds of performance for the aircraft, and that the operators do in fact fly the procedure being modeled.

Please understand that approvals listed above are limited to this particular Part 161 Study. Any additional projects or non-standard INM input will require separate approval.

Sincerely,

A handwritten signature in cursive script that reads "M. Marsan".

Dr. Mehmet Marsan
Acting Manager
AEE/Noise Division

HARRIS MILLER MILLER & HANSON INC.

VNY Noise Exposure Maps Update

Gulfstream GIII with Hushkits

Background

This memorandum requests FAA approval of a user-defined aircraft for the Gulfstream III (GIII) recertified to 14 CFR Part 36 Stage 3 via hushkit installations for use in the Van Nuys Airport (VNY) Noise Exposure Map Update (HMMH Project 304380). The Los Angeles World Airports (LAWA) is the sponsoring agency

For the recently conducted Part 161 Study and Noisier Aircraft Phase-out for VNY, HMMH requested and FAA approved the user-defined aircraft GIII that is basically the INM 7.0 standard GIIIB with modified noise-power-distance (npd) curves to reflect the effects of the hushkits. The original submittal has been further refined through the use of aircraft certification data as published in Federal Aviation Administration Advisory Circular (AC) 36-1H, Appendix 1, March 2, 2010. There are no changes to the standard GIIIB INM profiles.

Statement of Benefit

With the modification of existing GIII aircraft with the hushkits that qualify the aircraft as Stage 3, it becomes necessary to provide this aircraft in the modeling process to accurately reflect the aircraft noise exposure around VNY.

Analysis

The process for modifying the GIIIB npd curves to account for the addition of Hushkits will be summarized here with all calculations presented in the step-by-step Excel spreadsheet. The resulting data will be included in the INM 7.0b study for the user-defined aircraft, GIIIB_HKC.

With the publishing of certification data for the hushkitted GIIIB/GIII aircraft in March 2010, efforts were made to refine the previous process and submittal that the FAA approved on August 29, 2007. The following table shows the AC36-1H, Appendix 1, data listed for the GIIIB/GIII with and without hushkits. These data show that the sound level for takeoff is approximately 7-dB less for the GIIIB /GIII with hushkits aircraft while the non-hushkit GIIIB/GIII aircraft is slightly quieter on approach. Using these data and the existing INM 7.0b npd data for the SPEYHK noise identifier, the revised npd curves were developed.

In INM 7.0b, the GIIIB uses the SPEYHK noise curves. The arrival and departure noise curves for SPEYHK have identical values for thrust settings from 1,000 to 10,000 lbs. For this process the following assumptions were made:

- On arrival, the aircraft was approximately 394 feet above the certification measurement position on arrival based on the aircraft certification procedures in 14 CFR Part 36 B36.3c.
- There were no changes to aircraft performance
- Arrival thrust and speed for both the GIIIB and GIIIB with hushkit certification measurements are the same
- As with the SPEYHK npd curves, the departure and arrival npd curves are identical

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 INM User-defined Aircraft Request – GIII with Hushkits
 Page 2

Table 1 Aircraft Noise Data for Certificated Turbojet Powered Airplanes

Source: AC36-1H Appendix 1

MANUFACTURER	MODEL	MTOW 1000#	MLW 1000#	ENGINE MODEL	No.	THRUST 1000#	BER		FLAPS		(EPNDB)		AP	STAGE	NOTES
							TO	AP	TO	AP	TO	SL			
GULFSTREAM	GIII-GIII	69.70	58.50	SPEY 511-8	2	11.40	0.64	10	39	91.1	103.4	97.3	2	12	
GULFSTREAM	G-III(G-III)(Quiet Tech Aero-STC STD261EAT)	69.70	58.50	SPEY 511-8(RB 163-25)	2	11.40	0.64	10	39	87.0	95.9	97.7	2	12	

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INM User-defined Aircraft Request – GIII with Hushkits
 Page 3

- The db offset for certification EPNL for unit of thrust also applies to npd curves for other metrics (SEL, Lmax)

The next step was to find the arrival thrust in the INM EPNdB npd curves associated with 394 feet and 97.3 dBA (97.3 dBA is arrival EPNdB reported in AC36-1H for the unhushkitted GIII). Table 2 shows the interpolated EPNdB values for a distance of 394 feet. The interpolation indicates that the thrust level should be 3,373 lbs.

Table 2 INM Thrust Estimate for 394 feet
 Source: HMMH

Thrust	EPNdB in dBA		
	200 ft	400 ft	394 ft
1,000	89.0	85.1	85.2
2,000	94.1	90.2	90.3
4,000	104.3	100.4	100.5
6,000	110.3	106.4	106.5
8,000	117.3	113.1	113.5
10,000	123.9	120.0	120.1

The following step was to determine the dB benefit or difference between the hushkit and non-hushkit GIIIB aircraft noise levels as a function of thrust. Both a linear interpolation and a second order equation (quadratic equation) were developed using the two known points and assuming that at zero thrust there is no differential in thrust for the two aircraft. In the final analysis the developed quadratic equation was used to provide a continuous function and to provide the A-weighted dB adjustments at the listed npd curve thrust levels (Table 3).

Table 3 Calculated dB Adjustments to SPEYHK INM npd Curves
 Source: HMMH

Thrust (lbs)	Interpolated A-weighted dB Adjustment	
	Linear	Quadratic
1,000	0.4	0.3
2,000	0.4	0.5
4,000	-0.2	0.2
6,000	-2.2	-0.8
8,000	-4.2	-2.6
10,000	-6.1	-5.2

The quadratic adjustments were then added to the SPEYHK npd curves to derive the SPEYHK_HKC npd curves for the different metric npd curves. Table 4 is an example of the SPEYHK and the adjusted SPEYHK_HKC EPNdB npd curves (E). The npd curves for the other npd metrics (M, P, S) are adjusted in the same manner.

Table 5 presents a grid analysis of the resulting SEL values for both the GIIIB and proposed GIIIB_HKC aircraft on straight out departures. The GIIIB_HKC USER profile is the same as that for the GIIIB STANDARD; the only changes are to the npd curves. The INM output SEL contours for 85 dB, 90 dB, and 95 dB are shown in Figure 1 (GIIIB_HKC in colors) for a standard day.

HARRIS MILLER MILLER & HANSON INC.

INM User-defined Aircraft Request – GIII with Hushkits
 Page 4

Table 4 INM npd Curve Adjustments (EPNdB as an Example)

NOISE_ID	NOISE_TYPE	OP_MODE	THR_SET	L_200	L_400	L_630	L_1000	L_2000	L_4000	L_6300	L_10000	L_16000	L_25000
SPEYHK	E	A	1000	89	85.1	82.1	78.7	72.9	66.4	61.7	56.5	50.9	45.2
SPEYHK	E	A	2000	94.1	90.2	87.2	83.8	78	71.5	66.8	61.6	56	50.3
SPEYHK	E	A	4000	104.3	100.4	97.4	94	88.2	81.7	77	71.8	66.2	60.5
SPEYHK	E	A	6000	110.3	106.4	103.4	100	94.2	87.7	83	77.8	72.2	66.5
SPEYHK	E	A	8000	117.3	113.4	110.4	107.2	101.2	94.7	90	84.8	79.2	73.5
SPEYHK	E	A	10000	123.9	120	117	113.6	107.8	101.3	96.6	91.4	85.8	80.1
SPEYHK	E	D	1000	89	85.1	82.1	78.7	72.9	66.4	61.7	56.5	50.9	45.2
SPEYHK	E	D	2000	94.1	90.2	87.2	83.8	78	71.5	66.8	61.6	56	50.3
SPEYHK	E	D	4000	104.3	100.4	97.4	94	88.2	81.7	77	71.8	66.2	60.5
SPEYHK	E	D	6000	110.3	106.4	103.4	100	94.2	87.7	83	77.8	72.2	66.5
SPEYHK	E	D	8000	117.3	113.4	110.4	107.2	101.2	94.7	90	84.8	79.2	73.5
SPEYHK	E	D	10000	123.9	120	117	113.6	107.8	101.3	96.6	91.4	85.8	80.1

NOISE_ID	NOISE_TYPE	OP_MODE	THR_SET	L_200	L_400	L_630	L_1000	L_2000	L_4000	L_6300	L_10000	L_16000	L_25000
SPEYHK_HKC	E	A	1000	89.3	85.4	82.4	79	73.2	66.7	62	56.8	51.2	45.5
SPEYHK_HKC	E	A	2000	94.6	90.7	87.7	84.3	78.5	72	67.3	62.1	56.5	50.8
SPEYHK_HKC	E	A	4000	104.5	100.6	97.6	94.2	88.4	81.9	77.2	72	66.4	60.7
SPEYHK_HKC	E	A	6000	109.5	105.6	102.6	99.2	93.4	86.9	82.2	77	71.4	65.7
SPEYHK_HKC	E	A	8000	114.7	110.8	107.8	104.6	98.6	92.1	87.4	82.2	76.6	70.9
SPEYHK_HKC	E	A	10000	118.7	114.8	111.8	108.4	102.6	96.1	91.4	86.2	80.6	74.9
SPEYHK_HKC	E	D	1000	89.3	85.4	82.4	79	73.2	66.7	62	56.8	51.2	45.5
SPEYHK_HKC	E	D	2000	94.6	90.7	87.7	84.3	78.5	72	67.3	62.1	56.5	50.8
SPEYHK_HKC	E	D	4000	104.5	100.6	97.6	94.2	88.4	81.9	77.2	72	66.4	60.7
SPEYHK_HKC	E	D	6000	109.5	105.6	102.6	99.2	93.4	86.9	82.2	77	71.4	65.7
SPEYHK_HKC	E	D	8000	114.7	110.8	107.8	104.6	98.6	92.1	87.4	82.2	76.6	70.9
SPEYHK_HKC	E	D	10000	118.7	114.8	111.8	108.4	102.6	96.1	91.4	86.2	80.6	74.9

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INM User-defined Aircraft Request – GIII with Hushkits
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**Table 5 Departure SEL Values for Proposed GIIIB_HKC versus GIIIB
 Calculated with INM 7.0b using standard atmospheric conditions**

Grid Points (nmi) Distance from start-of-take-off-roll	GIIIB (SEL, dB)	GIIIB_HKC (SEL, dB)	Difference (dB)
0.5	138.9	133.6	-5.3
1.0	116.0	110.8	-5.2
1.5	102.4	99.9	-2.5
2.0	99.5	97.1	-2.4
2.5	97.2	94.8	-2.4
3.0	95.3	92.9	-2.4
3.5	93.9	91.5	-2.4
4.0	92.7	90.3	-2.4
4.5	91.7	89.2	-2.5
5.0	91.1	88.4	-2.7
5.5	94.5	89.8	-4.7
6.0	99.2	93.2	-6.0
6.5	98.0	92.1	-5.9
7.0	96.7	90.9	-5.8
7.5	95.5	89.8	-5.7
8.0	94.4	88.8	-5.6
8.5	93.3	87.8	-5.5
9.0	92.2	86.8	-5.4
9.5	91.5	86.1	-5.4
10.0	90.7	85.2	-5.5

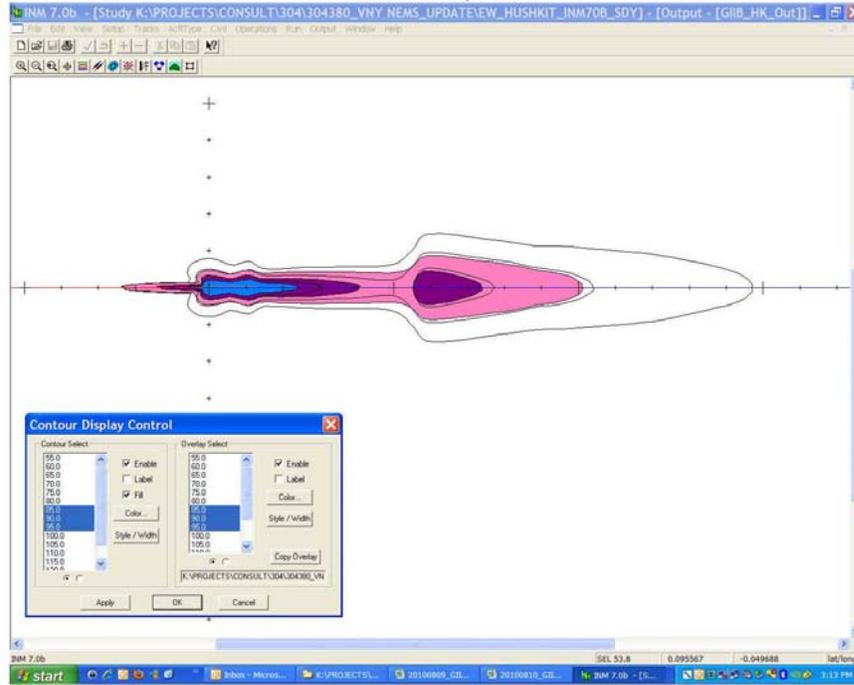
The EXCEL spreadsheet with the step-by-step calculations is included in a ZIP file attached to the overall submittal.

Request your approval to use these modified npd curves to represent a GIII recertified to 14 CFR Part 36 Stage 3 via a hushkit in the INM 7.0b analysis for the Van Nuys Noise Exposure Map Update.

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Figure 1 INM 7.0b Screen Shot Comparing SEL of GIIB and GIIB_HKC
Source: HMMH, INM7.0b



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August 13, 2007

Dr. "Bill" Hua He
Federal Aviation Administration
Office of Environment and Energy
800 Independence Ave., SW
Washington, DC 20591

Subject: Request for Approval of User-defined Aircraft – Gulfstream III Aircraft with Hushkits
Reference: HMMH Project Number 300701

Dear Dr. He:



Harris Miller Miller & Hanson Inc. (HMMH) is developing existing and forecast noise exposure contours for Van Nuys Airport (VNY) in support of the Los Angeles World Airports (LAWA) FAA Part 161 Study. We are using the Integrated Noise Model (INM) Version 7.0 for all aircraft noise modeling. This memorandum requests FAA approval of a user-defined aircraft for the Gulfstream III (GIII) recertified to 14 CFR Part Stage 3 via hushkit installations.

In previous correspondence (July 10, 2007), HMMH requested FAA guidance regarding the appropriate INM aircraft to use that would reflect the GIII operating with installed hushkits. The current INM identified aircraft substitution for the GIII is the Gulfstream IIB (INM type GIIB), which the FAA recommended as a conservative estimate for the hushkitted GIII (FAA letter dated July 17, 2007). After further review, HMMH submits this request for a user-defined aircraft that is basically the INM 7.0 standard GIIB with modified noise-power-distance (npd) curves to reflect the effects of the hushkits. There are no changes to the standard GIIB INM profiles.

Attachment 1 is a spreadsheet that summarizes data from FAA AC 36-3H which displays estimated maximum A-weighted sound levels for Gulfstream aircraft. Also included in the spreadsheet is information we received from Mr. Jim Skalecky (FAA) on the latest data he had regarding estimated maximum A-weighted sound levels from hushkitted Gulfstream aircraft. Comparing these data, the hushkitted GIII has maximum A-weighted sound levels for takeoff that are approximately 7.3 dB less than the non-hushkitted GIII while the approach levels of both aircraft are nearly the same. Using these limited data and the existing INM 7.0 data, HMMH developed revised INM Lmax and SEL npd curves as detailed below. We do not have data, nor do we have a need, to create npd curves for the other INM metrics. Therefore our proposed user-defined aircraft only has Lmax and SEL npd curves.

In INM 7.0, the GIIB uses the SPEYHK noise curves. Attachment 2 reproduces the SPEYHK noise curves (INM file npd_curve.dbf) and shows that the arrival and departure noise curves have identical values for thrust settings from 1,000 to 10,000 lbs. We assumed the aircraft was approximately 394 feet above the certification measurement position on arrival, based on the aircraft certification procedures in 14 CFR Part 36 B36.3c. In addition, we assumed that there were no changes to performance profiles between the two aircraft. Our next step was to find the thrust in the Lmax npd curves associated with 394 feet and 89.7 dBA (87.9 dBA is arrival Lmax reported in AC36-3H for the unhushkitted GIII). Table 1 shows the interpolated Lmax values for a distance of 394 feet. The

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interpolation indicates that the thrust level should be 3,228 lbs to produce an Lmax of 89.7 dBA at a distance of 394 feet.

Table 1 INM Thrust Estimate for 394 feet

Thrust	SPEYHK INM 7.0 npd_curve.pdf		interpolated
	Lmax in dBA		
	200 ft	400 ft	394 ft
1,000	86.5	80.4	80.6
2,000	90.6	84.5	84.7
4,000	98.8	92.7	92.9
6,000	108.7	102.6	102.8
8,000	113.5	107.4	107.6
10,000	119.4	113.3	113.5



Both data sources for the take-off maximum A-weighted values (Attachment 1) indicate that there was a thrust-cutback during the take-off certification measurements. However, the thrust was not reported for either aircraft. Without further information, we therefore assumed that:

- There is a linear relationship between thrust and maximum A-weighted value benefit for the hushkit
- There is a constant 0.2 dB benefit at and below 3,228 lb of thrust (as reported in the INM npd_curve.dbf)
- The hushkit provides a linear benefit, in terms of maximum A-weighted level, as a function of thrust
- The 7.3 dB reduction maximum A-weighted sound level occurred at maximum thrust. This is a conservative assumption that would under-predict the benefits of the hushkit because the 7.3 dB was actually measured at a thrust cut back setting and hushkits are typically designed to provide maximum benefit at maximum thrust.
- Aircraft performance for both aircraft is identical
- Estimates of the hushkit's maximum A-weighted sound level benefit can also be directly applied to Sound Exposure Level npd curves.

Table 2 summarizes the two assumed data points for the two aircraft. In summary, the hushkitted GIIIB has a 0.2 dB reduction at 3,228 lb of thrust and 7.3 dB reduction at 10,000 lb of thrust compared to the unhushkitted version.

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Table 2 Summary of Thrust versus Benefit

	Lmax (dBA) For Non- Hushkitted GIIB AC36-3H GIIB	Lmax (dBA) For Hushkitted GIII FAA provided	dB Difference	Assumed thrust (INM npd_curve.dbf)
Approach	89.7	89.5	-0.2	3,228
Departure	82.8	75.5	-7.3	10,000

Table 3 presents our proposed adjustment to the INM 7.0 npd curves as a function of thrust. We added the npd curve for 3,228 lb of thrust by interpolating between 2,000 and 4,000 lb of thrust. This allows the INM to model a constant adjustment of -0.2 dB up to 3,228 lbs of thrust. As discussed previously, we assume a linear relationship for the benefit of the hushkit between 3,228 lb and 10,000 lb of thrust.



Table 3 Lmax Adjustment as a Function of Thrust

Curves	Thrust	Interpolated dB adj	
A	1000	-0.2	from INM 7.0 npd
A	2000	-0.2	from INM 7.0 npd
A	3228	-0.2	Added to fix curve interpolation
A	4000	-1.0	from INM 7.0 npd
A	6000	-3.1	from INM 7.0 npd
A	8000	-5.2	from INM 7.0 npd
A	10000	-7.3	from INM 7.0 npd

We created the proposed SPEYHK_HKA entries for npd_curve.dbf by applying these adjustments to the INM 7.0 SPEYHK npd curves Lmax (NOISE_TYPE = M) and SEL (NOISE_TYPE = S) (presented in Attachment 2). The proposed npd_curve.dbf entries are designated SPEYHK_HKA and are presented in Attachment 3. The proposed SPEYHK_HKA noise curves do not include entries for other metrics.

Table 4 presents a grid analysis of the resulting SEL values for both the GIIB and proposed GIIB_HKA aircraft on straight out departures. The GIIB_HKA USER profile is the same as that for the GIIB STANDARD. As discussed above, the only changes are to the npd curves. The INM output SEL contours for 85 dB, 90 dB, and 95 dB are shown in Attachment 4 (GIIB_HKA in colors) for a standard day. The benefit of the proposed GIIB_HKA is only 2.4 to 2.7 dB at a range of 1.5 to 5.0 nautical miles because the GIIB STANDARD profile includes a thrust cut-back. Attachment 4 shows that the proposed aircraft has little benefit on arrival, which is expected. Attachment 4 and Table 4 show most benefit associated with the start-of-take-off roll.

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Table 4 Departure SEL Values for Proposed GIIB_HKA versus GIIB
 Calculated with INM 7.0 using standard conditions

Grid Points (nmi) Distance from start- of-take-off-roll	GIIB (SEL, dB)	GIIB_HKA (SEL, dB)	Difference (dB)
0.5	138.9	133.6	-5.3
1.0	116.0	110.8	-5.2
1.5	102.4	99.9	-2.5
2.0	99.5	97.1	-2.4
2.5	97.2	94.8	-2.4
3.0	95.3	92.9	-2.4
3.5	93.9	91.5	-2.4
4.0	92.7	90.3	-2.4
4.5	91.7	89.2	-2.5
5.0	91.1	88.4	-2.7
5.5	94.5	89.8	-4.7
6.0	99.2	93.2	-6.0
6.5	98.0	92.1	-5.9
7.0	96.7	90.9	-5.8
7.5	95.5	89.8	-5.7
8.0	94.4	88.8	-5.6
8.5	93.3	87.8	-5.5
9.0	92.2	86.8	-5.4
9.5	91.5	86.1	-5.4
10.0	90.7	85.2	-5.5



We have included a copy of the INM 7.0 study with the standard GIIB and GIIB_HKA profiles and npd curves.

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In the absence of additional information, we request your approval for us to use these modified npd curves to represent a GIII recertified to 14 CFR Part 36 Stage 3 via a hushkit in the INM 7.0 analysis for the Van Nuys Part 161 Study.

Thank you for your consideration of this request.

Sincerely yours,

HARRIS MILLER MILLER & HANSON INC.



Robert D. Behr
Senior Consultant



Inc: INM 7.0 Study

HARRIS MILLER MILLER & HANSON INC.

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**ATTACHMENT 1
 ESTIMATED MAXIMUM A-WEIGHTED SOUND LEVELS
 MEASURED IN ACCORDANCE WITH PART-36 APPENDIX -C- PROCEDURES
 (From AC 36-3H; April 25, 2002)**

MANUFACTURER	AIRPLANE	ENGINE	TOGW 1000 LBS	MLW 1000 LBS	TO APP dBA	TO APP ELAPS	TO APP ELAPS	NOTES
GULFSTREAM	GULFSTREAM II	SPEY MK511-8	62.00	58.50	80.1	83.9	20*	8,15,16
GULFSTREAM	GULFSTREAM II	SPEY MK511-8	62.00	58.50	82.6	83.9	20*	8,15
GULFSTREAM	GULFSTREAM II	SPEY MK511-8	62.00	58.50	82.6	90.6	20	8,15
GULFSTREAM	GULFSTREAM II	SPEY MK511-8	63.50	58.50	84.2	90.7	10	8,15,16
GULFSTREAM	GULFSTREAM IIB/GIII	SPEY MK511-8	69.70	58.50	82.8	82.5	10	8,15,16
GULFSTREAM	GULFSTREAM IIB/GIII	SPEY MK511-8	69.70	58.50	82.8	89.7	10	8,15,16
GULFSTREAM	GULFSTREAM IV	RR TAY 611-8	73.20	58.50	64.2	80.7	10	8,15
GULFSTREAM	GULFSTREAM IV - SP	RR TAY 611-8	74.60	66.00	64.9	81.3	20	8,15
GULFSTREAM	G-V	BR700-710A1-10	90.50	75.30	68.0	82.0	10	8,15

*****AC36-3H UPDATE INFORMATION***
 ESTIMATED MAXIMUM A-WEIGHTED SOUND LEVELS
 MEASURED IN ACCORDANCE WITH PART-36 APPENDIX -C- PROCEDURES
 (From James Skalecky, FAA, July 6, 2007 email to Joseph Cardello, HMMH)**

MANUFACTURER	AIRPLANE	ENGINE	TOGW 1000 LBS	MLW 1000 LBS	TO APP dBA	TO APP ELAPS	TO APP ELAPS	NOTES
GULFSTREAM	GII (QTA STC ST02618AT)	SPEY MK 511-8	62	58.5	73.2	89.4	39	8, 15, 16
GULFSTREAM	GII (QTA STC ST02618AT)	SPEY MK 511-8	64.8	58.5	74.8	89.4	39	8, 15, 16
GULFSTREAM	GII/GIII (QTA STC ST02618AT)	SPEY MK 511-8	68.2	58.5	74.8	89.5	39	8, 15, 16
GULFSTREAM	GII/GIII (QTA STC ST02618AT)	SPEY MK 511-8	69.7	58.5	75.5	89.5	39	8, 15, 16

Notes: 8 Thrust cutback used.
 15 Based on manufacturer's data
 16 Equipped with hushkit.



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ATTACHMENT 2 INM 7.0 Unmodified npd Curves (npd_curve.dbf)
 Lmax

NOISE_ID	NOISE_TYPE	OP_MODE	THR_SET	L_200	L_400	L_690	L_1000	L_2000	L_4000	L_6300	L_10000	L_16000	L_25000
SPEYHK	M	A	1000	86.5	80.4	76.1	71.5	64.1	56.3	50.8	45	38.9	32.8
SPEYHK	M	A	2000	90.6	84.5	80.2	75.6	66.2	60.4	54.9	49.1	43	36.9
SPEYHK	M	A	4000	98.8	92.7	88.4	83.8	76.4	68.6	63.1	57.3	51.2	45.1
SPEYHK	M	A	6000	108.7	102.6	98.3	93.7	86.3	78.5	73	67.2	61.1	55
SPEYHK	M	A	8000	113.5	107.4	103.1	98.5	91.1	83.3	77.8	72	65.9	59.8
SPEYHK	M	A	10000	119.4	113.3	109	104.4	97	89.2	83.7	77.9	71.8	65.7
SPEYHK	M	D	1000	86.5	80.4	76.1	71.5	64.1	56.3	50.8	45	38.9	32.8
SPEYHK	M	D	2000	90.6	84.5	80.2	75.6	66.2	60.4	54.9	49.1	43	36.9
SPEYHK	M	D	4000	98.8	92.7	88.4	83.8	76.4	68.6	63.1	57.3	51.2	45.1
SPEYHK	M	D	6000	108.7	102.6	98.3	93.7	86.3	78.5	73	67.2	61.1	55
SPEYHK	M	D	8000	113.5	107.4	103.1	98.5	91.1	83.3	77.8	72	65.9	59.8
SPEYHK	M	D	10000	119.4	113.3	109	104.4	97	89.2	83.7	77.9	71.8	65.7

SEL

NOISE_ID	NOISE_TYPE	OP_MODE	THR_SET	L_200	L_400	L_690	L_1000	L_2000	L_4000	L_6300	L_10000	L_16000	L_25000
SPEYHK	S	A	1000	89.4	85.5	82.5	79.1	73.3	66.8	62.1	56.9	51.3	45.6
SPEYHK	S	A	2000	93.5	89.6	86.6	83.2	77.4	70.9	66.2	61	55.4	49.7
SPEYHK	S	A	4000	101.7	97.8	94.8	91.4	85.6	79.1	74.4	69.2	63.6	57.9
SPEYHK	S	A	6000	111.8	107.8	104.9	101.5	95.7	89.2	84.5	79.3	73.7	68
SPEYHK	S	A	8000	117.3	113.4	110.4	107	101.2	94.7	90	84.8	79.2	73.5
SPEYHK	S	A	10000	123.9	120	117	113.6	107.8	101.3	96.6	91.4	85.8	80.1
SPEYHK	S	D	1000	89.4	85.5	82.5	79.1	73.3	66.8	62.1	56.9	51.3	45.6
SPEYHK	S	D	2000	93.5	89.6	86.6	83.2	77.4	70.9	66.2	61	55.4	49.7
SPEYHK	S	D	4000	101.7	97.8	94.8	91.4	85.6	79.1	74.4	69.2	63.6	57.9
SPEYHK	S	D	6000	111.8	107.8	104.9	101.5	95.7	89.2	84.5	79.3	73.7	68
SPEYHK	S	D	8000	117.3	113.4	110.4	107	101.2	94.7	90	84.8	79.2	73.5
SPEYHK	S	D	10000	123.9	120	117	113.6	107.8	101.3	96.6	91.4	85.8	80.1



HARRIS MILLER MILLER & HANSON INC.

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ATTACHMENT 3 Proposed INM 7.0 npd_curve.dbf Entries for GIII Recertified to 14 CFR Part 36 Stage 3 via a Hushkit
M = Lmax; S = SEL

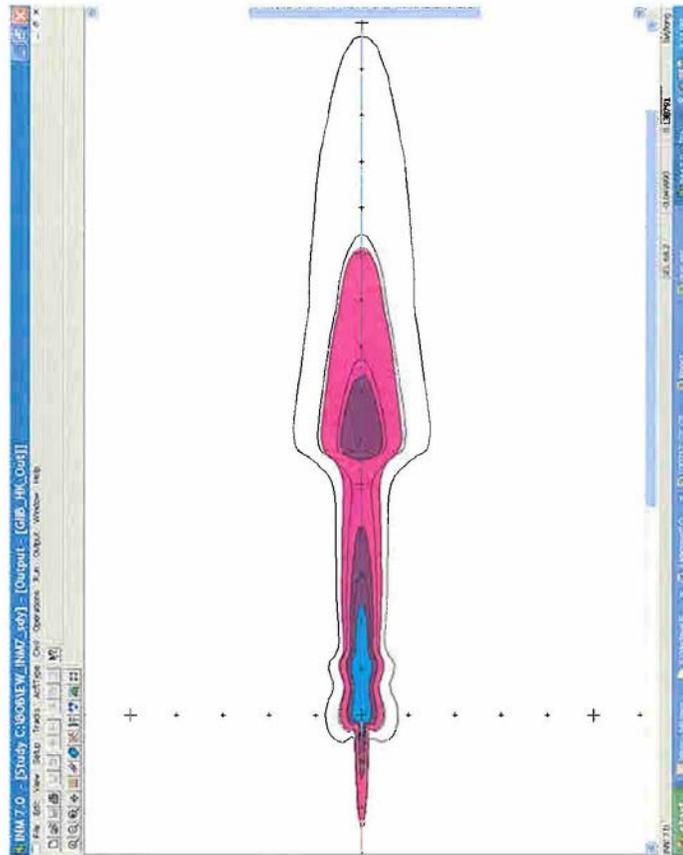
NOISE ID	NOISE_TYPE	OP_MODE	THR_SET	L_200	L_400	L_650	L_1000	L_2000	L_4000	L_6300	L_10000	L_16000	L_25000
SPEYHK_HKA	M	A	1000	86.3	80.2	75.9	71.3	63.9	56.1	50.6	44.8	38.7	32.6
SPEYHK_HKA	M	A	2000	90.4	84.3	80	75.4	68	60.2	54.7	48.9	42.8	36.7
SPEYHK_HKA	M	A	4000	97.8	91.7	87.4	82.8	75.4	67.6	62.1	56.3	50.2	44.1
SPEYHK_HKA	M	A	6000	105.6	99.5	95.2	90.6	83.2	75.4	69.9	64.1	58	51.9
SPEYHK_HKA	M	A	8000	108.3	102.2	97.9	93.3	85.9	78.1	72.6	66.8	60.7	54.6
SPEYHK_HKA	M	A	10000	112.1	106	101.7	97.1	89.7	81.9	76.4	70.6	64.5	58.4
SPEYHK_HKA	M	D	1000	86.3	80.2	75.9	71.3	63.9	56.1	50.6	44.8	38.7	32.6
SPEYHK_HKA	M	D	2000	90.4	84.3	80	75.4	68	60.2	54.7	48.9	42.8	36.7
SPEYHK_HKA	M	D	4000	97.8	91.7	87.4	82.8	75.4	67.6	62.1	56.3	50.2	44.1
SPEYHK_HKA	M	D	6000	105.6	99.5	95.2	90.6	83.2	75.4	69.9	64.1	58	51.9
SPEYHK_HKA	M	D	8000	108.3	102.2	97.9	93.3	85.9	78.1	72.6	66.8	60.7	54.6
SPEYHK_HKA	M	D	10000	112.1	106	101.7	97.1	89.7	81.9	76.4	70.6	64.5	58.4
SPEYHK_HKA	S	A	1000	89.2	85.3	82.3	78.9	73.1	66.6	61.9	56.7	51.1	45.4
SPEYHK_HKA	S	A	2000	93.3	89.4	86.4	83	77.2	70.7	66	60.8	55.2	49.5
SPEYHK_HKA	S	A	4000	100.7	96.8	93.8	90.4	84.6	78.1	73.4	68.2	62.6	56.9
SPEYHK_HKA	S	A	6000	108.7	104.8	101.8	98.4	92.6	86.1	81.4	76.2	70.6	64.9
SPEYHK_HKA	S	A	8000	112.1	108.2	105.2	101.8	96	89.5	84.8	79.6	74	68.3
SPEYHK_HKA	S	A	10000	116.6	112.7	109.7	106.3	100.5	94	89.3	84.1	78.5	72.8
SPEYHK_HKA	S	D	1000	89.2	85.3	82.3	78.9	73.1	66.6	61.9	56.7	51.1	45.4
SPEYHK_HKA	S	D	2000	93.3	89.4	86.4	83	77.2	70.7	66	60.8	55.2	49.5
SPEYHK_HKA	S	D	4000	100.7	96.8	93.8	90.4	84.6	78.1	73.4	68.2	62.6	56.9
SPEYHK_HKA	S	D	6000	108.7	104.8	101.8	98.4	92.6	86.1	81.4	76.2	70.6	64.9
SPEYHK_HKA	S	D	8000	112.1	108.2	105.2	101.8	96	89.5	84.8	79.6	74	68.3
SPEYHK_HKA	S	D	10000	116.6	112.7	109.7	106.3	100.5	94	89.3	84.1	78.5	72.8



HARRIS MILLER MILLER & HANSON INC.

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August 13, 2007
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ATTACHMENT 4
Comparison of SEL Contours (85, 90, 95) for GIIIB_HKA (Color) and GIIIB (Black)





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

Office of Environment and Energy

800 Independence Ave., S.W.
Washington, D.C. 20591

August 29, 2007

Mr. Robert Behr
Harris Miller Miller and Hanson Inc.
945 University Avenue, Suite 201
Sacramento, California 95825

Dear Mr. Behr,

The Office of Environment and Energy (AEE) has received the memo dated August 13, 2007, referencing HMMH Project Number 300701 requesting approval for a user-defined aircraft type. AEE has reviewed the request for approval for INM user defined aircraft for the Gulfstream III recertified to 14 CFR Part Stage 3 via hushkit installations (GIII) for the Part 161 Study at Van Nuys Airport (VNY).

After reviewing the assumptions and methodology used to develop the GIII user-defined aircraft, the use of the GIII is accepted for the Part 161 Study at VNY.

Sincerely,

A handwritten signature in cursive script that reads "M. Marsan".

Mehmet Marsan, Ph.D.
Acting Manager
AEE/Noise Division

HARRIS MILLER MILLER & HANSON INC.

VNY Noise Exposure Maps Update

Arrival Profile for 3.9-degree Descent Angle

This memorandum requests FAA approval of a user-defined arrival profile for those aircraft with procedure profiles for use in the VNY NEMs Update.

The INM standard arrival profiles for most INM aircraft types consist of a 3-degree descent angle to the runway or displaced threshold. At VNY Runway 16R (the primary arrival runway for all jet aircraft and larger aircraft types), the published descent angle for both the ILS approach and the visual approach is 3.9 degrees. To correct for this non-standard descent angle, HMMH proposes to derive a user-defined aircraft profile that changes the descent angle in each aircraft procedure arrival profile to 3.9 degrees while keeping the other parameters (altitude, calibrated airspeed, and flap settings) the same as the standard arrival profile. Tables 1 and 2 show, for example, the standard and user-defined arrival profiles for the Lear 35 aircraft for the affected steps.

Table 1. INM Standard Lear 35 Arrival Profile
 Profile Weight: 13,800 lb

Step Number	Altitude Above Field Elevation (AFE), feet	Calibrated Airspeed, knots	Flaps	Descent Angle
1	6,000	250	0	3.0
2	3,000	144.5	10	3.0
3	1,500	134.5	D-Intr	3.0
4	1,000	127.8	D-40	3.0
5	touchdown		D-40	

Table 2. INM User-Defined Lear 35 Arrival Profile
 Profile Weight: 13,800 lb

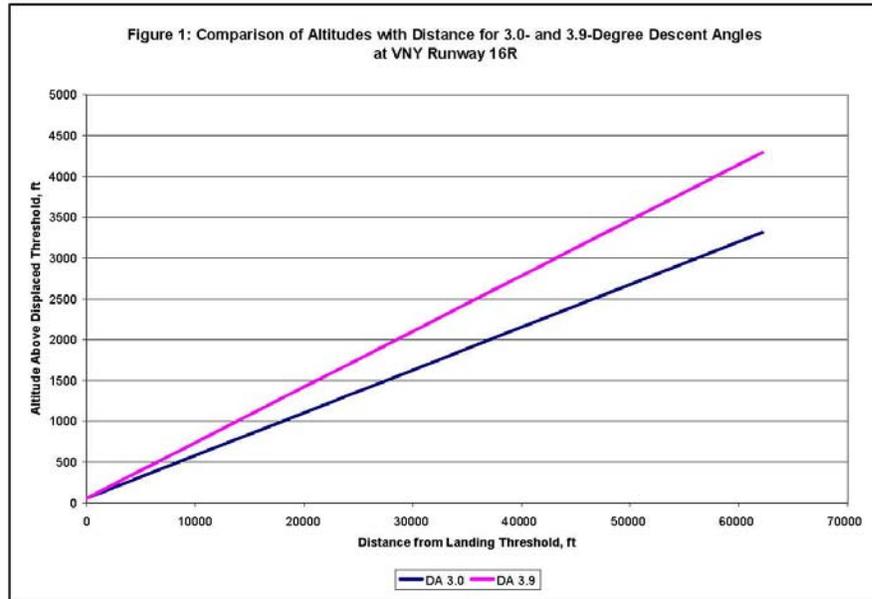
Step Number	Altitude Above Field Elevation (AFE), feet	Calibrated Airspeed, knots	Flaps	Thrust Setting
1	6,000	250	0	3.9
2	3,000	144.5	10	3.9
3	1,500	134.5	D-Intr	3.9
4	1,000	127.8	D-40	3.9
5	touchdown		D-40	

Those aircraft types existing and projected for VNY in 2015 that do not have procedure profiles but fixed-point profiles would not be changed. These would primarily include the Boeing 737-800 for which the number of operations is and expected to be small.

Runway 16R has a displaced arrival threshold of 1,431 feet. Figure 1 shows the two descent angle profiles plotted out to 10 nautical miles from the end of Runway 16R.

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INM User-defined Aircraft Request – Non-Standard Descent Angle to Runway 16R
Page 2



Again, using the Lear 35 as an example, Table 3 provides the comparison of the SEL values for the standard and 3.9-degree arrival using INM7.0b. As shown in Table 3 and Figure 2, the 3.9-degree descent angle for the Lear 35 shows an approximate 2-3-dB decrease at the points presented.

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INM User-defined Aircraft Request – Non-Standard Descent Angle to Runway 16R
 Page 3

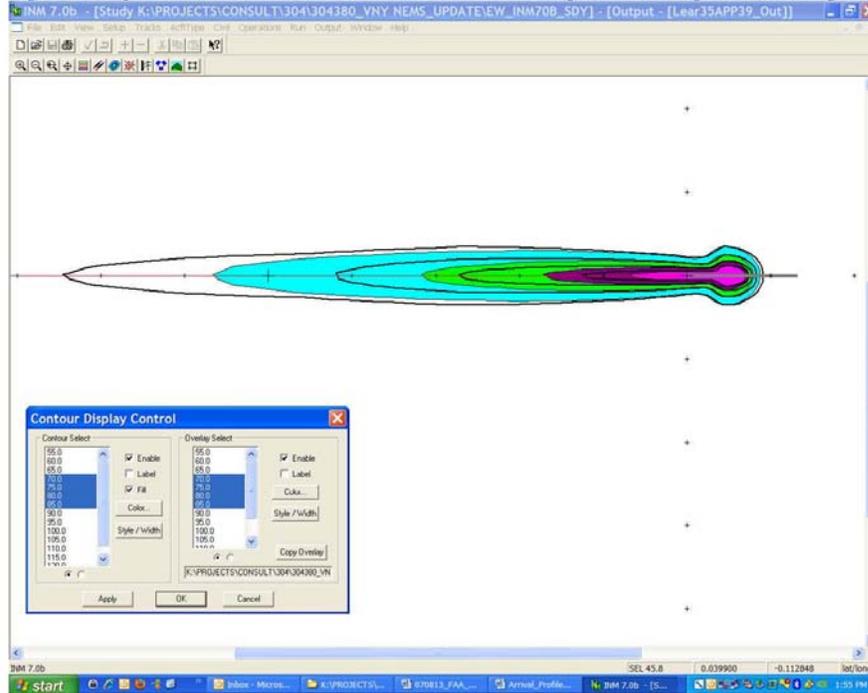
Table 3 SEL Values for Example Lear35 Standard Arrival Profile versus Lear35 User-Defined 3.9-degree Descent Angle Arrival Profile Calculated with INM 7.0b using standard atmospheric conditions

Grid Points (nmi) Distance from Runway 16R	Lear35 3.0-degree Descent Angle (SEL, dB)	Lear35 3.9-degree Descent Angle (SEL, dB)	Difference (dB)
10.0	66.7	63.1	-3.6
9.5	67.3	63.8	-3.5
9.0	68.1	64.5	-3.6
8.5	68.8	65.3	-3.5
8.0	69.4	66.0	-3.4
7.5	70.0	66.9	-3.1
7.0	70.6	67.8	-2.8
6.5	71.2	68.8	-2.4
6.0	71.9	69.5	-2.4
5.5	72.7	70.3	-2.4
5.0	73.4	71.1	-2.3
4.5	74.2	72.1	-2.1
4.0	75.6	73.0	-2.6
3.5	77.3	74.0	-3.3
3.0	79.0	75.5	-3.5
2.5	80.8	76.9	-3.9
2.0	82.3	79.0	-3.3
1.5	84.1	81.0	-3.1
1.0	86.3	83.4	-2.9
0.5	89.3	86.6	-2.7

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INM User-defined Aircraft Request – Non-Standard Descent Angle to Runway 16R
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Figure 2 Comparison of Lear 35 Arrival SEL Contours for the 3-degree and 3.9-degree Descent Angles



Descent Angle 3 degrees – black line; Descent Angle 3.9 degrees – color fill-in.

While only the Lear 35 profile is shown, similar results can be expected from the other aircraft types landing on Runway 16R based on the differences in altitude shown in Figure 1.

This request is to modify the descent angle only for those aircraft arriving on Runway 16R with procedure profiles within the INM 7.0b. No other changes to the profiles for the arrivals will be made. Those aircraft arriving on the other runways will continue to be modeled using the standard INM arrival profiles.

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APPENDIX G REQUESTS TO FAA REGARDING NON-STANDARD AIRCRAFT TYPE MODELING SUBSTITUTIONS

The INM database does not include data for every aircraft type. The database includes a lookup table that identifies approved “substitutes” for many types. However, that lookup table does not include some aircraft types modeled at VNY. For those aircraft types, recommendations for INM substitute aircraft were forwarded to the FAA for approval or identification of an alternate approved substitution. The following pages present copies of the LAWA request to FAA for guidance.

Appendix H presents the FAA response. The noise contours presented in this document followed the FAA guidance.

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*Los Angeles
World Airports*

October 19, 2010

Victor Globa
Environmental Protection Specialist
Federal Aviation Administration
Western-Pacific Region
Los Angeles Airports District Office
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LAX
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City of Los Angeles
Antonio R. Villaraligosa
Mayor
Board of Airport
Commissioners
Alan I. Rothenberg
President
Valerio C. Velasco
Vice President
Joseph A. Aredas
Michael A. Lawson
Fernando M. Torres-Gil
Walter Zifkin
Gina Marie Lindsey
Executive Director

Subject: Request for Approval of Integrated Noise Model Non-Standard Aircraft Substitutions in Support of the Noise Exposure Map Update at Van Nuys Airport

Dear Mr. Globa:

Los Angeles World Airports (LAWA) requests the Federal Aviation Administration's (FAA) approval of non-standard aircraft substitutions in the FAA Integrated Noise Model (INM) for updating the Noise Exposure Maps (NEMs) for Van Nuys Airport (VNY).

Based on aircraft fleet data derived from the Van Nuys Data System and Airport Noise and Operations Monitoring System (ANOMS), LAWA has identified a list of aircraft types that operate at VNY but are not included in the INM Version 7.0b database. For each of these aircraft types a recommended INM substitution has been identified to use in the NEMs Update modeling process. Consistent with FAA policies and procedures, we are submitting this listing and recommended aircraft types for review and approval by FAA/AE.

LAWA requests that the FAA approve the use of these "non-standard" aircraft substitutions in INM 7.0b for the VNY NEM Update. If you have any specific comments or questions related to this request, please feel free to contact Robert Behr of Harris Miller Miller & Hanson (HMMH) at (916) 368-0707, ext 2226 or me at (424) 646-6499.

Thank you for your assistance on this matter.

Sincerely yours,

Scott Tatro
Environmental Affairs Officer

Attachment: INM Aircraft Substitution Requests and Suggestions

T:\ENVMGT\2010\010238SMT\PCDOCS#274956v1



1 World Way Los Angeles California 90045-5803 Mail P.O. Box 92216 Los Angeles California 90009-2216 Telephone 310 646 5252 Internet www.lawa.aero

HARRIS MILLER MILLER & HANSON INC.

Request for INM 7.0b Aircraft Type Substitutions for Van Nuys Part 150 NEM Update
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Appendix A

INM Aircraft Substitution Requests and Suggestions

We have identified the following 32 aircraft types included in the VNY Part 150 Noise Exposure Map fleet mixes for which FAA approved substitutes are required. In each case, we have proposed a substitute from the INM 7.0b database. The bases for our proposals are discussed following the table. The bases for some recommendations refer to recent guidance FAA provided HMMH for the VNY Part 161 study¹, and for recent noise studies at Naples Municipal Airport (APF)², Jackson-Evers International Airport (JAN)³, Louisville International Airport (SDF)⁴, Martin County Airport/Witham Field (SUA)⁵.

Table A1 Aircraft Types and Recommended INM Substitutions

#	Group	Aircraft Code	Represented Aircraft Models	Recommended INM Substitution
1	Jet	C56X	Cessna 560XL Citation Excel	CNA55B
2	Jet	GALX	1126 Galaxy, Gulfstream 200	CL601
3	Jet	GLEX	Bombardier Global Express BD-700	GV
4	Jet	H25C	Raytheon Hawker BAe HS 125-1000	LEAR35
5	Jet	L39	Aero L-39 Albatros	T-38A
6	Jet	PRM1	Premier 1, 390	CNA500
7	Piston	AC68, AC6L	Aero Commander 680	BEC58P
8	Piston	B25	North American B-25 Mitchell	DC3
9	Piston	B26	Boeing (Douglas) B-26 Marauder/Invader	DC3
10	Piston	C46	Curtiss C-46 Commando	DC3
11	Piston	C82	Fairchild C-82 Jet Packet	DC3
12	Piston	U16	Grumman HU-16 Albatross	DC3
13	Piston	C411	Cessna 411	BEC58P
14	Piston	CE25	Hydroplane Che-25	BEC58P
15	Piston	P68	Partenavia P.68	BEC58P
16	Piston	TCOU	Helio H-580 Twin Courier	BEC58P
17	Turboprop	B350	Beechcraft King Air 350	DHC6
18	Turboprop	C10T	Cessna P210 (turbine)	CNA208
19	Turboprop	C2	Grumman Greyhound	HS748A
20	Turboprop	CVLT	Convair 580	CVR580
21	Turboprop	P46T	Piper Malibu Meridian	SD330
22	Turboprop	P68T	Partenavia P.68 (turbine)	CNA441
23	Turboprop	P180	Piaggio P-180 Avanti	DHC6
24	Turboprop	PC12	Pilatus PC-12, Eagle	1900D
25	Turboprop	TBM7	Socata TBM-700	1900D
26	Rotor	BK117C	Eurocopter BK117C.1C	B222
27	Rotor	B412	Bell 412/412EP	BO105
28	Rotor	EC20	Eurocopter EC120 Colibri	SA341G
29	Rotor	EXPL	MD 900 Explorer	EC130
30	Rotor	B47G/H	Bell 47-G/H	R44
31	Rotor	B430	Bell 430	S76
32	Rotor	S58T	Sikorsky S-58	S76

¹ Van Nuys Airport Part 161 Study, HMMH Project No. 300701.000, FAA approval issued November 21, 2006.

² Naples Municipal Airport Part 150 Study, HMMH Project No. 302720.001, FAA approval issued September 16, 2009.

³ Jackson-Evers International Airport Part 150 Study, HMMH Project No. 304140, FAA approval issued May 13, 2010.

⁴ Louisville International Airport Part 150 Noise Exposure Map Update, HMMH Project No. 304060.000, FAA approval issued July 13, 2010.

⁵ Martin County Airport/Witham Field Part 150 Noise Exposure Map Update, HMMH Project No. 303880.003, FAA approval issued June 11, 2010.

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Request for INM 7.0b Aircraft Type Substitutions for Van Nuys Part 150 NEM Update
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1. Cessna 560XL Citation Excel C56X

We propose to model the C56X operations with INM type CNA55B as recommended for JAN.

In the JAN Part 150 the FAA approved the Cessna Citation Bravo (CNA55B) as the substitution aircraft for the Cessna Citation Excel (Cessna model 560XL). Both aircraft have the PW500 series power plants with similar certification noise levels shown in Table A2.

Table A2 Noise Certification Data from Cessna 560XL and Cessna 550 Bravo

MANUFACTURER	TYPE DESIGNATION	MTOW (lb)	MLW (lb)	ENGINE MANUFACTURER / TYPE DESIGNATOR	NOISE LEVEL (EPNdB)		
					FLY OVER	LATERAL	APPROACH
Cessna	Cessna 560XL	20,000	18,700	PW545A	72.4	85.3	93.1
Cessna	Cessna 550 Bravo	14,800	13,500	PW530A	73.7	85.2	91.2

Source: FAA AC 36-1H, as posted on http://www.faa.gov/about/office_org/headquarters_offices/AEP/noise_levels/media/uscert_appendix_01_030210.xls

2. 1126 Galaxy Gulfstream 200 – GALX

We propose to model GALX operations with INM type CL601 as recommended for JAN.

The Israel Aircraft Industries (IAI) 1126 Galaxy was renamed the Gulfstream G200 shortly after Gulfstream's parent company, General Dynamics, purchased Galaxy Aerospace in 2001. The aircraft has a MTOW of 34,850 lb. a MLW of 28,000 lb. and powered by two Pratt & Whitney Canada PW306A turbofan engines rated at 6,040 lb. each.⁶ This is comparable to the INM type CL600 (MTOW 36,000 lb., MLW of 33,000 lb. and max. static thrust 7,500 lb. according to INM 7.0b). Table A3 compares certification data for these three aircraft types. The CL601 matches slightly better than the CL600, especially on the lateral measurement.

Table A3 Noise Certification Data from IAI 1126 Galaxy/Gulfstream G200, Bombardier CL-601, and Bombardier CL-600

Manufacturer	Type Designation	MTOW (lb)	MLW (lb)	Engine Manufacturer / Type Designator	Noise Level (EPNdB)		
					Takeoff	Sideline	Approach
Gulfstream	G200	34,850	28,000	PW306A	81.40	85.80	92.70
Israel Aircraft	IAI 1126 Galaxy	34,850	28,000	PW306A	81.40	85.80	92.70
Gulfstream	G200	34,850	28,000	PW306A	81.40	85.80	90.90
Bombardier	CL-601-3R	43,100	36,000	CF-34-3A1	79.80	85.70	90.10
Bombardier	CL-600	36,000	33,000	ALF-502	81.60	89.30	91.20

Source: FAA AC 36-1H, Appendix 1, 030210
http://www.faa.gov/about/office_org/headquarters_offices/AEP/noise_levels/media/uscert_appendix_01_030210.xls

3. Bombardier BD-700 Global Express/Global 5000 – GLEX

We propose to model GLEX operations with INM type GV as recommended for SDF.

The GLEX, Bombardier BD-700 Global Express, is similar to the Gulfstream V (INM 7.0a type GV). Both aircraft use variants of the Rolls-Royce BR710 engine and both have similar maximum take-off weights, landing weights and noise levels. Table A4 provides a comparison of the noise certification data for these aircraft.

⁶ Data for this aircraft is from AC36-1H, Appendix 1 (March 2, 2010).

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Table A4 Noise Certification Data from Bombardier Global Express and Gulfstream GV

Manufacturer	Type Designation	MTOW (lb)	MLW (lb)	Engine Manufacturer / Type Designator	Noise Level (EPN dB)		
					Takeoff	Sideline	Approach
Bombardier	BD-700-1A10 (Global Express)	96,000	78,500	BR700-710-A2-20	82.7	88.6	89.8
Bombardier	BD-700-1A10 (Global Express)	93,500	78,500	BR700-710-A2-20	82.1	88.7	89.8
Bombardier	BD-700-1A10 (Global Express) (Learjet STC: SA8184nm-D)	75,000	75,000	Rolls Royce/ BR700-710-A2-20	75.6	89.3	89.7
Gulfstream	G-V	90,500	75,300	BR700-710-A1-10	80.3	98.1	90.8

Source: FAA AC 36-1H, at http://www.faa.gov/about/office_org/headquarters_offices/AEP/noise_levels/media/uscert_appendix_01_030210.xls

4. Raytheon Hawker-125-1000 – H25C

We propose to model H25C operations with INM type LEAR35 as recommended for SDF.

We compared the Hawker 125-1000 with the Hawker 800 and LEAR35 aircraft shown in Table A5. Based on the comparison, the LEAR35 appears to be a good match.

Table A5 Noise Certification Data from BAe-125-1000 and -800 and LEAR35

Manufacturer	Type Designation	MTOW (lb)	MLW (lb)	Engine Manufacturer / Type Designator	Noise Level (EPN dB)		
					Takeoff	Sideline	Approach
Raytheon	Hawker 125-1000	31,000	25,000	PW305	81.8	85.9	91.6
Raytheon	Hawker 125-800	27,400	23,350	TFE731-5R-1H	80.9	87.2	96.5
Learjet	LEAR 35 A	18,000	14,300	TFE731-2-2B	83.6	87.4	91.3

Source: FAA AC 36-1H, at http://www.faa.gov/about/office_org/headquarters_offices/AEP/noise_levels/media/uscert_appendix_01_030210.xls

5. Aero L-39 Albatros – L39

We propose to model L39 operations with INM type T-38A as recommended for VNY Part 161.

The L-39 Albatros is somewhat unique with no parallel aircraft having the same engine type. For the VNY Part 161, the T-38A was recommended.

6. Premier 1 390 - PRM1

We propose to model the Beechcraft 390 Premier I (PRM1) with INM type CNA500 as recommended for JAN and SDF.

The PRM1 is a relatively new light twin-engine corporate jet. The maximum take-off weight is 12,500 lb. and maximum landing weight is 11,600 lb. The aircraft is powered by two William FJ44-2A turboprops, each rated at 2,300 hp.⁷ The PRM1 is similar in weight and engines as the Cessna 525A (max take-off weight of 12,375 lb., max landing weight of 11,500 lb., powered by William FJ44-2C

⁷ Data presented here regarding the Beech 390 Premier 1 is from "Jane's All the World's Aircraft 2005-2006" pp 578-579.

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turbofans with max thrust of 2,400 lb.)⁸, which has an INM standard substitution of CNA525 and is mapped to the CNA500. In addition, the Cessna 525A and the PRM1 have similar noise certification data as summarized in Table A6.

Table A6 Noise Certification Data from Cessna 525A and Bombardier Beechcraft 390 Premier I

Manufacturer	Model	Max. Takeoff Weight (lb.)	Max. Landing Weight (lb.)	Powerplant	Noise Level (EPNdB)		
					Takeoff	Sideline	Approach
Cessna	525A Citation Jet II (CJ-2)	12,370	11,500	FJ44-2C	74.5	88.8	91.4
Raytheon	390 Premier	12,500	11,600	FJ44-2A	76.6	87.9	92.0

Source: FAA AC 36-1H, as posted on
http://www.faa.gov/about/office_org/headquarters_offices/AEP/noise_levels/media/uscert_appendix_01_030210.xls

7. Aero Commander 680 – AC68, AC6L

We propose to model these aircraft types as INM type BEC58P.

The AC68/AC6L Aero Commander is a twin-engine propeller aircraft that also has a turboprop variant. It is assumed that the piston propeller aircraft variant is more prevalent and thus the twin-engine Baron was selected as the substitute.

8. North American B-25 Mitchell – B25

9. Boeing (Douglas B-26 Marauder/Invader – B26

10. Curtiss C-46 Commando – C46

11. Fairchild C-82 Jet Packet – C82

12. Grumman HU-16 Albatross – U16

We propose to model these aircraft types as INM type DC3 as recommended for the VNY Part 161.

These aircraft all have twin-piston radial engines of variable sizes. The DC3 is the only INM aircraft type with twin radial engines and therefore determined to be the best aircraft to represent all of these aircraft types.

13. Cessna 411 – C411

We propose to model the Cessna 411 as INM type BEC58P.

The C411 is a twin-engine aircraft powered by two Continental TSIO-520 piston engines. Two derivatives of this aircraft type are the C401 and C402 which have the Beech Baron, BEC58P INM aircraft, identified as the appropriate substitute aircraft. A pressurized version, C421, is also linked to the BEC58P. Therefore, the BEC58P appears to be the appropriate aircraft type for the C411.

14. Hydroplane Che-25 – CE25

We propose to model the CE25 as INM type BEC58P.

The CE25 is a twin-piston engine aircraft developed in Russia. Not much other information is readily available; therefore, the INM twin-piston engine aircraft, BEC58P, was selected as a viable substitute.

15. Partenavia P.68 – P68

We propose to model the P68 as INM type BEC58P as recommended for APF.

⁸ Data presented here regarding the Cessna 525A are from "Jane's All the World's Aircraft 2005-2006" pp 646-647.

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The P68 is a twin-engine piston aircraft most similar in size and engine type to the Beech Baron INM standard aircraft type (BEC58P).

16. Helio H-580 Twin Courier – TCOU

We propose to model the TCOU as INM type BEC58P.

The TCOU is a twin-engine piston aircraft most similar in size and engine type to the Beech Baron INM standard aircraft type (BEC58P).

17. Beechcraft King Air 350 – B350

We propose to model the B350 as INM type DHC6.

The B350 is another variant of the King Air aircraft with two P&W PT6A turboprop engines. There are several King Air models that are modeled with the DHC6 INM aircraft type; thus, it is appropriate to also use the DHC6 for this model.

18. Cessna P210 (turbine) – C10T

We propose to model the C10T as INM type CNA208 as recommended for SUA.

The C10T is a single-engine aircraft with a turbocharged piston.

19. Grumman Greyhound – C2

We propose to model the C2 as INM type HS748A.

The C2 is a twin-engine turboprop aircraft powered by two Allison T56-A turboprops. The HS748A appears to be the closest match as the INM substitute aircraft.

20. Convair 580 – CVLT

We propose to model the CVLT as INM type CVR580.

The CVLT designation represents the various Convair models 580, 600, and 640. The Convair 580 type was selected as it is an INM standard aircraft type, CVR580.

21. Piper Malibu Meridian – P46T

We propose to model the P46T as INM type SD330 as recommended for APF.

The SD330 INM type was recommended by the FAA for the Piper Malibu Meridian for the Van Nuys Airport Part 161 study and approved for the APF Part 150 study.

22. Partenavia P.68 (turbine) – P68T

We propose to model the P68T as INM type CNA441.

The P68T is a twin-engine turboprop aircraft most similar in size and engine type to the Cessna Conquest INM standard aircraft type (CNA441).

23. Piaggio P-180 Avanti – P180

We propose to model the P180 as INM type DHC6 as recommended for APF.

The Piaggio P-180 Avanti has two PT6A-66 turboprops which appear to be similar to the DHC6 turboprops, PT6A-27.

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Request for INM 7.0b Aircraft Type Substitutions for Van Nuys Part 150 NEM Update
October 15, 2010
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24. Pilatus PC-12 – PC12

25. Socata TBM-700 – TBM7

We propose to model these aircraft types as INM type 1900D as recommended for APF.

The FAA approved the INM aircraft type 1900D for these single-engine turboprop aircraft in the APF study.

26. Eurocopter BK 117C.1C – BK117

We propose to model the BK117 as INM type B222.

The BK117 has a similar Lycoming LTS101 turboshaft comparable to the INM standard aircraft, Bell 222.

27. Bell 412/412EP – B412

We propose to model the B412 as INM type BO105.

28. Eurocopter EC120 Colibri – E20

We propose to model the EC120 as INM type SA341G.

The E20 has a similar Turbomeca turboshaft comparable to the INM standard aircraft, SA341G, Gazelle.

29. MD900 Explorer – EXPL

We propose to model the EXPL as INM type EC130.

The EXPL has one or two turboshafts along with NOTAR technology to reduce the noise signature. The EC130 has the fenstrom tail rotor which has also been shown to reduce noise generation. Therefore, the EC130 is the appropriate substitute aircraft for the EXPL.

30. Bell 47-G/H – B47G (30)

We propose to model the B47G as INM type R44.

The B47G has a similar piston or reciprocating engine as the INM standard aircraft, R44, Robinson 44.

31. Bell 430 – B430

We propose to model the B430 as INM type S76 as recommended for APF.

The B430 is a twin-engine light to medium helicopter comparable to the INM standard aircraft, S76, Sikorsky S-76 Spirit.

32. Sikorsky S-58 – S58T

We propose to model the S58T as INM type S76.

The S58T is similar in size, weight, and power plant to the INM standard aircraft, S76, Sikorsky S-76 Spirit.

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APPENDIX H CONSOLIDATED FAA RESPONSE TO LAWA REQUESTS FOR NON-STANDARD MODELING PRACTICES

The following pages present a copy of the consolidated FAA response to LAWA's requests for guidance regarding non-standard modeling practices in four areas: (1) user-defined aircraft in the INM Version 7.0b, (2) noise-power-distance (NPD) curve adjustments for the GIII aircraft with hushkits, (3) a non-standard descent angle to Runway 16R, and (4) non-standard aircraft type modeling substitutions. Appendix F presents a copy of LAWA's consolidated request to the FAA related to the first three items. Appendix G presents LAWA's request related to the fourth item.

The noise contours presented in this document followed the FAA guidance.

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

Western-Pacific Region
Los Angeles Airports District Office

P.O. Box 92007
Los Angeles, CA 90009

March 14, 2011

Mr. Scott Tatro
Environmental Affairs Officer
Los Angeles World Airports
7301 World Way West
Los Angeles, CA 90045

Dear Mr. Tatro:

This is in response to your August 31, 2010, and October 19, 2010, correspondence requesting FAA's approval of four non-standard noise modeling practices in support of the Noise Exposure Map (NEM) update at Van Nuys Airport (VNY). The four practices submitted for review are (1) user-defined aircraft profiles in the Integrated Noise Model (INM) Version 7.0b; (2) Noise-Power-Distance (NPD) curve adjustments for the GIII aircraft with hush kits; (3) a non-standard decent angle to Runway 16R, and (4) non-standard aircraft substitutions. Your requests were coordinated through the Federal Aviation Administration (FAA) Western-Pacific Region, FAA Office of Airports and FAA Office of Environment and Energy. After review the following comments were provided:

- The user-defined aircraft profiles include noise abatement departure profiles for the Lear 25, Lear 35 and Boeing 727 aircraft operated by Clay Lacy Aviation, the Gulfstream IV aircraft operated by the Air Group, and the A-3 aircraft operated by Raytheon. These user-defined profiles were previously approved and modeled in INM 6.2, in support of the Part 161 Study and Noisier Aircraft Phase-Out for VNY. The same profiles are now modeled in INM 7.0b and are resubmitted for review. The results from the profiles modeled in INM 7.0b are consistent with the results from the profiles modeled in INM 6.2. AEE approves the modeling of the noise abatement departure profiles in INM 7.0b in support of the noise exposure map update at VNY.
- An NPD adjustment for the Gulfstream III (GIII) with hush kits was approved by AEE in 2007. That adjustment was based on maximum A-weighted noise levels available at that time. Since then, the FAA AC36-1H was updated and the GIII EPNL noise certification levels became available. In this request, the EPNL noise certification levels are used to update the previous NPD adjustment. The NPD adjustment method is unique to this case because the GIII happens to have NPD curves that are identical for departure and approach. The assumptions made in the adjustment appear to be reasonable and the approach likely results in a conservative estimate of noise. AEE approves the updated NPD adjustment for the GIII hush kits.

- The request also seeks approval to change the glide slope angle for Runway 16R from the 3-degree (INM standard) to 3.9-degrees as specified for both visual and ILS approaches. The corresponding noise modeling followed standard practice in INM and the results appear reasonable. AEE approves the use of 3.9 degree glide slope in noise modeling for VNY NEM updates.
- Below are AEE's responses to the proposed INM aircraft substitution requests:

#	Aircraft Code	Represented Aircraft Models	Proposed INM Substitution	AEE Recommendation
1	C56X	Cessna 560XL Citation Excel	CNA55B	Concur
2	GALX	1126 GALAXY-GULFSTREAM 200	CL601	CL-600 WITH ALF-502 ENGINES
3	GLEX	Bombardier Global Express BD-700	GV	Concur
4	H25C	Raytheon Hawker Bae HS 125-1000	LEAR35	Concur
5	L39	Aero L-39 Albatros	T-38A	Concur
6	PRM1	Premier 1-390	CNA500	Concur
7	AC68	AC6L Aero Commander 680	BEC58P	Concur
8	B25	North American B-25 Mitchell	DC3	Concur
9	B26	Boeing (Douglas) B-26 Marauder/Invader	DC3	Concur
10	C46	Curtiss C-46 Commando	DC3	Concur
11	C82	FAIRCHILD C-82 JET PACKET	DC3	C119L
12	U16	Grumman HU-16 Albatross	DC3	Concur
13	C411	Cessna 411	BEC58P	Concur
14	CE25	Hydroplane Che-25	BEC58P	Concur
15	P68	Partenavia P.68	BEC58P	Concur
16	TCOU	Helio H-580 Twin Courier	BEC58P	Concur
17	B350	Beechcraft King Air 350	DHC6	Concur
18	C10T	Cessna P210 (turbine)	CNA208	Concur
19	C2	Grumman Greyhound	HS748A	Concur
20	CVLT	Convair 580	CVR580	Concur
21	P46T	Piper Malibu Meridian	SD330	Concur
22	P68T	Partenavia P.68 (turbine)	CNA441	Concur
23	P180	Piaggio P-180 Avanti	DHC6	Concur
24	PC12	PILATUS PC-12 EAGLE	1900D	CNA208
25	TBM7	SOCATA TBM-700	1900D	CNA208
26	BK117C	Eurocopter BK117C.1C	B222	Concur
27	B412	Bell 412/412EP	BO105	Concur
28	EC20	Eurocopter EC120 Colibri	SA341G	Concur
29	EXPL	MD 900 Explorer	EC130	Concur
30	B47G/H	Bell 47-G/H	R44	Concur
31	B430	Bell 430	S76	Concur
32	S58T	Sikorsky S-58	S76	Concur

- 2) AEE recommends the use of INM type CL600 ALF-502 engines to represent the IAI 1126 Galaxy/Gulfstream G200 aircraft within the noise modeling. The CL601 with CF34 engines would likely underestimate the noise because the flyover noise certification level (79.9dB) cited from the FAA's AC 36-1H is for full power takeoff, not for power cutback.

Instead, CL-600 with ALF-502 engines should provide a better match. CL-600's maximum takeoff weight matches that of G200 well. In addition, CL-600's flyover and approach noise levels match that of the G200 well. AEE further conducted INM noise contour comparison between CL600 and CL601 and confirmed that CL600 would generate larger noise contours in general.

- **11)** AEE recommends the use of INM military type C119L to represent the Fairchild C-82 Jet Packet within the noise modeling. The C119L is a slightly larger military variant of the C-82 that AEE believes will more accurately represent the C-82 instead of the DC3.
 - **24)** AEE recommends the use of INM type CNA208 to represent the Pilatus PC-12 Eagle within the noise modeling. The CNA208 is also a single engine turboprop aircraft similar in size to the PC-12. The use of a single engine, fuselage mounted, turboprop aircraft that is similar in weight to the PC-12 will provide a more realistic representation of the PC-12 instead of a twin engine turboprop with wing mounted engines.
 - **25)** AEE recommends the use of INM type CNA208 to represent the Socata TBM-700 within the noise modeling. The CNA208 is also a single engine turboprop aircraft similar in size to the Socata TBM-700. The use of a single engine, fuselage mounted, turboprop aircraft that is similar in weight to the Socata TBM-700 will provide a more realistic representation of the Socata TBM-700 instead of a twin engine turboprop with wing mounted engines.
- Please understand that the approvals listed above are limited to this particular Part 150 Noise Exposure Map update for Van Nuys Airport (VNY). Any additional projects or non standard INM input at VNY or any other site will require separate approval

If you have questions concerning this matter, please feel free to contact me at victor.globa@faa.gov or 310/725-3637.

Sincerely,



Victor Globa
Environmental Protection Specialist

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APPENDIX I DOCUMENTATION RELATED TO FAA REVIEW AND APPROVAL OF NOISE EXPOSURE MAP FORECASTS

The following pages present copies of documentation related to FAA review and approval of the airport activity forecasts used in preparing these NEMs, including: (1) the FAA approval letter, and (2) and (3) the LAWA submission (comprised of a cover letter and technical memorandum).

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

Western-Pacific Region
Los Angeles Airports District Office

P.O. Box 92007
Los Angeles, CA 90009

March 31, 2011

Scott Tatro
Environmental Affairs Officer
Los Angeles World Airports
1 World Way
Los Angeles, CA 90045

Dear Mr. Tatro:

Van Nuys Airport
14 CFR Part 150 Noise Exposure Maps
Aviation Demand Forecasts

The Federal Aviation Administration (FAA) has reviewed the Part 150 Noise Exposure Map Update Forecasts for the Van Nuys Airport (VNY). The forecasts were transmitted to us by letter dated March 3, 2011.

The forecasts establish an accurate baseline and present reasonable projections for future aviation activity levels. The forecasts are within ten percent, and therefore considered consistent with the current FAA Terminal Area Forecast for VNY.

Therefore, FAA hereby approves the subject VNY aviation forecasts for use in preparing your 14 CFR Part 150 Noise Exposure Maps.

If you have any questions concerning this matter, I can be reached at (310) 725-3637.

Sincerely,

A handwritten signature in black ink, appearing to read "Victor Globa".

Victor Globa
Environmental Protection Specialist

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Los Angeles
World Airports

March 3, 2011

Victor Globa
Environmental Protection Specialist
Federal Aviation Administration
Los Angeles Airports District Office
P.O. 92007
Los Angeles, CA 90009-2007

Subject: Review and Approval of Van Nuys Part 150 Noise Exposure Map Update Forecasts

LAX

LA/Ontario

Van Nuys

City of Los Angeles

Antonio R. Villaralgebra
Mayor

Board of Airport
Commissioners

Michael A. Lawson
President

Vateria C. Velasco
Vice President

Joseph A. Aredas
Robert D. Bayer
Boyd Hight
Fernando M. Torres Gil
Walter Zifrin

Gina Marie Lindsey
Executive Director

Dear Mr. Globa:

Los Angeles World Airports (LAWA) requests the Federal Aviation Administration (FAA) review and approval of 2011 and 2106 operations forecasts for the Van Nuys (VNY) Part 150 Noise Exposure Map Update. The attached technical memorandum describes the forecast methodology, and results in detail.

As the following table shows, the forecasts are consistent with the FAA's most recent (December 2010) Terminal Area Forecast (TAF) for VNY.

Year	NEM Forecast	December 2010 TAF	% Difference
2011	304,193	305,524	-0.4%
2016	326,910	315,745	3.5%

If you have any comments or questions related to this request, please feel free to contact Sean Doyle or Ted Baldwin of Harris Miller Miller & Hanson at (781) 229-0707 or me at (424) 646-6499.

Sincerely yours,

Scott Tatro
Environmental Affairs Officer

SMT:car

Attachment:
VNY Part 150 NEM Forecasts Memo Dated February 7, 2011

Cc: M. Feldman
R. Freeman
T. Baldwin
S. Doyle

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MEMORANDUM

To: Ted Baldwin **Date:** February 7, 2011

From: Peter Stumpp **CC:** Beverly Jones, Sean Doyle

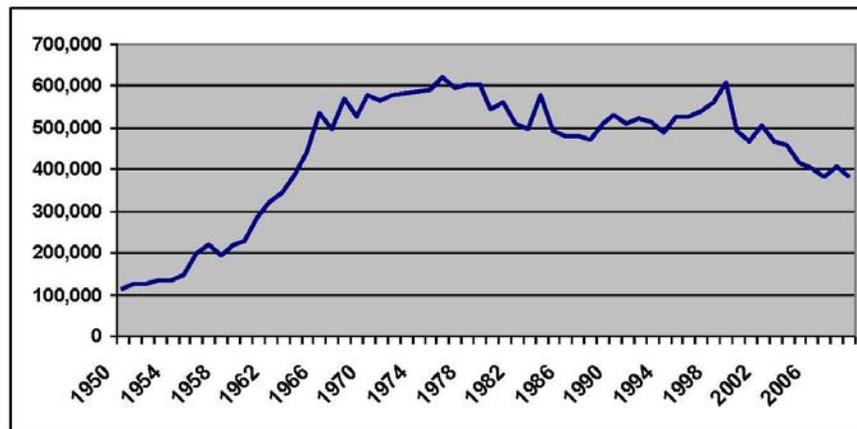
Subject: Van Nuys Aircraft Operations Forecasts for Noise Exposure Map Update

Historical Trends

The analysis of historical trends in aircraft operations at Van Nuys Airport (VNY) relies largely on two sources of information, airport records published by the airport proprietor LAWA and data compiled in the FAA Air Traffic Activity Data System (ATADS).

Exhibit 1 shows the long term trend in total aircraft operations at VNY based on airport records.

Exhibit 1 - Annual Operations at VNY from 1950 to 2009



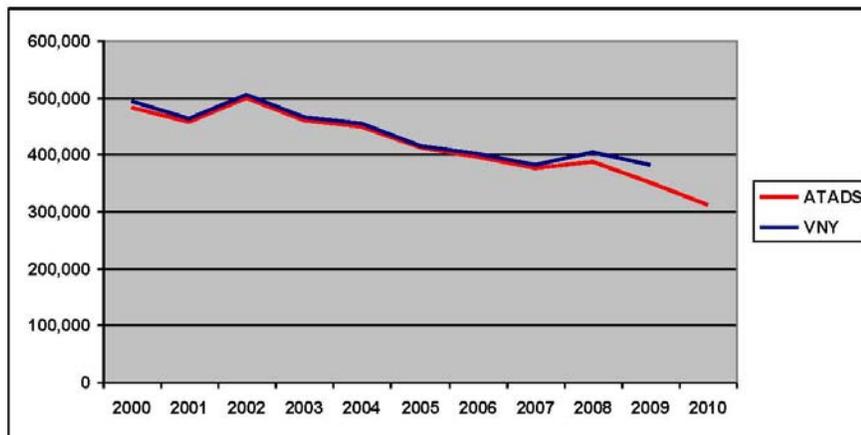
Source: LAWA airport records

One Main Street — Cambridge, MA 02142 — 617.218.3500 — 617.218.3600 fax — sh-e.com — icfi.com

For most years from 1966 to 1999 VNY had annual operations in the 500,000 to 600,000 range. From 1999 to 2007 annual operations fell sharply with an average decline of 6.4% per year, but they leveled out in the 380,000 to 400,000 range from 2007 through 2009, the latest full year for which VNY airport records are available.

Exhibit 2 compares the airport records to data from FAA ATADS airport operations data which is available through 2010.

Exhibit 2 - Annual Operations at VNY Reported in ATADS and Airport Records

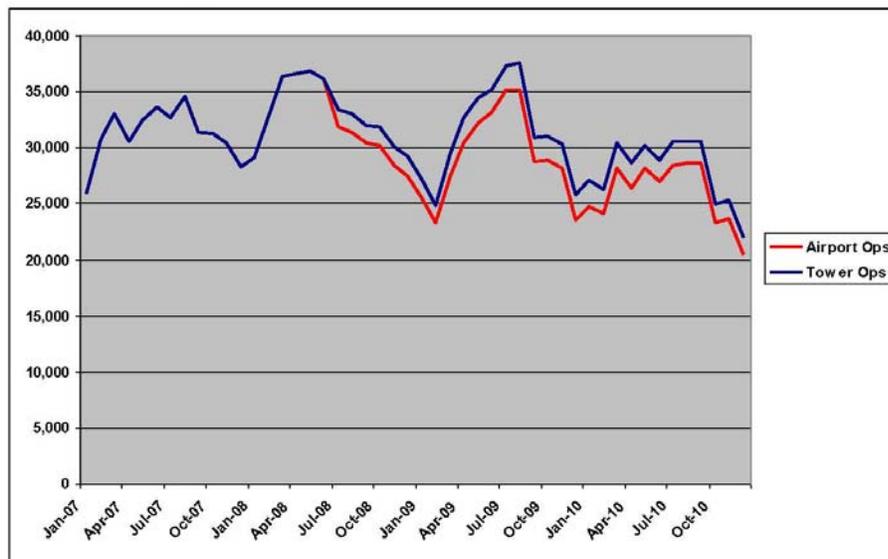


Source: FAA ATADS, LAWA airport records

The two data series track closely until 2008 when the FAA began subtracting overflights from its ATADS airport operations data, while airport records continue to include overflights. Because ATADS operations data for VNY reflects a change in data collection procedures as well as changes in actual operations, the 2008-2009 decline shown in Exhibit 2 overstates the actual decrease in operations, but the decrease in operations from 2009 to 2010 shown in the ATADS data reflects a true decline in VNY airport operations, not a result of changes in data collections.

Exhibit 3 shows the effect of subtracting overflights by comparing ATADS airport operations data to ATADS ATCT operations data which continues to include overflights. The FAA initiated this change in July 2008; from January 2009 through August 2010 an average of 2,100 monthly overflights has been subtracted. This exhibit also shows that the seasonal fourth quarter drop in operations at VNY was unusually sharp in 2010.

Exhibit 3 – Comparing ATADS Airport Operations to ATCT Operations Data

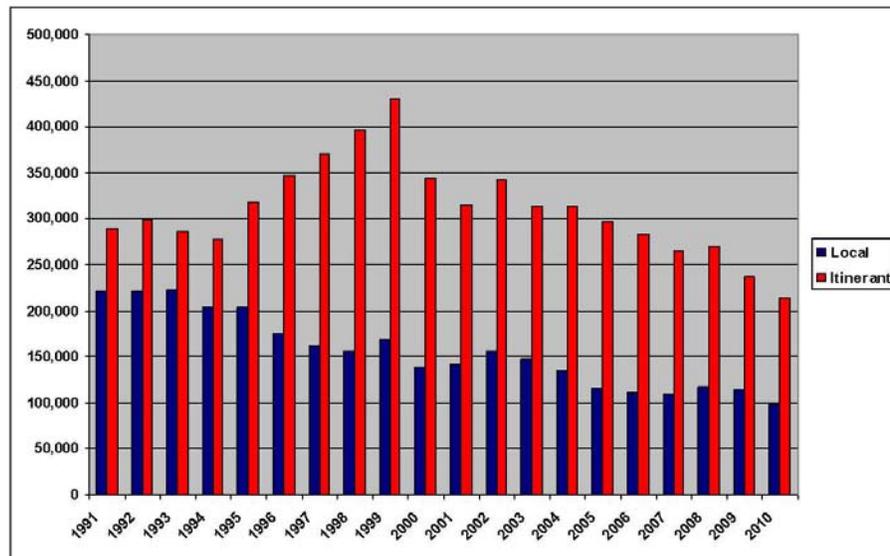


Source: FAA ATADS

While ATADS Airport Operations data appear to account accurately for fixed-wing aircraft overflights, information developed during the Van Nuys Noisier Aircraft Phaseout and Part 161 studies (“prior noise studies”) indicates that ATADS does not account for helicopter overflights and as a result overstates total aircraft operations at VNY. In addition, ATADS data reflect aircraft activity during the hours that the ATCT is open but do not capture activity during the time that ATCT is closed. To create more accurate base year data, this study makes two corrections to ATADS aircraft operations data; it subtracts helicopter overflights and adds operations that occur when the Air Traffic Control Tower (ATCT) is closed.

Exhibit 4 shows the trends in itinerant and local operations at VNY from 1991 through 2010 based on ATADS Airport Operations data.

Exhibit 4 – Annual VNY Itinerant and Local Operations



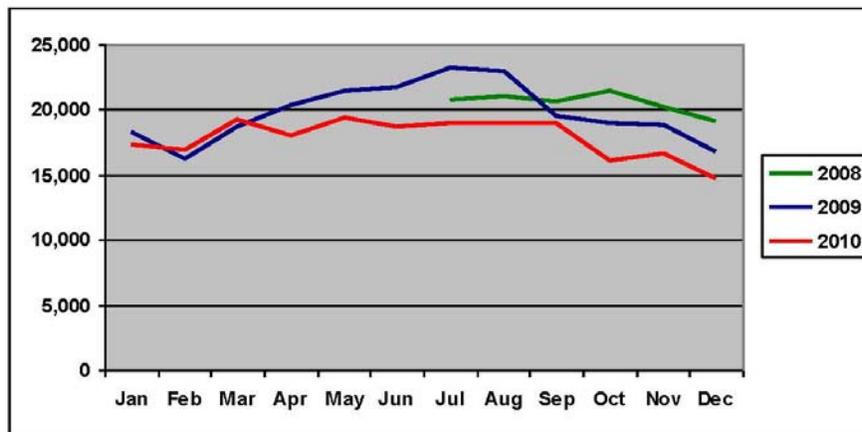
Source: FAA ATADS Airport Operations data

Local operations experienced a fairly steady decline from the mid-1990's to 2005, were flat from 2005 through 2009, and fell again in 2010. Itinerant operations grew rapidly during most of the 1990s reaching a peak of 430,000 in 1999, but fell by 20% in 2000 and have continued to decline. As noted previously, the FAA began subtracting overflights from ATADS Airport Operations data in July 2008, effectively overstating the decline in itinerant aircraft operations. Just under 25,000 overflights were subtracted in 2009, and without the change in data collection procedures VNY operations in 2009 would have been approximately 20,000 lower than 2008.

Recent Trends

Exhibit 5 shows VNY itinerant operations based on ATADS Airport Operations data on a month-over-month basis from July 2008 (when the FAA began excluding overflights) through December 2010.

Exhibit 5 – Monthly VNY Itinerant Operations

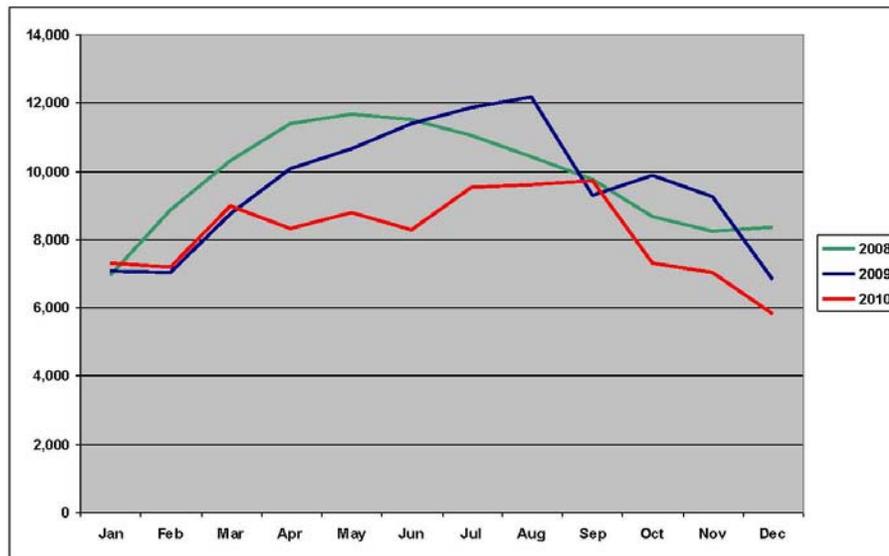


Source: FAA ATADS Airport Operations

Except for the normal December downturn, itinerant operations were flat during the second half of 2008, averaging 20,500 per month. Activity climbed in 2009 through August but fell sharply in September and remained below 2008 levels for the rest of 2009. 2010 activity tracked 2009 from January through March but the normal spring/summer peak did not materialize, and itinerant operations fell sharply in October. For the year, 2010 itinerant operations at VNY were 9.9% lower than in 2009.

Exhibit 6 shows VNY local operations on a month-over-month basis. Because the change in ATADS data collection procedures affects only itinerant operations, this chart includes all of 2008.

Exhibit 6 - Monthly VNY Local Operations



Source: FAA ATADS Airport Operations

Local operations at VNY generally follow a more seasonal pattern than itinerant operations, with the greatest number of flights taking place between March and August. Operations in 2008 and 2009 follow this pattern, although the increase in flights occurred later in 2009 and decreased more in December. In 2010 the usual spring-summer peak failed to take place, with monthly operations remaining below 10,000 through September, and October experienced the type of sharp decline in operations that usually takes place in December. For the year, 2010 VNY local operations were 14.4% lower than in 2009.

Forecast Approach

Aircraft operations forecasts for the VNY Noise Exposure Map (NEM) Update were prepared using a multi-step process. First, forecasts of annual local and itinerant operations by all types of aircraft were prepared using ATADS Airport Operations data as the base. As previously noted, this data excludes

fixed-wing aircraft overflights but includes helicopter overflights, and does not include operations that take place when the ATCT is closed.

Second, helicopter operations forecasts were prepared. This involved analyzing the ATCT daily logs of operations for the hours the ATCT is operated (06:00 to 22:45 daily) and the LAWA Operations Department curfew counts of operations that occur during the airport curfew period (22:45 to 6:59). Forecasts of annual VNY operations by all types of helicopters were prepared utilizing information developed for the prior noise studies, FAA forecasts, and other industry information. Forecasts of helicopter operations by helicopter type and time of day were based primarily on analysis conducted for the prior noise studies.

Third, fixed-wing aircraft operations were forecast by subtracting helicopter operations including overflights from the base year operations data, developing growth rates for itinerant and local operations based primarily on historical trends at VNY, FAA TAF and nationwide forecasts, and information developed for the prior noise studies. As with helicopters, forecasts of fixed-wing operations by aircraft type and time of day were based primarily on analysis conducted for the prior noise studies.

Helicopter Forecasts

Approach to Estimating Base Year Helicopter Operations

There are two sources of available data for estimating the level of helicopter activity at VNY in the base year. The FAA Air ATCT at Van Nuys keeps a daily log of itinerant or local operations. The ATCT helicopter counts are maintained for the period when the ATCT is operational, from 06:00 to 22:45 each day, and include transiting helicopters that neither take-off from nor land at VNY. The ATCT does not keep a separate count of transiting helicopters versus helicopters arriving and departing VNY. Instead the transiting helicopters are included in the itinerant counts. The study team was able to obtain the daily ATCT log sheets from January 1, 2009 through August 12, 2010.

The second data source is the report of curfew counts maintained by the LAWA Operations Department at VNY. The curfew counts include helicopter operations that land or depart from Van Nuys during the curfew hours of 22:45 to 6:59 with a separate break-out for the hours that the ATCT is closed (i.e., 22:45 to 5:59). The LAWA curfew counts include helicopter arrivals and departures, and do not include transiting helicopters. The study team was able to obtain LAWA's monthly curfew counts from January 2009 through July 2010.

The approach used to estimate arriving and departing helicopters for the Fiscal Year Ending (FYE) July 2010 was similar to the approach used in the prior noise studies. First, overflight activity was estimated



and subtracted from the ATCT Counts to estimate total arriving and departing helicopters for the 06:00-22:45 period. Next, night operations from the LAWA curfew counts for the period 22:45-5:59 are added to arrive at a 24-hour estimate of helicopters arriving and departing van Nuys.

Estimated Base Year Operations

The prior noise studies relied on helicopter count surveys conducted in 1991, 1995, 2005 and 2006 to estimate the number of transiting helicopters at Van Nuys. Based on these surveys, the prior noise studies assumed that 40% of the itinerant helicopter operations recorded by the ATCT from November to March and 20% of the ATCT's itinerant helicopter operations from April to October were transiting helicopters.

Exhibit 7 summarizes the estimation of arriving and departing helicopters at Van Nuys Airport for FYE July 2010. The FAA ATCT recorded 46,926 itinerant helicopter operations and 11,967 local helicopter operations at Van Nuys for the 12-month period. Of the itinerant operations, it is estimated that approximately 13,000 were transiting the airport. Overflights were estimated based on the same assumptions used in the prior noise studies, which relied on helicopter count surveys conducted in 1991, 1995, 2005 and 2006 to estimate the number of transiting helicopters at Van Nuys. Based on these surveys, it was assumed that 40% of the itinerant helicopter operations recorded by the ATCT from November to March and 20% of the ATCT's itinerant helicopter operations from April to October were transiting helicopters.

Exhibit 7 - Estimated Van Nuys 24-Hour Helicopter Operations for FYE July 2010

Operations	Months		Total	Source/Notes:
	Nov'09-Mar'10	Aug-Oct'09 Apr-Jul'10		
Itinerant				
FAA Tower (06:00-22:45)	18,151	28,775	46,926	FAA ATCT Daily Logs
Percent Overflights	40.0%	20.0%	27.7%	Van Nuys Noisy Aircraft Phaseout, Part 161
Est. Overflights	7,260	5,755	13,015	Percent overflights times FAA Tower counts
Est. Arriving/Departing (06:00-22:45)	10,891	23,020	33,911	FAA Tower Counts minus estimated overflights
Arriving/Departing (22:45-5:59)			1,594	LAWA Curfew Counts
Total Itinerant (24-hours)			35,505	Sum of FAA Tower Counts (excluding overflights) and LAWA Curfew Counts
Local				
FAA Tower (06:00-22:45)			11,967	FAA ATCT Daily Logs
Total Itinerant + Local (24 hours)			47,472	

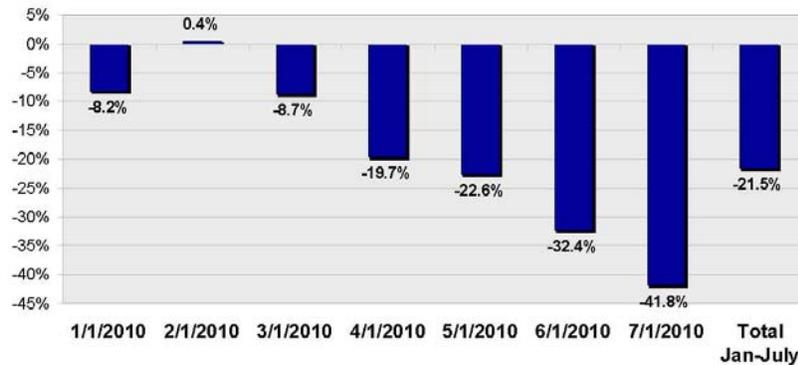
Excluding the overflights, there were 33,911 itinerant helicopter operations at Van Nuys from 06:00 to 22:45 during FYE July 2010. Adding the LAWA Curfew Counts for 22:45 to 06:59 (1,594 operations) results in 35,505 arriving and departing helicopters for the FYE July 2010.

The FAA ATCT also recorded 11,967 local helicopter operations, for a total of 47,472 helicopter operations at Van Nuys in FYE July 2010.

Helicopter Operations Forecast

The project scope calls for a forecast of helicopter operations for the following years: 2010, 2011, 2015 and 2016. Operations for 2010 are estimated based on the actual change in ATCT operations for January to July 2010 compared to the same period in 2009. As shown in Exhibit 8, the helicopter operations recorded by the ATCT from January to July 2010 decreased by 21.5% over the same period in 2009. From March forward, the declines worsened each month, indicating that helicopter activity at Van Nuys has not yet begun to recover. The declines in helicopter activity are most likely related to the general state of the economy, which is characterized by high unemployment and weak economic growth. While certain sub-segments of the helicopter activity are less sensitive to economic decline than others, for example medical evacuation and fire fighting versus private pilot training, Van Nuys has experienced declines in both itinerant and local activity. However, local activity, which includes some pilot training operations, declined at a faster pace. For the same January to July 2010 period, itinerant activity declined by 18.1% and local activity fell by 33.8%.

Exhibit 8 - Percent Change in Helicopter Operations at Van Nuys over Prior Year



Note: Based on ATCT counts that include overflights and exclude operations conducted between 22:45 and 05:59.

Source: FAA, Van Nuys ATCT Daily Logs.

Estimated 2010 Helicopter Operations

As shown in Exhibit 9, applying the same percentage changes to itinerant and local operations for August to December 2009, results in an estimated 52,972 operations for CY 2010 (including overflights, but excluding operations from 22:45 to 05:59). The ratios of estimated CY 2010 ATCT operations to FY 2010 ATCT operations are 0.919 for itinerant activity and 0.825 for local activity.

Exhibit 9 - Estimated Helicopter Growth at Van Nuys, FY 2010 to CY 2010 Growth

Period	Helicopter Operations		
	Itinerant	Local	Total
Actual			
FYE July 2010	46,926	11,967	58,893
Jan-July '09	31,473	8,697	40,170
Jan-July '10	25,781	5,759	31,540
Percent Change	-18.1%	-33.8%	-21.5%
Aug-Dec '09	21,145	6,208	27,353
Estimated			
Aug-Dec '10 [1]	17,321	4,111	21,432
CY 2010 [2]	43,102	9,870	52,972
Growth Ratio			
CY 2010 vs. FY 2010	0.919	0.825	

Notes:
 [1] Actual Jan-July percent change times actual Aug-Dec '09 operations.
 [2] Actual Jan-July '10 plus estimated Aug-Dec '10 operations

Source: FAA, Van Nuys ATCT Daily Logs.

The growth ratios calculated from the ATCT counts were applied to the estimated helicopter operations for the FYE July 2010 base year (excluding overflights, but including operations conducted between 22:45 and 05:59) to estimate operations for CY 2010. The resulting projection for CY 2010 is 42,481 operations, as shown in Exhibit 10.

Exhibit 10- Estimated Van Nuys Helicopter Operations for CY 2010

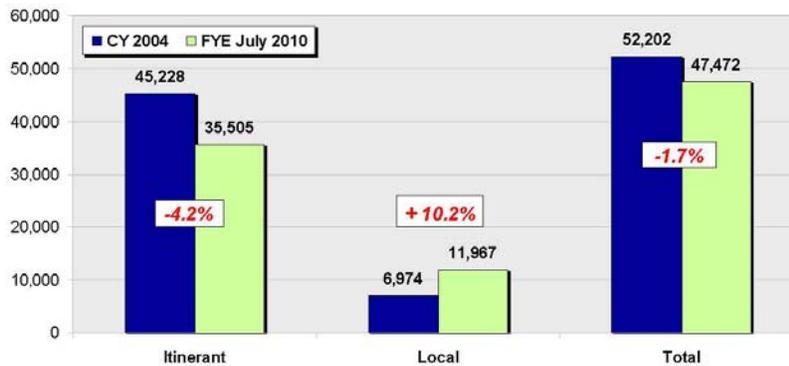
Year	Operations		
	Itinerant	Local	Total
FYE July 2010	35,505	11,967	47,472
Growth Factor	0.919	0.825	
Est. CY 2010	32,611	9,870	42,481

Notes:
 [1] Actual Jan-July percent change times actual Aug-Dec '09 operations.
 [2] Actual Jan-July '10 plus estimated Aug-Dec '10 operations.

Helicopter Operations Forecast for 2011, 2015 and 2016

Because of the lack of readily available data on annual helicopter operations at Van Nuys, it is difficult to analyze historic or recent growth trends. Compared to estimated CY 2004 operations, which was the base year for the prior noise studies, total helicopter operations at Van Nuys have declined by 1.7% per year., as shown in Exhibit 11. Itinerant operations grew 4.2% per year while local operations grew by 10.2% annually.

Exhibit 11 - Comparison of Van Nuys Helicopter Operations, CY 2004 and FYE July 2010



The number of helicopters based at Van Nuys declined from 63 in 2004 to 50 in 2006. Since 2006 the number of based helicopters has risen reaching 62 in 2008.

Exhibit 12 - Based Helicopters at Van Nuys, 2004 to 2008

Year	Based Helicopters	Percent Change
2000	62	-4.6%
2001	60	-3.2%
2002	64	6.7%
2003	70	9.4%
2004	63	-10.0%
2005	52	-17.5%
2006	50	-3.8%
2007	60	20.0%
2008	62	3.3%

Source: LAWA, Van Nuys Based Aircraft Inventory

Exhibit 13 shows actual and forecast helicopter activity for the U.S. as a whole. National helicopter activity, as measured by hours flown, declined in 2001 and 2002 as a result of 9/11 and the economic recession. U.S. helicopter activity rebounded and grew at double digit rates between 2003 and 2006. In 2007, as economic growth slowed, helicopter hours flown declined by 5.8% and the negative trend has persisted through 2009. The latest available FAA forecast predicts U.S. helicopter activity will grow by 1% in 2010. Between 2011 and 2016, the FAA projects helicopter hours to increase approximately 3.8% per year. The FAA forecast shows U.S. helicopter activity recovering to its pre-recession level in 2013.

Exhibit 13 - Actual and Forecast Helicopter Hours Flown in the U.S.

Year	Helicopter Hours (000)	Percent Change
Actual		
2000	2,191	
2001	1,952	-10.9%
2002	1,875	-3.9%
2003	2,135	13.9%
2004	2,534	18.7%
2005	3,116	23.0%
2006	3,446	10.6%
2007	3,245	-5.8%
2008	3,222	-0.7%
2009	3,065	-4.9%
Forecast		
2010	3,096	1.0%
2011	3,216	3.9%
2012	3,336	3.8%
2013	3,461	3.7%
2014	3,591	3.8%
2015	3,733	4.0%
2016	3,866	3.6%



Source: FAA, Aerospace Forecasts, FY 2009-FY 2025 and FY 2010-FY 2030.

Since ATCT Counts for Van Nuys indicate that helicopter operations have continued to decline through July 2010 (latest complete month of data) and the trend has worsened since the beginning of the year, activity at Van Nuys is forecast to recover more slowly than the FAA forecast for U.S. helicopter activity. Instead of a return to growth in 2010, as in the FAA national forecast, helicopter operations at Van Nuys are assumed to return to growth during 2011, increasing by 1% over 2010, as shown in Exhibit 14. In 2012, Van Nuys operations are forecast to grow at 0.8 times the forecast rate for the U.S., increasing by 3.0% over 2011. From 2012 to 2015, helicopter operations at Van Nuys are assumed to increase by 3.8% per year, the same rate as the U.S. helicopter market (forecast average annual growth from 2011 to 2015 is 3.6%). In 2016, Van Nuys is also forecast to grow at the same rate as the U.S., 3.6%.

Exhibit 14 –Van Nuys Helicopter Operations Forecast for 2011, 2015 and 2016

Year	Helicopter Operations	Forecast Growth Rate	Notes:
Actual			
FYE July 2010	47,472		
Forecast			
CY 2010	42,481	-	Estimated based on actual Jan-July 2010 operations
CY 2011	42,906	1.0%	Assumes gradual return to growth in 2011
CY 2015	49,453	3.6%	Assumes slightly slower recovery than FAA forecast (0.8 times FAA growth for 2012 and FAA growth for 2013-2015)
CY 2016	51,373	3.9%	Based on FAA Forecast growth for 2015-2016

Note: Includes itinerant and local operations.

By 2014, forecast helicopter operations at Van Nuys return to the base year level of 47,000. Total helicopter activity is forecast to reach 49,000 in 2015 and 51,000 in 2016.



Operations Forecast by INM Type

The forecast of helicopter operations by aircraft type is based on the fleet mix used in the prior noise studies. The assumed fleet mix is held constant over the forecast period. Exhibit 15 presents annual helicopter operations by INM type for the base year and forecast years.

Exhibit 15 – Forecast Annual Van Nuys Helicopter Operations by INM Type

INM Type	Percent of Total	Forecast Annual Helicopter Operations			
		2010	2011	2015	2016
A109	1.9%	811	820	945	981
B206L	22.0%	9,345	9,439	10,879	11,302
B212	0.1%	27	27	31	32
B222	0.1%	49	49	57	59
BO105	6.6%	2,783	2,811	3,240	3,366
CH47D	0.1%	26	26	30	32
EC130	0.2%	94	95	110	114
H500D	1.8%	758	766	883	917
SC300C	6.6%	2,815	2,843	3,277	3,404
R22	10.9%	4,622	4,668	5,381	5,590
S65	0.2%	100	101	117	121
S76	3.5%	1,481	1,496	1,724	1,791
SA330J	0.0%	7	7	8	9
SA341G	1.0%	411	415	479	497
B407	1.1%	466	471	543	564
R44	5.1%	2,166	2,188	2,521	2,619
SA350D	36.1%	15,338	15,492	17,856	18,549
SA355F	2.8%	1,179	1,191	1,372	1,426
Total		42,481	42,906	49,453	51,373

Note: Includes itinerant and local operations.

Operations Forecast by Time of Day

The distribution of helicopter operations by time of day is assumed to be the same as in the prior noise studies. The Day / Evening / Night distribution for helicopter arrivals was estimated at 82.9% / 9.3% / 7.8%. For departures the distribution was estimated at 80.4% / 12.2% / 7.4%. Assuming a balanced flow of arrivals and departures the overall temporal distribution for forecast helicopter operations is: 81.6% / 10.8% / 7.6%. Annual operations by time period are summarized in Exhibit 16.

Exhibit 16 – Forecast of Annual Van Nuys Helicopter Operations by Time-of-Day

Year	Forecast Annual Helicopter Operations			Total
	Day	Evening	Night	
2010	34,679	4,574	3,228	42,481
2011	35,026	4,620	3,260	42,906
2015	40,370	5,325	3,757	49,453
2016	41,938	5,532	3,903	51,373

Note: Includes itinerant and local operations.



Fixed-Wing Aircraft Forecasts

Total Aircraft Operations Forecasts

Exhibit 17 shows the unadjusted forecast of total annual aircraft operations at VNY. Historical values for 2004 through 2010 are based on ATADS Airport Operations data which show that total aircraft operations at VNY fell by almost 40,00 from 2009 to 2010.

Exhibit 17 – Unadjusted Forecast of Total Aircraft Operations at VNY

	Itinerant	Local	Total
2004	313,942	134,760	448,702
2005	296,035	115,282	411,317
2006	282,999	111,916	394,915
2007	264,949	109,515	374,464
2008	269,721	116,985	386,706
2009	237,038	114,195	351,233
2010	213,545	97,766	311,311
2011	215,680	97,766	313,446
2012	219,994	97,766	317,760
2013	224,394	97,766	322,160
2014	228,882	97,766	326,648
2015	233,459	97,766	331,225
2016	238,129	97,766	335,895
Average Annual Growth Rate			
2004-2009	-5.5%	-3.3%	-4.8%
2009-2010	-9.9%	-14.4%	-11.4%
2010-2016	1.8%	0.0%	1.3%

Source: FAA ATADS, SH&E analysis

As noted earlier, ATADS Airport Operations data do not include fixed-wing overflights but continue to include helicopter overflights, and ATADS also does not include operations that take place when the ATCT is closed. The values shown in Exhibit 17 do not include adjustments to correct for these factors.

Exhibit 18 compares the unadjusted Noise Exposure Map Update forecast to the 2010 FAA Terminal Area Forecast (TAF) for VNY. Historical values for the two series differ because the NEM forecast is based on calendar year data while the TAF is based on data for fiscal years ending in September. From 2004 through 2010 the two series track closely, although the NEM forecast drops more sharply in 2010 than the TAF because of the decline in fourth quarter operations at VNY. The NEM forecast calls for a slight recovery with 0.7% growth in 2011 while the TAF calls for operations to continue falling in 2011, and the NEM calls for slightly faster growth than the TAF from 2011 to 2016.

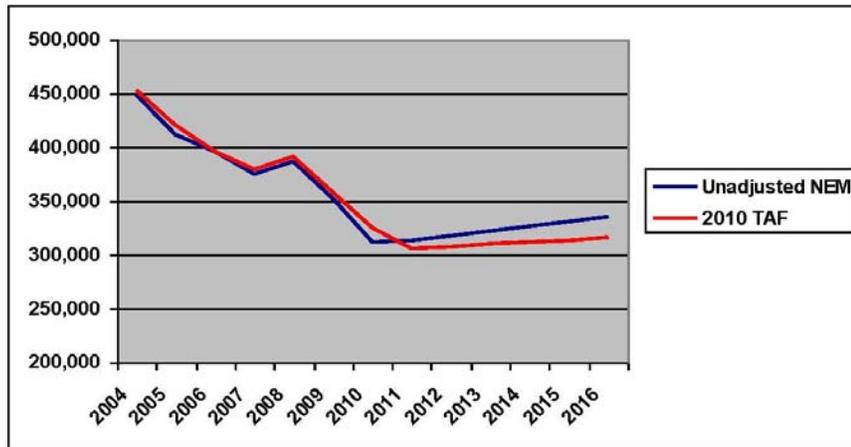
Exhibit 18 – Comparison of Unadjusted NEM Forecast for VNY to the 2010 TAF

	Unadjusted NEM	TAF	% Difference
2004	448,702	453,496	-1.1%
2005	411,317	420,984	-2.3%
2006	394,915	395,243	-0.1%
2007	374,464	379,405	-1.3%
2008	386,706	390,576	-1.0%
2009	351,233	356,697	-1.5%
2010	311,311	324,338	-4.0%
2011	313,446	305,524	2.6%
2012	317,760	307,534	3.3%
2013	322,160	309,562	4.1%
2014	326,648	311,605	4.8%
2015	331,225	313,667	5.6%
2016	335,895	315,745	6.4%
Average Annual Growth Rate			
2004-2009	-4.8%	-4.7%	
2009-2010	-11.4%	-9.1%	
2010-2011	0.7%	-5.8%	
2011-2016	1.4%	0.7%	

Source: SH&E analysis, FAA 2010 Terminal Area Forecast

Exhibit 19 presents the same comparison graphically. The 2010 TAF calls for a continued decline in operations in 2011 and very little growth in operations through 2016. The unadjusted NEM forecast calls for a modest recovery beginning in 2011. Under both forecasts annual operations at VNY will remain lower than recent levels throughout the forecast period.

Exhibit 19 - Comparison of Unadjusted NEM Forecast for VNY to the 2010 TAF



Source: SH&E analysis, FAA 2010 Terminal Area Forecast



Adjusted Fixed-Wing Operations Forecast

Exhibit 20 shows the adjusted itinerant fixed-wing operations forecast. Information developed during the VNY Noisy Aircraft Phaseout and Part 161 studies indicates that ATADS Airport Operations data include approximately 13,000 helicopter overflights per year. These operations are subtracted from the unadjusted operations forecast. Airport staff also keeps a count of operations during the curfew period from 2245 to 0659, and these operations are added to the unadjusted forecast. However, operations that take place between 0600 and 0659 are also included in the ATCT reports that ultimately form the basis of ATADS data, so operations from 0600 to 0659 are subtracted to avoid double counting. Taking these corrections into account, the total number of itinerant operations in 2010 by all types of aircraft including helicopters has been adjusted from 213,545 to 204,266, and comparable adjustments have been made for 2011, 2015 and 2016.

Exhibit 20 – Adjusted Annual Itinerant Fixed-Wing Operations Forecast

	2010	2011	2015	2016
Unadjusted	213,545	215,680	233,459	238,129
Total Helo	42,481	42,906	49,453	51,373
Itinerant Helo (74.8% of Total)	(31,772)	(32,090)	(36,987)	(38,423)
Helo Overflights	(13,015)	(13,015)	(13,015)	(13,015)
Curfew count	5,604	5,642	5,962	6,046
minus 0600-0659 ops	(1,868)	(1,881)	(1,987)	(2,015)
Total Curfew Adjustment	3,736	3,761	3,975	4,031
Total Itinerant Fixed-Wing	172,494	174,337	187,433	190,721

Source: SH&E analysis

Analysis of helicopter operations found that itinerant operations account for 74.8% of total helicopter operations. After subtracting 31,772 itinerant helicopter operations and adjusting for helicopter overflights and operations when the ATCT is closed, VNY had an estimated 172,494 itinerant fixed wing aircraft operations in 2010, projected to increase to 190,721 annual operations by 2016.

Exhibit 21 shows the NEM forecast for local fixed-wing operations. Because overflights are not an issue with local flight data and airport regulations prohibit touch-and-go training operations at night, the types of adjustments mad to the itinerant operations data are not necessary for local operations.

Exhibit 21 – Annual Local Fixed-Wing Operations Forecast

	2010	2011	2015	2016
Unadjusted	97,766	97,766	97,766	97,766
Total Helo	42,481	42,906	49,453	51,373
Local Helo (25.2% of Total)	(10,709)	(10,816)	(12,466)	(12,950)
Total Local Fixed -Wing	87,057	86,950	85,300	84,816
Touch & Go	83,575	83,472	81,888	81,423
Other Local Fixed -Wing	3,482	3,478	3,412	3,393

Source: SH&E analysis

Total local operations by all types of aircraft are projected to remain constant at just under 100,000 per year throughout the forecast period. With total helicopter operations projected to grow and the local share of helicopter operations remaining constant, local helicopter operations grow from 10,700 in 2010 to 12,950 in 2016. Local fixed-wing operations decline from approximately 87,000 in 2010 to just under 85,000 in 2016. Touch-and-go training operations account for 96% of the total local fixed-wing operations.

Fixed-Wing Operations Forecast by INM Type

Exhibit 22 shows the fixed-wing operations forecast by INM type. The shares by type are based on the analysis conducted for the VNY Noisy Aircraft Phascout study.

Exhibit 22 – VNY Fixed-Wing Operations Forecast by INM Type

INM Acft ID	2010 Share	2010	2011	2015	2016
BEC58P	50.6%	131,247	132,129	125,398	126,746
GASEPF	9.7%	25,110	25,079	24,601	24,461
LEAR35	7.1%	18,521	18,714	26,070	26,559
GASEPV	6.4%	16,669	16,649	16,336	16,245
DHC6	5.6%	14,466	14,617	13,670	13,926
GIV	3.2%	8,297	8,384	12,385	12,617
CNA441	2.5%	6,487	6,554	6,129	6,244
MU3001	2.3%	6,030	6,093	7,873	8,021
CL600	1.7%	4,381	4,427	6,471	6,592
CNA500	1.2%	3,164	3,197	4,131	4,209
CNA750	1.2%	3,131	3,164	4,557	4,643
PA31	1.0%	2,539	2,565	2,409	2,454
GV	0.9%	2,445	2,471	3,650	3,718
IA1125	0.8%	2,182	2,205	3,176	3,235
CNA55B	0.8%	2,065	2,087	3,006	3,062
GIIB	0.5%	1,284	1,297	108	0
1900D	0.5%	1,254	1,267	1,185	1,207
LEAR25	0.4%	1,121	1,133	663	675
FAL50	0.4%	1,027	1,037	1,494	1,522
GII	0.4%	959	969	108	0
CNA208	0.3%	888	898	839	855
737700	0.3%	875	884	1,306	1,331
PA30	0.3%	714	721	677	690
FAL900	0.3%	681	688	1,017	1,036
CIT3	0.3%	653	660	951	969
SD330	0.2%	648	654	612	623
All Other	1.0%	2,713	2,742	3,909	3,897
Total	100.0%	259,551	261,287	272,732	275,537

Source: SH&E analysis

INM type BEC58P, twin-engine piston aircraft including Cessna 414, Piper Aztec, and Beech Queen Air aircraft, account for the largest share of fixed-wing operations, while single-engine piston aircraft represented by types GASEPF and GASEPV also account for large number of operations. INM type Lear35 which includes Learjet 30 - 60 Series and Falcon 200/10 aircraft accounts for the largest number of business jet operations at VNY. INM type GIIB and GII aircraft operations are phased out by 2016 at VNY under the terms of the Noisy Aircraft Phaseout regulations.

Fixed-Wing Operations Forecast by Time of Day

Exhibit 23 shows the fixed-wing operations forecast by time of day. Like the shares of operations by aircraft types, the time of day forecast is based on analysis conducted for the VNY Noisy Aircraft Phaseout and Part 161 studies.

Exhibit 23 – Average Daily Fixed-Wing Operations by Time of Day

	Arrivals			Departures			Total
	Day	Evening	Night	Day	Evening	Night	
2010	309	36	11	325	22	9	711
2011	311	36	11	327	22	9	716
2015	321	38	15	339	23	12	747
2016	323	39	15	341	23	12	753

Source: SH&E analysis

Average daily fixed-wing operations are projected to increase from 711 in 2010 to 753 in 2016. The number of night arrivals is expected to increase from 11 per day in 2010 to 15 per day in 2016. Night departures are expected to remain at low levels, increasing from 9 per day in 2010 to 12 per day by 2016.

Comparison of Adjusted NEM Study Year Forecast to the December 2010 TAF

The VNY Part 150 NEM update will use 2011 and 2016 for its study years. Exhibit 24 shows the comparison between the forecast after adjustments to compensate for helicopter overflights and operations taking place when the control ATCT is closed to the December 2010 FAA Terminal Area Forecast for VNY.

Exhibit 24 – Comparison of Adjusted NEM Forecast for VNY to the 2010 TAF

	Adjusted NEM Forecast	2010 TAF	%Difference
2011	304,193	305,524	-0.4%
2016	326,910	315,745	3.5%

Source: SH&E analysis

After accounting for differences between the ATADS airport operations data used as the basis for the TAF and actual operations at VNY, the VNY NEM and TAF forecasts for 2011 are nearly identical. For 2016, the NEM forecast values are slightly higher than the TAF forecast but the differences between the two forecasts do not appear to be significant.

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APPENDIX J DOCUMENTATION RELATED DRAFT NOISE EXPOSURE MAPS NOTICE, REVIEW, AND COMMENT OPPORTUNITIES

The following pages present copies of documentation related to distribution and publicity of the draft NEMs documentation and associated review and commenting opportunities.

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J.1 Notice on the VNY Website

The screenshot shows a web browser window displaying the Van Nuys Airport website. The page features a navigation menu with links for LAWLA, LAX, ONT, VNY, and HOME. A sidebar on the left contains sections for Current Weather, Search, and various airport services. The main content area is titled "Noise Management" and contains a prominent notice: "VNY PART 150 NOISE EXPOSURE MAPS UPDATE". The notice explains that Los Angeles World Airports (LAWA) has updated its Part 150 Noise Exposure Maps (NEMs) for Van Nuys Airport (VNY). It details the FAA's requirements, the FAA's acceptance of the 2001 and 2006 maps, and the need for an update. The notice also provides information on how to review the draft report, including contact details for Scott Tatro, Environmental Affairs Officer, and a link to download the complete VNY NEM Update (38MB).

VNY PART 150 NOISE EXPOSURE MAPS UPDATE

Los Angeles World Airports (LAWA) has prepared updated "Part 150 Noise Exposure Maps" (NEMs) for Van Nuys Airport (VNY).

Part 150 is a voluntary Federal Aviation Administration (FAA) program that sets guidelines for airport operators to document aircraft noise exposure, and to establish noise abatement and compatible land use programs. Formal standards are set forth in the Aviation Safety and Noise Abatement Act (49 U.S.C. 47501 et. seq.) and in the FAA's Airport Noise Compatibility Planning regulations (14 CFR Part 150).

In April 2009, the FAA accepted the VNY NEMs for calendar years 2001 and 2006 as being in compliance with the requirements of the Part 150 regulations. In October 2009, the FAA recommended that LAWA update the VNY NEMs primarily due to the age of the maps, and resubmit them to FAA for approval.

As part of this process, LAWA seeks to provide all interested parties adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the draft NEMs, and the associated descriptions of forecast aircraft operations at VNY.

The draft report is available for review by clicking on the links below. A hard copy of the report is also available at the VNY administrative offices, 16461 Sherman Way, Suite 300, Van Nuys, CA 91406, between 9:00 a.m. and 3:30 p.m. on normal business days.

LAWA welcomes feedback from all interested parties. Comments or questions on the draft document are due on Wednesday, November 9, 2011 in writing by US Mail or by email to the following contact:

Scott Tatro, Environmental Affairs Officer
Los Angeles World Airports
1 World Way, PO Box 92216
Los Angeles, CA 90009
VNYPart150NEMUpdate@lawa.org

Click to download the complete VNY NEM Update (File size: 38MB)

VNY Updated 14 CFR Part 150 Noise Exposure Maps

Cover, Title Page, Sponsor's Certification, and Table-of-Contents
Chapter 1: Introduction
Chapter 2: Land Use Compatibility Guidelines and Standards
Chapter 3: LAWA Noise Compatibility Planning at VNY
Chapter 4: Existing and Forecast Noise Exposure Maps
Chapter 5: Development of Noise Contours (File size: 11MB)
Chapter 6: Public Consultation

Appendix A: FAA Acceptance of Previous NEM's and Related Communications
Appendix B: FAA Record of Approval for NCP and Federal Register Notice (File size: 6MB)
Appendix C: Noise Terminology
Appendix D: VNY Noise Ordinances
Appendix E: FAA Opinion Regarding ANCA Grandfather Status of Noisier Aircraft Phaseout
Appendix F: Requests to FAA Regarding Non-Standard INM Modeling (File size: 10MB)
Appendix G: Requests to FAA Regarding INM Aircraft Type Modeling Substitutes
Appendix H: FAA Response to Non-Standard INM Modeling and Aircraft Type Substitutes
Appendix I: Documentation Related to FAA review and Approval of Forecasts

J.2 Notice (Legal Advertisement) Run in the Los Angeles Times, Friday, October 7, 2011

**PROOF OF PUBLICATION AFFIDAVIT
(2015.5 C.C.P.)**

STATE OF CALIFORNIA,
County of Los Angeles,

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above-entitled matter. I am the principal clerk of the printer of the

Daily News

a newspaper of general circulation published 7 times weekly in the County of Los Angeles, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California, under the date of May 26, 1983, Case Number Adjudication #C349217; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil) has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit: October 7

all in the year 20 11.....

I certify (or declare) under penalty of perjury that the foregoing is true and correct.

Dated at Woodland Hills,

California, this 7th day of Oct., 20 11.....

Signature

**Proof of Publication of
Public Comment Requested on
Draft Van Nuys Airport Part 150
Noise Exposure Map Report**

**Public Comment Requested on
Draft**

**Van Nuys Airport Part 150
Noise Exposure Map Report**

Los Angeles World Airports (LAWA) is preparing updated "Part 150 Noise Exposure Maps" (NEMs) for Van Nuys Airport (VNY). As part of this process, LAWA seeks to provide all interested parties adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the draft NEMs, and the associated descriptions of forecast aircraft operations.

Part 150 is a voluntary Federal Aviation Administration (FAA) program that sets guidelines for airport operators to document aircraft noise exposure, and to establish noise abatement and compatible land use programs. Formal standards are set forth in 49 U.S.C. 47501 et. seq. (Aviation Safety and Noise Abatement Act) and 14 CFR Part 150 ("Airport Noise Compatibility Planning").

Background: In April 2009, the FAA accepted the NEMs for calendar years 2001 and 2006 as being in compliance with the requirement of Part 150. In October 2009, the FAA recommended that the NEMs be updated due primarily to their age.

Status: LAWA has completed a draft NEMs report that includes full documentation of all associated data collection, forecasts, technical analyses, and results for forecast aircraft operations at VNY in calendar years 2011 and 2016. The draft report is available for review.

Online at
www.lawa.org/welcome_vny.aspx?id=4694

A hard copy of the report is available at the VNY administrative offices, 16461 Sherman Way, Suite 300, Van Nuys, CA 91406, (9:00 a.m. - 3:30 p.m., normal business days)

Comments on the draft are due on Wednesday, November 9, 2011. Comments may be submitted in writing via US Mail or by email to the following contact:

Scott Tatro, Environmental Affairs Officer
Los Angeles World Airports
Environmental Services Division
1 World Way, PO Box 92216
Los Angeles, CA 90009

VNYPart150NEMUpdate@lawa.org

Questions regarding the NEMs update may also be submitted to this contact.

LAWA welcomes feedback from all interested parties.

J.3 Notice (Legal Advertisement) Run in the Daily News, October 7, 2011

RECORDING/FILING REQUESTED BY AND MAIL TO:
Los Angeles World Airports
16461 Sherman Oaks Way Ste 100
Van Nuys, CA 91406

PROOF OF PUBLICATION
(California Code of Civil Procedure 2010, 2015.5)

STATE OF CALIFORNIA
County of Los Angeles

I am a citizen of the United States and a resident of the aforesaid County. I am over the age of eighteen years (18) years, and not a party to or interested in the above-entitled matter. I am the Principal Clerk of the printer of the **LOS ANGELES TIMES**, a newspaper of general circulation, printed and published DAILY in the City of Los Angeles, County of Los Angeles and which newspaper was adjudged a newspaper of general circulation by the Superior Court of the County of Los Angeles, State of California, under the date of April 28, 1952, Case Number 598599. The notice, a true and correct copy of which is annexed, has been published in each regular and entire issue of said newspaper on the following dates, to wit:

FRIDAY; OCTOBER 7, 2011

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Dated at Los Angeles, California,

This 18th day of October 2011



Signature

David Quintanilla

**Public Comment Requested on Draft
Van Nuys Airport Part 150 Noise
Exposure Map Report**

Los Angeles World Airports (LAWA) is preparing updated "Part 150 Noise Exposure Maps" (NEMs) for Van Nuys Airport (VNY). As part of this process, LAWA seeks to provide all interested parties adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the draft NEMs, and the associated descriptions of forecast aircraft operations.

Part 150 is a voluntary Federal Aviation Administration (FAA) program that sets guidelines for airport operators to document aircraft noise exposure, and to establish noise abatement and compatible land use programs. Formal standards are set forth in 49 U.S.C. 47501 et. seq (Aviation Safety and Noise Abatement Act) and 14 CFR Part 150 ("Airport Noise Compatibility Planning").

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Status: LAWA has completed a draft NEMs report that includes full documentation of all associated data collection, forecasts, technical analyses, and results for forecast aircraft operations at VNY in calendar years 2011 and 2016. The draft report is available for review:

- ☐ Online at www.lawa.org/welcome_vny.aspx?id=4694
- ☐ A hard copy of the report is available at the VNY administrative offices, 16461 Sherman Way, Suite 300, Van Nuys, CA 91406, (9:00 a.m. - 3:30 p.m., normal business days)

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Los Angeles World Airports
Environmental Services Division
1 World Way, PO Box 92216
Los Angeles, CA 90009
VNYPart150NEMUpdate@lawa.org

Questions regarding the NEMs update may also be submitted to this contact:

LAWA welcomes feedback from all interested parties.

J.4 Article Run in dailynews.com

Public input sought on airport noise - LA Daily News

Page 1 of 2



Public input sought on airport noise

By Dana Bartholomew, Staff Writer

Posted: 10/11/2011 01:00:00 AM PDT

Updated: 10/11/2011 10:17:27 AM PDT

For the past decade, a growing number of San Fernando Valley residents have complained about unruly helicopter noise from the city-owned Van Nuys Airport.

Now the city is seeking public comment for its long-range plan to handle the overhead rumble of helicopters, jets and piston aircraft.

Comments will be factored into the so-called Part 150 Noise Exposure Maps report, a federal program that sets guidelines for airport operations through 2016. Comments are due by Nov. 9. Send to Scott Tatro, environmental affairs office, Los Angeles World Airports, P.O. Box 92216, Los Angeles 90009; or email VNYPart150EMUpdate@lawa.org.

"We want input from our neighbors and the airport community before the (Noise Exposure Maps) become final," airport manager Jess Romo said in a statement.

The Los Angeles World Airports report is part of a voluntary Federal Aviation Administration program to document airport noise, noise abatement and compatible land use at the general-aviation airport.

Earlier noise maps have spurred the airport agency to spend millions of dollars to soundproof more than 1,000 nearby homes.

But while commercial jet noise once drew the most complaints, the current rumble concerns low-flying choppers, now one of the city's worst noise polluters.

Early this year, Rep. Howard Berman, D-Van Nuys, introduced legislation that aims to fix a whirring problem that

hovers over news-breaking car chases and other events.

His Los Angeles Residential Helicopter Noise Relief Act of 2011 would order the FAA to restrict commercial helicopter flight paths and altitudes in Los Angeles County.

The power to restrict aircraft lies with the FAA, which critics say has been slow to combat the thwack-thwack-thwack of helicopter noise.

Reactions to the draft Part 150 report, which includes both noise exposure maps and the city's noise compatibility programs, were mixed.

"I think that the department of airports has made a valid attempt to address the most noise-impacted neighbors at the airport," said Don Schultz, vice chair of the Van Nuys Airport Citizens Advisory Council. "Now they need to address helicopter noise."

Others point to the dramatic shift in flying patterns at Van Nuys Airport, exacerbated by the recent recession.

Public input sought on airport noise - LA Daily News

Page 2 of 2



Flights have largely been cut in half, dropping from a high of 607,000 in 1999 to 339,000 operations last year, according to LAWA, a roughly 10 percent annual loss in traffic.

happening."

dana.bartholomew@dailynews.com 818-713-3730

Many attribute the plunge to far fewer piston aircraft, whose hobby pilots have left the skies - and airport - because of cost.

Meanwhile, the percentage of jets and helicopters increased. The primary business at Van Nuys Airport is now commercial jet and helicopter operations, estimated to inject \$1.3 billion into the economy.

According to the draft report, 62 helicopters were based at Van Nuys Airport in 2008. That number, however, is expected to grow by nearly 4 percent each year through 2016, according to the FAA.

And despite the millions of dollars spent on noise abatement, the number of residents expected to be affected by airport noise will increase, according to the report.

While there are now 2,001 homes within an area louder than 65 decibels near VNY, airport analysts project 21 more by 2016. That means it will add 64 residents to the 5,786 currently affected by overhead airport takeoffs.

Airport officials were not available for comment Monday because of the Columbus Day holiday.

"The noise at Van Nuys Airport is expected to increase," said Gerald Silver, president of Homeowners of Encino, who also serves on the airport's citizens advisory council. "If they're spending all this money on soundproofing and phasing out noisy jets, then where's the beef? Where are the results?"

"The whole point of this is to reduce incompatible usage at the airport, and I don't see them doing that," he said, adding, "Isn't the whole goal here to reduce noise? It's not

http://www.dailynews.com/news/ci_19085491

10/24/2011

J.5 Sample Letter Sent to VNY Tenants Holding Leases Directly with LAWA



Los Angeles
World Airports

October 7, 2011

Re: Public Comment Requested on Draft VNY Part 150 Noise Exposure Map Report

Dear [REDACTED]

Los Angeles World Airports (LAWA) is preparing updated "Part 150 Noise Exposure Maps" (NEMs) for Van Nuys Airport (VNY). As part of this process, LAWA seeks to provide all interested parties – including regular aeronautical users of the airport – adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the draft NEMs and associated descriptions of forecast aircraft operations.

LAX

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Gina Marie Lindsey
Executive Director

Part 150 is a voluntary Federal Aviation Administration (FAA) program that sets guidelines for airport operators to document aircraft noise exposure and to establish noise abatement and compatible land use programs. Formal standards are set forth in 49 U.S.C. 47501 et. seq (Aviation Safety and Noise Abatement Act) and 14 CFR Part 150 ("Airport Noise Compatibility Planning").

In August 2003, LAWA submitted NEMs to the FAA for calendar years 2001 and 2006. In 2008, LAWA certified that the NEMs were representative of 2008 and 2013 conditions. FAA found the NEMs in compliance on April 4, 2009. FAA subsequently recommended that LAWA prepare updated NEMs due to the age of the previous submission. In response, LAWA is preparing NEMs for forecast aircraft operations at VNY for calendar years 2011 and 2016.

LAWA has completed a Draft NEMs report that includes full documentation of all associated data collection, forecasts, technical analyses, and results. The Draft report is available for review as follows:

- Online at www.lawa.org/welcome_vny.aspx?id=4694; or
- **Hard copy at the VNY administrative offices, 16461 Sherman Way, Suite 300, Van Nuys, CA 91406, (9:00 a.m. - 3:30 p.m., on normal business days)**

Comments on the Draft are due on Wednesday, November 9, 2011. Comments may be submitted in writing to the following contact:

Scott Tatro, Environmental Affairs Officer
Los Angeles World Airports
Environmental Services Division
1 World Way, PO Box 92216
Los Angeles, CA 90009

OR

VNYPart150NEMUpdate@lawa.org

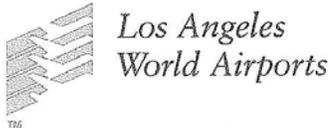
We request that you distribute copies of this notice to your subtenants and that copies are posted in areas accessible to regular aeronautical users occupying your leasehold. LAWA greatly appreciates your assistance in this public outreach effort. If you have any questions related to this notification or regarding the NEMs update, please feel free to contact Mr. Scott Tatro at (424) 646-6499.

Sincerely,

Jess L. Romo
Van Nuys Airport
Airport Manager



J.6 Sample Letter Sent to FAA Western Pacific Region, Los Angeles City Planning Department, and Los Angeles County Airport Land Use Commission



October 7, 2011



Re: Request for Review of and Feedback on Draft VNY Part 150 Noise Exposure Map Report

Dear [Redacted]

LAX
LA/Ontario
Van Nuys
City of Los Angeles
Antonio R. Villaraigosa
Mayor
Board of Airport Commissioners
Michael A. Lawson
President
Valeria C. Velasco
Vice President
Joseph A. Aredas
Robert D. Boyer
Boyd Hight
Fernando M. Torres-Gil
Walter Zifkin
Gina Marie Lindsey
Executive Director

Los Angeles World Airports (LAWA) is preparing updated "Part 150 Noise Exposure Maps" (NEMs) for Van Nuys Airport (VNY). As part of this process, LAWA seeks to provide all interested parties – including all public agencies with land use control jurisdiction within the VNY 65 dB CNEL noise contours – adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the draft NEMs and the associated descriptions of forecast aircraft operations.

Part 150 is a voluntary Federal Aviation Administration (FAA) program that sets guidelines for airport operators to document aircraft noise exposure and to establish noise abatement and compatible land use programs. Formal standards are set forth in the Aviation Safety and Noise Abatement Act (49 U.S.C. 47501 et. seq.), and the FAA Airport Noise Compatibility Planning regulations (14 CFR Part 150).

In August 2003, LAWA submitted NEMs to the FAA for calendar years 2001 and 2006. In 2008, LAWA certified that the NEMs were representative of 2008 and 2013 conditions. FAA found the NEMs in compliance on April 4, 2009. FAA subsequently recommended that LAWA prepare updated NEMs due to the age of the previous submission. In response, LAWA is preparing NEMs for forecast aircraft operations at VNY for calendar years 2011 and 2016.

LAWA has completed the enclosed draft NEMs report that includes full documentation of all associated data collection, forecasts, technical analyses, and results. The submission will include copies of your comments and LAWA's responses. Comments on the draft are due on Wednesday, November 9, 2011. Comments may be submitted in writing to the following contact:

Scott Tatro, Environmental Affairs Officer
Los Angeles World Airports
Environmental Services Division
1 World Way, PO Box 92216
Los Angeles, CA 90009
Office line: (424) 646-6499

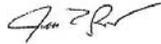
OR

VNYPart150NEMUpdate@lawa.org



LAWA is seeking broader public review and feedback through newspaper advertisements, website announcements, and direct mailings to other parties. Please do not hesitate to contact us with any questions regarding the NEMs update. LAWA greatly appreciates your assistance.

Sincerely,



Jess L. Romo
VNY Airport Manager

cc: Scott Tatro

J.7 Sample Letter Sent to Los Angeles City Councilmembers (6th and 12th Districts) and the VNY FAA Air Traffic Control Tower



Los Angeles
World Airports

October 7, 2011

Re: Request for Review of and Feedback on Draft VNY Part 150 Noise Exposure Map Report

Dear [REDACTED]

Los Angeles World Airports (LAWA) is preparing updated "Part 150 Noise Exposure Maps" (NEMs) for Van Nuys Airport (VNY). As part of this process, LAWA seeks to provide all interested parties – including all public agencies with land use control jurisdiction within the VNY 65 dB CNEL noise contours – adequate opportunity to submit their views, data, and comments concerning the correctness and adequacy of the draft NEMs and associated descriptions of forecast aircraft operations.

Part 150 is a voluntary Federal Aviation Administration (FAA) program that sets guidelines for airport operators to document aircraft noise exposure and to establish noise abatement and compatible land use programs. Formal standards are set forth in the Aviation Safety and Noise Abatement Act (49 U.S.C. 47501 et. seq.), and the FAA Airport Noise Compatibility Planning regulations (14 CFR Part 150).

In August 2003, LAWA submitted NEMs to the FAA for calendar years 2001 and 2006. In 2008, LAWA certified that the NEMs were representative of 2008 and 2013 conditions. FAA found the NEMs in compliance on April 4, 2009. FAA subsequently recommended that LAWA prepare updated NEMs due to the age of the previous submission. In response, LAWA is preparing NEMs for forecast aircraft operations at VNY for calendar years 2011 and 2016.

LAWA has completed a Draft NEMs report that includes full documentation of all associated data collection, forecasts, technical analyses, and results. The Draft report is available for review online at: www.lawa.org/welcome_vny.aspx?id=4694. LAWA is seeking broader public review and feedback through newspaper advertisements, website announcements, and direct mailings to other parties. Comments on the Draft are due on Wednesday, November 9, 2011. Comments or questions may be addressed to the following contact:

Scott Tatro, Environmental Affairs Officer
Los Angeles World Airport
Environmental Services Division
7301 World Way West
Los Angeles, CA 90045
statro@lawa.org
(424) 646-6499

LAWA greatly appreciates your assistance.

Sincerely,

Jess L. Romo
Van Nuys Airport
Airport Manager

cc: Scott Tatro

LAX
LA/Ontario
Van Nuys
City of Los Angeles
Antonio R. Villarraigosa
Mayor
Board of Airport
Commissioners
Michael A. Lawson
President
Valeria C. Velasco
Vice President
Joseph A. Aredas
Robert D. Beyer
Boyd Hight
Fernando M. Torres-Gil
Walter Zifkin
Gina Marie Lindsey
Executive Director



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APPENDIX K DOCUMENTATION RELATED TO PRESENTATIONS TO AND DISCUSSIONS WITH THE VNY CITIZENS ADVISORY COUNCIL REGARDING THE DRAFT NOISE EXPOSURE MAPS

As discussed in Section 6.3, LAWA met twice with the VNY Citizens Advisory Council (CAC) to present and respond to questions regarding the draft NEMs. The first meeting was on October 4, 2011, which provided LAWA with a timely opportunity to announce the start of the comment period. The second meeting was on November 1, 2011, in response to a CAC request at the first meeting for an opportunity to discuss the draft after the committee members and other attendees had the opportunity to review the draft.

LAWA staff made a PowerPoint presentation at the first meeting. That presentation, the meeting agendas, and meeting minutes that summarize related discussion are presented below.

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Van Nuys Airport Draft Updated 2011 and 2016 Part 150 Noise Exposure Maps



Presentation to
**Citizens Advisory
Council**
October 4, 2011



Part 150 “Airport Noise Compatibility Planning”

- **Voluntary federal program**
- **Defines standards for airport operators to use in**
 - Documenting noise exposure in the airport environs
 - Establishing programs to minimize noncompatible land uses
- **Noise Exposure Maps (NEMs) submission must include**
 - Annual noise exposure and land use compatibility analyses for existing and five-year forecast conditions
 - FAA accepts use of CNEL contours in California
 - Must use FAA’s Integrated Noise Model to develop contours
 - Documentation of
 - Data sources, analyses, and related FAA approvals
 - Public consultation processes consistent with Part 150 requirements

VNY Part 150 Background

- In 2009, the FAA approved the 2001 existing condition and 2006 future condition (with mitigation) NEMs from the 2003 Part 150 study
- The FAA's 2009 Record of Approval (ROA) for the Part 150 Noise Compatibility Program (NCP) recommended that LAWA update the NEMs "due to their age"
- LAWA has completed draft NEMs and associated documentation for forecast 2011 and 2016 conditions
- LAWA is undertaking consultation that exceeds Part 150 requirements
- Anticipate submission of completed 2011 and 2016 NEMs to FAA in December 2011

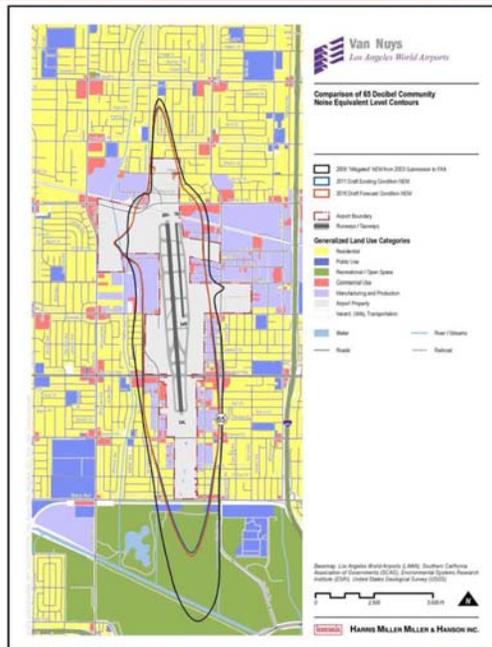
3

2011 and 2016 CNEL contours are very similar



Comparison of 65 Decibel CNEL for 2011 and 2016 to 2006 “Mitigated” NEM from 2003 Part 150 Submission

- **2011 and 2016 are narrower and shorter, particularly to south**
 - East and west side “nodes” reflect use of improved INM ability to model helicopters
- **Change is largely due to**
 - Quieter jet fleet
 - Use of improved noise abatement departure procedures (NADPs), as verified in “fly-friendly” study



Population within contours is down from 2006

Year	Land Use Category	Dwellings and Residents within 65 dB CNEL	
		Dwellings	Population
2006	Compatible	1,355	3,388
	Noncompatible	1,347	3,206
	Total	2,702	6,594
2011	Compatible	1,123	3,020
	Noncompatible	878	2,766
	Total	2,001	5,786
2016	Compatible	1,123	3,020
	Noncompatible	899	2,830
	Total	2,022	5,850

- A majority of residents are compatible (e.g., sound-insulated) dwellings
- Small increase from 2011 to 2016 is due to forecast changes in activity
- There are no non-residential sensitive land uses (e.g., schools, places of worship, etc.) within the 65 dB CNEL contours for 2011 and 2016

Major Public Consultation Steps

- **October 4, 2011 CAC presentation**
- **30-day public review and comment period (10/10/11 – 11/09/11)**
 - **Published newspaper notices**
 - **Direct notices to**
 - All tenants, with a request to notify subtenants and post copies of the notice
 - All public agencies with land use control within the 65 dB CNEL
 - FAA tower, district office, regional office
 - Los Angeles City Planning Department
 - Los Angeles County Airport Land Use Commission
- **Draft NEMs will be available for review**
 - **At VNY administrative offices**
 - **On LAWA website**
- **Comprehensive documentation in final FAA submission**
 - **Including copies of all comments received**

Comments are due on November 9, 2011

7

Discussion



8

VAN NUYS AIRPORT CITIZENS ADVISORY COUNCIL
October 4, 2011 - Agenda: 7:00 p.m.
VAN NUYS FLYAWAY
2ND FLOOR CONFERENCE ROOM
7610 Woodley Ave, Van Nuys, CA 91406

(Public comments are heard after Council discussion of each agenda item.)

CALL TO ORDER – CHAIR KEN MILLER

APPROVAL OF MINUTES OF September 6, 2011

1. STAFF REPORTS
 - A. VNY Part 150 NEM (Noise Exposure Map) Update Presentation – Discussion/Action
 - B. Capital Improvement Update for VNY Golf – Discussion/Action
 - C. Annual Noise Conference – Discussion/Action
2. REPORT FROM THE CHAIR
3. BOAC AGENDA ITEMS CONCERNING VNY
4. PUBLIC COMMENT – NON-AGENDA ITEMS – Discussion
5. NEW BUSINESS
 - A. SFAR (for Mount Lee Area) and HR2677 (Legislation before Congress) – Discussion/Action
6. OLD BUSINESS
 - A. Committee Reports – Discussion/Action
 1. Status of Prop Park Development – Discussion/Action
7. EMERGENCY ITEMS SINCE POSTING OF AGENDA – Discussion/Action
8. ADVISORY COUNCIL MEMBERS' COMMENTS - NON-AGENDA ITEMS
9. ADJOURNMENT

NEXT MEETING: November 8, 2011
VAN NUYS FLYAWAY
2ND FLOOR CONFERENCE ROOM
7610 Woodley Ave, Van Nuys, CA 91406

Sign language interpreters, assistive listening devices or other auxiliary aids and/or services may be provided upon request. To ensure availability, you are advised to make your request at least 72 hours prior to the meeting you wish to attend. For additional information, please contact Van Nuys Airport Public and Community Relations (818) 442-6526.

VAN NUYS AIRPORT CITIZENS ADVISORY COUNCIL
Tuesday, October 4, 2011
MINUTES

A meeting of the Van Nuys Airport Citizens Advisory Council (CAC) was called to order at 7:19 p.m. by Ken Miller. Members present: Don Schultz, Ken Miller, Elliot Sanders, Ron Merkin, Gerald Silver, David Rankell, David Bernardoni, Laurence Rabe, Harold Sullivan

Members Absent: Rick Flam, Wayne Williams, Wendy Saunders, Bob Frazier, Harold Lee, Roger Ortiz, Wendy Saunders

The Council vacancies as of August 2, 2011 are as follows: one appointment from the Board of Airport Commissioners and one appointment from Councilmember Dennis Zine.

The minutes from the September 6, 2011 meeting were unanimously approved.

1.) STAFF REPORTS

A. VNY Part 150 NEM (Noise Exposure Map) Update Presentation – Discussion/Action

Mr. Scott Tatro, LAWA Environmental Affairs Officer, made a PowerPoint presentation (attached) regarding the Van Nuys Airport Draft Updated 2011 and 2016 Part 150 Noise Exposure Maps.

Mr. Silver asked what the future growth of helicopter operations is expected to be. He also requested a hard copy or disk format of this draft document.

Mr. Romo stated they are trying to encourage people to use electronic format as this is a very thick document to print. He stated the link to this document was emailed to the CAC.

Mr. Silver stated there is an inadequate amount of data on the PowerPoint presentation in order to comment on. He asked if Mr. Tatro could be invited to attend the November meeting with another PowerPoint on this document or at least have the document on hand.

Mr. Miller asked Mr. Tatro if he could provide them with a simple analysis of the document at the November meeting.

Mr. Tatro stated yes but asked specifically what part of the document they want to learn more about.

Mr. Silver stated he wants to know the future projections of propeller operations and helicopter operations at VNY, narrowing down on information specifically on these two types of aircraft.

Mr. Sanders stated this item should be deferred to the November meeting for comments.

Mr. Rankell stated the 65 CNEL shrunk and that is a good sign.

Mr. Tatro stated yes comparing from 2006 to 2016 it did shrink.

Mr. Rankell asked how many homes that were in the original 65 CNEL were insulated that would not qualify at this time.

Mr. Tatro stated 400-450 homes are now not in the 65 CNEL.

Mr. Miller stated the members should review the material online and it will be on the November agenda for further comments.

Mr. Romo asked the members to email Mr. Tatro in advance with questions so he can prepare for the meeting.

B. Capital Improvement Update for VNY Golf – Discussion/Action

Mr. Romo stated that Mr. Sause, President of Southern California Golf, was invited to the meeting but had a conflict and could not attend. He also stated he could go over notes about the status of VNY Golf or defer it to the next meeting.

Mr. Miller stated the item should be deferred to the November meeting when a representative of Southern California Golf could attend.

Mr. Schulz asked why improvements are taking longer than they had originally stated.

Mr. Romo stated he understands that they are trying to work on administrative issues with the construction Bond but everything else is ready to go with the Construction Approval.

Mr. Miller stated this item be deferred to the November meeting.

Mr. Romo stated it is budget time again for FY 2013. He will have more information at the November meeting.

Mr. Sanders advised about an online edition of Airport Business regarding the closure of runway 16R and the cost to the FBOs.

Mr. Romo stated old information from a meeting in March 2011 with the editors, Ms. Gina Marie Lindsey, and he was picked up in this article. At the time of the meeting the FAA was not established as a funder of this project, but now, by all indications 95% of the project will be funded by the FAA, 2 ½ by the California Department of Transportation, and 2 ½% by LAWA.

Mr. Sanders asked if there is a projection on how long 16R will be closed.

Mr. Romo stated HNTB, the firm selected to design the Runway 16R reconstruction project, is responsible for the schedule and possible alternatives.

Mr. Rodine asked about the funding of this project.

Mr. Miller stated this is not an agenda item and to save the discussion for another time.

C. Annual Noise Conference – Discussion/Action

Ms. Sanchez stated the Annual Noise Symposium will be held in Palm Springs from March 4-6, 2012. She asked that names of possible attendees be provided at the next meeting.

Mr. Miller asked if anyone is interested in attending this symposium.

Mr. Rankell volunteered to attend.

2.) REPORT FROM CHAIR

Mr. Miller stated his focus as the newly appointed Chair of the CAC will be to increase awareness and participation and awareness of the CAC among the public and VNY tenants and pilots. He stated that participation is needed from pilots, business owners, and area residents to hear each other regarding various issues that affect them all. He also stated that many people know that CAC exists but are not aware they have a voice and can be influential.

Mr. Merkin stated it should be an Action Item on ideas of how to increase awareness of the CAC.

Mr. Miller stated to add this to the November Agenda.

3.) BOAC AGENDA ITEMS CONCERNING VNY

Mr. Romo discussed the five items concerning VNY on the September 19th BOAC Agenda:

Item #2 – Fourth Amendment to Operating Agreement No. DA-3830 with CUSA CC, LLC dba Coach America Los Angeles.

Item #10 – Award of three (3)-year Contract to One Source Distributors, LLC.

Item #11 – Agreement with the County of Los Angeles Department of Agricultural Commissioner/Weights and Measures.

Item #13 – First Amendment to Concession Agreement No. LAA-8444 with Jaroth Inc. dba Pacific Telemangement Services.

Item #18 – One (1)-year lease with the County of Los Angeles for a single-story building located at 16200 Daily Drive in Van Nuys Airport.

All the above items were approved by the BOAC.

Mr. Romo discussed the two items concerning VNY on the October 3rd BOAC Agenda:

Item #6 – Join City Contract No. 59081 with Petrochem Manufacturing, Inc.

Item #8 – Award of Contract to Municipal Maintenance Equipment, Inc.

Both of the above items were approved by the BOAC.

Mr. Rankell inquired about Item #2 on the September 19th Agenda. He asked if this agreement includes the "out of service" kiosks at the Van Nuys FlyAway Bus Terminal.

Mr. Romo stated LAX runs the FlyAway bus service and Ms. Meighan Langlois would be the person to contact on inquiries. He stated Ms. Ghoukassian could provide Mr. Rankell with Ms. Langlois' phone number.

Mr. Miller stated he thought these kiosks were not going to be used for some reason.

Mr. Rankell stated he will contact Ms. Langlois on this item.

4.) PUBLIC COMMENT

Mr. George Abrahams, a Beachwood Canyon resident, stated his group submitted the Special Federal Aviation Regulation (SFAR) for the Mount Lee Area to the FAA. He stated the FAA has six months to respond. They also sent a copy to Congressman Berman's office but there is not much they can do. Mr. Abrahams also discussed the legislation before Congress, HR2677. He stated he just received communication from the Torrance Homeowners Group that are concerned with helicopter issues and they forwarded information that Congressman Berman had written a letter to

the Chairman of Aviation Sub-Committee on Trans Infrastructure of the House, Congressman Tom Petri. They are requesting that this Bill be given a hearing. Mr. Abrahams stated if anyone wants to support this Bill they should call Congressman Petri at 202-225-2476 or fax at 202-225-2356. He also stated his group is meeting with Mr. Larry Welk, President of the Professional Helicopter Pilots Association, on October 6, 2011.

Mr. Abrahams inquired about Mr. Oeland's discussion with the engineering firm on helicopter noise suppression options. Mr. Oeland was absent and therefore not available for inquiries.

5.) NEW BUSINESS

A. SFAR (for Mount Lee Area) and HR2677 (Legislation before Congress) – Discussion/Action

Mr. Silver stated Congressman Berman called him regarding HR2677. Mr. Silver advised him that it would help to hold the hearing for this Bill in Los Angeles, but the Congressman stated the hearing will have to take place in Washington, D.C. Mr. Silver stated he wants to move to support this Bill.

Mr. Sanders asked if there is an altitude indicated on the Bill.

Mr. Silver stated he read the Bill and it only allows the FAA to study the issue and possibly issue a regulation to improve the noise.

Mr. Miller and Mr. Rankell agreed with Mr. Silver.

Mr. Sanders stated he agrees with Mr. Silver in that the noise needs to be relieved but he wants more details on the Bill.

Mr. Rankell stated helicopters have become a big media item and have been a problem for quite some time. He went to Washington, D.C. in 1999 or 2000 with Mr. Silver and testified at FAA Headquarters about non-military aircraft over densely populated areas. New York City representatives were also present and voicing the same concerns. Mr. Rankell stated 10 years later there is still no solution but that this Bill is a step in the right direction.

Mr. Miller stated he agrees with Mr. Sanders that this Bill is not specific enough. He would like to see it possibly restated to address specific areas.

Mr. Rankell stated it's not often that a Congressman writes a Bill on this issue and something has to be highlighted on this issue because of the constant complaints. He stated that maybe pilots could be given a minimum altitude.

Mr. Miller stated if they support it as it is written, it is unlikely to be supported by the FAA.

Mr. Rodine stated this document is excluding safety and he agrees with the requirement of specificity. He referred to the picture of the Fire Department helicopter that crashed and he understands that this crash was not a result of pilots getting too close to the ground, but rather an aircraft having mechanical issues. And with this observation and language in the Bill saying that aircraft is exempt because it is a LAFD helicopter really damages the argument. He encourages when drafting this to be very focused and not go into places like this and to keep it real. He stated he could live with noise sensitive areas but cannot live with legislation that has internal inconsistencies in it.

Mr. Abrahams stated the only two ways a rule can be submitted is a Committee internal to the FAA and a petition process, which is what they are using. He stated they came up with the 2000 feet when they found that 2000 feet is the common denominator in Federal regulations at this time.

Mr. Silver stated there are two issues here, the HR2677 Bill and the SFAR for the Mount Lee Area.

Ms. Fran Reichenbach, President of the Beachwood Canyon Neighborhood Association, stated she thinks if you make the Bill too specific it could limit the possibilities for it being successful and not being specific gives it more of a chance of getting attention.

Mr. Schultz stated the Bill should not be more specific than it already is because it's stating the FAA will make the regulations for the area specifically.

Mr. Merkin stated he is supporting Mr. Silver. He also stated another thing that could help this cause is support from Larry Welk, the President of the Professional Helicopter Pilots Association.

Mr. Sanders stated he supports the SFAR but not HR2677.

Mr. Silver introduced a motion as follows:

“The Citizen’s Advisory Council supports HR 2677, the Los Angeles Residents Helicopter Noise Relief Act being sponsored by Congressman Howard Berman, Congressman Brad Sherman, and Congressman Adam Schiff.”

The motion passed 6 to 2.

Mr. Silver introduced a motion as follows:

“The Citizen’s Advisory Council supports the Special Federal Aviation Regulation (SFAR) for the Mount Lee Area being proposed by the Beachwood Canyon Neighborhood Association.”

The motion passed unanimously.

Ms. Reichenbach stated they are aware there are successful and unsuccessful SFAR attempts.

Mr. Silver stated before the FAA approves an SFAR, it will have to go through intensive scrutiny.

6.) OLD BUSINESS

A. Committee Reports – Discussion/Action

1. Status of Prop Park Development – Discussion/Action

Mr. Romo stated this item was approved in City Council on September 28, 2011 and it is on the way back to the BOAC for final execution. He stated Mr. Argubright was invited to this meeting but had a conflict and could not attend.

Mr. Merkin stated he does not currently have any updates from his Beautification Committee.

Mr. Sanders stated the rocks/landscaping along Hayvenhurst looks great.

Mr. Romo stated it would not have been possible without help from LAX.

Mr. Sanders stated he has been working with the BOAC and Councilmember Zine's Office to appoint the new members.

Ms. Sanchez stated the BOAC appointee should be appointed in mid-November.

Mr. Schultz stated his AdHoc Committee for a VNY BOAC includes Mr. Sanders, Mr. Merkin, and he. He stated the information has been relayed to Councilman Cardenas and he is waiting for action from the Councilman.

7.) EMERGENCY ITEMS SINCE POSTING OF AGENDA – Discussion/Action

No items were discussed.

8.) ADVISORY COUNCIL MEMBERS' COMMENTS – NON-AGENDA ITEMS

Mr. Sullivan stated the landscaping is going very well but some fencing may need some work. He also needs a current map of the area/airport.

Mr. Merkin asked Mr. Sullivan to contact him regarding the fence issue. He also stated he is looking forward to having a full Council.

Mr. Schulz stated Hayvenhurst is looking nice.

Mr. Sanders stated LAWA is stepping up on marketing the airport and is also participating in the upcoming NBAA Conference.

Mr. Silver congratulated Mr. Miller on his first meeting as Chair and appreciated the way he handled the meeting.

Mr. Miller thanked Mr. Schultz for his support and also Ms. Sanchez and Ms. Ghoukassian for their assistance.

9) ADJOURNMENT:

8:56 p.m.

VAN NUYS AIRPORT CITIZENS ADVISORY COUNCIL
November 1, 2011 - Agenda: 7:00 p.m.
VAN NUYS FLYAWAY
2ND FLOOR CONFERENCE ROOM
7610 Woodley Ave, Van Nuys, CA 91406

(Public comments are heard after Council discussion of each agenda item.)

CALL TO ORDER – CHAIR KEN MILLER

APPROVAL OF MINUTES OF October 4, 2011

1. STAFF REPORTS
 - A. Capital Improvement Update for VNY Golf – Discussion/Action
 - B. VNY Part 150 NEM (Noise Exposure Map) Update Presentation (Follow-up) – Discussion/Action
 - C. Customs at VNY – Discussion/Action
2. REPORT FROM THE CHAIR
3. BOAC AGENDA ITEMS CONCERNING VNY
4. PUBLIC COMMENT – NON-AGENDA ITEMS – Discussion
5. NEW BUSINESS
 - A. Suggestions on how to increase awareness of the CAC – Discussion/Action
 - B. Los Angeles City Council support of Santa Monica Airport Closure – Discussion/Action
6. OLD BUSINESS
 - A. Committee Reports – Discussion/Action
 1. Status of Prop Park Development – Discussion/Action
7. EMERGENCY ITEMS SINCE POSTING OF AGENDA – Discussion/Action
8. ADVISORY COUNCIL MEMBERS' COMMENTS - NON-AGENDA ITEMS
9. ADJOURNMENT

NEXT MEETING: January 3, 2012
VAN NUYS FLYAWAY
2ND FLOOR CONFERENCE ROOM
7610 Woodley Ave, Van Nuys, CA 91406

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VAN NUYS AIRPORT CITIZENS ADVISORY COUNCIL
Tuesday, November 1, 2011
MINUTES

A meeting of the Van Nuys Airport Citizens Advisory Council (CAC) was called to order at 7:05 p.m. by Ken Miller. Members present: Don Schultz, Ken Miller, Elliot Sanders, David Rankell, Harold Sullivan, Wayne Williams, Gerald Silver, Roger Oeland, Ron Merkin, Laurence Rabe, Rick Flam, Bob Frazier, Roger Ortiz

Members Absent: Harold Lee, David Bernardoni, Wendy Saunders

The Council vacancies as of August 2, 2011 are as follows: one appointment from the Board of Airport Commissioners and one appointment from Councilmember Dennis Zine.

The minutes from the October 4, 2011 meeting were unanimously approved.

1.) STAFF REPORTS

Mr. Romo reminded the Council of the December 5th CAC/LAX Advisory Committee Holiday Party at the 94th Aero Squadron. He asked Council members to contact Ms. Ghoukassian if they do not receive an invitation or have any questions.

A. Capital Improvement Update for VNY Golf – Discussion/Action

The new operators of the Van Nuys Golf Course, Mr. Ed Sause, President of Southern California Golf LLC and Craig McDonald, Regional Director made a Powerpoint presentation (attached) discussing the current status of the Van Nuys Golf Course improvements.

Mr. Sause stated they continue to show the restaurant to individuals but the major issue is the labor costs. He stated hopefully when the bathrooms are renovated and the roof is on and all the repairs are done inside the facility they can find an interested operator.

Mr. Silver asked what labor cost impediments that are being imposed on them by LAWA that affects their ability to find an operator for the restaurant.

Mr. McDonald stated since the Golf Course sits on LAWA property they are held to the Super Living Wage. He stated it does not work out for operators to pay this wage to servers.

Mr. Silver stated then because of this Super Living Wage they are unable to find an operator.

Mr. Romo stated the Living Wage is a City of Los Angeles ordinance and the Super Living Wage applies to LAWA but is also mandated by the City of Los Angeles.

Mr. Miller asked if all the restaurants at LAX are paying these wages.

Mr. Romo stated every concession at LAX pays the Super Living Wage and there are very few exceptions.

Mr. Miller asked if they were intending for the restaurant to be full service.

Mr. Sause stated both kinds of operators have come through to look at the restaurant.

Mr. Miller stated a window service would have less labor impact rather than a full service restaurant and asked if this is the case.

Mr. Sause stated no.

Mr. Rankell asked how many square feet the restaurant is.

Mr. McDonald stated approximately 7000 square feet.

Mr. Rankell asked what else this space could be used for.

Mr. Sause stated they thought of a limited food, grab and go use, but the space is not good for customer flow.

Mr. Miller stated Southern California Golf is making great headway with their improvements. He asked what the impact would be if the restaurant space remained vacant for a long period of time.

Mr. McDonald stated it would be a negative impact and they continue to look for different options.

Mr. Merkin asked if the site is approved for catering.

Mr. McDonald stated they have thought of that but the kitchen is in need of updating.

Mr. Sullivan stated the fence on Vanowen at the Van Nuys Golf Course is in need of repair.

Mr. McDonald stated the chain link fence is going to be repaired.

Mr. Williams asked if most of the customers for the restaurant would come from the Van Nuys Golf Course or the outside community.

Mr. McDonald stated something like Billingsleys, a full service restaurant, would draw inside and outside customers. They are looking at all kinds of options for food.

Mr. Williams asked if they have gone to the City of Los Angeles and explained the situation in regards to the Super Living Wage and the issue they are having.

Mr. Sause stated no they have not but they want to complete all the repairs and improvements before going back to the City.

Mr. Williams asked if they have done a survey of golfers on what they want.

Mr. McDonald stated he knows they want a restaurant like Billingsleys.

Mr. Oeland stated he would take customers to Billingsleys at least once a week and everybody liked it.

Mr. Silver asked if the Proud Bird at LAX is subject to the Living Wage. He also asked about the 94th Aero Squadron.

Mr. Romo stated the 94th is not on airport property. He also stated the Proud Bird is subject to the living wage unless it has an old holdover lease prior to the living wage. He stated in the 11 years that the living wage has been in effect, there has never been an exception to any entity, but that does not mean it could not happen.

Mr. Miller asked if there has ever been compensation in lease rates to offset the living wage.

Mr. Romo stated probably not.

Mr. Sause stated they have outreached to kids with Golf Clinics and hopefully the repairs will get more people from the community to the Golf Course.

Mr. Merkin stated they acknowledge the success they have achieved since taking over the Van Nuys Golf Course.

B. VNY Part 150 NEM (Noise Exposure Map) Update Presentation (Follow-up) – Discussion/Action

Mr. Tatro stated he has returned to update the Council on Mr. Silver's comment regarding the future projections of propeller and helicopter operations.

Mr. Tatro stated the following:

"With the forecast that you do under a Part 150, the FAA really has set very specific guidelines that defined how the forecast development is done. HMMH was hired and Ted Baldwin has been here talking about the Part 161, they did the noisier aircraft phase out regulation and EIR for that. He's the one working on the Part 150 as well. One of the things they have to do in forecasting is look at specific trends nationally and locally. We looked at the local tower counts and the operations log when the tower is closed. That all got submitted and a forecast was developed and NEM updated. And that has to be pre-submitted to the FAA. What the FAA is looking for is, are your projections similar to the terminal area forecast that they do for all the tower operator facilities across the country. And if you're within 10%, they tend to approve things. When we projected the 2011 base year and the 2016 base year against the new terminal area forecast that came out in late 2010 we were actually within 3-3 ½ % for the future year projection. The forecast has been approved by the FAA before this document was put together in draft form before they ever really did any of the noise modeling. HMMH were really looking into helicopter, propeller, and jet operations at this airport, which is not typical for a Part 150 study but more typical of a Part 161 study. They used 18 helicopter types and 16 propeller types, over 700 helicopter and propeller flight tracks, which is above and beyond what they had to do."

Mr. Miller stated this is a study/model, but if it was proposed there would be a reduction, why does the current model not show one and when will we see a reduction.

Mr. Tatro stated part of it is there is a dramatic increase in jet operations and a reduction in propeller operations. The mix of aircraft is changing and jets really drive the contour. Phasing out Stage 2 is a tiny minority, while the propeller aircraft trend downward.

Mr. Miller stated this is just a model and it may change with the Prop Park opening soon and quieter jets coming in.

Mr. Silver stated Mr. Tatro is one of the best at this and he appreciates all he has done. He also stated that it's not fair to say the model is inaccurate, if it's accurate enough to satisfy the Feds. He would like to see some shrinkage in the physical perimeter of that contour over the next five years or tell the public the airports going to get noisier.

Mr. Oeland stated the efficiency of aircraft is getting better and quieter so that is an offset that cannot be projected.

Mr. Miller thanked Mr. Tatro for the update.

C. Customs at VNY – Discussion/Action

Mr. Romo stated Signature Aviation is the FBO that will provide space for a Custom's Facility at VNY. However, nothing has been finalized and things could change. There is an agreement in principle, but funding needs to be approved, a set of user fees need to be established, and a commitment from Customs and Border Protection (CBP) is required. Mr. Romo stated he should have more of an update towards the end of the year and he will relay that to the Council.

Mr. Rankell asked if all the tenants would be able to use the facility.

Mr. Romo stated yes, as long as they share in the cost because for VNY it will be revenue neutral. He stated users will have to see how much it is to build the facility and recapture this cost over some period of time. CBP is going to charge them so much per hour with a minimum of so many hours per job. At the end of this a fee will be coming up that has to be paid. This will not be a profit center for Signature or anyone else.

Mr. Miller stated the facility does a couple of things, all the operators will benefit because tenants will have direct flights out of VNY. Signature will also benefit with transients that are coming and will likely fuel at their ramp if they are flying into VNY.

Mr. Silver asked if there will be any environmental requirements for the facility.

Mr. Miller stated he does not know what type of facility they are building.

Mr. Rankell stated we should not see a dramatic increase in operations.

Mr. Miller stated he does not think they will see a dramatic increase.

Mr. Romo stated the facility will be built in an existing footprint and therefore no new structure will be built.

Ms. Rabe stated there is a possibility there will be an increase in operations when this facility is up and running with foreign aircraft flying through with noisier jets.

Mr. Miller stated noisier jets will not be flying internationally to the USA.

Mr. Sanders asked when the last time there was CBP facility at VNY was.

Mr. Romo stated 10 years ago and unlike now, there was not requirement of a facility back then.

2.) REPORT FROM CHAIR

Mr. Miller stated he is looking at the lack of CAC member attendance at meetings and asked Ms. Ghoukassian to create an attendance log for January – November 2011.

Mr. Miller stated he has not seen any construction progress with VNY leaseholders that were supposed to make improvements per their lease. He asked if there is any way to enforce this.

Mr. Romo stated he is not privy to lease discussions but he is briefed and he gets copies of discussions between Mr. Steve Martin and Commercial Development Group (CDG) and lessees/tenants that have made commitments through a competitive award of a lease of paying this rent and are supposed to put in so much money in capital improvements. In some cases they have made exceptions but Mr. Romo believes the airport's intent is to hold them to that financial commitment but the timing of the commitment comes in.

Mr. Miller stated the leases the airport offers are short compared to other real estate development leases, usually 30 years. The lessee has to amortize the money they will spend on a leasehold over the 30 years. After 30 years, the property goes back to the airport. Some tenants will say that it doesn't make sense to spend millions of dollars to own something for five years. There has got to be a line that these commitments were made and now there are deviations that need to be dealt with.

Mr. Rankell asked if the leases are public documents.

Mr. Romo stated yes they are.

Mr. Rankell asked if a sub-committee should be created to review the leases.

Mr. Miller stated before they do that he asked if Mr. Romo could provide him with a thumbnail sketch of leases that have deferments and then they could see if there is an issue.

Mr. Flam stated the Chair and Mr. Romo should work with Mr. Martin for an update.

Mr. Miller stated he will call Mr. Romo to discuss.

Mr. Romo stated he will reach out to Mr. Martin regarding this issue.

3.) BOAC AGENDA ITEMS CONCERNING VNY

No items were discussed.

4.) PUBLIC COMMENT

Mr. George Abrahams, a Beachwood Canyon resident, stated his group is seeking support from elected officials, Hollywood Bowl, and the LA Zoo. They have had support from Congressman Adam Schiff's Office to appeal the FAA's denial to their petition.

Ms. Fran Reichenbach, President of the Beachwood Canyon Neighborhood Association, handed out copies of a brochure (attached) regarding a helicopter service that allows passengers, with only 15-minutes of training, to fly the helicopter with the pilot. She stated this is very unsafe.

Ms. Rabe asked if they have gone to the FAA with this brochure.

Ms. Reichenbach stated no they have not.

Mr. Miller stated what this brochure constitutes is a flight lesson with a certified flight instructor. He advised they not lose focus of their cause.

Ms. Reichenbach stated a helicopter pilot advised them that their cause is ruining their business. She feels they are headed for a fight on this issue.

Mr. Merkin stated he received a newsletter from Assemblymember Mike Feuer regarding the Beachwood Canyon's FAA proposal. Mr. Merkin stated the Assemblymember is a good ally to have.

Ms. Reichenbach stated they have heard otherwise from the Assemblymember's representative and will be meeting with the Assemblymember to discuss their issue.

Mr. Williams stated he can help them with the meeting.

Mr. Abrahams stated the motion made by the CAC helped their cause.

Mr. Silver stated 12-13 years ago when Assemblymember Feuer was a Councilman he supported control of helicopter flights in the Sherman Oaks area but ran up against the FAA.

Mr. Peter Harts, President of the Toluca Lake Homeowner's Association, stated the noise in his area is usually caused by Universal Studios, but recently they have been getting helicopter noise complaints. He asked what the flight rules are for helicopters.

Mr. Williams stated he is the head of the helicopter noise committee and the best thing for them to do is get involved with the Hollywood Hills group.

Mr. Harts stated he will report back to his group on their next step.

Mr. Glenn Baily, member of the public, stated the Valley Alliance Neighborhood Council is a great way to get to all the Valley Neighborhood Councils for outreach of the CAC. He stated the group meets monthly and it's very easy to get on the agenda.

5.) NEW BUSINESS

A. Suggestions on how to increase awareness of the CAC – Discussion/Action

Mr. Merkin stated they need to reach out to the Homeowner's Associations and the Neighborhood Councils to raise awareness of the CAC.

Mr. Miller stated he is concerned about CAC participation and the vast number of pilots who don't know about the CAC or what they do.

Mr. Sanders suggested reaching out to the VNAA President to attend the CAC meetings.

Mr. Miller asked Ms. Sanchez if she communicates with tenants.

Ms. Sanchez stated the VNAA usually reaches out to tenants directly but she has ways to forward information to tenants.

Mr. Romo stated when he attends the VNAA meeting every month he reminds them of the CAC meeting. The meetings are the 1st Tuesday of the month, the VNAA meeting is at 4pm and the CAC is at 7pm.

Mr. Miller stated he used to attend the VNAA meeting but felt they were not accomplishing much.

Mr. Frazier stated the VNAA provides attendees with food but the CAC does not and maybe they should hold an event with food to get more people to attend.

Mr. Miller stated he is looking for ways to get people (area residents, business owners, and pilots) to attend the CAC meetings.

Mr. Williams stated the most successful community groups are the ones who provide food.

Mr. Miller stated maybe we can hold an annual CAC BBQ.

Mr. Williams stated when the Prop Park is built they can hold their meetings in their conference room and charge for lunch from the restaurant at the Prop Park.

Mr. Oeland asked if there has been any progress with the clean-up around the airport.

Mr. Merkin stated no there has not been any progress.

Mr. Williams stated the Sherman Way tunnel needs cleaning again.

B. Los Angeles City Council support of Santa Monica Airport Closure – Discussion/Action

Mr. Miller stated he added this item to the agenda due to an online article (attached) regarding this issue.

Mr. Sanders stated he has been getting inquiries from Santa Monica Airport (SMO) propeller pilots to relocate to VNY due to this article. He stated this will increase operations, fuel sales, and noise at VNY if SMO is closed. He stated he wanted to make a motion.

Mr. Flam asked if Mr. Bickhart of the Mayor's Office had an opinion on this.

Mr. Bickhart stated he sat in on a meeting discussing this very issue. The meeting included Councilmember Bill Rosendahl. The issue is the City of Santa Monica that runs SMO has planes taking off, veering left over Venice, and then they head over the ocean. This affects Councilmember Rosendahl's constituents and that is why he is involved.

Mr. Miller stated they take this route due to the restricted airspace over LAX.

Mr. Bickhart stated back in the 1980's the City of Santa Monica did try to close the airport and made a 30 year deal that is now coming to an end. Councilmember Rosendahl is trying to get the City of Los Angeles to support the closure.

Mr. Miller stated he understands that SMO will be closing in 2015.

Mr. Bickhart stated the first thing that Councilmember Rosendahl wants to focus on is the flight schools; he believes they are the cause of a lot of the issues.

Mr. Silver stated the possible closure of SMO has both positive and negative effects on VNY. He invited Ms. Linda Levitan to get involved and to brief Councilman Tony Cardenas on this issue so that the CAC has a voice.

Mr. Rankell asked if there are any Stage 2 aircraft at SMO.

Mr. Williams stated no.

Mr. Rankell asked what the helicopter and jet noise is like at SMO.

Mr. Williams stated it is relatively noisy.

Mr. Merkin asked if they want to make a motion that addresses issues of using City funds to support the closure of SMO.

Mr. Ortiz asked if there should be a motion made.

Mr. Sanders introduced a motion as follows:

“The Citizen’s Advisory Council opposes any spending of Los Angeles City funds for use in supporting the Santa Monica City closure of the Santa Monica Airport. It further opposes the closure of Santa Monica Airport.”

The motion passed unanimously with one abstention.

Mr. Flam stated he feels they need more information regarding this issue and moved to table the motion until the January 2012 meeting.

The council voted on tabeling the motion, 11 opposed and 1 was in favor.

Mr. Silver stated he does not think they should delay this.

Mr. Schultz agreed with Mr. Silver.

Mr. Bickhart stated the motion should go to the Trade Commerce Tourism Committee.

6.) OLD BUSINESS

A. Committee Reports – Discussion/Action

1. Status of Prop Park Development – Discussion/Action

Mr. Romo stated there was a walk-thru of the Prop Park with Airport Operations, CDG staff, and Mr. Steve Argubright. They are working on plans to reposition some hangars. The work will occur in three phases over a 36 month period.

Mr. Sanders stated permits have been granted for grating and moving hangars.

7.) EMERGENCY ITEMS SINCE POSTING OF AGENDA – Discussion/Action

No items were discussed.

8.) ADVISORY COUNCIL MEMBERS' COMMENTS – NON-AGENDA ITEMS

Mr. Oeland stated on Roscoe he has had three flat tires and there is also trash and junk from cars left behind. He asked what can be done about this.

Mr. Romo stated he needs to call 311 and report it to Street Services.

Mr. Sullivan stated the trash on Roscoe is a real problem.

Mr. Williams stated he will not be able to attend the December Holiday Dinner.

9) ADJOURNMENT:

9:30 p.m.

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APPENDIX L WRITTEN COMMENTS RECEIVED DURING CONSULTATION

The following pages present copies of the 13 written comments received during consultation. Section 6.4 addresses these comments.

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From: Ellen Bagelman <eplus3@socal.rr.com>
Sent: Monday, October 24, 2011 1:23 PM
To: VNY Public Outreach
Cc: ROMO, JESS L; William Withycombe; TATRO, SCOTT; City Attorney Trutanich; Jessica Yas; Miguel Franco
Subject: Part 150 Noise Exposure Map Report Comments, due Nov. 9, 2011

Comments regarding Part 150 Noise Exposure Maps Report

I hereby submit comments regarding the continuously bothersome resident-unfriendly neighbor, VAN NOISE Airport, and its impact on the residential community it purports to be sensitive to.

Over the years, VNY has presented itself as being concerned, enlightened, and committed to co-existing with impacted residential neighborhoods, yet nothing could be further from the truth. Rules/Regulations/Policies have been created and enforced which increase noise, silence the community, limit their right to complain, and increase the divide. I do not recall ONE policy/practice being modified or changed in favor of residents in the 25 years I've personally been active in this issue. In other words, nothing has changed. Unfortunately nothing will EVER change until and unless an outside force is injected and change is mandated. Congressman Berman's pending legislation is what residents have been begging for, are supportive of, and are grateful for.

Because all FAA directives are voluntary, there is no policy, thus no possible enforcement. Designating routes is just words on a page and deviation is neither documented nor enforced, thus inconsequential - thus there is no policy. I have talked to jet pilots who admit taking off with their foot to the metal because "they can." I have talked to propeller pilots who bank early because "they can." In other words, there is no policy nor any accountability.

Residents have no local elected governmental representative to ask for assistance. These council members are another layer of the same problem - their attitude being 'just go away and leave the work to us.' They use their power to enhance their image and political future (a city councilman was helicoptered into an event, clearly violative of city ordinance, but one which was gifted by waiver). This same councilman supports pro-aviation interests, even though he represents those negatively impacted by the decisions he supports.

Almost 25 years ago I asked the following at an airport meeting: *if you are screaming at me, why is it my responsibility to cover my ears? Why is it not your responsibility to stop screaming.* That question is as relevant today as it was years ago. Residents are expected to tolerate increasing noise from helicopters, jets, and to a lesser degree prop planes, at all times of the day and night. Sleeping through the night is impossible, and enjoying the outdoors is always contingent on what is departing or arriving. Media helicopters believe they have the right to fly whenever/wherever they choose. Since local news now begins as early as 4:30 a.m. noise begins earlier. Where is it written that a TV/Radio station has greater rights than a taxpaying community with regards to noise? In Los Angeles, that's where -- not in Burbank or Santa Monica, but in Los Angeles.

Soundproofing seemed to be their answer - just shut them up! Take away their right to complain, thus be able to document fewer received complaints, thus conclude that the program worked. Not true. Noise has increased, is expected to continue to increase, so what have they accomplished? Nothing.

The bottom line is: there is no good faith displayed by airport personnel. They limit complaints by the public, they are rude and dismissive, and this attitude is condoned from somewhere. Perhaps Congressman Berman can break this wall of silence and indifference.

Ellen Bagelman
16434 Hamlin Street
Lake Balboa, CA 91406
818-997-8674

From: L.A. Calabro <bx1@att.net>
Sent: Tuesday, November 08, 2011 6:10 PM
To: VNY Public Outreach

I and my wife have lived in the SFV for almost 40 years, and we can honestly say that we've never have been bothered by helicopter noise, on occasion when needed by the LAPD they appear but that is very infrequent. How anyone can complain about excessive helicopter noise is beyond me unless they live by an airport in that case I suggest they move.

Lawrence Calabro
Northridge Ca.

From: JOHN CARMONA <jafcarmona@gmail.com>
Sent: Tuesday, October 11, 2011 8:40 AM
To: VNY Public Outreach
Subject: NOISE POLLUTION

To whom it may concern,

I live, literally, at the border of the Van Nuys Airport. I am the last house that a plane flies over before it crosses the airport boundary. I have contacted the airport soundproofing department numerous times and all I heard were excuses as to why the city can not soundproof my house. Houses around me are soundproofed!!!!I feel like my complaints are falling on deaf ears. I have often thought of selling the property, but with the economy at the moment that is not such a good idea. I know that as times goes more planes with be using the Van Nuys Airport.

Here are some idea:

- 1) Set a full curfew from 1800-0800 (Aircraft free);
- 2) Send the majority of planes to Burbank Airport or LAX;
- 3) Land or take off at a higher angle;
- 4) More Soundproofing;

John Carmona

From: omar galo <ogaloc@gmail.com>
Sent: Tuesday, October 25, 2011 4:57 PM
To: SALDIVAR-CHAVEZ, CATALINA
Subject: Sound Insulation--Windows Changing!!!!
Attachments: windows changing!!.docx

Dear Mr. Saldivar

A cordial greetings!!!!

sorry for bothering you but I'm wondering if I do apply for the Sound Insulation, I live on the landing zone and approaching zone for VNY Airport, indeed there are some quite aircraft's but there are others noise, we are new in this area and of course we are no used to be so noise (at least with airplanes), do you think there is something to do? attached you will find the map and the location of the house

for your time thank you so much and I do appreciate if you can do something about it

cordially

Omar Galo

From: Roger Gerchas <rgerchas@socal.rr.com>
Sent: Sunday, October 23, 2011 12:26 AM
To: VNY Public Outreach
Subject: Van Nuys Airport Noise

I have some general comments regarding the noise issue at Van Nuys Airport. I am an Airframe and Powerplant technician that has spent the last 20 years of my career working at Van Nuys, and I believe it is important that the board not lose sight of some important facts while considering the wide range of opinions on this subject.

While the anti-airport contingent downplays it, the bottom line is that the airport was around for decades before houses were built up next to it. The aviation industry should strive to be a considerate neighbor to the community, but the basic fact is the airport was here first and is one of the few generators of well paying technical jobs and services of the type that are disappearing everywhere. Another basic fact is that Stage III and now Stage IV aircraft will naturally become more prevalent as older aircraft are retired by attrition; we do not need evermore restrictions, regulations, or fees and fines to overcompensate for a noise issue that is blown out of proportion.

I have been closely following this issue since the 1990's, and one of the consistent statistics that the board needs to always remember is that a very high percentage of complaints against the airport are made by a small group of politically motivated individuals. Do not be swayed by a small group distorting the issue. One person calling in a complaint for every other takeoff is not valid.

Again, I stress that everyone in the community must work together and aircraft operators should be considerate of the residents in the area, but this must be done **within reason**, and the fact is there are already enough rules and restrictions in place. We do not need an overnight curfew or anything like that.

I feel my comments should carry as much weight as anyone who speaks against the airport; I work at the airport, I live nearby in Northridge and the aircraft I work on literally fly over my house (so I am not being a hypocrite about noise), and I am a homeowner who pays property taxes to the City of Los Angeles just the same as the other people living near the airport.

Roger Gerchas
rgerchas@socal.rr.com



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

Western-Pacific Region
Airports Division
Los Angeles Airports District Office

Federal Aviation Administration
P.O. Box 92007
Los Angeles, CA 90009-2007

November 9, 2011

Mr. Scott Tatro
Environmental Affairs Officer
Los Angeles World Airports
Environmental Services Division
1 World Way, P.O. Box 92216
Los Angeles, CA 90009

Dear Mr. Tatro:

**Van Nuys Airport
Draft Updated 14 CFR Part 150 Noise Exposure Maps**

The Federal Aviation Administration (FAA), Los Angeles Airports District Office has reviewed Draft Van Nuys Airport Updated 14 C.F.R. Part 150 Noise Exposure Maps. We have enclosed our recommended changes and corrections for your consideration and use. Many of our comments are editorial that should improve the accuracy and reability of the document. We have also included several comments that should help clarify certain information presented in the draft document that will assist us in formally reviewing the document for acceptance pursuant to Title 14, Code of Federal Regulations, Part 150.

We recommend that your consultant update the Noise Exposure Map Checklist to ensure that all the required information is presented in the Draft Final Noise Exposure Map document prior to submittal to the FAA. Upon receipt and review with the updated information the FAA will request for eight complete copies to be submitted for FAA Line-of-Business Review.

Please advise us when the next Part 150 public meeting is to be scheduled so we can make arrangements to attend.

If you have any questions concerning this matter, please call me at 310/725-3637.

Sincerely,

A handwritten signature in blue ink, appearing to read "Victor Globa".

Victor Globa
Environmental Protection Specialist

Enclosure

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Van Nuys Airport
Van Nuys, California

Draft Updated 14 C.F.R. Part 150 Noise Exposure Maps
Dated September 20, 2011

FAA Review Comments

November 9, 2011

The U.S. Department of Transportation/Federal Aviation Administration (FAA) has completed its preliminary review of the Draft Van Nuys Airport, Updated Part 150 Noise Exposure Maps (NEMs), dated September 20, 2011 and received October 11, 2011. The following comments are being provided for the Study.

FAA comments to the NEMs:

- 1) LAWA's intentions are identified in Section 6 regarding its Public Consultation Process. It is not clear who the identified parties are that were notified of the pending NEMs review. Please provide a table identifying which agencies, sponsors and the general public was notified.
- 2) All consulted parties including the public should have access and an opportunity to comment on documents that the FAA will review such as the larger unbound flight track maps that are not provided.
- 3) Once comments are received and incorporated the document will need to go for a 30-day FAA Line of Business Review. The Los Angeles Airports District Office will notify LAWA when the Draft document is ready to be received. The copy should be identified as a Draft or Draft Final not Final due to incomplete review.
- 4) The NEM's and Flight Track maps do not identify the City of Los Angeles. Please identify the jurisdiction.
- 5) See page F-3, August 31, 2010, LAWA letter requesting INM changes. Also add October 19, 2010 LAWA request letter and March 14, 2011, FAA response letter in Appendices.
- 6) Add dates to the Ordinances that indicate noise or access restrictions.
- 7) Page iii - Complete Sponsor's Certification before submitting for FAA Line of Business Review
- 8) Specific clarifications are identified in the attached NEM checklist

END OF COMMENTS

VNY PART 150 NEM CHECKLIST

PROGRAM REQUIREMENT	YES	NO	SUPPORTING PAGES/REVIEW COMMENTS
I. Submitting And Identifying The NEM:			
A. Submission is properly identified:	XX		Cover letter and document cover
1. 14 C.F.R. Part 150 NEM?	XX		Cover letter, Certification and Cover
2. NEM and NCP together?		XX	
3. Revision to NEMs FAA previously determined to be in compliance with Part 150?	XX		Reference to October 16, 2009, Record of Approval Letter
B. Airport and Airport Operator's name are identified?	XX		Cover letter, Certification and Cover
C. NCP is transmitted by airport operator's dated cover letter, describing it as a Part 150 submittal and requesting appropriate FAA determination?		XX	Not Applicable
II. Consultation: [150.21(b), A150.105(a)]			
A. Is there a narrative description of the consultation accomplished, including opportunities for public review and comment during map development?		XX	LAWA's intentions are identified in Section 6. Public should have access to documents that the FAA has in order to review and provide comment. List of identified parties is not included. Once comments are received and incorporated document a 30-day FAA Line of Business Review is necessary. The copy should be identified as a Draft or Draft Final not Final due to incomplete review.
B. Identification of consulted parties:			
1. Are the consulted parties identified?		XX	Section 6, Paragraph 2.7 identifies in a general manner where the document will go but does not provide specific contacts
2. Do they include all those required by 150.21(b) and A150.105(a)?		XX	Section 6, Paragraph 2.7 identifies in a general manner where the document will go but does not provide specific contacts.
3. Agencies in 2., above, correspond to those indicated on the NEM?		XX	Section 6, Paragraph 2.7 identifies in a general manner where the document will go but does not provide specific contacts.
C. Does the documentation include the airport operator's certification, and evidence to support it, that interested persons have been afforded adequate opportunity to submit their views, data, and comments during map development and in accordance with 150.21(b)?		XX	Certificate is provided unsigned with public outreach still necessary for inclusion into the document. Not clear whether Citizen's Advisory Committee meeting was advertised and pen to the public seeking comments on the NEM's.
D. Does the document indicate whether written comments were received during consultation and, if there were comments, that they are on file with the FAA regional airports division manager?		XX	Not at this time. Comments will follow November 9, 2011.
III. General Requirements: [150.21]			
A. Are there two maps, each clearly labeled on the face with year (existing condition year and one that is at least 5 years into the future)?	XX		Figure 7, 2011 Existing Condition NEM & Figure 8, 2016 Five-year Forecast Condition NEM
B. Map currency:			
1. Does the year on the face of the existing condition map graphic match the year on the airport operator's NEM submittal letter?	XX		Yes
2. Is the forecast year map based on reasonable forecasts and other planning assumptions and is it for at least the fifth calendar year after the year of submission?	XX		Yes. Forecast Approval Letter in Appendix I
3. If the answer to 1 and 2 above is no, the airport operator must			

VNY PART 150 NEM CHECKLIST

verify in writing that data in the documentation are representative of existing condition and at least 5 years' forecast conditions as of the date of submission?	YES	NO	SUPPORTING PAGES/REVIEW COMMENTS
PROGRAM REQUIREMENT			
III. General Requirements: [150.21] <i>[continued]</i>			
C. If the NEM and NCP are submitted together:		XX	Not Applicable
1. Has the airport operator indicated whether the forecast year map is based on either forecast conditions without the program or forecast conditions if the program is implemented?		XX	Not Applicable
2. If the forecast year map is based on program implementation:		XX	Not Applicable
a. Are the specific program measures that are reflected on the map identified?		XX	Not Applicable
b. Does the documentation specifically describe how these measures affect land use compatibilities depicted on the map?		XX	Not Applicable
3. If the forecast year NEM does not model program implementation, the airport operator must either submit a revised forecast NEM showing program implementation conditions [B150.3(b), 150.35(f)] or the sponsor must demonstrate the adopted forecast year NEM with approved NCP measures would not change by plus/minus 1.5 DNL? (150.21(d))		XX	Not Applicable
IV. Map Scale, Graphics, And Data Requirements: [A150.101, A150.103, A150.105, 150.21(a)]			
A. Are the maps of sufficient scale to be clear and readable (they must not be less than 1" to 2,000'), and is the scale indicated on the maps? <i>(Note (1) if the submittal uses separate graphics to depict flight tracks and/or noise monitoring sites, these must be of the same scale, because they are part of the documentation required for NEMs.)</i> <i>(Note (2) supplemental graphics that are not required by the regulation do not need to be at the 1" to 2,000' scale)</i>		XX	Figure 7, 2011 Existing Condition NEM & Figure 8, 2016 Five-year Forecast Condition NEM area at a 1" to 2000' scale. Flight tracks are 1" to 8,000." Page 70 identifies that an unbound copy is included in a sleeve immediately following the each of the standard size page versions, whereas, the NEM checklist identifies that the final NEM's will include the unbound maps. The general public needs to have access to, and should be able to review the same unbound maps that the FAA will receive.
B. Is the quality of the graphics such that required information is clear and readable? (Refer to C. through G., below, for specific graphic depictions that must be clear and readable)		XX	Figure 7, 2011 Existing Condition NEM & Figure 8, 2016 Five-year Forecast Condition NEM area at a 1" to 2000' scale. Flight tracks are 1" to 8,000."

VNY PART 150 NEM CHECKLIST

PROGRAM REQUIREMENT	YES	NO	SUPPORTING PAGES/REVIEW COMMENTS
IV. Map Scale, Graphics, And Data Requirements: [A150.101, A150.103, A150.105, 150.21(a)] <i>(continued)</i>			
C. Depiction of the airport and its environs:			
1. Is the following graphically depicted to scale on both the existing condition and forecast year maps?	XX		Figure 7, 2011 Existing Condition NEM & Figure 8, 2016 Five-year Forecast Condition NEM area at a 1" to 2000' scale.
a. Airport boundaries	XX		Figure 7, 2011 Existing Condition NEM & Figure 8, 2016 Five-year Forecast Condition NEM area at a 1" to 2000' scale.
b. Runway configurations with runway end numbers	XX		Figure 7, 2011 Existing Condition NEM & Figure 8, 2016 Five-year Forecast Condition NEM area at a 1" to 2000' scale.
2. Does the depiction of the off-airport data include?			
a. A land use base map depicting streets and other identifiable geographic features	XX		Figure 7, 2011 Existing Condition NEM & Figure 8, 2016 Five-year Forecast Condition NEM area at a 1" to 2000' scale.
b. The area within the DNL 65 dB (or beyond, at local discretion)	XX		Figure 7, 2011 Existing Condition NEM & Figure 8, 2016 Five-year Forecast Condition NEM area at a 1" to 2000' scale.
c. Clear delineation of geographic boundaries and the names of all jurisdictions with planning and land use control authority within the DNL 65 dB (or beyond, at local discretion)		XX	Figure 7, 2011 Existing Condition NEM & Figure 8, 2016 Five-year Forecast Condition NEM area at a 1" to 2000' scale. Notes identifies that the entire map is located within the City of Los Angeles. The name of the jurisdiction should be on the map itself.
D. 1. Continuous contours for at least the DNL 65, 70, and 75 dB?	XX		For both Figure 7, 2011 Existing Condition NEM & Figure 8, 2016 Five-year Forecast Condition NEM area at a 1" to 2000' scale.
2. Has the local land use jurisdiction(s) adopted a lower local standard and if so, has the sponsor depicted this on the NEMs?		XX	See Section 2 Land Use Compatibility Guidelines and Standards.
3. Based on current airport and operational data for the existing condition year NEM, and forecast data representative of the selected year for the forecast NEM?	XX		See Section Development of Noise Contours.
E. Flight tracks for the existing condition and forecast year timeframes (these may be on supplemental graphics which must use the same land use base map and scale as the existing condition and forecast year NEM), which are numbered to correspond to accompanying narrative?		XX	Flight tracks are 1" to 8,000." Page 70 identifies that an unbound copy is included in a sleeve immediately following the each of the standard size page versions, whereas, the NEM checklist identifies that the final NEM's will include the unbound maps. The general public needs to have access to and should be able to review the same unbound maps that the FAA will receive.
F. Locations of any noise monitoring sites (these may be on supplemental graphics which must use the same land use base map and scale as the official NEMs)	XX		Yes located on both: Figure 7, 2011 Existing Condition NEM & Figure 8, 2016 Five-year Forecast Condition NEM area at a 1" to 2000' scale.
G. Noncompatible land use identification:			

¹ [CNEL for California airports] Issued In Washington, DC -- APP-600, March 1989 Revised June 2005 to reflect legislative changes. Reviewed for currency 12/2007.

VNY PART 150 NEM CHECKLIST

1. Are noncompatible land uses within at least the DNL 65 dB noise contour depicted on the map graphics?	XX	Yes located on both: Figure 7, 2011 Existing Condition NEM & Figure 8, 2016 Five-year Forecast Condition NEM area at a 1" to 2000' scale.
2. Are noise sensitive public buildings and historic properties identified? (Note: If none are within the depicted NEM noise contours, this should be stated in the accompanying narrative text.)	XX	Section 4.3 identifies that there are no noise sensitive public buildings and historic properties identified within the NEM noise contours.
3. Are the noncompatible uses and noise sensitive public buildings readily identifiable and explained on the map legend?	XX	Only non-compatible land uses. Section 4.3 identifies that there are no noise sensitive public buildings and historic properties identified within the NEM noise contours.
4. Are compatible land uses, which would normally be considered noncompatible, explained in the accompanying narrative?	XX	Sound insulated homes are identified in Section 3.3 Existing VNYU Compatible Land Use Measures.

PROGRAM REQUIREMENT	YES	NO	SUPPORTING PAGES/REVIEW COMMENTS
V. Narrative Support Of Map Data: [150.21(a), A150.1, A150.101, A150.103]			
A. 1. Are the technical data and data sources on which the NEMs are based adequately described in the narrative?	XX		See Section 5.
2. Are the underlying technical data and planning assumptions reasonable?	XX		See Section 5.
B. Calculation of Noise Contours:			
1. Is the methodology indicated?	XX		See Section 5
a. Is it FAA approved?	XX		See Section 5.
b. Was the same model used for both maps? (Note: The same model also must be used for NCP submittals associated with NEM determinations already issued by FAA where the NCP is submitted later, unless the airport sponsor submits a combined NEM/NCP submittal as a replacement, in which case the model used must be the most recent version at the time the update was started.)	XX		
c. Has AEE approval been obtained for use of a model other than those that have previous blanket FAA approval?			Not Applicable
2. Correct use of noise models:	XX		
a. Does the documentation indicate, or is there evidence, the airport operator (or its consultant) has adjusted or calibrated FAA-approved noise models or substituted one aircraft type for another that was not included on the FAA's pre-approved list of aircraft substitutions?	XX		See page F-3, August 31, 2010, LAWA letter requesting INM changes. Include October 19, 2010 LAWA request letter and March 14, 2011, FAA response letter in Appendices.
b. If so, does this have written approval from AEE, and is that written approval included in the submitted document?		XX	See page F-3, August 31, 2010, LAWA letter requesting INM changes. Include October 19, 2010 LAWA request letter and March 14, 2011, FAA response letter in Appendices.
3. If noise monitoring was used, does the narrative indicate that Part 150 guidelines were followed?	XX		See Section 1.2.2 VNY Noise and Operations Monitoring Data and Section 5.1.5. Aircraft Noise and Performance Characteristics.

VNY PART 150 NEM CHECKLIST

	4. For noise contours below DNL 65 dB, does the supporting documentation include an explanation of local reasons? (Note: A narrative level less than DNL 65 dB as sensitive for the local community(ies), and including a table or other depiction of the differences from the Federal table, is highly desirable but not specifically required by the rule. However, if the airport sponsor submits NCP measures within the locally significant noise contour, an explanation must be included if it wants the FAA to consider the measure(s) for approval for purposes of eligibility for Federal aid.)	Not Applicable
	YES	NO
PROGRAM REQUIREMENT		SUPPORTING PAGES/REVIEW COMMENTS
V. Narrative Support Of Map Data: [150.21(a), A150.1, A150.101, A150.103] <i>[continued]</i>		
C. Noncompatible Land Use Information:		
1. Does the narrative (or map graphics) give estimates of the number of people residing in each of the contours (DNL 65, 70 and 75, at a minimum) for both the existing condition and forecast year maps?	XX	See Table 3, Estimated Compatible, Noncompatible, and Total Dwelling Units and Population within 2011 and 2016 Noise Exposure Map Contours in Section 4.3 Noncompatible Land Uses within the Noise Contours
2. Does the documentation indicate whether the airport operator used Table 1 of Part 150?	XX	See Table 2, Part 150 Land Use Compatibility
a. If a local variation to table 1 was used:		
(1) Does the narrative clearly indicate which adjustments were made and the local reasons for doing so?	XX	See Section 2. Land Use Compatibility Guidelines and Standards
(2) Does the narrative include the airport operator's complete substitution for table 1?	XX	See Section 2. Land Use Compatibility Guidelines and Standards
3. Does the narrative include information on self-generated or ambient noise where compatible or noncompatible land use identifications consider non-airport and non-aircraft noise sources?		XX
4. Where normally noncompatible land uses are not depicted as such on the NEMs, does the narrative satisfactorily explain why, with reference to the specific geographic areas?	XX	See Section 3.3.1 sound Insulation and Section 4.3, Non Compatible Land Uses within the Noise Contours
5. Does the narrative describe how forecast aircraft operations, forecast airport layout changes, and forecast land use changes will affect land use compatibility in the future?	XX	See Section 4.4 Effects of Forecast Changes on Future Land Use Compatibility
VI. Map Certifications: [150.21(b), 150.21(e)]		
A. Has the operator certified in writing that interested persons have been afforded adequate opportunity to submit views, data, and comments concerning the correctness and adequacy of the draft maps and forecasts?		XX LAWA's intentions are identified on page iii and Section 6.
B. Has the operator certified in writing that each map and description of consultation and opportunity for public comment are true and complete under penalty of 18 U.S.C. § 1001?		XX LAWA's intentions are identified on page iii and Section 6.

VNY PART 150 NEM CHECKLIST

Page 1.1-6 of 6

Issued In Washington, DC -- APP-600, March 1989
Revised June 2005 to reflect legislative changes. Reviewed for currency 12/2007.

From: Stan Kramer <bcmetroman@aol.com>
Sent: Tuesday, October 18, 2011 10:00 AM
To: VNY Public Outreach
Subject: Public Comments, long-range plan, due by November 9th

Below is my Public comment on Part 150 noise maps; it is somewhat outside the maps' geographical perimeter, nevertheless there is growing aircraft noise pollution over the Western San Fernando Valley foothill residential area, specifically Bell Canyon and West Hills.

I have resided in this area 40 years, observing increased aircraft overhead noise pollution. Since many residents live in the elevated mountainous foothills, aircraft fly very low to their homes. I have used the LAWA Internet Flight Tracking System (very good system) to track these aircraft and filed three complaints using the system (specific very low flying aircraft, circling aircraft over homes, and noisy low flying aircraft). Each time Van Nuys Airport Manager, Jess Romo, responded with very courteous letters, but all stated "Airports do not control aircraft in flight. The FAA has ultimate authority over aircraft flight patterns and regulates virtually all aviation activity. This includes takeoffs, landings, altitudes and direction of flight with major emphasis on safety."

Please, I sincerely request this western San Fernando Valley foothill area be included in any noise pollution reduction plans. Additionally, I would appreciate it if you could direct me to the appropriate person in FAA to transmit my above comment.

Thank you very much for allowing me to comment on the San Fernando Valley aircraft noise pollution problem.

Stan Kramer
6 Maverick Lane
Bell Canyon, Ca 91307
818-610-1163

From: BMouzis@aol.com
Sent: Wednesday, October 19, 2011 12:52 AM
To: VNY Public Outreach
Cc: gsilver4@earthlink.net; dana.bartholomew@dailynews.com; ROMO, JESS L; dittoschultz@aol.com; ctrutanich@lacity.org; bill.withycombe@faa.gov; mayor@lacity.org
Subject: PUBLIC INPUT SOUGHT ON AIRPORT NOISE AND AIRCRAFT RUMBLE.

October 18, 2011.

It is my understanding that my comments will be factored into the Part 150 Noise Exposure Maps report, a Federal program that sets guidelines for airport operations through 2016.

I am sure Scott Tatro, Environmental Affairs Officer for LAWA Environmental Services Division, knows of my presence at VNY Citizens Advisory Council meetings for the past five years. I am a 58 year resident of the community and a World War II veteran who made his home in the San Fernando Valley after the war in seeking peace and solace after being wounded in action and after spending over two months at Great Lakes Naval Hospital. I am now 89 years old and after about 25 years of noisy jet and piston driven aircraft, and more recently the out of control helicopter activity, I am more sorely convinced we will never get remedial action from either the FAA or LAWA under present conditions. The record will show that after over 25 years of complaints to both agencies not one single remedial action has been taken by them. This has been an uneven playing field from the very beginning, favoring business entities and politicians.

My personal complaints over the years have been nullified at the FAA, LAWA and VNY Tower as the excessive noise and designated route violations continue without recourse, along with environmental and safety concerns. Nothing will ever be done as long as adherence to FAA directives are voluntary in nature rather than mandatory. There are those pilots or owners with bad attitudes who have no concern whatsoever on how their actions affect the public or community-at-large. Violations must be treated with harsh punishment and if necessary the forfeiture of flying rights being an option.

I am convinced that nothing will ever be done in the interests of the public as long as the FAA is allowed to continue along its dictatorial path within the Department Of Transportation. Only legislation by our Congress can put a stop to it. The introduction of Congressional Bill H.R. 2677 by Representative Howard Berman at this point represents a commendable start in obtaining tangible control of a worsening situation. It is imperative that this bill be passed in the interests of public welfare and safety. To ignore it is to ignore the will of the people.

Finally, I concur with the view of Gerald Silver, president of Homeowners of Encino, who in a recent statement to the Daily News made the following observation.... "noise at VNY is expected to increase. If they are spending all this money on soundproofing and phasing out noisy jets, then where are the results? The whole point of this is to reduce incompatible usage at the airport and I do not see them doing that. Isn't the whole goal here to reduce noise? It's not happening".

Sincerely,

William P. Mouzis
16647 Gilmore Street
Lake Balboa, Ca. 91406
(818)780-3206

From: Diana Sanchez <activelife22@att.net>
Sent: Thursday, October 27, 2011 7:15 PM
To: VNY Public Outreach
Subject: Van Nuys Airport

As a Valley resident I hope I am not the only one that writes to tell you how much I appreciate having the airport in the valley. The thousands of jobs it provides even in this rough economy, the taxes the aviation companies pay to the city and the dollars people who travel in and out of Van Nuys Airport spend locally at restaurants, etc.

I am proud to have Van Nuys Airport as an icon to the Valley.

From: linda.satorius@phpa.org
Sent: Thursday, November 10, 2011 2:32 AM
To: VNY Public Outreach
Subject: Comment re: Part 150 Noise Exposure Maps Report VNY
Attachments: PHPA Letter to LAWA re Part 150 Noise Exposure Maps Report (VNY)...xps

Mr. Scott Tatro,
Environmental Affairs Officer
Los Angeles World Airports
1 World Way, PO Box 92216
Los Angeles, CA 90009

Dear Mr. Tatro,

Please find attached a document from the Professional Helicopter Pilots Association in regard to the Part 150 Noise Exposure Maps Report (VNY).

Thank you,

Linda Satorius

Board Member, PHPA

Professional Helicopter Pilots Association
PO Box 7059
Burbank, CA 91510-7059



November 8, 2011

Mr. Scott Tatro
Environmental Affairs Officer
Los Angeles World Airports
1 World Way, PO Box 92216
Los Angeles, CA 90009
VNYPart150NEMUpdate@lawa.org

Dear Mr. Tatro,

The Professional Helicopter Pilots Association (PHPA), a non-profit professional organization founded in 1967, would like to express support for Measure 11, section 3.4.2, Helicopter Noise Abatement, as found in the September 20, 2011 Draft Part 150 Noise Exposure Maps Report (VNY).

Measure 11 calls for improvement of ... "communications between the airport, the FAA, the helicopter operators and residents to reduce the impact and negative perception of helicopter operations".

The PHPA agrees. Noise compatibility is a high-priority for the PHPA and community outreach has always been an important part of our mission. We are actively engaged in dialog with various San Fernando Valley neighborhood groups who are experiencing noise issues and look forward to meeting with more groups. We are in contact with Hollywood area homeowner's groups impacted by noise from helicopter flights they believe to be originating from Van Nuys Airport. We actively bring the community's concerns to our membership and also provide much needed information to the community through our ongoing programs:

- The Fly Neighborly program created in 1981 (and consistently updated). Through this program, pilots attend seminars on how to "Fly Neighborly" and flight instructors teach new pilots the importance of these techniques.
- The 24/7 Noise Hotline. The PHPA has established a 24/7 helicopter noise hotline that community members may call at (213) 891-3636 to record a message. We analyze individual complaints and research possible remedies.
- The "Helicopter Noise Hotspot" system. The PHPA identifies specific noise sensitive areas and informs our members about them. "Noise Hotspot" information may be accessed through our website at <http://www.phpa.org/hotspot/>

The PHPA and its members continue to take the concerns of the community very seriously and work diligently to resolve issues that may arise. We believe the most direct route to the solution of helicopter noise issues can be found in improving communication between the community, helicopter operators and the airport and the FAA. There is much still that needs to be done and we look forward to being a part of the ongoing process. To that end, we express our support for Measure 11 and hope our input will be factored into the final Part 150 Noise Exposure Maps Report.

Sincerely yours,

Linda Satorius

Board Member
On behalf of the Professional Helicopter Pilots Association
(323) 929-PHPA (7472)
www.phpa.org



Homeowners of Encino

◆ Serving the Homeowners of Encino ◆

GERALD A. SILVER
 President
 PO BOX 280205
 ENCINO, CA 91426
 Phone (818)990-2767

October 12, 2011

Scott Tatro, Environmental Affairs Officer
 Los Angeles World Airports
 Environmental Services Division
 1 World Way, P.O. Box 92216
 Los Angeles, CA 90009

Subject: VAN NUYS AIRPORT PART 150 UPDATE

Homeowners of Encino has had an opportunity to review the above mentioned document. Please include our comments below in your formal record.

The Van Nuys Airport (VNY) Part 150 study is a voluntary Federal Aviation Administration (FAA) program that sets guidelines for airport operators to document aircraft noise exposures and establish noise abatement and compatible land use programs. These standards are set in 49 U.S.C. 47501 et. seq (Aviation Safety and Noise Abatement Act) and 14 CFR Part 150 Airport Noise Compatibility Planning.

The draft Part 150 Noise Exposure Maps (NEMs) report the associated data, forecasts, technical analysis, and results for aircraft operation forecasts at VNY for calendar years 2011 through 2016. This provides an opportunity to ascertain the effectiveness of its noise reduction program.

We are concerned that the noise exposure maps show no reduction in the number of residents or dwellings in the 65 CNEL, during the next five year period. In fact there is a slight increase in the population and dwellings affected by VNY noise. This raises the question of how effective is the VNY noise mitigation program, and is the money spent on soundproofing homes paying noise reduction dividends.

Table 3 Estimated Compatible, Noncompatible, and Total Dwelling Units and Population within 2011 and 2016 Noise Exposure Map Contours
 Source: HMMH, 2011

NEM Year	Category	65-70 dB CNEL		70-75 dB CNEL		Total within 65 dB CNEL	
		Dwellings	Population	Dwellings	Population	Dwellings	Population
2011	Compatible	1,093	2,952	30	68	1,123	3,020
	Noncompatible	877	2,764	1	2	878	2,766
	Total	1,970	5,716	31	70	2,001	5,786
2016	Compatible	1,095	2,955	28	65	1,123	3,020
	Noncompatible	898	2,829	1	1	899	2,830
	Total	1,993	5,784	29	66	2,022	5,850

Page 2

According to the Part 150 Update, the noise footprint at Van Nuys Airport is expected to increase slightly, rather than decrease. The money LAWA and the FAA spent on soundproofing does not address the greater noise problem, beyond the 65 CNEL. The goal of the Part 150 Update is to reduce incompatible land use in the 65 CNEL, but ignores the massive amount of jet and helicopter noise visited on the entire region, beyond the 65 CNEL.

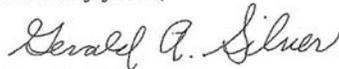
Much more needs to be done to expand the major elements of the noise abatement program. The measures cited on page 23 et. seq. including quiet departures, no early turns, partial curfew, non-addition rule, phase-out, etc. are obviously inadequate. LAWA must implement a full night curfew, restrictions on helicopter operations, a more aggressive phase-out of Stage 2 aircraft, and similar measures, so noise can actually be reduced.

The FAA's denial of many of the proposed noise control measures in the Part 150 Study should be aggressively challenged by LAWA. Mandatory noise controls must be put in place at VNY, given the fact that the voluntary Part 150 measures are proving to be inadequate and unable to address the expanding noise contour at VNY. An aggressive set of mandatory noise control measures must be implemented using all available means including a robust Part 161 study, new Federal legislation specific to VNY, and efforts to control the FAA's Reauthorization funding.

We are also concerned by the lack of public outreach on this matter. There has been little or no public notice, newspaper advertising or media coverage. More outreach needs to be done before the final Part 150 Update is submitted to the FAA.

Thank you for allowing us to comment on the draft Part 150 Update.

Cordially yours,



Gerald A. Silver
President

Cc: Councilmember Paul Koretz

From: jewelryfactory123@gmail.com on behalf of Bruce Spiegel <brucespiegel@gmail.com>
Sent: Thursday, October 27, 2011 12:36 PM
To: VNY Public Outreach
Subject: sound proofing of homes by VNY

Good Morning,
Is there a program in place for soundproofing of our home which is in the approach to the VNY.
We're at 9024 Rubio Ave 91343
Thank you.

Sincerely,
Bruce Spiegel
The Jewelry Factory
800-421-0200 : 818-781-9486 www.jewelryfactory.com
Los Angeles Daily News Readers Choice Best Jeweler 2008-2011
Past President Universal City North Hollywood Chamber of Commerce

From: RENEE SURAN <rsuran88@sbcglobal.net>
Sent: Thursday, November 10, 2011 12:17 AM
To: VNY Public Outreach

To Whom It May Concern,

Helicopter noise does not bother me that much. There is another issue that is not only annoying, it's frightening. I live in the flats of Woodland Hills, and it seems that my house must be directly in line with helicopter flight plans, because they always seem to fly right over my house...and when they do, it sounds like my windows are going to shatter. They rattle so loudly, that I hold my breath while watching and wondering if they are going to break. I'm aware that there is a height restriction, but I often wonder if they are flying below the allotted height that is required for helicopters.

Otherwise, I actually appreciate the "warning" that the sound of a helicopter brings, alerting me that there is something going on in my neighborhood and that I need to be aware of it.

Thank you for allowing me to be heard.

Sincerely,
Renee Suran

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