

AAAI Report 1551 AAAI Project 88018

# QUARTERLY NOISE MONITORING AT HOLLYWOOD BURBANK AIRPORT SECOND QUARTER 2019

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Prepared for:



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## QUARTERLY NOISE MONITORING AT HOLLYWOOD BURBANK AIRPORT SECOND QUARTER 2019

### I. INTRODUCTION

In compliance with the California Noise Standards (Reference 1) and the current variance from certain provisions of the Standards (Reference 2), the operator of the Hollywood Burbank Airport is required to perform noise monitoring in the vicinity of the airport for the purpose of establishing a noise impact boundary. The Noise Standards currently specify a community noise equivalent level (CNEL) of 65 dB for the noise impact boundary<sup>1</sup>. The airport is required to provide, each quarter, an updated annual noise impact contour based on measurement data over the four preceding quarters.

A permanent noise monitoring system became operational in April 1980 and, with brief interruption for system expansion, maintenance, and program changes, has been operational since that time. Of the original nine noise monitor sites, eight have remained unchanged since 1980. The monitor at site 8 was removed in 1997 and replaced by a monitor at site 18. Two sites were added east of the airport in late 1980. Four sites were added south of the airport in January 1986 in response to the requirement to determine the 65 dB contour. Three more locations were added in February 1997. Two of these, identified as 16 and 17, are south of the airport, and one, 18, is to the west. These locations were added to permit monitoring closer to the 65 dB contour. The noise monitoring computer at the airport was replaced in August 1995.

The Hollywood Burbank Airport Noise Monitoring System was modernized and augmented in late December 2012 by replacing the noise and flight track matching software, the noise monitoring hardware, and by adding sites 19, 20, 21, and 22 to allow closer monitoring to the current 65 dB CNEL contour. The old site 17 was removed as redundant with site 15, so the updated noise monitoring system contains 20 permanent microphone locations.

This report describes the data acquired by the monitoring system during the second quarter of 2019. Noise impact boundaries for 65 dB and 70 dB are shown based on these measurements and measurements obtained during the third and fourth quarter of 2018 and the first quarter of

<sup>1</sup> Prior to January 1, 1986, a CNEL of 70 dB defined the noise impact boundary.

2019 reported in References 3, 4 and 5. Figure 1 shows the 70 dB contour and Figure 2 shows the 65 dB contour, based on the measured noise data.

### **II. NOISE MEASUREMENTS**

### A. Sites

Aircraft noise levels were monitored at 15 locations prior to February, 1997. Two sites were added in February 1997, and equipment at one site west of the airport was moved to a new location. In July 2003, the monitor station at site 9 was moved 105 feet further west to accommodate new construction at the Fire Station. In December 2012, four new monitor sites were added and one existing site removed as redundant, leaving a total of twenty noise monitoring locations. The noise monitor sites are shown in Figure 3.

### B. Noise Measurement Equipment

Each of the microphone locations uses an identical set of equipment connected to a central control unit. The noise level at each site is stored locally and transmitted by broad band connection to the central site once per 24-hour period. The automated noise and flight track monitoring software processes the data to produce (among other measures) the CNEL at each site. Appendix A provides a brief description of the system.

### C. Noise Data

During this quarter, there were occasional power interruptions and monitor equipment failures, causing some loss of data. Tables 1, 2, and 3 show the aircraft CNEL measured at each monitoring site for each day of the quarter. The dashed lines indicate days for which a monitor was operating for less than 94% of the time. The data for these days was excluded from the averages.

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### D. Operational Data

Departure and arrival schedules are provided by the airlines. In addition, operations of air carrier, general aviation and rotary-wing aircraft are determined from the airport's computerized flight tracking system.

### **III. MEASURED NOISE DATA**

Daily CNEL values for the noise monitoring system are listed in Tables 1, 2, and 3. Table 4 lists the average values for each quarter together with the annual average.

### **IV. SCHEDULED AIRLINE AND AIR TAXI OPERATIONS**

The scheduled air carrier and commuter operations for the quarter are shown in Table 5.

### V. CNEL CONTOUR DEVELOPMENT

The contours shown in Figures 1 and 2 are based upon computer-generated "master" contours which are adjusted to reflect the monitoring data. Beginning with the second quarter 2009, noise contours are developed using the master contours produced by Version 7.0 of the Integrated Noise Model (INM), a sophisticated aircraft noise modeling program developed for the Federal Aviation Administration. Inputs to the program consist of aircraft types and performance data, flight paths, numbers of operations, and day/evening/night distribution of flights. The program calculates CNEL values at equally spaced grid points and produces CNEL contour lines at 1 dB intervals. The annual average CNEL values at each site were marked at the appropriate locations on the contour map and the locations of the 65 and 70 dB CNEL contours were determined in the vicinity of each measuring point. These points were then joined following the general shape of the computed contours.

The master contours used in developing the contours for this quarter are based on operations for the 12-month period from January 1, 2014 through December 31, 2014. These replaced the previous master set of CNEL Contours which were based on operations for the 12-month period from July 2008 through June 2009.

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## TABLE 1. CNEL VALUES FOR APRIL 2019

#### RMS NUMBER

Date	1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	18	19	20	21	22
04/01/19	61.8	60.1	61.4	58.7	58.3	53.8	58.6	60.9	53.2	49.7	53.5	57.2	57.8	60.0	62.7	59.8	63.2	66.1	67.6	63.6
04/02/19	63.4	60.9	61.5	57.1	60.4	56.9	63.5	62.5	53.5	51.4	56.0	60.0	58.6	61.1	62.9	62.0	64.0	66.1	67.6	69.0
04/03/19	64.2	61.8	63.1	57.1	57.2	53.5	58.9	63.4	53.5	51.5	58.0	61.0	59.6	62.1	64.1	62.6	64.9	67.4	68.7	64.3
04/04/19	63.2	61.4	62.7	57.2	58.0	52.4	58.4	64.7	56.0	50.3	55.6	59.7	59.3	61.7	63.6	63.2	64.5	67.0	68.2	62.6
04/05/19	64.7	62.9	63.4	56.9	59.1	58.1	61.9	63.2	54.0	54.4	55.3	58.9	62.1	61.6	66.2	61.9	64.9	68.9	69.5	63.4
04/06/19	61.5	59.1	60.7	56.2	55.6	54.5	57.8	62.3	52.3	52.6	54.1	56.4	56.9	58.9	61.8	61.2	62.3	65.4	66.6	64.2
04/07/19	62.7	61.0	62.5	57.5	56.3	53.2	58.1	63.1	51.4	57.4	55.6	56.7	59.0	59.9	63.8	61.8	63.3	66.9	68.3	60.0
04/08/19	62.3	60.6	61.9	57.5	57.9	53.3	57.7	61.0	53.9	52.2	54.3	57.0	58.9	59.9	63.4	60.3	63.3	66.6	67.8	62.4
04/09/19	61.1	59.1	60.4	64.6	65.5	65.7	62.0	58.2	55.8	56.9	52.2	57.6	58.4	55.6	65.4	56.6	60.0	66.2	65.5	67.5
04/10/19	59.4	56.1	58.2	63.1	65.1	65.8	61.9	52.9	53.3	52.7	52.6	50.6	56.2	50.1	64.7	52.1	54.0	63.1	63.2	67.6
04/11/19	59.9	58.7	60.1	61.7	63.1	64.4	60.5	59.3	52.6	52.9	53.5	55.6	58.1	55.6	65.8	59.4	59.6	64.9	65.8	66.7
04/12/19	62.2	58.3	59.6	61.7	63.3	64.6	62.3	59.5	56.3	51.8	53.7	56.7	57.4	57.8	65.4	59.9	60.9	64.7	66.3	67.2
04/13/19	60.6	58.8	60.2	52.0	54.9	54.3	55.7	60.0	50.7	48.3	52.8	56.0	56.6	57.9	62.2	59.4	61.0	64.6	65.7	59.7
04/14/19	62.2	59.7	60.8	55.8	56.3	54.1	56.2	63.0	54.2	53.2	53.6	58.1	57.3	59.9	62.1	61.7	63.2	65.9	66.9	60.7
04/15/19	63.8	61.8	63.0	55.8	58.3	54.4	57.8	63.3	53.7	51.7	55.7	59.6	59.5	62.3	64.0	61.9	65.2	67.5	68.8	62.4
04/16/19	62.0	60.6	61.8	55.4	57.7	56.5	55.2	63.8	54.5	55.3	54.1	58.5	58.4	60.8	62.8	63.5	63.8	66.2	67.5	62.2
04/17/19	62.2	60.7	62.2	57.3	57.5	56.3	58.2	63.3	53.8		56.1	57.9	58.7	60.8	63.1	62.6	63.5	66.3	67.6	63.5
04/18/19	62.0	60.4	62.0	55.6	55.7	53.2	54.9	63.2	53.3	51.3	54.7	57.1	58.1	60.1	63.0	62.3	63.2	66.4	67.6	58.6
04/19/19																				
04/20/19																				
04/21/19																				
04/22/19																				
04/23/19																				
04/24/19																				
04/25/19																				
04/26/19																				
04/27/19																				
04/28/19																				
04/29/19																				
04/30/19																				
A	C4 0	50.0	C4 4	50.0	50.0	50.7	50.0	C4 7	50.4	50.0	54.0	<b>F7</b> 0	50.4	50.0	со <b>г</b>	<u> </u>	со <b>г</b>	05.0	<u> </u>	co <b>7</b>
Average NO. DAYS	61.8 18	59.8 18	61.1 18	58.6 18	59.8 18	59.7 18	58.8 18	61.7 18	53.4 18	52.9 17	54.2 18	57.3 18	58.1 18	59.3 18	63.5 18	60.8 18	62.5 18	65.8 18	66.9 18	63.7 18

### TABLE 2. CNEL VALUES FOR MAY 2019

#### RMS NUMBER

Date	1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	18	19	20	21	22
05/01/19																				
05/02/19																				
05/03/19																				
05/04/19																				
05/05/19																				
05/06/19																				
05/07/19																				
05/08/19	59.9	58.3	59.6	49.7	55.2	45.6	42.4	62.3	50.0	49.7	51.7	56.0	56.2	58.9	61.2	60.9	61.7	63.8	65.3	56.1
05/09/19	64.9	61.3	62.7	55.6	57.4	51.2	51.3	65.4	56.0	51.4	55.1	59.1	59.4	61.3	64.2	63.7	64.5	67.1	68.7	56.6
05/10/19	62.7	61.4	63.6	56.4	54.3	56.9	55.0	63.5	52.7	54.6	55.2	58.4	59.4	62.3	64.4	62.8	64.5	67.2	69.0	62.0
05/11/19	61.4	59.2	60.6	53.9	54.0	47.4	51.2	59.6	51.7	49.3	54.1	56.4	56.9	59.2	61.7	59.2	62.1	64.6	66.4	57.6
05/12/19	62.3	60.2	61.8	55.8	56.6	50.2	54.5	62.8	51.3	48.2	54.2	57.7	57.6	60.3	62.5	61.8	63.2	65.8	67.7	60.5
05/13/19	61.8	60.3	61.8	53.8	56.9	51.1	54.0	62.9	55.7	51.9	53.4	57.0	59.8	60.3	62.8	62.1	63.2	65.9	67.4	61.2
05/14/19	62.4	60.7	62.5	55.0	57.2	52.7	54.8	63.8	55.4		53.7	58.8	58.7	60.4	63.5	63.0	63.7	66.4	68.1	59.2
05/15/19	63.1	61.6	63.0	56.8	59.7	54.7	56.0	63.7	53.8	52.2	55.4	56.6	59.3	61.9	63.8	63.3	64.8	67.1	68.7	61.7
05/16/19	62.8	60.4	61.7	64.4	64.7	65.4	63.6	62.4	57.1	54.2	55.2	59.2	59.6	59.0	66.2	62.5	62.4	66.4	67.9	68.3
05/17/19	60.5	60.1	62.2	59.4	61.9	62.8	60.8	61.7	53.7	55.0	53.9	54.8	58.9	59.9	65.1	62.0	61.9	65.9	67.1	65.9
05/18/19	60.0	58.4	59.5	52.4	55.4	50.4	57.0	61.0	48.8	47.5	52.3	55.9	56.0	58.5	60.5	60.8	61.8	63.9	65.5	61.3
05/19/19	63.4	61.9	62.7	55.4	57.4	48.8	52.9	63.0	56.0	53.9	55.0	59.7	59.4	62.2	64.0	62.3	65.1	67.3	69.0	56.8
05/20/19	61.7	60.1	61.8	59.4	58.6	59.5	57.5	62.3	54.7	52.5	53.9	58.0	58.2	60.6	63.2	61.9	63.5	65.8	67.4	62.7
05/21/19	62.8	61.1	62.5	60.3	58.2	51.2	50.9	64.6	59.2	47.4	56.0	59.9	59.3	61.2	64.6	64.6	64.4	66.7	68.5	54.8
05/22/19	63.2	62.0	62.3	62.0	59.4	57.4	58.1	64.1	54.6	51.7	55.7	58.6	59.4	60.7	64.4	63.4	63.9	67.1	67.9	63.4
05/23/19	62.8	61.3	62.7	58.4	55.3	50.9	53.2	64.6	59.3	53.0	54.6	58.6	59.0	61.8	63.6	63.7	64.6	66.9	68.5	57.6
05/24/19	62.0	60.5	61.5	58.7	56.5	53.2	54.0	63.7	55.5	53.0	56.7	57.7	58.2	60.8	62.7	63.1	63.8	65.9	67.7	56.4
05/25/19	60.3	58.5	59.4	51.2	54.1	48.8	54.8	60.6	58.7	48.9	53.4	55.9	55.7	58.5	60.7	59.6	61.6	63.9	65.7	61.6
05/26/19	62.5	59.5	60.3	55.7	55.7	50.5	49.0	61.7	51.5	47.6	54.7	58.5	57.0	59.7	61.4	60.8	62.7	64.8	66.5	56.2
05/27/19	62.0	59.9	61.0	56.5	55.0	51.8	54.5	62.2	53.0	50.9	55.4	58.0	57.9	60.4	62.2	61.6	63.3	65.4	67.3	59.8
05/28/19	63.0	61.2	62.8	56.9	58.3	54.7	56.6	63.1	51.9	50.3	55.0	59.3	59.2	61.5	63.6	63.4	64.7	66.6	68.5	61.0
05/29/19	61.6	60.2	61.7	56.8	56.2	51.2	54.3	63.6	50.8	50.1	54.3	57.6	58.3	60.5	63.2	62.6	63.6	65.9	67.6	61.9
05/30/19	63.0	61.0	62.4	59.4	55.2	51.2		63.7	54.2	54.2	54.6	60.5	59.3	61.9	64.6	63.1	64.5	66.5	68.4	60.8
05/31/19	63.3	60.4	61.3	57.1	57.5	51.0		65.0	51.8	52.1	54.7	59.0	58.1	61.1	62.7	64.1	64.1	66.3	67.9	58
	00 ł	00 F	04.0	<b>F7</b> C	50.0	50.0	50.0	00.0	<b>FF C</b>	54.0	54.0	50.0	50 F	oo <del>-</del>	00 ¢	00 F	00.0	00 ¢	077	
AVERAGE	62.4	60.5	61.9	57.9	58.0	56.2	56.2	63.2	55.0	51.9	54.6	58.2	58.5	60.7	63.4	62.5	63.6	66.1	67.7	61.4
NO. DAYS	24	24	24	24	24	24	22	24	24	23	24	24	24	24	24	24	24	24	24	24

### TABLE 3. CNEL VALUES FOR JUNE 2019

#### RMS NUMBER

Date	1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	18	19	20	2	22
06/01/19	60.1	58.5	59.8	52.3	56.0	47.0		61.4	49.4	48.2	52.6	55.9	56.7	58.9	61.0	61.7	61.7	63.9	65.0	54.8
06/02/19	61.3	60.2	61.4	52.4	56.1	49.3		63.2	53.5	51.3	53.2	56.0	57.9	60.1	62.7	62.8	62.9	65.6	67.	60.1
06/03/19	63.1	61.1	62.0	55.3	58.1	52.9		62.9	55.6	53.4	54.4	59.1	59.9	61.2	62.8	62.2	64.1	66.5	68.	63.3
06/04/19	63.1	61.1	62.4	57.7	57.1	54.5		63.2	53.6	58.9	54.4	58.5	59.5	61.0	63.6	62.4	64.3	66.9	68.	60.2
06/05/19	61.7	59.5	60.8	57.4	54.1	51.1	54.8	64.3	50.4	57.8	53.8	58.1	57.4	59.7	61.9	63.7	63.0	65.3	67.	59.0
06/06/19	62.0	60.2	61.4	55.9	56.3	52.9	57.0	64.8	50.6	50.2	53.4	58.2	58.1	60.3	62.9	63.8	63.6	66.1	67.	61.4
06/07/19	62.4	60.3	61.6	55.5	57.1	52.9	52.7	64.9	51.7	55.2	53.8	58.2	58.5	60.9	62.7	63.8	64.0	65.9	67.	58.7
06/08/19	60.5	58.7	60.1	54.3	53.5	50.3	54.2	61.4	52.9	49.8	51.8	55.8	56.8	58.8	61.0	60.6	61.9	64.3	66.0	59.2
06/09/19	63.7	61.8	62.6	60.1	56.3	51.4	51.8	62.2	52.8	50.3	54.7	57.1	59.5	60.2	63.9	62.0	63.9	67.1	68.	56.6
06/10/19	62.4	60.5	61.8	52.8	56.6	52.5	57.5	62.4	52.0		56.2	57.6	59.0	60.2	63.4	61.8	63.2	67.7	68.0	61.2
06/11/19	61.9	60.1	61.3	58.4	55.1	54.1	55.6	63.6	55.3	54.2	54.7	57.0	58.0	59.3	62.5	62.8	62.5	65.9	67. <sup>,</sup>	61.6
06/12/19	63.0	61.0	62.7	60.1	54.4	53.6	57.9	63.7	52.6	55.8	54.8	58.6	59.4	61.2	64.1	63.7	64.3	66.8	68.	62.7
06/13/19	63.2	60.6	61.9	55.7	57.9	51.6	56.2	65.8	56.1	52.2	55.2	59.2	58.3	61.6	62.9	64.6	64.4	66.4	68.0	61.0
06/14/19	64.4	62.0	63.3	56.2	59.0	48.8	54.3	65.3	53.7	55.2	56.4	60.5	60.2	62.8	64.8	64.5	65.7	67.9	69.0	57.4
06/15/19	62.1	59.4	60.6	56.1	55.3	52.0	53.5	62.5	51.1	48.6	54.4	57.9	56.9	59.8	61.8	61.7	62.7	65.1	66.	59.9
06/16/19	62.8	61.0	62.2	54.6	58.1	50.9	51.4	62.9	52.2	50.1	54.2	58.4	58.6	61.2	63.3	61.9	64.5	66.7	68.0	54.5
06/17/19	63.2	61.2	62.3	54.2	58.6	49.2	53.0	63.6	57.1	54.7	54.4	59.2	59.0	61.4	63.6	62.8	64.5	67.0	68.	58.1
06/18/19	62.9	60.9	62.1	54.4	57.8	53.2	56.1	64.7	51.6	51.3	54.4	60.6	58.5	61.3	63.1	63.8	64.2	66.6	68.:	61.6
06/19/19	62.4	60.9	62.1	55.3	57.0	49.7	54.7	64.5	53.1	61.0	54.0	58.0	58.6	60.8	63.2	63.4	63.9	66.2	68.:	60.9
06/20/19	63.2	62.3	62.4	56.4	57.9	53.6	54.4	65.0	53.6	57.4	54.7	60.0	59.0	61.7	63.7	64.0	64.7	66.9	68.0	59.0
06/21/19	62.9	61.1	62.7	55.6	57.0	50.6	50.9	65.1	54.2	51.9	54.1	58.7	59.1	61.4	63.6	64.4	64.4	66.7	68. <sup>,</sup>	57.3
06/22/19	60.5	58.8	60.3	53.2	55.1	54.6	55.4	61.6	51.8	51.8	51.3	55.8	56.8	59.3	61.3	61.0	62.2	64.3	66.:	59.7
06/23/19	62.8	61.0	61.8	60.3	54.9	50.1	54.2	64.3	56.0	55.3	54.5	58.0	58.8	61.2	63.2	64.0	64.7	66.5	68.	60.1
06/24/19	63.1	60.8	62.5	56.6	58.2	55.0	56.6	64.4	55.0	47.2	55.2	58.3	58.7	61.5	63.4	63.8	64.5	66.8	68.	62.5
06/25/19	63.4	61.6	63.0	53.9	57.0	45.2	47.4	64.7	53.0	55.4	54.3	58.9	60.1	61.3	64.1	64.0	64.3	67.1	68.	52.7
06/26/19	62.8	61.2	62.4	56.6	57.2	51.7	55.5	64.6	53.1	51.5	55.1	59.0	59.4	61.8	63.6	63.6	64.5	66.7	68.	59.9
06/27/19	62.6	61.0	62.6	58.1	56.6	53.7	57.0	64.6	54.6	52.9	53.7	57.8	59.7	60.8	62.8	63.7	64.2	66.7	68. <sup>,</sup>	61.8
06/28/19	62.6	60.1	61.7	55.9	59.5	54.1	54.4	64.1	49.1	51.0	53.8	57.9	58.1	60.6	62.7	63.2	63.9	66.0	67.	59.5
06/29/19	60.5	57.8	58.9	53.0	54.0	50.5	52.3	61.1	49.3	49.1	51.1	55.3	56.3	57.5	60.1	60.4	61.0	63.4	65. <sup>,</sup>	57.1
06/30/19	61.3	59.4	60.8	57.2	55.4	53.1	56.7	62.3	49.8	47.0	52.5	56.4	57.5	59.6	62.1	61.9	62.8	65.2	67.:	62.2
AVERAGE	62.5	60.6	61.8	56.4	56.8	52.2	55.0	63.8	53.3	54.2	54.2	58.2	58.6	60.7	63.0	63.1	63.8	66.3	68.0	60.1
NO. DAYS	62.5 30	60.6 30	30	30.4 30	30.8 30	52.2 30	55.0 26	63.6 30	53.3 30	54.2 29	54.2 30	56.2 30	30.0 30	60.7 30	63.0 30	30	63.6 30	66.3 30	00.1 31	30
NO. DATS	30	30	30	30	30	30	20	30	30	29	30	30	30	30	30	30	30	30	31	30
QTR. AVG.	62.4	60.5	61.8	57.7	58.3	56.5	57.1	63.2	54.1	53.3	54.5	58.1	58.6	60.5	63.4	62.5	63.6	66.2	67. <sup>-</sup>	62.1
NO. DAYS	72	72	72	72	72	72	66	72	72	69	72	72	72	72	72	72	72	72	7:	72

### TABLE 4. AVERAGE CNEL VALUES

Site No.	3rd Quarter 2018	4th Quarter 2018	1st Quarter 2019	2nd Quarter 2019	4 Quarter Average
1	61.5	61.8	61.9	62.4	61.9
2	59.3	59.5	59.7	60.5	59.8
3	61.0	61.0	60.8	61.8	61.2
4	56.2	57.9	59.1	57.7	57.8
5	55.8	58.9	60.1	58.3	58.5
6	52.7	58.0	59.6	56.5	57.3
7	55.2	55.9	58.1	57.1	56.7
9	62.3	62.2	62.0	63.2	62.5
10	52.9	53.0	54.2	54.1	53.6
11		52.1	53.6	53.3	51.7
12	52.9	55.5	54.5	54.5	54.5
13	56.9	57.4	57.9	58.1	57.6
14	57.5	57.7	57.6	58.6	57.9
15	60.0	59.8	60.0	60.5	60.1
16	62.1	62.8	62.6	63.4	62.8
18	61.9	61.5	61.3	62.5	61.8
19	63.0	62.5	62.9	63.6	63.0
20	65.7	65.6	65.5	66.2	65.8
21	67.2	66.9	66.5	67.7	67.1
22	60.5	60.9	63.3	62.1	61.8

		SCHEDU	JLE IN EFFEC	CT FROM	4/1/2019	to	4/30/2019	30	) DAYS	
AIRCRAFT			AS B7377		AS CRJ7		AS B7378		AS B7379	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
	35	35	0	0	0	0	0	0	0	7
EVENING	13	13	0	0	0	0	0	0	7	0
NIGHT	0	0	0 0	0 0	0	0 0	0 0	0 0	0 7	0 7
TOTAL	48	48	0	0	0	0	0	0	1	7
		SCHEDL	JLE IN EFFEC	CT FROM	4/1/2019	to	4/30/2019			
	AS A320		US CRJ9		AA A319		AA B7378		WN B38M	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	14	7	21	21	6	6	14	7	0	0
EVENING	0	7	0	7	0	0	0	7	0	0
NIGHT	0	0	7	0	0	0	0	0	0	0
TOTAL	14	14	28	28	6	6	14	14	0	0
		SCHEDU	JLE IN EFFEC	CT FROM		to	4/30/2019			
	WN B7377		WN B7378		UA A320		UA A319		UA B7378	
DAY	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
EVENING	316	279 96	19 1	13 7	7 0	0 7	7 0	0 7	0 0	0 0
NIGHT	59 0	90	0	0	0	0	0	0	0	0
TOTAL	375	375	20	20	0 7	7	0 7	7	0	0
ICIAL	5/5	5/5	20	20	'	1	I	'	0	0
		SCHEDL	JLE IN EFFEC	CT FROM	4/1/2019	to	4/30/2019			
	UA EMB175		UA RJ		UA CRJ7		FE A310		UPS A300	
	DEP	ARR	0.00	0.00	DEP	ARR	DEP	ARR	DEP	ARR
DAY	14	7	35	28	0	0	0	0	3	4
EVENING	0	7	5	12	0	0	0	0	5	0
NIGHT	0	0	0	0	0	0	0	0	0	4
TOTAL	14	14	40	40	0	0	0	0	8	8
					4/4/0040	4-	4/00/0040			
	DL E175	SCHEDU	JLE IN EFFEC DL CRJ9		4/1/2019 B6 A320	to	4/30/2019 C208		NKS A319	
	DEET/S	ARR	DECRJ9	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	27	20	0		6	6	14	14	0	0
EVENING	0	20 7	0	0	0 14	0 14	0	0	0	0
NIGHT	0	0	0	0	0	0	0	0	0	0
TOTAL	27	27	0	0	20	20	14	14	0	0
			2	~		_0			~	5
									TOTALS	

TOTALS	
DEP	ARR
538	454
1 <b>0</b> 4	191
7	4
649	649

		SCHEDU	ILE IN EFFEC	T FROM	5/1/2019	to	5/31/2019	3	1 DAYS	
AIRCRAFT			AS B7377		AS CRJ7		AS B7378		AS B7379	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	42	42	0	0	0	0	0	0	0	6
EVENING	13	13	0	0	0	0	0	0	6	0
NIGHT	0	0	0	0	0	0	0	0	0	0
TOTAL	55	55	0	0	0	0	0	0	6	6
		SCHEDL	ILE IN EFFEC	T FROM	5/1/2019	to	5/31/2019			
	AS A320		US CRJ9		AA A319		AA B7378		WN B38M	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	14	7	8	14	6	6	14	7	0	0
EVENING	0	7	6	0	0	0	0	7	0	0
NIGHT	0	0	7	6	0	0	0	0	0	0
TOTAL	14	14	21	21	6	6	14	14	0	0
				TEDOM	E/4/0040		5/04/0040			
		SCHEDU				to	5/31/2019			
	WN B7377		WN B7378 DEP		UA A320 DEP	400	UA A319 DEP		UA B7378 DEP	
	DEP	ARR 279	DEP 19	ARR	DEP 7	ARR		ARR	DEP 0	ARR
DAY EVENING	316 59	279 96	19	13 7	0	0 7	0	0 0	0	0 0
NIGHT	0	90	0	0	0	0	0	0	0	0
TOTAL	375	375	20	20	7	7	0	0	0	0
IOTAL	3/5	3/5	20	20	1	1	0	0	0	0
		SCHEDL	ILE IN EFFEC	T FROM	5/1/2019	to	5/31/2019			
	UA EMB175		UA RJ		UA CRJ7		FE A310		UPS A300	
	DEP	ARR	0.00	0.00	DEP	ARR	DEP	ARR	DEP	ARR
DAY	14	7	35	28	0	0	0	0	3	4
EVENING	0	7	5	12	0	0	0	0	5	0
NIGHT	0	0	0	0	0	0	0	0	0	4
TOTAL	14	14	40	40	0	0	0	0	8	8
		SCHEDL	ILE IN EFFEC	T FROM	5/1/2019	to	5/31/2019			
	DL E175		DL CRJ9		B6 A320		C208		NKS A319	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	27	20	0	0	6	13	14	14	0	0
EVENING	0	7	0	0	14	7	0	0	0	0
NIGHT	0	0	0	0	0	0	0	0	0	0
TOTAL	27	27	0	0	20	20	14	14	0	0

# Table 5.WEEKLY SCHEDULED AIR CARRIER AND AIR TAXIFLIGHTS FOR THE SECOND QUARTER 2019

TOTALS	
DEP	ARR
525	460
109	170
7	10
641	641

AIRCRAFT   AS EMBITS   ARR AS B7377   DEFP   ARR AR   DEFP   ARR   DEFP <th< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th<>											
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			SCHEDL	JLE IN EFFEC	CT FROM	6/1/2019	to	6/1/2019		1 DAYS	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	AIRCRAFT	AS EMB175		AS B7377		AS CRJ7		AS B7378		AS B7379	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	DAY	42	42	0	0	0	0	0	0	0	6
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	EVENING	13	13	0	0	0	0	0	0	6	0
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	-	0	•	0	-	0	-	0	-	0	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	TOTAL	55	55	0	0	0	0	0	0	6	6
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$						6/1/2010	to	6/1/2010			
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		AS A320					10			MN B38M	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			ARR		ARR		ARR		ARR		ARR
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	DAY										
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$						-	-			-	-
SCHEDULE IN EFFECT FROM   6/1/2019   to   6/1/2019   UA A319   UA B7378     DEP   ARR   O   0	-	-	0	-	-	-	-	-	0	-	-
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	TOTAL	14	14	20	20	6	6	14	14	0	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$											
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			SCHEDL		CT FROM		to				
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		-									
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$											
$\begin{array}{cccccccccccccccccccccccccccccccccccc$						-	-	-	-	•	-
TOTAL 414 414 41 41 0 0 7 7 0 0   SCHEDULE IN EFFECT FROM 6/1/2019 UA EMB175 to 6/1/2019 FE A310 UPS A300   DEP ARR 0.00 0.00 DEP ARR DEP ARR DEP ARR   DAY 21 21 35 28 0 0 0 3 4   EVENING 0 0 5 12 0 0 0 3 4   NIGHT 0 0 0 0 0 0 0 3 4   TOTAL 21 21 40 40 0 0 0 0 4   NIGHT 0 0 0 0 0 0 0 4	-	-		-		-	-	÷	-	•	-
SCHEDULE IN EFFECT FROM   6/1/2019   to   6/1/2019   to   6/1/2019     UA EMB175   UA RJ   UA CRJ7   FE A310   UPS A300     DEP   ARR   0.00   0.00   DEP   ARR   DE   ARR   DE   ARR   DE   ARR   DE   ARR   DE   ARR   DE   A	-	-	•	-	-	-	-	-	-	•	-
UA EMB175   UA RJ   UA CRJ7   FE A310   UPS A300     DEP   ARR   0.00   0.00   DEP   ARR   DE   ARR   DEP   ARR   DE   AR   DE   AR   DE   AR   A	TOTAL	414	414	41	41	0	0	1	1	0	0
DEP   ARR   0.00   0.00   DEP   ARR   DE   ARR <td></td> <td></td> <td>SCHEDL</td> <td>JLE IN EFFEC</td> <td>CT FROM</td> <td>6/1/2019</td> <td>to</td> <td>6/1/2019</td> <td></td> <td></td> <td></td>			SCHEDL	JLE IN EFFEC	CT FROM	6/1/2019	to	6/1/2019			
DAY 21 21 35 28 0 0 0 0 3 4   EVENING 0 0 5 12 0 0 0 0 5 0   NIGHT 0 0 0 0 0 0 0 0 5 0   NIGHT 0 0 0 0 0 0 0 0 0 0 4   TOTAL 21 21 40 40 0 0 0 0 0 4   DL E175 DL CRJ9 B6 A320 C208 NKS A319 View ARR DEP ARR DE DE DE DE DE DE		UA EMB175		UA RJ		UA CRJ7		FE A310		UPS A300	
EVENING   0   0   5   12   0   0   0   0   5   0     NIGHT   0   4     TOTAL   21   21   40   40   0   0   0   0   0   0   4     DL E175   DL CRJ9   B6 A320   C208   NKS A319   0		DEP	ARR	0.00	0.00	DEP	ARR	DEP	ARR	DEP	ARR
NIGHT   0   4     TOTAL   21   21   40   40   0   0   0   0   0   8   8     SCHEDULE IN EFFECT FROM 6/1/2019   to   6/1/2019     DL E175   DL CRJ9   B6 A320   C208   NKS A319     DEP   ARR   DEP   ARR   DEP   ARR   DEP   ARR   DEP   ARR     DAY   27   20   0   0   6   13   14   14   0   0     FVENING   0   7   0   0   0   0   0   0   0   0   0   0   0   0 <td< td=""><td>DAY</td><td>21</td><td>21</td><td>35</td><td>28</td><td>0</td><td>0</td><td>0</td><td>0</td><td>3</td><td>4</td></td<>	DAY	21	21	35	28	0	0	0	0	3	4
TOTAL 21 21 40 40 0 0 0 0 0 8 8   SCHEDULE IN EFFECT FROM 6/1/2019 to 6/1/2019 to 6/1/2019   DL E175 DL CRJ9 B6 A320 C208 NKS A319   DEP ARR DE ARR D D D D D D D D D D D D	EVENING	0	0	5	12	0	0	0	0	5	0
SCHEDULE IN EFFECT FROM   6/1/2019   to   6/1/2019     DL E175   DL CRJ9   B6 A320   C208   NKS A319     DEP   ARR   DE   AR   DE   AR   DE   AR   DE   AR   DE	NIGHT	0	0	0	0	0	0	0	0	0	4
DL E175DL CRJ9B6 A320C208NKS A319DEPARRDEPARRDEPARRDEPARRDEPARRDAY272000613141400EVENING07001470000NIGHT0000000000TOTAL2727002020141400	TOTAL	21	21	40	40	0	0	0	0	8	8
DL E175DL CRJ9B6 A320C208NKS A319DEPARRDEPARRDEPARRDEPARRDEPARRDAY272000613141400EVENING07001470000NIGHT0000000000TOTAL2727002020141400						6/1/2010	to	6/1/2010			
DEPARRDEPARRDEPARRDEPARRDEPARRDEPARRDAY272000613141400EVENING07001470000NIGHT0000000000TOTAL2727002020141400		DI E175					10				
DAY272000613141400EVENING07001470000NIGHT0000000000TOTAL2727002020141400		-	ARR		ARR		ARR		ARR		ARR
EVENING 0 7 0 0 14 7 0 0 0 0   NIGHT 0	DAY										
NIGHT   0 <td></td> <td></td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td> <td></td> <td>•</td> <td>-</td>			-	-	-	-	-			•	-
TOTAL 27 27 0 0 20 20 14 14 0 0	-	-		-	-			-	-	•	-
τοτλι ς		-	-	-	-	-	-	-	-	-	
										τοτλί ο	

TOTALS	
DEP	ARR
569	511
131	186
7	10
707	707

		SCHEDL	ILE IN EFFE	CT FROM	6/2/2019	to	6/5/2019	4	4 DAYS	
AIRCRAFT			AS B7377		AS CRJ7		AS B7378		AS B7379	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	42	42	0	0	0	0	0	0	0	6
EVENING	13	13	0	0	0	0	0	0	6	0
NIGHT	0	0	0	0	0	0	0	0	0	0
TOTAL	55	55	0	0	0	0	0	0	6	6
		SCHEDL	ILE IN EFFE	CT FROM	6/2/2019	to	6/5/2019			
	AS A320		US CRJ9		AA A319		AA B7378		WN B38M	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	14	7	7	14	7	7	14	7	0	0
EVENING	0	7	6	6	0	0	0	7	0	0
NIGHT	0	0	7	0	0	0	0	0	0	0
TOTAL	14	14	20	20	7	7	14	14	0	0
					0/0/00 4 0		0/5/0040			
		SCHEDU	ILE IN EFFE			to	6/5/2019			
	WN B7377		WN B7378		UA A320		UA A319		UA B7378	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
	338	301	35	28	0	0	7	0 7	0	0
	76	113	6	13	0	0	0		0	0
	0	0	0	0	0	0 0	0 7	0 7	0	0
TOTAL	414	414	41	41	0	0	1	/	0	0
		SCHEDL	ILE IN EFFE	CT FROM	6/2/2019	to	6/5/2019			
	UA EMB175		UARJ		UA CRJ7		FE A310		UPS A300	
	DEP	ARR	0.00	0.00	DEP	ARR	DEP	ARR	DEP	ARR
DAY	21	21	35	28	0	0	0	0	3	4
EVENING	0	0	5	12	0	0	0	0	5	0
NIGHT	0	0	0	0	0	0	0	0	0	4
TOTAL	21	21	40	40	0	0	0	0	8	8
		SCHEDI	ILE IN EFFE		6/2/2019	to	6/5/2019			
	DL E175		DL CRJ9		B6 A320	10	C208		NKS A319	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	27	20	0	0	6	13	14	14	0	0
EVENING	0	7	0	Õ	14	7	0	0	0	0
NIGHT	0 0	0	0	0 0	0	0	0 0	Ő	0 0	0
TOTAL	27	27	0	0	20	20	14	14	0	0
			-	-					-	-

TOTALS	
DEP	ARR
570	512
131	192
7	4
708	708

		SCHEDL	ILE IN EFFE	CT FROM	6/6/2019	to	6/19/2019	14	4 DAYS	
AIRCRAFT	AS EMB175		AS B7377		AS CRJ7		AS B7378		AS B7379	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	28	21	0	0	0	0	0	0	13	13
EVENING	6	13	0	0	0	0	0	0	7	7
NIGHT	0	0	0	0	0	0	0	0	0	0
TOTAL	34	34	0	0	0	0	0	0	20	20
		SCHEDI	JLE IN EFFE	CT FROM	6/6/2019	to	6/19/2019			
	AS A320	00.1200	US CRJ9		AA A319	10	AA B7378		WN B38M	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	21	14	7	14	7	7	14	7	0	0
EVENING	0	7	6	6	0	0	0	7	0	0
NIGHT	0	0	7	0	0	0	0	0	0	0
TOTAL	21	21	20	20	7	7	14	14	0	0
					0/0/0040	4-	0/40/0040			
		SCHEDU				to	6/19/2019			
	WN B7377 DEP	ARR	WN B7378 DEP	ARR	UA A320 DEP	ARR	UA A319 DEP	ARR	UA B7378 DEP	ARR
DAY	338	301	35	28	0 DEP	ARK 0	DEP 7	АКК 0	DEP 0	АКК 0
EVENING		113	55 6	20 13	0	0	0	7	0	0
NIGHT	0	0	0	0	0	0	0	0	0	0
TOTAL	414	414	0 41	41	0	0	7	7	0	0
TOTAL	717	717	-11	-11	0	0		'	Ū	0
		SCHEDL	ILE IN EFFE	CT FROM	6/6/2019	to	6/19/2019			
	UA EMB175		UA RJ		UA CRJ7		FE A310		UPS A300	
	DEP	ARR	0.00	0.00	DEP	ARR	DEP	ARR	DEP	ARR
DAY	21	21	35	28	0	0	0	0	3	4
EVENING	0	0	5	12	0	0	0	0	5	0
NIGHT	0	0	0	0	0	0	0	0	0	4
TOTAL	21	21	40	40	0	0	0	0	8	8
		SCHEDL	JLE IN EFFE	CT FROM	6/6/2019	to	6/19/2019			
	DL E175		DL CRJ9		B6 A320		C208		NKS A319	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	27	20	0	0	6	13	14	14	0	0
EVENING	0	7	0	0	14	7	0	0	0	0
NIGHT	0	0	0	0	0	0	0	0	0	0
TOTAL	27	27	0	0	20	20	14	14	0	0

TOTALS	
DEP	ARR
576	505
125	199
7	4
708	708

AIRCRAFT	AS EMB175		ILE IN EFFE AS B7377	CT FROM	6/20/2019 AS CRJ7	to	6/30/2019 AS B7378	1 <sup>,</sup>	1 DAYS AS B7379	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	28	21	0	0	0	0	0	0	13	13
EVENING	6	13	0	0	0	0	0	0	7	7
NIGHT	0	0	0	0	0	0	0	0	0	0
TOTAL	34	34	0	0	0	0	0	0	20	20
		SCHEDI	JLE IN EFFEC	CT FROM	6/20/2019	to	6/30/2019			
	AS A320	00.1200	US CRJ9		AA A319	10	AA B7378		WN B38M	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	21	14	7	14	7	7	14	7	0	0
EVENING	0	7	6	6	0	0	0	7	0	0
NIGHT	0	0	7	0	0	0	0	0	0	0
TOTAL	21	21	20	20	7	7	14	14	0	0
			JLE IN EFFEC		6/20/2010	to	6/30/2019			
	WN B7377		WN B7378		UA A320	10	UA A319		UA B7378	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	338	301	35	28	0	0	7	0	0	0
EVENING	76	113	6	13	0	0	0	7	0	Õ
NIGHT	0	0	0	0	0	0	0	0	0	Õ
TOTAL	414	414	41	41	0	0	8 7	7	0	0
					0/00/0040	4-	0/00/0040			
			UA RJ		6/20/2019 UA CRJ7	to	6/30/2019 FE A310		UPS A300	
	UA EMB175 DEP	ARR	0.00	0.00	DEP	ARR	DEP	ARR	DEP	ARR
DAY	DEP 21	21	35	0.00 28	DEP 0	ARK 0	0 DEP	АКК 0	DEP 3	4 4
EVENING	21	21	5	20 12	0	0	0	0	5	4
NIGHT	0	0	0	0	0	0	0	0	0	4
TOTAL	21	21	40	40	0	0	0	0	8	4
IUIAL	21	21	40	40	0	0	0	0	0	0
		SCHEDL	JLE IN EFFEC	CT FROM	6/20/2019	to	6/30/2019			
	DL E175		DL CRJ9		B6 A320		C208		NKS A319	
	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR	DEP	ARR
DAY	27	20	0	0	6	13	14	14	14	14
EVENING	0	7	0	0	14	7	0	0	7	7
NIGHT	0	0	0	0	0	0	0	0	0	0
TOTAL	27	27	0	0	20	20	14	14	21	21
									TOTALS	

# Table 5.WEEKLY SCHEDULED AIR CARRIER AND AIR TAXIFLIGHTS FOR THE SECOND QUARTER 2019

TOTALS	
DEP	ARR
590	519
132	206
7	4
729	729

### TABLE 5. (CONTINUED)

#### PERIOD TOTALS FOR AIR CARRIERS AND COMMUTERS

#### **AIR CARRIERS**

DEP	ARR
6633	5636
1301	2259
91	130
8025	8025
	6633 1301 91

#### COMMUTERS

	DEP	ARR
DAY	730	730
EVE	313	313
NIGHT	0	0
TOTAL	1043	1043

#### AIR CARRIERS AND COMMUTERS

	DEP	ARR
DAY	7363	6366
EVE	1614	2572
NIGHT	91	130
TOTAL	9068	9068

## VI. INCOMPATIBLE LAND USE

The contours shown in Figures 1 and 2 were digitized and overlaid on a digital land use map of the area around the Airport. The total areas enclosed by the 65 and 70 dB CNEL contours were 635.2 and 235.5 acres, respectively. The areas of incompatible land uses enclosed by the contours were then computed. The incompatible land use areas were 11.69 acres within the 65 dB contour of which 0.37 acres were also within the 70 dB contour.

It should be noted that the above incompatible land areas do not include the soundproofed schools in the vicinity of the Airport (the Luther Burbank Middle School, St. Patrick and Glenwood Schools). The above incompatible land use areas also do not include those residences to which the Airport has acquired avigation easements. Within the 65 dB contour, the Airport has acquired avigation easements, through its ongoing residential sound insulation program, to 362 parcels of land. Those 362 parcels total 54.75 acres. One of the 362 parcels is also located within the 70 dB contour. The Airport has acquired avigation easement to a number of parcels under California law pursuant to the Baker v. Burbank-Glendale-Pasadena Airport Authority line of legal decisions. It should be noted that only 7 parcels, however, totaling .89 acres, remain within the Airport's 65 dB CNEL contour. The Airport has a "Baker" easement for the 7 parcels but has not yet also obtained an easement in return for the parcels' participation in the Airport's sound insulation program.

It should be noted that the Airport Authority has made repeated attempts over the past several years to acoustically treat and obtain avigation easements at 78 single family residential parcels, totaling approximately 11.16 acres of the incompatible land use area within the 65 dB contour. Owners of these parcels have either refused to respond to notices regarding the sound insulation program, have withdrawn from the program, or own properties with major building code deficiencies that prevent them from participating.

The estimated numbers of incompatible residences are 94 within the 65 dB contour, of which 2 are also within the 70 dB contour. The estimated numbers of people residing within the 65 and 70 dB CNEL contours are 254 and 5, respectively.

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### REFERENCES

- California Department of Transportation, Division of Aeronautics, "Noise Standards", California Code of Regulations, Title 21, Chapter 2.5, Subchapter 6.
- 2. L-30488, Department of Transportation, State of California, 27 June 1984.
- "Quarterly Noise Monitoring at Hollywood Burbank Airport, Third Quarter 2018", AAAI Report 1532.
- "Quarterly Noise Monitoring at Hollywood Burbank Airport, Fourth Quarter 2018", AAAI Report 1533.
- "Quarterly Noise Monitoring at Hollywood Burbank Airport, First Quarter 2019", AAAI Report 1550.

# APPENDIX A NOISE MONITOR INSTRUMENTATION

The permanent noise monitor system, manufactured by Bruel & Kjaer, consists of 20 noise monitoring terminals (NMT) connected to a central site by DSL or wireless connections. The system block diagram showing the major elements is shown in Figure A-1. The electrical signal generated by the microphone/preamplifier assembly at each site is processed and saved locally in the B & K sound level meter. The signal is passed through an A-weighting filter and is then detected and converted to a digital level signal in decibels with a resolution of 0.1 dB.

The stored sound level data at each site is dumped once every 24-hour period via wireless or DSL connection to the central site. The data received by the central site are processed by the ANOMS computer software. According to preset parameters, the noise is separated into two categories--aircraft noise and community noise. Each event attributed to an aircraft is saved in a noise event file. Computations are made of hourly noise level, community noise equivalent level, runway use, and other parameters. A wide variety of data presentations is available by exercising a number of routines provided by B & K, as well as special-purpose routines that can be generated by the user.

The locations of the remote sites (shown in Figure 3) are listed by latitude and longitude in Table A-1.

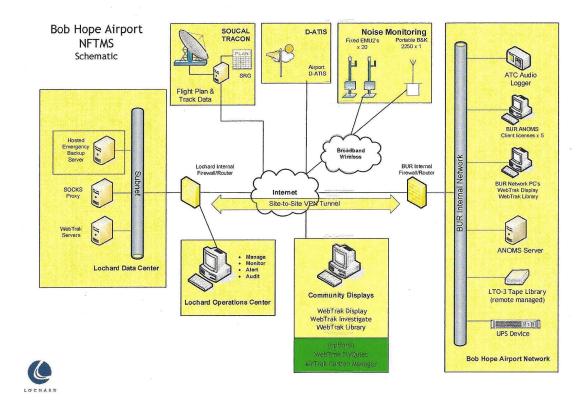


Figure A-1. Permanent Noise Monitor System Schematic

## TABLE A-1 NOISE MONITOR SITE LOCATIONS

NMT	Latitude	Longitude
1	34.188424	-118.358983
2	34.184296	-118.347330
3	34.175731	-118.354197
4	34.212022	-118.364391
5	34.215261	-118.357381
6	34.220705	-118.365214
7	34.224979	-118.363989
9	34.198871	-118.398889
10	34.195336	-118.342392
11	34.197321	-118.340376
12	34.190175	-118.365404
13	34.181303	-118.345270
14	34.178786	-118.347134
15	34.173922	-118.363157
16	34.181185	-118.350949
18	34.196899	-118.389014
19	34.181277	-118.357866
20	34.188378	-118.351878
21	34.186700	-118.354939
22	34.217035	-118.361725

## APPENDIX B CALIBRATION

## APPENDIX B CALIBRATION

The system was calibrated during setup using a Bruel and Kjaer acoustic calibrator. Acoustic calibrations are performed annually. Electrical calibrations are performed automatically four times per 24-hour day. Figure B-1 shows the calibration summary for January 2013 and Figure B-2 shows the detailed electrical calibration report for Noise Monitor Site 1.

PASADENA PHRORT AUTHORITY

### **Devices Report**

RMT Calibration Results Bob Hope Airport Start Date: 04-Jan-2013 End Date: 31-Jan-2013



Seven Day Period Commencing: Friday January 04, 2013

Calibrated with Sound Calibrator : Never

Number of Calibrations: 27

Average adjustment for this RMT over this period: 0.10 dB

Date Time	Expected Result	Value Measured	Calibration Error
04-Jan-2013 0:00	87.1	87.2	0.1
04-Jan-2013 6:00	87.1	87.2	0.1
04-Jan-2013 12:00	87.1	87.2	0.1
04-Jan-2013 18:00	87.1	87.2	0.1
05-Jan-2013 0:00	87.1	87.2	0.1
05-Jan-2013 6:00	87.1	87.2	0.1
05-Jan-2013 12:00	87.1	87.2	0.1
05-Jan-2013 18:00	87.1	87.2	0.1
06-Jan-2013 0:00	87.1	87.2	0.1
06-Jan-2013 6:00	87.1	87.2	0.1
06-Jan-2013 12:00	87.1	87.2	0.1
06-Jan-2013 18:00	87.1	87.2	0.1
07-Jan-2013 0:00	87.1	87.2	0.1
07-Jan-2013 6:00	87.1	87.2	0.1
07-Jan-2013 12:00	87.1	87.2	0.1
07-Jan-2013 18:00	87.1	87.2	0.1
08-Jan-2013 0:00	87.1	87.2	0.1
08-Jan-2013 6:00	87.1	87.2	0.1
08-Jan-2013 12:00	87.1	87.3	0.2
08-Jan-2013 18:00	87.1	87.2	0.1
09-Jan-2013 0:00	87.1	87.2	0.1
09-Jan-2013 6:00	87.1	87.2	0.1
09-Jan-2013 12:00	87.1	87.2	0.1
09-Jan-2013 18:00	87.1	87.2	0.1
10-Jan-2013 0:00	87.1	87.2	0.1
10-Jan-2013 6:00	87.1	87.2	0.1
10-Jan-2013 12:00	87.1	87.2	0.1

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### **Devices Report**

RMT Calibration Results Bob Hope Airport Start Date: 04-Jan-2013 End Date: 31-Jan-2013

Monitor Location		04-Jan-2013	11-Jan-2013	18-Jan-2013	25-Jan-2013
1	1	0.1	0.1	0.1	0,1
2	2	0.4	0.4	0.3	0.3
3	3	0.5	0.0	0.0	0.0
4	4	0.3	0.3	0.3	0.3
5	#5	0.2	0.2	0.2	0.2
6	6	0.0	0.0	0.0	0.0
7	7	0.3	0.3	0.3	0.3
9	9	0.2	0.2	0.2	0.2
10	10	0.2	0.2	0.2	0.2
11	11	0.6	0.0	0.0	0.0
12	12	0.3	0.3	0.3	0.3
13	13	0.0	0.0	0.0	0.0
14	14	0.0	0.0	0.0	0.0
15	15	0.0	0.0	0.0	0.0
16	16	0.4	0.4	0.4	0.4
18	18	0.0	0.0	0.1	0.1
19	19	0.0	0.0	0.0	0.0
20	20	0.1	0.0	0.1	0.1
21	21	0.0	0.0	0.0	0.0
22	22	0.0	0.0	0.0	0.0

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