



AAAI Report 1617
AAAI Project 88018

QUARTERLY NOISE MONITORING AT HOLLYWOOD BURBANK AIRPORT FIRST QUARTER 2022

MAY 2022

Prepared for:



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QUARTERLY NOISE MONITORING AT HOLLYWOOD BURBANK AIRPORT FIRST QUARTER 2022

I. INTRODUCTION

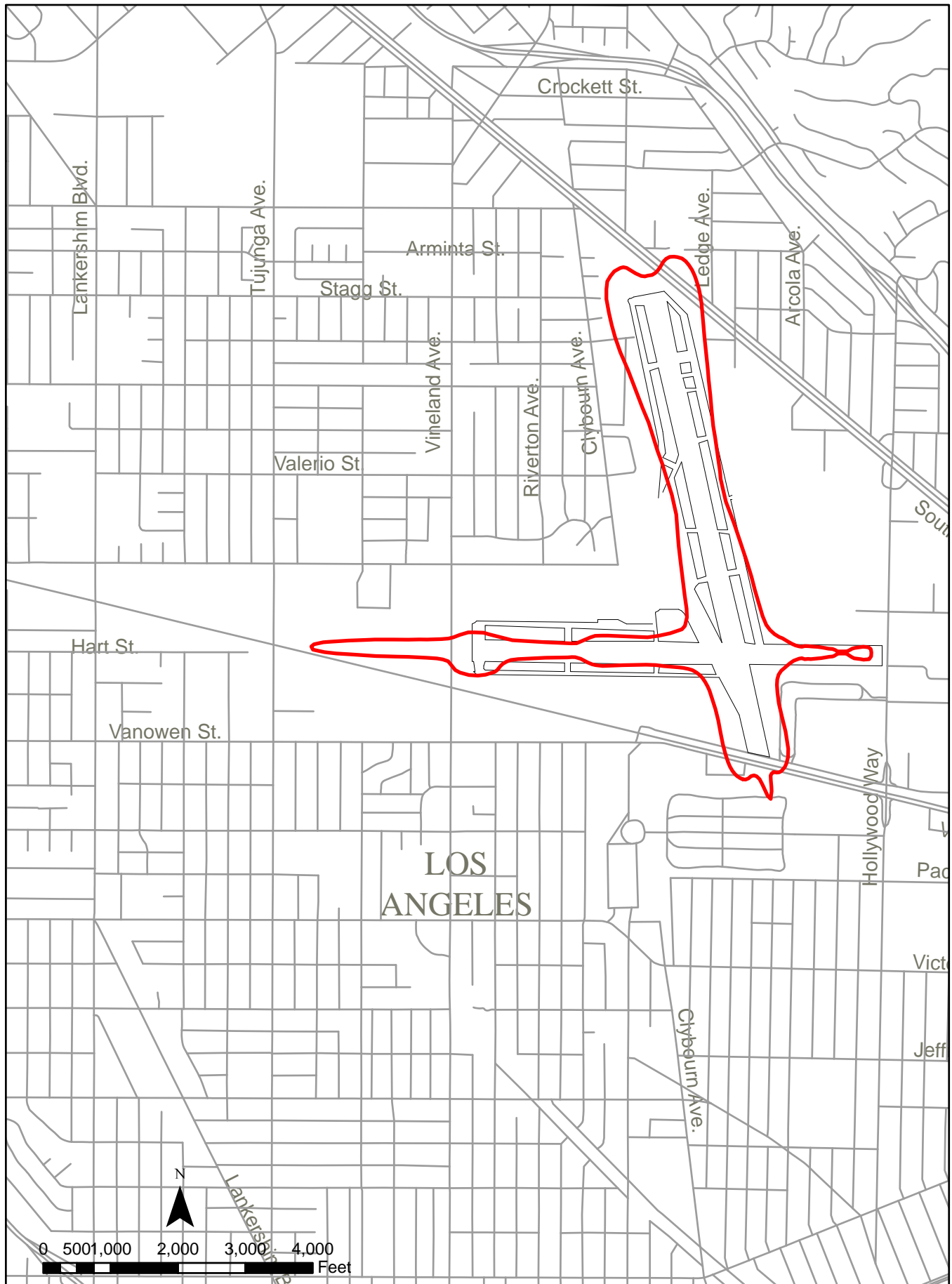
In compliance with the California Noise Standards (Reference 1) and the current variance from certain provisions of the Standards (Reference 2), the operator of the Hollywood Burbank Airport is required to perform noise monitoring in the vicinity of the airport for the purpose of establishing a noise impact boundary. The Noise Standards currently specify a community noise equivalent level (CNEL) of 65 dB for the noise impact boundary¹. 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.

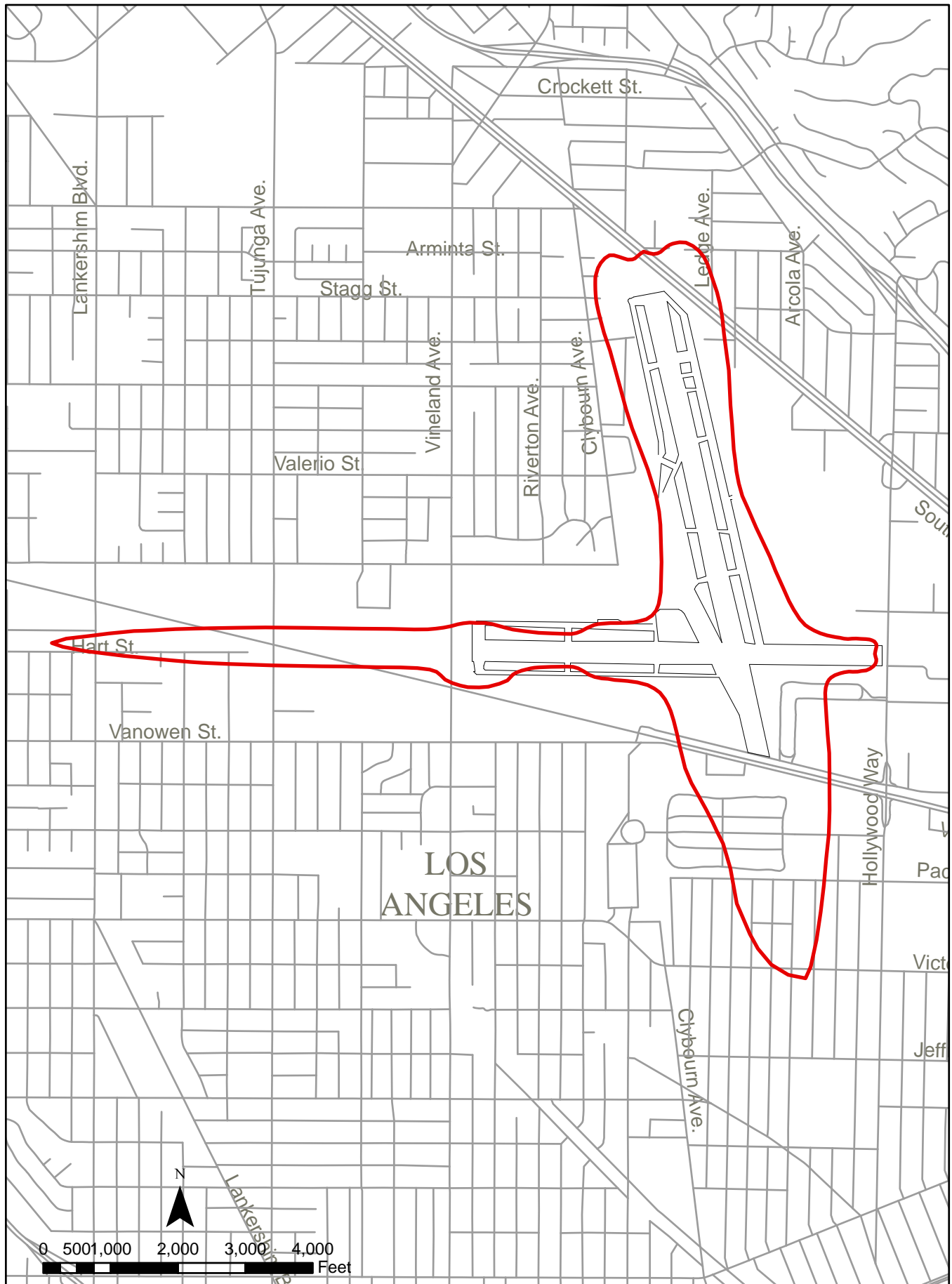
The Hollywood Burbank Airport Noise Monitoring System was modernized and augmented in late December 2012 by replacing the noise and flight track matching software, the noise monitoring hardware, and by adding sites 19, 20, 21, and 22 to allow closer monitoring to the current 65 dB CNEL contour. The old 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 first quarter of 2022. Noise impact boundaries for 65 dB and 70 dB are shown based on these measurements and measurements obtained during the second, third, and fourth quarter of 2021 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.

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



BURBANK AIRPORT - 70 CNEL CONTOUR for 1st QUARTER 2022



BURBANK AIRPORT - 65 CNEL CONTOUR for 1st QUARTER 2022

II. NOISE MEASUREMENTS

A. Sites

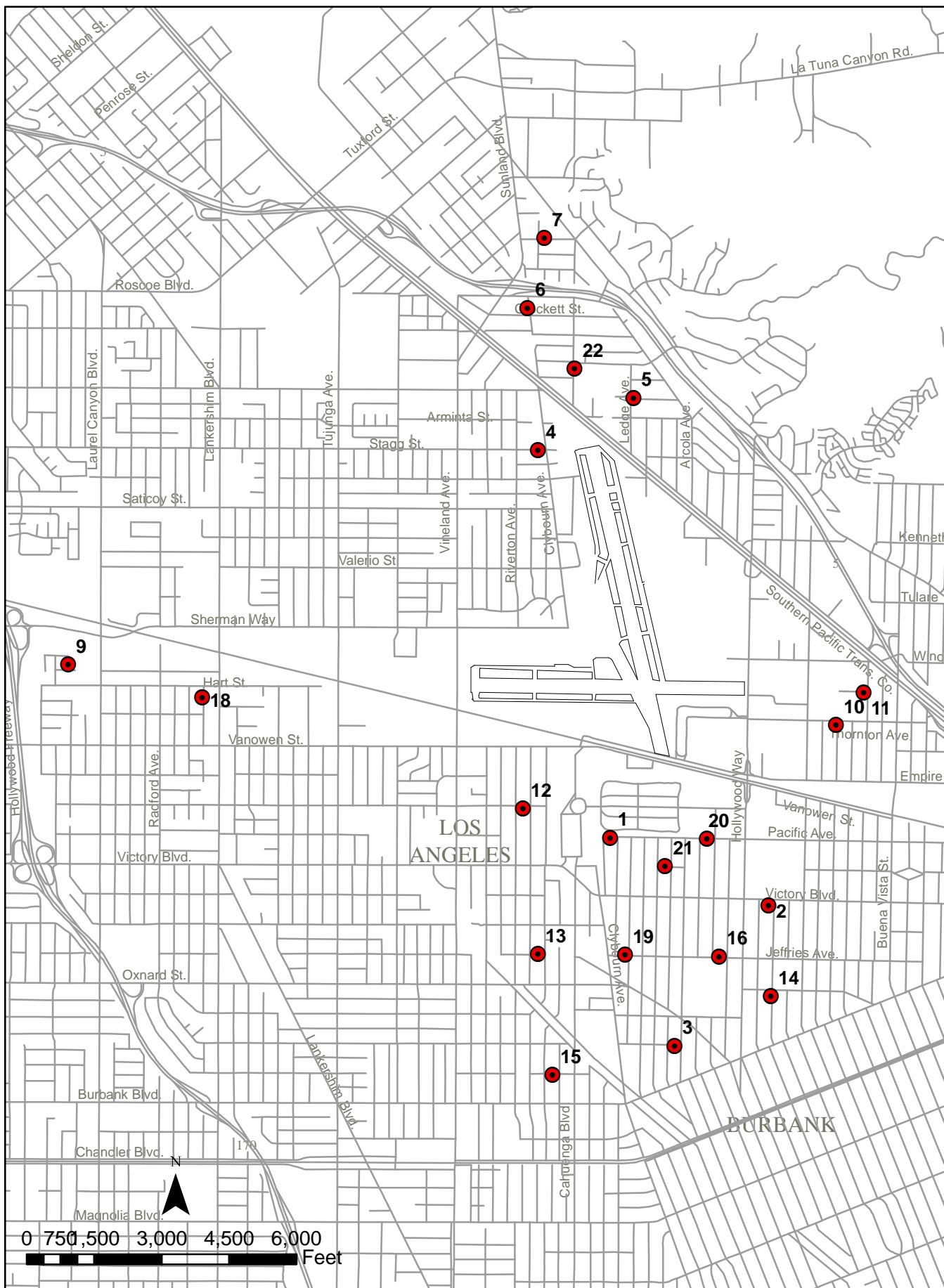
Aircraft noise levels were monitored at 15 locations prior to February, 1997. Two sites were added in February 1997, and equipment at one site west of the airport was moved to a new location. In July 2003, the monitor station at site 9 was moved 105 feet further west to accommodate new construction at 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, equipment failure at site 2 caused loss of data from January 4 through 31, and at site 20 between February 3 and 23, 2022. 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 and acquiring aircraft noise data for less than 94% of the time. The data for these days was excluded from the averages.



BURBANK AIRPORT - NOISE MONITOR LOCATIONS

D. Operational Data

Operations of air carrier, general aviation and rotary-wing aircraft are determined from the Airport ANOMS 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 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 first 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, 2019 through December 31, 2019. These replaced the previous master set of CNEL Contours which were based on operations for the 12-month period from January 1, 2014 through December 31, 2014.

TABLE 1. CNEL VALUES FOR JANUARY 2022

RMS NUMBER																					
Date	1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	18	19	20	21	22	
01/01/22	61.5	58.6	58.4	59.2	62.0	62.6	58.8	61.0	52.3	52.1	52.9	55.8	57.7	56.0	60.6	60.1	59.5	64.0	64.2	64.9	
01/02/22	63.2	61.3	61.4	57.4	59.4	55.5	52.6	62.3	54.3	53.0	56.5	58.1	58.6	59.8	63.5	61.2	63.5	67.0	68.0	55.9	
01/03/22	62.3	60.5	61.5	58.3	60.1	50.0	51.0	62.7	52.6	54.5	56.4	57.6	57.8	59.8	62.8	61.4	63.4	66.4	67.4	54.9	
01/04/22	61.8 -		60.6	57.9	59.9	54.2	51.7	63.6	58.1	59.0	55.1	58.3	56.9	59.4	61.4	62.5	62.4	64.9	65.9	59.6	
01/05/22	60.9 -		60.5	58.6	58.9	53.3	51.3	62.1	52.3	53.2	54.9	56.9	57.1	58.8	61.4	60.8	62.1	64.2	65.3	57.7	
01/06/22	61.1 -		60.6	59.6	59.6	55.2	54.0	62.9	52.9	54.3	55.6	56.6	56.9	58.4	61.7	62.1	61.8	65.0	65.9	59.9	
01/07/22	61.6 -		60.1	58.8	54.5	52.0	52.4	63.5	52.5	50.7	54.6	57.9	56.6	59.7	61.1	62.2	62.7	64.6	66.1	56.4	
01/08/22	58.4 -		57.4	50.2	52.0	50.6	51.9	60.6	50.7	50.3	51.2	54.3	54.1	57.3	58.6	61.0	59.8	62.0	63.2	57.6	
01/09/22	60.4 -		59.1	59.1	57.3	55.2	54.9	62.3	51.5	49.2	55.3	55.4	55.4	57.6	60.4	61.6	60.8	64.2	65.0	58.8	
01/10/22	58.8 -		58.7	55.6	55.1	57.1	52.1	59.0	48.7	50.2	52.5	54.5	55.2	56.6	60.7	59.1	59.7	63.1	64.2	58.2	
01/11/22	59.9 -		58.6	56.3	56.2	52.6	51.1	60.0	50.9	52.7	55.0	57.0	55.2	58.4	59.6	59.2	61.9	63.8	64.9	56.9	
01/12/22	61.6 -		58.4	58.7	59.1	54.1	52.6	61.0	51.4	50.4	55.5	55.8	54.8	57.2	59.4	60.9	60.4	63.3	64.0	59.3	
01/13/22	60.7 -		59.7	54.3	54.9	54.4	51.5	61.8	52.6	51.2	54.6	57.4	56.1	58.1	61.0	61.8	61.7	64.5	65.4	57.5	
01/14/22	61.7 -		60.2	58.4	58.7	53.9	54.7	62.5	55.3	51.2	55.7	57.1	56.5	59.1	61.5	61.6	62.6	65.2	66.1	60.7	
01/15/22	57.6 -		57.3	57.6	57.7	52.7	57.6	57.2	48.0	50.7	50.9	52.9	54.3	55.9	60.2	57.8	59.4	62.8	63.4	57.9	
01/16/22	59.8 -		59.4	52.1	52.7	45.3	51.2	61.0	47.4	47.2	52.4	56.2	55.5	58.0	60.3	60.5	61.0	63.7	64.7	57.3	
01/17/22	62.7 -		61.0	54.3	53.2	47.3	50.4	63.1	52.8	50.0	53.8	58.8	57.5	60.9	62.0	62.0	63.9	66.0	67.0	58.0	
01/18/22	61.5 -		59.9	53.9	54.4	48.0	48.3	62.4	51.6	46.8	53.1	58.7	56.3	59.6	60.5	62.1	62.2	64.3	65.4	54.0	
01/19/22	62.3 -		60.5	51.2	52.9	51.8	51.2	62.9	54.7	57.4	55.3	58.5	56.8	60.1	61.5	62.1	62.8	65.3	66.3	58.0	
01/20/22	61.8 -		60.5	59.6	56.8	52.7	53.4	62.1	54.3	53.4	56.3	58.1	56.7	59.9	61.3	61.5	62.8	65.0	66.0	60.6	
01/21/22	59.4 -		57.5	62.3	63.0	63.1	58.8	61.9	60.5	63.1	56.0	54.2	55.8	55.7	59.4	61.1	58.9	62.7	63.0	65.3	
01/22/22	53.4 -		50.5	60.0	60.7	62.7	57.3	56.9	50.1	52.6	50.3	46.6	49.4	43.8	58.0	57.4	48.2	56.1	55.9	64.0	
01/23/22	59.2 -		58.0	57.8	58.9	60.7	56.8	60.4	49.2	47.0	52.5	55.3	54.1	57.2	59.2	59.8	60.1	62.5	63.5	63.5	
01/24/22	62.4 -		59.7	60.9	58.7	52.0	56.1	61.1	49.6	50.3	55.0	58.7	56.2	59.4	60.6	60.4	62.2	64.6	65.5	61.7	
01/25/22	61.2 -		59.8	55.1	56.5	55.3	54.4	61.9	51.6	50.9	54.6	58.6	56.2	59.4	60.5	61.4	61.8	64.0	65.0	58.3	
01/26/22	60.2 -		58.9	55.0	57.0	53.7	53.1	60.7	51.8	52.2	54.2	56.5	55.4	57.7	60.2	60.5	60.9	63.6	64.2	59.1	
01/27/22	59.7 -		58.4	57.0	56.6	53.0	53.8	60.7	48.3	48.6	54.2	56.6	54.6	57.3	59.4	59.6	60.3	63.1	63.9	58.1	
01/28/22	57.9 -		55.3	59.5	59.6	60.4	57.7	60.1	53.0	49.7	52.3	52.4	52.2	53.9	57.2	59.6	57.5	60.9	61.8	63.4	
01/29/22	57.7 -		56.5	49.1	50.3	50.4	50.0	57.0	48.6	48.0	54.3	52.9	53.0	54.7	58.1	58.1	58.1	61.9	62.4	57.7	
01/30/22	60.9 -		59.4	62.2	61.9	54.9	56.0	61.3	55.1	49.5	53.7	57.2	55.4	58.9	60.4	60.4	62.0	64.2	65.6	59.6	
01/31/22	62.0 -		60.4	65.1	63.1	52.3	56.3	62.6	57.4	53.9	64.4	58.4	57.3	59.6	61.4	60.8	68.1	65.0	66.0	58.6	
AVERAGE	60.8	60.3	59.4	58.6	58.6	56.4	54.5	61.5	53.4	53.7	55.5	56.8	56.0	58.3	60.7	60.8	61.9	64.1	65.1	60.1	
NO. DAYS	31	3	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	

TABLE 2. CNEL VALUES FOR FEBRUARY 2022

RMS NUMBER

Date/Time	1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	18	19	20	21	22
02/01/22	61.7	60.2	60.4	56.5	55.8	53.9	55.5	62.6	57.1	52.0	54.0	58.4	57.2	60.0	60.8	62.6	62.5	64.7	65.8	60.8
02/02/22	56.5	51.2	51.8	59.6	61.2	62.6	58.5	60.6	50.7	50.6	52.3	48.9	50.0	50.2	53.3	60.1	53.5	56.9	57.2	65.1
02/03/22	60.3	57.6	58.9	59.3	59.3	51.9	54.1	61.0	48.0	52.1	52.7	56.6	55.3	58.1	60.0	60.5	61.3	-	64.8	58.4
02/04/22	61.1	59.2	60.0	60.2	58.0	51.7	51.9	60.3	54.9	51.0	53.4	56.3	56.2	58.4	61.0	59.9	61.9	-	65.6	57.6
02/05/22	56.9	54.6	55.3	58.6	56.9	50.5	49.6	55.5	52.9	49.4	50.0	53.3	51.6	55.2	56.7	57.4	58.1	-	61.8	57.8
02/06/22	60.0	58.0	59.5	57.7	58.0	51.7	50.6	-	51.1	49.6	52.0	55.9	55.6	57.9	60.7	59.9	61.3	-	65.8	57.5
02/07/22	60.0	57.6	58.6	58.5	57.0	51.3	50.2	62.0	49.8	49.0	53.1	56.8	55.1	57.9	60.0	60.6	60.9	-	64.6	56.6
02/08/22	59.4	57.8	58.3	57.7	56.5	55.4	50.5	60.9	52.7	51.4	52.8	56.0	54.6	57.4	59.7	59.5	60.3	63.2	64.2	55.1
02/09/22	58.8	56.2	57.6	58.9	60.4	60.8	57.1	60.4	55.0	51.2	54.7	53.4	53.6	55.8	58.8	59.8	59.2	-	63.5	62.8
02/10/22	59.2	55.9	56.5	61.4	62.6	64.2	59.1	61.9	51.6	53.3	53.9	53.2	53.3	54.4	60.8	60.4	58.1	-	62.4	65.4
02/11/22	61.2	58.8	60.0	59.3	58.9	53.4	53.8	63.1	53.9	56.0	56.5	56.4	56.3	58.3	61.0	62.0	61.8	-	65.8	57.2
02/12/22	58.1	56.7	57.5	53.3	53.4	47.7	48.1	58.7	50.3	49.0	51.2	53.4	53.8	56.2	59.0	58.0	59.1	-	63.6	52.8
02/13/22	60.2	58.5	59.9	57.3	57.8	48.6	51.8	59.9	50.2	46.2	54.0	58.0	55.8	58.5	61.1	58.9	61.2	-	65.6	55.9
02/14/22	62.8	59.8	60.8	59.0	59.4	52.5	53.2	62.1	52.4	53.1	55.4	58.7	57.1	59.9	62.2	62.0	63.2	-	67.0	56.0
02/15/22	60.9	57.4	58.4	62.7	63.3	63.6	59.6	62.5	50.8	51.1	54.0	57.1	55.4	58.1	60.6	62.6	60.7	-	64.1	65.5
02/16/22	62.1	59.9	61.1	56.1	58.4	55.1	55.1	62.5	52.2	52.5	56.1	58.9	57.5	59.9	61.8	61.9	63.0	-	66.2	58.7
02/17/22	60.3	58.3	59.6	56.0	58.1	57.8	55.4	62.1	51.5	53.3	54.0	56.3	55.8	58.2	60.5	61.4	61.5	-	65.1	62.0
02/18/22	61.5	60.2	61.2	56.1	58.0	52.5	52.1	63.4	52.0	50.4	56.3	57.1	57.6	59.4	62.2	63.6	62.4	-	66.6	56.4
02/19/22	58.4	57.3	58.2	52.3	57.4	50.0	51.5	59.5	52.8	50.8	52.1	53.5	54.5	56.5	59.4	59.0	59.7	-	64.0	57.1
02/20/22	62.5	59.8	60.9	53.5	56.7	42.2	47.4	62.8	50.1	49.5	54.2	59.2	57.2	60.7	61.8	62.3	63.8	-	67.0	53.2
02/21/22	62.6	60.3	61.1	57.5	57.6	50.7	51.6	63.9	51.2	49.6	54.5	59.0	58.0	61.0	62.1	63.7	63.9	-	67.2	53.4
02/22/22	63.3	61.7	62.7	55.1	58.7	56.5	60.2	62.5	54.4	52.7	55.6	59.9	59.6	60.8	63.9	62.7	63.8	-	67.7	63.7
02/23/22	60.1	56.0	57.8	60.8	62.1	63.4	58.8	58.5	52.0	52.8	53.5	53.9	55.6	53.5	63.8	59.3	57.2	-	63.3	64.8
02/24/22	61.8	59.5	60.6	55.9	59.7	58.7	55.9	61.5	52.5	49.2	53.1	57.3	56.8	59.0	61.6	60.8	62.1	67.6	65.8	62.4
02/25/22	61.8	60.7	61.5	56.2	58.0	53.8	52.8	62.6	51.7	50.2	55.0	57.4	58.1	59.5	62.3	61.8	62.9	67.1	66.7	60.3
02/26/22	58.6	57.1	58.0	53.9	56.7	50.3	51.6	58.7	51.2	47.0	53.2	54.9	54.9	57.2	59.4	58.0	60.3	63.1	63.8	58.2
02/27/22	59.6	57.5	58.7	58.0	57.1	50.5	51.0	60.1	50.9	53.0	54.0	55.1	54.7	57.2	60.2	60.1	60.6	64.1	65.4	60.3
02/28/22	59.9	57.9	59.7	61.6	59.2	58.7	53.5	60.5	53.0	54.0	53.6	54.5	55.5	57.0	60.9	60.7	60.0	64.2	64.9	60.5
AVERAGE	60.7	58.5	59.5	58.3	59.0	57.5	55.0	61.5	52.5	51.6	54.0	56.6	56.0	58.2	60.9	61.0	61.4	64.7	65.2	60.7
NO. DAYS	28	28	28	28	28	28	28	27	28	28	28	28	28	28	28	28	28	8	28	28

TABLE 3. CNEL VALUES FOR MARCH 2022

RMS NUMBER																					
Date	1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	18	19	20	21	22	
03/01/21	54.6	52.9	54.3	53.5	49.9	49.8	52.3	54.7	60.5	46.7	47.7	50.9	51.6	52.5	55.6	54.1	55.9	59.2	60.9	58.2	
03/02/21	58.5	56.3	57.5	53.3	53.4	52.5	52.1	56.9	59.0	47.4	51.3	53.1	53.1	52.8	58.4	57.0	57.4	61.7	63.0	57.1	
03/03/21	59.9	52.6	55.8	56.3	54.3	52.0	50.0	60.4	49.0	46.9	53.1	54.2	52.1	54.4	57.3	59.3	56.3	60.5	62.1	55.6	
03/04/21	60.1	58.6	59.7	54.3	57.1	53.1	56.1	59.1	51.8	48.8	53.1	55.0	56.8	57.4	60.5	58.3	58.9	63.7	64.6	62.7	
03/05/21	56.7	54.3	55.7	53.4	52.8	48.8	50.4	59.2	48.3	47.8	49.1	52.2	50.3	54.4	56.0	56.7	57.9	60.6	61.3	54.5	
03/06/21	54.6	51.8	53.8	51.5	50.4	49.2	53.6	56.2	48.3	45.8	48.3	52.8	48.8	53.6	54.0	55.6	56.1	58.1	59.0	56.7	
03/07/21	58.0	55.3	56.6	48.5	51.0	43.0	46.6	58.3	49.7	42.7	50.8	56.0	52.0	56.2	57.4	58.2	59.4	61.8	62.2	47.8	
03/08/21	58.2	56.0	56.0	53.5	49.2	47.2	50.6	56.8	50.5	47.9	51.1	55.9	53.9	55.6	58.0	58.3	59.3	59.1	61.9	53.6	
03/09/21	58.6	57.4	58.6	58.1	59.7	60.8	59.4	57.7	59.4	54.8	50.8	54.5	57.0	54.4	61.2	57.7	57.8	63.2	60.1	63.9	
03/10/21	60.8	58.6	59.3	54.7	54.2	45.6	51.6	61.1	51.1	47.9	52.8	54.7	56.5	57.4	60.9	60.4	60.4	64.4	65.1	53.1	
03/11/21	59.7	57.8	58.7	51.7	53.8	54.3	52.8	61.9	52.3	47.8	53.4	56.1	55.6	57.6	59.9	60.8	60.6	63.2	64.0	58.1	
03/12/21	59.5	57.4	58.2	54.3	56.1	57.1	54.3	60.8	51.7	53.0	52.5	55.4	55.4	57.1	60.3	59.7	59.9	63.0	63.6	59.0	
03/13/21	58.1	55.6	55.2	53.4	53.3	47.8	52.7	58.0	50.9	49.0	51.8	54.6	52.3	55.6	57.1	58.9	58.3	60.8	61.6	55.9	
03/14/21	59.5	56.4	56.8	53.0	54.5	50.4	47.8	60.4	50.1	45.8	52.2	56.1	53.6	57.5	57.8	59.4	60.3	62.1	63.3	50.3	
03/15/21	57.3	55.1	56.5	59.3	60.4	60.9	60.2	52.8	51.3	50.1	50.7	52.0	54.9	53.6	62.2	52.6	56.6	61.3	62.3	63.8	
03/16/21	60.1	57.1	58.3	56.2	56.7	56.5	57.3	59.6	53.8	50.3	53.3	56.5	55.0	57.1	59.4	58.7	60.0	63.0	63.6	62.7	
03/17/21	61.1	57.9	59.4	54.7	56.0	53.2	55.0	60.9	51.2	55.5	54.1	56.3	55.8	58.0	60.3	60.2	61.4	63.6	64.5	55.7	
03/18/21	60.0	57.8	59.3	52.2	54.6	51.8	54.1	60.8	62.5	57.2	54.1	56.3	55.9	58.3	60.0	61.2	61.6	63.6	64.8	58.4	
03/19/21	59.2	57.9	58.8	54.9	53.6	53.5	53.4	59.7	54.1	46.7	54.0	54.7	56.1	57.2	61.2	59.1	60.4	63.4	64.2	57.6	
03/20/21	57.5	54.1	55.6	51.9	51.2	45.2	49.1	56.2	47.4	46.0	50.2	54.0	54.2	55.2	57.9	55.2	57.8	60.2	61.6	53.4	
03/21/21	57.8	54.7	56.4	56.6	58.1	58.5	55.3	54.5	48.4	50.4	51.3	53.1	53.5	54.8	60.7	53.4	58.2	60.9	62.3	61.2	
03/22/21	58.5	57.0	57.9	55.6	56.2	53.8	53.2	58.9	49.0	50.6	50.7	54.7	55.9	56.7	58.7	59.1	59.6	62.2	63.1	59.8	
03/23/21	56.7	55.5	56.5	58.0	59.7	60.7	57.2	57.4	48.7	49.5	50.5	51.2	54.7	52.1	61.8	56.9	55.5	60.9	61.3	62.6	
03/24/21	52.9	50.5	51.9	57.9	59.1	60.1	57.4	56.5	47.8	50.5	49.2	46.9	49.7	49.2	58.0	56.6	51.2	57.8	60.7	62.2	
03/25/21	60.5	58.0	59.1	58.1	57.6	52.9	54.2	61.5	50.8	51.2	53.7	58.0	55.8	58.0	59.9	60.8	61.2	63.4	64.5	58.4	
03/26/21	59.3	57.7	58.6	55.3	54.0	52.3	50.7	61.0	50.9	49.8	51.6	56.2	55.6	58.9	59.7	60.3	60.7	63.0	64.7	54.5	
03/27/21	59.1	57.0	57.2	57.8	56.7	51.3	55.1	56.8	54.5	52.7	52.3	54.2	54.4	59.5	58.5	56.8	58.9	61.9	62.9	58.4	
03/28/21	56.9	55.1	56.1	51.9	53.4	49.3	52.9	57.1	51.4	50.6	52.2	60.1	52.6	54.9	57.5	56.5	57.8	61.3	62.2	57.5	
03/29/21	58.7	57.1	58.1	56.9	55.8	54.6	54.6	59.4	49.7	50.2	50.6	53.7	55.3	58.4	59.4	59.4	59.3	62.6	63.3	60.5	
03/30/21	59.6	57.7	58.8	56.2	53.7	53.3	53.7	60.9	51.0	47.4	52.1	56.6	55.5	59.2	59.8	60.2	60.7	63.3	64.1	59.4	
03/31/21	57.4	54.7	55.2	54.0	55.0	51.6	52.8	58.2	47.9	51.4	51.2	52.1	51.8	53.6	56.6	56.9	56.8	60.7	61.2	59.6	
AVERAGE	58.7	56.4	57.4	55.4	55.8	55.0	54.5	59.0	54.0	50.6	51.9	55.1	54.5	56.4	59.3	58.5	59.0	62.1	63.0	59.2	
NO. DAYS	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	

TABLE 4. AVERAGE CNEL VALUES

Site No.	2nd Quarter 2021	3rd Quarter 2021	4th Quarter 2021	1st Quarter 2022	4 Quarter Average
1	60.4	61.4	62.1	60.1	61.1
2	58.5	59.8	60.3	57.6	59.4
3	59.8	61.0	61.2	58.8	60.3
4	56.0	57.0	58.7	57.6	57.4
5	55.8	56.5	58.3	57.9	57.2
6	52.7	53.0	55.6	56.3	54.7
7	54.5	55.6	54.1	54.6	54.7
9	60.9	62.2	62.6	60.7	61.7
10	53.1	53.0	54.3	53.3	53.5
11	50.6	51.1	52.2	52.1	51.7
12	52.8	53.7	57.2	54.0	54.8
13	55.8	56.7	57.5	56.1	56.6
14	56.5	57.5	58.0	55.5	57.0
15	58.0	59.1	59.8	57.6	58.7
16	61.0	62.3	62.5	60.3	61.6
18	60.4	62.2	62.0	60.1	61.3
19	61.2	62.6	62.9	60.8	62.0
20	64.3	65.7	65.9	63.3	64.9
21	65.3	66.7	66.9	64.4	66.0
22	60.0	61.2	60.3	60.0	60.4

Table 5. WEEKLY AIR CARRIER AND AIR TAXI
FLIGHTS FOR THE FIRST QUARTER 2022

AIRCRAFT	AS EMB175	OPERATIONS FROM				1/1/2022 AS A319	to	1/31/2022 AS B7378	31 DAYS	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	29	29	21	24	0	0	5	4	38	12
EVENING	2	2	4	1	0	0	0	1	3	13
NIGHT	0	0	0	0	0	0	0	0	0	16
TOTAL	31	31	25	25	0	0	5	5	41	41
	AS A320	OPERATIONS FROM				1/1/2022 US CRJ9	to	1/31/2022 AA B350	31 DAYS	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	26	42	0	0	0	0	0	0	24	24
EVENING	20	4	0	0	0	0	0	0	0	0
NIGHT	0	0	0	0	0	0	0	0	0	0
TOTAL	46	46	0	0	0	0	0	0	24	24
	AA B7378	OPERATIONS FROM				1/1/2022 WN B7377	to	1/31/2022 WN B7378	31 DAYS	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	61	30	30	22	1251	1129	30	22	1	1
EVENING	0	31	5	12	199	291	5	12	1	1
NIGHT	0	0	0	1	10	40	0	1	0	0
TOTAL	61	61	35	35	1460	1460	35	35	2	2
	UA B752	OPERATIONS FROM				1/1/2022 UA E175	to	1/31/2022 UA CRJ	31 DAYS	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	0	0	0	0	10	10	138	138	56	56
EVENING	0	0	0	0	8	8	16	16	8	8
NIGHT	0	0	0	0	0	0	2	2	1	1
TOTAL	0	0	0	0	18	18	156	156	65	65
	FE A300	OPERATIONS FROM				1/1/2022 UPS A300	to	1/31/2022 DL E175	31 DAYS	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	11	11	0	1	11	16	115	88	0	0
EVENING	3	19	1	0	20	0	4	30	0	0
NIGHT	16	0	0	0	1	16	0	1	0	0
TOTAL	30	30	1	1	32	32	119	119	0	0
	DL CRJ7	OPERATIONS FROM				1/1/2022 DL B752	to	1/31/2022 B6 A320	31 DAYS	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	0	0	11	11	0	0	0	0	0	0
EVENING	0	0	0	0	0	0	2	2	0	0
NIGHT	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	11	11	0	0	2	2	0	0
	NKS A319	OPERATIONS FROM				1/1/2022 B6 A21N	to	1/31/2022 NKS A320	31 DAYS	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	0	0	2	2	20	28	0	0	26	29
EVENING	0	0	1	2	20	14	0	0	4	1
NIGHT	0	0	1	0	2	0	0	0	0	0
TOTAL	0	0	4	4	42	42	0	0	30	30
									TOTALS	
									DEP	ARR
									1779	1613
									298	419
									16	61
									2093	2093

Table 5. WEEKLY AIR CARRIER AND AIR TAXI
FLIGHTS FOR THE FIRST QUARTER 2022

AIRCRAFT	AS EMB175	OPERATIONS FROM				2/1/2022	to	2/28/2022	28 DAYS	
		AS B7377	AS B7377	AS B7377	AS B7377	AS A319		AS B7378	AS B7379	
	DEP	ARR	DEP	ARR	DEP	ARR		DEP	ARR	DEP
DAY	20	20	20	23	0	0		4	2	27
EVENING	0	0	4	1	0	0		0	2	2
NIGHT	0	0	0	0	0	0		0	0	0
TOTAL	20	20	24	24	0	0		4	4	29
	AS A320	OPERATIONS FROM				2/1/2022	to	2/28/2022	AA A320	
		AS A21N	AS A21N	AS A21N	AS A21N	US CRJ9		AA B350	AA A320	
	DEP	ARR	DEP	ARR	DEP	ARR		DEP	ARR	DEP
DAY	28	49	0	0	0	0		1	1	21
EVENING	23	2	0	0	0	0		0	0	0
NIGHT	0	0	0	0	0	0		0	0	0
TOTAL	51	51	0	0	0	0		1	1	21
	AA B7378	OPERATIONS FROM				2/1/2022	to	2/28/2022	UA A320	
		WN B38M	WN B38M	WN B38M	WN B38M	WN B7377		WN B7378	UA A320	
	DEP	ARR	DEP	ARR	DEP	ARR		DEP	ARR	DEP
DAY	48	24	32	30	1224	1126		138	116	0
EVENING	0	22	4	6	217	285		19	41	0
NIGHT	0	2	0	0	3	33		0	0	0
TOTAL	48	48	36	36	1444	1444		157	157	0
	UA B752	OPERATIONS FROM				2/1/2022	to	2/28/2022	UA CRJ7	
		UA B738	UA B738	UA B738	UA B738	UA E175		UA CRJ	UA CRJ7	
	DEP	ARR	DEP	ARR	DEP	ARR		DEP	ARR	DEP
DAY	0	0	0	0	35	35		71	47	0
EVENING	0	0	0	0	0	0		5	27	0
NIGHT	0	0	0	0	0	0		1	3	0
TOTAL	0	0	0	0	35	35		77	77	0
	FE A300	OPERATIONS FROM				2/1/2022	to	2/28/2022	DL CRJ	
		UPS B752	UPS B752	UPS B752	UPS B752	UPS A300		DL E175	DL CRJ	
	DEP	ARR	DEP	ARR	DEP	ARR		DEP	ARR	DEP
DAY	10	15	0	1	9	15		106	78	0
EVENING	20	1	1	0	18	0		0	28	0
NIGHT	0	14	0	0	3	15		0	0	0
TOTAL	30	30	1	1	30	30		106	106	0
	DL CRJ7	OPERATIONS FROM				2/1/2022	to	2/28/2022	VXP B7377	
		FL B38M	FL B38M	FL B38M	FL B38M	DL B752		B6 A320	VXP B7377	
	DEP	ARR	DEP	ARR	DEP	ARR		DEP	ARR	DEP
DAY	0	0	7	7	1	1		3	4	0
EVENING	0	0	1	1	0	1		1	0	0
NIGHT	0	0	0	0	1	0		0	0	0
TOTAL	0	0	8	8	2	2		4	4	0
	NKS A319	OPERATIONS FROM				2/1/2022	to	2/28/2022	NKS A21N	
		B6 A321	B6 A321	B6 A321	B6 A321	B6 A21N		NKS A320	NKS A21N	
	DEP	ARR	DEP	ARR	DEP	ARR		DEP	ARR	DEP
DAY	12	12	2	2	23	27		3	4	10
EVENING	0	0	1	1	14	10		1	0	0
NIGHT	0	0	0	0	0	0		0	0	0
TOTAL	12	12	3	3	37	37		4	4	10
TOTALS										ARR
DEP										1564
1730										416
292										47
5										2027
2027										

**Table 5. WEEKLY AIR CARRIER AND AIR TAXI
FLIGHTS FOR THE FIRST QUARTER 2022**

AIRCRAFT	AS EMB175	OPERATIONS FROM				3/1/2022 AS A319	to	3/31/2022 AS B7378	31 DAYS	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	22	22	7	8	0	0		1	0	16
EVENING	0	0	1	0	0	0		0	1	1
NIGHT	0	0	0	0	0	0		0	0	0
TOTAL	22	22	8	8	0	0		1	1	17
	AS A320	OPERATIONS FROM				3/1/2022 US CRJ9	to	3/31/2022 AA B350	AA A320	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	48	43	0	0	4	4		1	1	26
EVENING	8	8	0	0	0	0		0	0	0
NIGHT	0	5	0	0	0	0		0	0	0
TOTAL	56	56	0	0	4	4		1	1	26
	AA B7378	OPERATIONS FROM				3/1/2022 WN B7377	to	3/31/2022 WN B7378	UA A320	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	1	0	35	34	1284	1215		140	136	0
EVENING	0	1	8	7	294	323		41	40	0
NIGHT	0	0	0	2	19	59		1	6	0
TOTAL	1	1	43	43	1597	1597		182	182	0
	UA B752	OPERATIONS FROM				3/1/2022 UA E175	to	3/31/2022 UA CRJ	UA CRJ7	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	0	0	0	0	18	6		83	59	0
EVENING	0	0	0	0	0	9		6	25	0
NIGHT	0	0	0	0	0	3		0	5	0
TOTAL	0	0	0	0	18	18		89	89	0
	FE A300	OPERATIONS FROM				3/1/2022 UPS A300	to	3/31/2022 DL E175	DL CRJ	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	15	19	0	1	12	18		120	90	0
EVENING	24	1	1	0	21	0		0	26	0
NIGHT	0	19	0	0	4	19		1	5	0
TOTAL	39	39	1	1	37	37		121	121	0
	DL CRJ7	OPERATIONS FROM				3/1/2022 DL B752	to	3/31/2022 B6 A320	VXP B7377	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	0	0	6	8	0	0		2	2	0
EVENING	0	0	2	0	0	0		22	22	0
NIGHT	0	0	0	0	0	0		2	2	0
TOTAL	0	0	8	8	0	0		26	26	0
	NKS A319	OPERATIONS FROM				3/1/2022 B6 A21N	to	3/31/2022 NKS A320	NKS A21N	
		ARR	DEP	ARR	DEP				ARR	DEP
DAY	6	6	2	2	27	27		0	0	25
EVENING	0	0	0	0	2	3		0	0	0
NIGHT	0	0	0	0	1	0		0	0	0
TOTAL	6	6	2	2	30	30		0	0	25
TOTALS										ARR
DEP										1626
1754										452
385										84
23										2162

Table 5. (continued)PERIOD TOTALS FOR
AIR CARRIERS AND COMMUTERS

AIR CARRIERS

	<u>DEP</u>	<u>ARR</u>
DAY	7488	6676
EVE	1368	1872
NIGHT	44	352
TOTAL	8900	8900

COMMUTERS

	<u>DEP</u>	<u>ARR</u>
DAY	568	456
EVE	0	112
NIGHT	0	0
TOTAL	568	568

AIR CARRIERS AND COMMUTERS

	<u>DEP</u>	<u>ARR</u>
DAY	8056	7132
EVE	1368	1984
NIGHT	44	352
TOTAL	9468	9468

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 545.6 and 234.2 acres, respectively. The areas of incompatible land uses enclosed by the contours were then computed. The incompatible land use areas were 6.56 acres within the 65 dB contour of which 0 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 155 parcels of land. These parcels total 22.47 acres. No parcels are 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. Four⁴³of these "Baker" parcels remains within the Airport's current 65 dB CNEL contour.

It should be noted that the Airport Authority has made repeated attempts over the past several years to acoustically treat and obtain avigation easement at 43 single family residential parcels, totaling approximately 6.16 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 property with major building code deficiencies that prevent them from participating.

The estimated numbers of incompatible residences is 45 within the 65 dB contour, of which 0 are also within the 70 dB contour. The estimated numbers of people residing within the 65 and 70 dB CNEL contours are 122 and 0, respectively.

REFERENCES

1. 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.
3. "Quarterly Noise Monitoring at Hollywood Burbank Airport, Second Quarter 2021", AAAI Report 1596.
4. "Quarterly Noise Monitoring at Hollywood Burbank Airport, Third Quarter 2021", AAAI Report 1601.
5. "Quarterly Noise Monitoring at Hollywood Burbank Airport, Fourth Quarter 2021", AAAI Report 1607.

APPENDIX A
NOISE MONITOR INSTRUMENTATION

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.



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.



Devices Report

RMT Calibration Results

Bob Hope Airport

Start Date: 04-Jan-2013

End Date: 31-Jan-2013

Monitor Location: 1 - 1, (Fixed)

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



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