QUARTERLY NOISE REPORT

For

California Department of Transportation

1st Quarter 2017
January 1- March 31, 2017



Airport Noise Mitigation

June 1, 2017



QUARTERLY NOISE REPORT For the Period January 1 through March 31, 2017

The California Department of Transportation, Division of Aeronautics, granted a Variance from the requirements of Section 5012, Chapter 2.5, Subchapter 6, Title 21, of the California Administrative Code to the San Diego County Regional Airport Authority for the operation of San Diego International Airport on May 8th, 2012.

This Quarterly Report for the 1st Quarter of 2017 was prepared by Airport Noise Mitigation at San Diego International Airport, in accordance with the Airport Noise Standards, State of California.

Jeffrey Woodson

Vice President, Development

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Summary of Statistical Information for the California Department of Transportation

1. Size of Noise Impact Area as defined in the Noise Standards (California Code of Regulations, Title 21, Chapter 2.5, Subchapter 6):

Noise Impact Area = 0.776 sq. miles; Military Noise Impact Area = 0.106 sq. miles

2. Estimated number of dwelling units included in the Noise Impact Area as defined in the Noise Standards:

10,214* (QHP Insulated = 3,453)

3. Estimated number of people residing within the Noise Impact Area as defined in the Noise Standards:

20,488* (QHP Insulated = 8,633)

4. Identification of the aircraft type having the highest takeoff noise level operating at SDIA, together with the estimated number of operations by this aircraft type during the calendar quarter reporting period:

Boeing 747-400: 168

Total number of aircraft operations during the calendar quarter:

^{5.} **46,957**

6. Number of Air Carrier operations by aircraft certified under Federal Aviation Regulations (FAR) Part 36:

41,983

Percentage of Air Carrier operations by aircraft certificated under FAR Part 36, Stage III:

100%

8. Estimated number of operations by Air Taxi aircraft during the calendar quarter:

2,504

9. Estimated number of operations by General Aviation aircraft during the calendar quarter:

10. Estimated number of operations by Military aircraft during the calendar quarter: 204

Form DOA 617, 10/89

^{*} Population and dwelling unit calculations are based upon 2010 Census Block Boundary Data.

Aircraft Noise Measurements

Using data generated from the Airport Noise and Operations Monitoring System (ANOMS) and Geographic Information System (GIS), Airport Noise Mitigation determined that the Noise Impact Area (N.I.A.) and the Federal Military Impact Area (M.I.A.) within the 65 dB Community Noise Equivalent Level (CNEL) contour for the period between April 1, 2016 to March 31, 2017 to be 0.776 square miles (496.6 acres) and 0.106 square miles (67.8 acres), respectively. As compared to the period between April 1, 2015 to March 31, 2016, the Noise Impact Area increased by 0.082 square miles and the Federal Military Noise Impact Area decreased by 0.007 square miles.

Table 1
Change in N.I.A. and M.I.A.

Impact Area	April 1, 2016 to March 31, 2017	April 1, 2015 to March 31, 2016	Change
N.I.A.	0.776	0.694	0.082
M.I.A.	0.106	0.113	-0.007

A summary of the quarterly and annual CNEL data is shown on the following page within Table 2. Appendix A: Aircraft Noise Monitoring System contains Remote Monitoring Terminals (RMTs) thresholds and Daily/Monthly CNEL Logs.

The contours were prepared using Harris Miller Miller & Hanson Inc.'s (HMMH) RealContours software. The N.I.A. & M.I.A. were determined using GIS analysis. Use of GIS technology allowed direct counting of individual parcels within the N.I.A. The modeling methodology fulfills the requirements of the State of California, Title 21, California Noise Standards. A review of measured and modeled noise levels indicate good agreement between several key measurement locations.

Additionally, the 65 dB Community Noise Equivalent Level (CNEL) contours for the period between April 1, 2016 to March 31, 2017 compared to the period between April 1, 2015 to March 31, 2016 accompanies this report as an attachment.

Table 2
Quarterly and Annual CNEL Data

RMT #	Annual CNEL (dB) ¹	Quarter CNEL (dB) ²
1	70.3	68.6
2	66.8	66.7
3	*	*
4	66.0	65.4
6	69.6	69.1
7	75.4	75.6
9	68.1	67.9
10	64.6	64.5
11	72.2	72.2
12	63.1	63.3
13	66.5	66.4
14	65.9	66.2
16	65.2	65.7
17	65.9	66.4
18	61.6	63.2
19	63.4	64.5
20	61.9	62.2
21	58.8	59.9
22	65.4	65.2
23	64.1	64.8
24	64.4	64.1
25	63.0	62.7
26	63.4	63.9

¹ = For the period April 1, 2016 to March 31, 2017

Note 1: RMTs #5, #8 and #15 are no longer operational since the noise impact boundary has decreased in size. Note 2: RMT #3 was offline during this time period due to building blockage of the solar panel. Staff is working to connect this site to another electrical source.

² = For the period January 1, 2017 through March 31, 2017

Aircraft Operations

The following table contains statistics of aircraft operations based upon the Federal Aviation Administration (FAA) Air Traffic Control Tower (ATCT) counts at San Diego International Airport (SAN).

Table 3
SAN ATCT Counts

Operations	1st Quarter 2017	1st Quarter 2016	Increase / Decrease	Percent Change
Air Carrier	41,983	40,843	1,140	2.79%
Air Taxi	2,504	2,786	-282	-10.12%
General Aviation	2,266	2,219	47	2.12%
Military	204	219	-15	-6.85%
Total	46,957	46,067	890	1.93%

Quarterly Operations Survey Report

The Quarterly Operations Survey Report for San Diego International Airport (SDIA) encompasses the 1st Quarter of 2017. The data used to compile this report was gathered during 24-hour periods on February 7-9, 2017.

Table 5, Quarterly Operations Survey - Arrivals, identifies the loudest 25% of the aircraft arriving at SDIA, as measured at Remote Monitoring Terminal (RMT) #1, which is located approximately one (1.0) mile from the arrival end of Runway 27. During the 1st Quarter 2017 Operations Survey, an average of 224 daily air carrier arrival operations was conducted. Therefore, the loudest 25% of these arrivals totaled approximately 56. These commercial service jet aircraft are listed by Aircraft Type, Single Event Noise Exposure Level (SENEL), Airport Origin, Flight Number and Date/Time.

Table 6, Quarterly Operations Survey - Departures, identifies the loudest 25% of the aircraft departing from SDIA, as measured at Remote Monitoring Terminal (RMT) #7, which is located approximately one-half (0.5) mile from the departure end of Runway 27. During the 1st Quarter 2017 Operations Survey, an average of 224 daily air carrier departure operations was conducted. Therefore, the loudest 25% of these departures totaled approximately 56. These commercial service jet aircraft are listed by Aircraft Type, Single Event Noise Exposure Level (SENEL), Airport Destination, Flight Number and Date/Time.

The average Single Event Noise Exposure Level (SENEL) of the loudest 25% of the 1st Quarter 2017 Operations Survey is as follows:

Table 4
Single Event Noise Exposure Level (SENEL) Comparison

	February 7-9, 2017	February 9-11, 2016	Change (dB)
Departures	99.9	98.6	1.3
Arrivals	94.9	93.0	1.9

Table 7, Air Carrier Operations Mix by Time of Day and Runway Use, represents the 448 daily operations, which is less than the 453 daily operations recorded during the 1st Quarter of 2016.

Table 5
Quarterly Operations Survey - Arrivals (RMT #1 from February 7-9, 2017)
* = Missed Approach

Aircraft Type	SENEL (dB)	Arriving From	Flight Number	Date and Time
B744	101.3	EGLL	BAW44N	2/7/2017 4:32 PM
DC10	101.3	MEM	FDX906	2/7/2017 5:25 PM
DC10	101.3	MEM	FDX906	2/8/2017 5:42 PM
B762	97.3	PHX	GTI505	2/9/2017 8:07 AM
B762	97.1	PHX	GTI505	2/8/2017 8:01 AM
B753	96.6	ATL	DAL1692	2/7/2017 9:50 AM
B763	96.5	ATL	DAL1378	2/7/2017 5:16 PM
B753	96.5	ATL	DAL1692	2/8/2017 9:52 AM
B763	96.0	IND	FDX1754	2/8/2017 5:33 AM
B763	96.0	MEM	FDX1422	2/8/2017 5:44 AM
A319	95.6	DEN	UAL1289	2/7/2017 9:31 AM
B738	95.4	PHX	AAL2378	2/7/2017 11:38 AM
B763*	95.3	SDF	UPS922	2/8/2017 5:17 AM
B738	95.1	BWI	SWA179	2/7/2017 11:01 AM
B763	95.1	SDF	UPS2922	2/7/2017 5:33 PM
B738	94.9	BWI	SWA179	2/8/2017 11:14 AM
B753	94.8	DTW	DAL2083	2/7/2017 10:21 AM
A321	94.8	DFW	AAL468	2/7/2017 1:56 PM
B763	94.8	IND	FDX3713	2/7/2017 5:29 PM
B739	94.7	SEA	ASA238	2/7/2017 9:53 AM
B734	94.6	OAK	RPN441	2/7/2017 7:46 PM
B738	94.5	DEN	SWA1517	2/7/2017 9:55 AM
B763	94.5	ATL	DAL1378	2/8/2017 4:58 PM
B733	94.4	PHX	WN921	2/8/2017 10:22 AM
B738	94.3	ORD	AAL2549	2/7/2017 3:45 PM
B752*	94.3	OAK	FDX1889	2/8/2017 4:36 AM
B739	94.2	SEA	ASA494	2/7/2017 11:26 AM
B738	94.2	PHX	SWA1125	2/7/2017 12:11 PM
B763	94.2	IND	FDX3713	2/8/2017 5:28 PM
B737	94.1	PHX	SWA849	2/7/2017 11:15 AM
B763	94.1	SDF	UPS2922	2/8/2017 5:27 PM
B737	94.0	OAK	SWA930	2/7/2017 11:13 AM
A320*	93.9	MSP	DAL1687	2/7/2017 11:49 AM
A332	93.9	PHNL	HAL16	2/7/2017 10:45 PM
B738	93.9	LAS	SWA985	2/8/2017 11:47 AM
B739	93.9	ATL	DAL2220	2/8/2017 12:45 PM
A321	93.8	DFW	AAL698P	2/7/2017 11:59 AM
B739	93.8	ATL	DAL2220	2/7/2017 12:41 PM
A320	93.7	SLC	DAL2295	2/7/2017 9:24 AM

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Table 5 Continued

Quarterly Operations Survey - Arrivals (RMT #1 from February 7-9, 2017)

Aircraft Type	SENEL (dB)	Arriving From	Flight Number	Date and Time
B737	93.7	AUS	SWA412	2/7/2017 12:27 PM
B739	93.7	IAH	UAL1916	2/7/2017 6:57 PM
B737	93.7	TUS	SWA1796	2/8/2017 2:57 PM
B737	93.6	LAS	SWA1703	2/7/2017 9:21 AM
A320	93.6	IAH	UAL1150	2/7/2017 9:58 AM
B738	93.6	LAS	SWA985	2/7/2017 11:43 AM
B737	93.6	PHX	SWA1783	2/7/2017 11:54 AM
B738	93.6	ORD	AAL1022	2/8/2017 7:30 PM
B739	93.5	PDX	ASA572	2/7/2017 1:24 PM
B738	93.5	MDW	SWA1125	2/8/2017 10:46 AM
B739	93.5	PDX	ASA572	2/8/2017 1:21 PM
B738	93.5	LAS	SWA210	2/8/2017 6:13 PM
B753	93.5	ATL	DAL1692	2/9/2017 9:36 AM
B739	93.4	ORD	UAL1590	2/7/2017 11:52 AM
B738	93.4	STL	SWA1603	2/7/2017 3:20 PM
A321	93.4	DFW	AAL698	2/8/2017 11:53 AM
B739	93.4	IAH	UAL1916	2/8/2017 7:21 PM

Table 6
Quarterly Operations Survey - Departures (RMT #7 from February 7-9, 2017)

Aircraft Type	SENEL (dB)	Departing To	Flight Number	Date and Time
B744	106.6	EGLL	BAW72A	2/9/2017 8:01 PM
B744	105.7	EGLL	BAW72A	2/7/2017 7:10 PM
A332	102.1	PHNL	HAL15	2/7/2017 10:51 AM
A332	102.0	PHNL	HAL15	2/9/2017 10:23 AM
A332	101.6	PHNL	HAL15	2/8/2017 10:24 AM
MD83	101.5	SCK	AAY159	2/9/2017 5:12 PM
B739	101.4	ATL	DAL1592	2/8/2017 6:39 AM
B739	101.3	ORD	UAL307	2/7/2017 6:37 AM
DC10	100.8	MEM	FDX1222	2/7/2017 7:16 PM
B739	100.7	ATL	DAL1192	2/8/2017 10:42 PM
B739	100.4	ATL	DAL1592	2/9/2017 6:49 AM
B739	100.3	ATL	DAL1192	2/9/2017 10:39 PM
A321	100.2	DFW	AAL1763	2/9/2017 9:05 AM
B738	100.2	PHNL	ASA895	2/9/2017 11:15 AM
B738	100.1	DTW	DAL132	2/9/2017 7:45 AM
A321	100.1	CLT	AAL1851	2/9/2017 11:33 AM
A321	100.1	CYYZ	ROU1886	2/9/2017 11:50 AM
DC10	100.1	MEM	FDX1222	2/9/2017 7:27 PM
B739	99.9	ATL	DAL2220	2/8/2017 2:26 PM
B738	99.8	PHOG	ASA829	2/8/2017 7:16 AM
B739	99.8	DTW	DAL2083	2/8/2017 12:08 PM
B739	99.8	ORD	UAL307	2/9/2017 6:33 AM
B739	99.8	IAH	UAL1100	2/9/2017 7:26 AM
B739	99.8	IAD	UAL546	2/9/2017 7:59 AM
B738	99.7	PHNL	ASA895	2/8/2017 11:13 AM
B739	99.6	EWR	UAL751	2/9/2017 6:56 AM
DC10	99.5	MEM	FDX1222	2/8/2017 7:21 PM
B763	99.5	MEM	FDX821	2/9/2017 7:44 AM
B738	99.5	JFK	DAL2404	2/9/2017 8:21 AM
F900	99.4	APF	N74TD	2/9/2017 7:32 AM
B753	99.2	ATL	DAL1692	2/7/2017 11:23 AM
B739	99.2	IAH	UAL1100	2/8/2017 9:14 AM
B753	99.2	ATL	DAL1692	2/8/2017 11:28 AM
B738	99.1	PHOG	ASA829	2/7/2017 7:22 AM
B739	99.1	SEA	ASA487	2/7/2017 3:26 PM
A320	99.1	JFK	JBU90	2/7/2017 9:41 PM
B739	99.1	IAD	UAL546	2/8/2017 10:17 AM
A321	99.1	DFW	AAL475	2/8/2017 11:04 AM
B738	99.1	KOA	ASA865	2/9/2017 8:04 AM

Table 6 Continued

Quarterly Operations Survey - Departures (RMT #7 from February 7-9, 2017)

Aircraft Type	SENEL (dB)	Departing To	Flight Number	Date and Time
A321	99.1	CLT	AAL584	2/9/2017 11:17 PM
B738	98.9	MIA	AAL1042	2/7/2017 10:25 PM
A321	98.9	DFW	AAL423	2/8/2017 7:21 AM
B739	98.9	ORD	UAL307	2/8/2017 7:45 AM
B739	98.9	ORD	UAL555	2/8/2017 9:52 AM
B753	98.9	ATL	DAL1692	2/9/2017 11:21 AM
A321	98.8	CLT	AAL584	2/7/2017 10:55 PM
B738	98.8	PHL	AAL1214	2/8/2017 7:08 AM
A321	98.8	DFW	AAL1763	2/8/2017 9:07 AM
A321	98.8	CLT	AAL1851	2/8/2017 11:30 AM
B739	98.7	ATL	DAL1592	2/7/2017 7:07 AM
B739	98.7	ORD	UAL555	2/7/2017 9:55 AM
B738	98.7	PHL	AAL1214	2/9/2017 7:04 AM
B739	98.6	IAH	UAL1284	2/9/2017 10:04 AM
B739	98.6	ATL	DAL2220	2/9/2017 2:15 PM
A321	98.5	DFW	AAL1691	2/8/2017 2:42 PM
B739	98.5	MCO	ASA760	2/9/2017 10:20 AM

Table 7
Air Carrier Operations Mix by Time of Day and Runway Use

These numbers are the averages for operations for February 7-9, 2017

	Runway 27 Run					Runw	unway 09						
		Arrivals			Departures		Arrivals		De	partur	es		
Aircraft Type	700	1900	2200	700	1900	2200	700	1900	2200	700	1900	2200	Total
	1859	2159	659	1859	2159	659	1859	2159	659	1859	2159	659	
A319	5	1		6		1		1	1				15
A320+	24	1	1	25	4	4	1	2	2				64
A330+				1					1				2
B737+	87	11	7	106	17	16	5	14	19	3			285
B747+	1				1								2
B757+	1			1	1				1				4
B767+	4		1	4	2				2	1			14
B787+	1			1									2
DH8D	1			1									2
E170/175/190	15	1	1	16	2	4	1	2	2	1			45
DC10	1				1								2
MD90+		1		1		1							3
RJ+	3			3	1			1					8
Total	143	15	10	165	29	26	7	20	28	5	0	0	448

Note 1: The use of a "+" sign after an aircraft model designation means "and all succeeding series aircraft." The designation of "Q" signifies a hush kitted aircraft. RJ+ = All forms/types of Regional Jets operated as "commercial service" flights; Includes $CRJ_2/7/9$, $E_{120}/35/40/45$

Aircraft Noise Complaints

During the 1st Quarter of 2017, Airport Noise Mitigation received a total of 8,229 complaints. Where possible, each complaint is correlated with a specific flight and examined for its validity. Those flights that indicate a possible violation of the Airport Use Regulations, Time of Day Restrictions, are investigated and appropriate enforcement action is taken.

The 8,229 complaints recorded during the 1st Quarter of 2017 reflects a decrease of 966 from the 11,681 recorded during the 1st Quarter of 2016.

Enforcement Actions

The Airport Use Regulations at San Diego International Airport establish Time of Day Restrictions for all operators. Airport Noise Mitigation monitors operator compliance with these Airport Use Regulations. Any infraction is reported to the Curfew Violation Review Panel (Panel), which is a separate body. The Panel examines data and documentation collected regarding alleged violations of the Time of Day (Noise Curfew) Restrictions, and makes recommendations to the Director, Airport Noise Mitigation, for the disposition of incidents.

During the 1st Quarter of 2017, there were a total of 11 curfew violations. The 11 curfew violations recorded during the 1st Quarter of 2017 reflects an increase of 2 from the 9 curfew violations recorded during the 1st Quarter of 2016.

Residential Sound Insulation Program

Per the requirements of San Diego International Airport's Variance agreement, the following figure is provided to serve as an update on the Residential Sound Insulation Program (RSIP), also known as the Quieter Home Program (QHP), the Airport sponsored sound insulation program. To date, the Quieter Home Program has established eight eligibility boundaries. The eight boundaries are the Pilot/Phase 1A Boundary, the Phase 1B Boundary, the Phase 1C Boundary, the Supplemental Expansion Boundaries 1, 2, & 3, the 2014 NEM 68 dB CNEL boundary, and the 2014 NEM 67 dB CNEL boundary. Within each boundary there have been subsets, called phases and groups.

Airport Noise Advisory Committee (ANAC)

The San Diego County Regional Airport Authority recognizes that neighborhoods surrounding San Diego International Airport are affected by noise from aircraft operations. An Airport Noise Advisory Committee (ANAC) (Committee), consisting of individuals from various organizations, residential areas, and professional associations, was formed in 1981 under the San Diego Unified Port District, previous operator of San Diego International Airport. The Airport Noise Advisory Committee is formally adopted as Airport Authority Policy 9.20.

The information regarding the Airport Noise Advisory Committee (ANAC) can be found on the San Diego County Regional Airport Authority's website: http://www.SAN.org/Airport-Noise/Initiatives.

Airport Noise Monitoring System

Appendix A1

Remote Noise Monitoring Terminal (RMTs) Thresholds

RMT #	SENEL Day Threshold (dB)	Duration (sec)	SENEL Evening Threshold (dB)	Duration (sec)	SENEL Night Threshold (dB)	Duration (sec)
1	73*	9	73	9	72*	10
2	63	10	60	12	58	14
3	74*	9	73	10	72*	10
4	64*	10	63	12	60*	12
6	68*	8	67	9	65*	10
7	65	12	63	12	62	15
9	68*	8	67	9	65*	10
10	65*	8	62	12	60*	13
11	65*	12	63	13	60*	15
12	64*	10	62	12	60*	14
13	65*	8	62	12	60*	13
14	65*	10	62	12	60*	13
16	67*	8	66	9	65*	10
17	64	9	62	12	58	15
18	65	8	65	8	62	12
19	64*	8	64	8	63*	8
20	62	11	62	11	60	13
21	60	10	58	12	55	18
22	65	8	63	10	60	12
23	65*	8	63	10	60*	12
24	65*	8	65	8	63*	10
25	65*	10	62	10	60*	12
26	65*	10	64	12	62*	14

KEY:

Day = From 7:00 a.m. to 6:59 p.m. (* = change occurs at 0500L)

Evening = From 7:00 p.m. to 9:59 p.m.

Night = From 10:00 p.m. to 6:59 a.m. (* = change occurs at 0500L)

Note 1: RMTs #1 and #3 high threshold levels are due to high freeway and/or construction noise.

Note 2: Noise monitors comply with all applicable settings as specified in the California Noise Standards (Title 21). Noise events must meet both threshold criteria to be considered for further review.

Daily/Monthly CNEL Levels – January 2017 * Not in Service

Day	RMT 1	RMT 2	RMT 3	RMT 4	RMT 6	RMT 7	RMT 9	RMT 10	RMT 11	RMT 12	RMT 13
1	*	67.4	*	62.9	70.1	75.1	67.3	51.4	72.1	62.7	66.5
2	*	67.7	*	60.3	70.6	75.9	70.0	*	72.5	64.4	67.0
3	*	67.8	*	62.0	70.1	75.7	62.4	*	72.9	63.8	67.5
4	*	67.8	*	63.2	70.0	74.5	65.4	63.6	71.5	63.0	66.3
5	*	66.9	*	*	70.7	76.2	69.0	64.6	73.5	63.9	66.4
6	*	68.1	*	60.1	69.6	74.3	67.5	64.4	71.6	63.1	66.1
7	*	65.0	*	58.8	68.9	74.5	65.7	64.3	72.5	62.4	65.3
8	*	66.3	*	62.8	69.2	74.6	65.8	63.5	71.8	61.4	65.7
9	*	67.0	*	68.3	69.0	75.3	68.5	64.0	72.7	62.6	66.1
10	*	67.6	*	66.3	69.3	73.8	66.6	*	71.1	65.7	65.4
11	*	68.4	*	66.1	69.8	74.3	68.2	*	71.4	62.9	65.6
12	*	68.3	*	70.2	70.9	75.8	69.7	*	72.7	63.7	66.8
13	*	68.1	*	62.9	68.1	73.3	66.2	*	70.6	62.1	65.5
14	*	65.4	*	61.4	68.3	73.9	65.1	61.3	70.6	62.5	65.5
15	*	66.6	*	62.0	68.9	75.4	67.7	63.3	72.3	61.4	66.0
16	*	66.6	*	62.6	69.8	75.4	65.4	64.4	72.3	63.0	67.1
17	*	66.7	*	62.6	69.7	74.6	68.8	64.4	71.4	62.7	65.7
18	*	67.4	*	62.6	69.9	74.8	68.3	64.4	72.5	62.8	66.1
19	*	68.0	*	62.7	71.2	75.1	70.3	65.3	71.8	64.3	66.2
20	*	69.3	*	57.3	72.4	74.6	70.2	66.7	71.8	65.6	66.1
21	*	66.2	*	65.4	69.5	72.6	66.7	*	70.0	61.9	65.4
22	*	66.3	*	*	72.0	76.2	68.3	*	74.1	60.1	65.5
23	*	69.1	*	69.4	70.6	73.2	69.2	*	70.4	64.5	65.7
24	*	67.2	*	66.1	69.9	73.6	65.3	63.9	70.7	62.7	65.0
25	*	67.1	*	66.1	69.8	74.6	64.5	65.1	71.8	64.9	66.0
26	*	67.5	*	70.9	70.3	75.1	65.0	64.8	71.6	63.2	66.0
27	*	65.0	*	66.9	68.6	74.1	61.2	62.0	71.0	62.2	64.3
28	*	63.5	*	61.2	67.7	71.9	66.1	60.7	68.4	61.7	62.4
29	*	64.1	*	60.7	69.4	73.3	67.5	61.2	69.5	59.0	63.4
30	*	65.3	*	63.4	69.6	73.6	66.6	62.1	70.5	61.7	64.3
31	61.2	61.3	*	60.5	69.2	73.3	66.2	61.5	70.5	61.3	63.4
Month	61.7	67.5	*	65.2	70.4	75.1	67.9	64.2	72.2	63.5	66.2

Appendix A2 Continued

Daily/Monthly CNEL Levels – January 2017 * Not in Service

Day	RMT 14	RMT 16	RMT 17	RMT 18	RMT 19	RMT 20	RMT 21	RMT 22	RMT 23	RMT 24	RMT 25	RMT 26
1	65.3	65.6	66.3	56.4	*	62.4	60.0	65.0	63.6	64.6	63.0	65.3
2	65.9	65.5	66.7	58.2	*	62.5	59.7	65.4	64.6	65.4	47.1	61.3
3	*	65.6	67.1	55.8	*	62.6	60.8	67.8	63.7	61.1	*	60.3
4	64.8	65.8	67.2	58.1	*	61.6	60.3	64.7	62.5	62.9	62.0	64.6
5	67.7	65.0	65.9	64.0	*	60.9	59.5	64.7	63.0	64.4	62.8	61.2
6	*	66.9	67.0	59.8	*	61.3	59.6	64.4	62.7	64.1	60.4	65.1
7	62.9	63.4	64.3	59.3	*	62.7	57.5	63.7	61.6	63.1	*	63.1
8	65.0	64.1	65.1	60.1	*	60.8	57.8	63.9	62.4	63.4	60.0	63.4
9	67.3	64.6	66.0	61.5	64.6	61.7	59.5	65.7	62.7	63.8	62.6	61.9
10	65.2	65.9	66.5	60.1	63.2	61.5	59.0	63.8	62.2	63.5	*	64.8
11	65.3	66.4	67.1	61.5	65.8	61.3	59.6	63.9	62.6	60.8	*	59.7
12	*	66.6	67.2	60.9	67.5	62.4	59.3	64.9	65.1	62.8	*	59.6
13	65.5	66.3	68.3	60.6	61.9	62.2	59.8	64.8	63.9	64.2	62.8	60.6
14	*	64.6	66.9	57.5	62.6	61.2	59.2	63.9	62.2	63.0	62.2	63.1
15	65.4	64.9	65.4	58.4	66.7	61.4	58.9	64.4	63.1	63.7	62.1	61.6
16	66.4	64.8	66.0	58.0	59.6	62.4	59.6	65.9	63.8	64.8	62.8	63.0
17	65.6	65.3	65.7	60.9	64.7	61.5	60.2	64.0	63.1	63.5	67.2	63.9
18	66.2	65.2	66.3	59.3	67.6	63.3	61.4	64.5	63.3	63.0	60.3	64.2
19	66.1	66.3	66.8	64.2	66.9	62.5	60.4	64.6	65.0	64.6	61.3	63.3
20	66.8	67.5	67.7	67.5	67.3	68.6	63.1	65.2	68.9	65.3	*	58.7
21	65.5	64.9	64.9	62.9	63.6	63.9	60.4	63.6	65.5	62.8	60.5	62.0
22	67.5	65.9	65.5	69.0	65.7	67.6	63.8	65.0	69.7	63.0	62.3	59.2
23	*	67.7	68.0	63.3	66.5	63.7	60.9	67.0	67.2	64.5	*	61.3
24	64.0	66.2	67.3	59.4	65.8	61.7	59.8	63.1	65.4	63.3	60.5	62.1
25	65.7	65.7	66.2	58.0	59.8	62.3	59.6	64.5	64.4	63.2	62.9	63.3
26	65.9	65.8	66.1	61.7	60.8	63.9	59.6	64.5	63.3	64.2	63.0	64.2
27	65.1	65.8	65.1	61.0	57.3	62.3	57.2	62.9	63.2	62.5	57.1	59.9
28	63.2	63.0	62.9	60.0	63.0	58.6	55.8	60.9	59.9	60.3	59.8	61.2
29	64.1	64.3	63.2	64.4	65.5	59.6	55.9	62.1	60.7	61.1	59.4	61.1
30	64.3	64.5	65.0	61.8	63.8	59.7	57.4	63.1	62.2	62.4	60.7	62.7
31	64.3	59.9	62.1	61.9	63.8	59.3	58.0	61.9	61.1	61.5	57.3	57.0
Month	65.3	66.0	66.7	62.5	64.8	63.2	60.3	65.0	64.7	63.9	61.8	63.0

Daily/Monthly CNEL Levels - February 2017 * Not in Service

Day	RMT 1	RMT 2	RMT 3	RMT 4	RMT 6	RMT 7	RMT 9	RMT 10	RMT 11	RMT 12	RMT 13
1	67.6	66.5	*	65.8	62.8	73.1	65.9	61.7	69.7	60.7	62.8
2	*	67.1	*	66.3	*	74.8	67.6	64.7	71.2	63.0	65.8
3	72.2	67.6	*	66.5	*	74.6	66.8	64.5	71.2	62.4	66.3
4	*	65.6	*	63.8	*	73.9	64.5	63.0	70.4	61.7	65.2
5	*	65.0	*	59.6	*	74.9	64.0	62.7	71.0	60.5	65.0
6	69.8	64.5	*	52.8	*	76.8	68.3	62.7	73.7	61.2	65.5
7	69.2	65.8	*	62.5	*	74.3	66.5	62.5	70.6	62.3	64.1
8	67.6	63.5	*	62.0	*	76.2	64.4	63.3	73.2	62.8	66.4
9	60.6	60.8	*	60.1	*	77.3	66.3	63.4	74.1	61.6	66.5
10	*	67.4	*	69.3	*	75.8	65.6	62.8	72.3	61.4	65.9
11	*	65.5	*	70.3	*	73.6	65.3	62.3	70.0	61.8	64.4
12	*	66.9	*	65.3	*	75.0	65.0	62.4	71.1	61.1	65.8
13	*	67.4	*	61.6	*	75.2	67.7	63.2	71.8	62.7	*
14	*	66.2	*	63.4	*	73.8	65.2	63.7	70.5	61.6	*
15	*	65.5	*	62.5	*	74.6	65.8	62.9	70.7	62.0	*
16	*	67.3	*	63.1	*	75.5	69.0	64.4	71.7	63.2	*
17	*	65.6	*	52.8	*	78.2	67.9	65.6	75.2	63.3	*
18	*	66.2	*	65.9	*	75.5	68.5	63.4	71.6	62.8	*
19	*	66.8	*	65.5	*	74.7	67.2	63.7	71.0	62.0	*
20	*	67.2	*	66.3	*	75.2	65.5	64.6	71.7	62.9	*
21	73.4	67.9	*	65.0	*	75.2	67.7	64.1	71.3	62.5	*
22	68.3	67.3	*	62.8	*	75.0	68.0	64.9	71.5	63.4	*
23	*	67.7	*	63.6	*	74.9	70.3	65.1	70.8	63.1	*
24	*	67.2	*	61.4	*	75.6	63.8	65.0	71.4	64.8	*
25	*	66.0	*	63.4	*	73.9	64.1	63.2	70.2	61.5	*
26	*	67.5	*	66.5	*	75.1	67.3	63.8	71.5	62.2	*
27	*	58.5	*	60.6	*	76.5	70.1	64.5	73.2	62.3	*
28	*	*	*	62.3	*	74.5	66.4	64.8	70.8	64.3	66.7
Month	69.3	66.7	*	65.1	63.3	75.8	67.5	64.3	72.3	62.9	66.0

Appendix A3 Continued

Daily/Monthly CNEL Log — February 2017 * Not in Service

Day	RMT 14	RMT 16	RMT 17	RMT 18	RMT 19	RMT 20	RMT 21	RMT 22	RMT 23	RMT 24	RMT 25	RMT 26
1	63.0	65.4	65.8	61.6	63.8	58.0	56.3	61.2	60.2	61.4	58.5	64.6
2	65.6	65.5	66.1	64.2	64.2	61.0	58.8	63.9	64.8	64.6	62.1	64.9
3	65.8	65.6	67.2	61.2	64.2	61.2	59.6	64.4	65.4	64.5	63.1	65.5
4	65.2	63.2	64.6	59.2	59.8	60.6	58.8	63.4	63.2	63.3	58.7	62.2
5	64.7	62.8	64.1	56.2	58.5	60.3	57.2	62.9	62.1	62.9	61.6	60.9
6	68.7	64.3	64.3	67.2	65.7	62.3	59.3	66.9	62.3	63.0	*	60.8
7	65.5	63.8	65.1	62.8	62.8	58.4	56.7	62.1	62.2	62.9	61.5	61.7
8	68.3	61.5	63.0	59.5	56.4	60.7	58.8	64.4	63.2	64.6	62.8	59.7
9	69.2	58.7	60.8	58.2	59.2	60.3	58.0	64.4	63.9	64.1	56.6	59.3
10	66.8	64.9	66.2	58.8	59.2	60.3	58.2	63.8	64.1	60.7	62.1	65.1
11	*	63.4	64.3	60.7	62.6	59.1	57.9	62.2	63.5	61.3	61.9	61.4
12	64.9	65.2	65.9	61.9	60.9	61.7	59.7	64.5	64.4	63.1	62.4	64.8
13	66.5	64.7	65.0	60.8	65.8	60.8	59.0	67.5	64.0	*	63.2	63.7
14	65.4	64.3	65.0	58.1	60.1	60.4	61.5	63.4	62.5	*	62.3	63.5
15	64.8	64.3	64.9	61.2	61.2	59.7	58.8	63.2	62.2	*	60.7	64.0
16	66.0	65.6	66.2	65.2	66.7	61.6	59.2	64.6	64.3	*	63.3	65.0
17	70.5	65.3	64.9	67.5	65.3	63.8	63.8	65.5	70.1	*	64.2	59.6
18	66.4	64.2	65.5	60.8	66.5	61.0	59.0	64.2	66.8	*	60.5	64.2
19	65.8	65.1	65.9	61.5	65.6	61.1	59.1	64.3	65.7	*	62.7	64.7
20	66.3	65.1	66.4	59.1	59.9	61.9	59.6	67.8	65.3	*	64.4	66.0
21	65.9	65.9	67.1	62.8	64.4	61.4	59.1	64.4	64.2	*	63.3	*
22	66.3	65.9	66.4	65.1	63.7	62.0	59.6	64.8	66.2	*	63.9	65.5
23	65.5	66.4	66.8	63.8	66.8	61.8	59.6	64.5	65.5	*	63.4	65.4
24	66.0	66.3	66.7	58.0	60.8	61.7	59.3	64.8	64.5	*	63.2	65.2
25	65.1	63.9	64.9	58.8	63.3	60.6	58.1	63.0	62.2	*	62.4	63.8
26	66.0	65.7	66.9	59.7	64.5	61.4	59.4	64.8	64.2	*	63.1	65.8
27	68.5	65.6	65.9	70.4	66.6	60.3	62.9	67.4	66.8	*	61.1	59.3
28	65.3	65.9	66.6	63.2	62.7	61.1	59.3	64.0	64.1	*	63.6	65.0
Month	66.9	65.3	66.1	63.6	64.2	61.5	60.0	65.2	65.2	63.4	62.9	64.2

Daily/Monthly CNEL Levels — March 2017 * Not in Service

Day	RMT 1	RMT 2	RMT 3	RMT 4	RMT 6	RMT 7	RMT 9	RMT 10	RMT 11	RMT 12	RMT 13
1	71.8	*	*	59.8	*	75.4	68.3	64.5	71.4	63.0	66.6
2	69.5	*	*	63.4	*	74.8	67.0	63.2	70.3	62.4	65.1
3	*	*	*	62.0	*	74.8	69.2	63.5	69.9	62.4	64.9
4	*	*	*	63.3	*	74.9	66.9	63.3	71.0	62.1	66.0
5	*	*	*	66.7	*	74.0	67.1	64.5	70.7	62.6	66.6
6	*	*	*	65.7	*	74.4	67.3	64.4	70.6	63.3	66.6
7	*	*	*	65.4	*	73.6	67.4	64.2	70.0	62.7	65.5
8	*	*	*	62.7	69.6	75.1	67.9	65.1	71.1	61.7	65.7
9	*	*	*	63.7	70.6	75.9	68.6	65.1	71.9	63.0	66.5
10	*	65.7	*	64.6	70.2	75.1	68.0	64.5	71.2	64.4	66.6
11	*	66.6	*	60.4	68.5	75.0	66.2	63.5	71.6	62.0	65.8
12	*	64.1	*	69.5	69.4	77.5	67.9	63.0	73.6	60.2	65.6
13	*	61.9	*	62.5	68.7	75.4	66.6	62.4	72.3	61.4	65.2
14	*	65.8	*	66.6	68.4	74.2	65.8	63.5	69.5	61.7	63.4
15	*	67.3	*	66.5	69.9	75.3	68.2	65.3	71.5	62.4	66.2
16	72.9	67.3	*	67.1	71.2	76.6	67.9	65.8	72.8	62.9	66.7
17	69.9	65.6	*	66.8	69.4	76.6	67.7	62.7	72.7	61.3	66.2
18	68.3	65.2	*	64.3	68.8	76.5	67.6	62.8	72.5	62.2	66.6
19	70.2	66.9	*	66.1	69.9	75.9	69.6	64.5	72.0	62.5	66.8
20	69.9	66.6	*	67.3	69.5	75.9	68.6	64.4	72.3	62.8	67.4
21	70.4	67.0	*	65.4	70.4	75.8	65.6	65.3	71.7	63.1	67.2
22	71.0	67.6	*	63.8	70.3	75.6	68.4	64.5	71.6	62.8	66.6
23	71.1	68.0	*	65.4	70.8	75.0	68.4	64.9	71.4	63.4	67.1
24	71.4	67.9	*	66.2	70.4	76.4	67.4	65.7	74.6	64.6	68.0
25	70.0	66.9	*	63.0	70.1	75.6	66.4	64.2	71.6	62.4	67.3
26	69.9	67.0	*	62.9	70.1	75.7	67.1	64.8	71.6	62.9	67.2
27	70.0	67.3	*	67.3	70.2	75.6	67.9	65.2	71.8	63.2	67.4
28	69.6	66.7	*	63.7	70.1	76.1	68.5	65.0	72.1	63.2	66.8
29	70.0	66.3	*	*	70.2	75.3	68.1	64.7	70.9	63.7	65.6
30	70.8	68.1	*	62.0	70.9	75.6	68.4	64.8	71.7	63.2	67.1
31	70.6	67.5	*	66.5	70.2	75.2	67.3	64.4	71.4	64.5	66.8
Month	70.8	65.7	*	65.7	70.5	76.0	68.2	64.9	72.2	63.3	66.9

Appendix A4 Continued

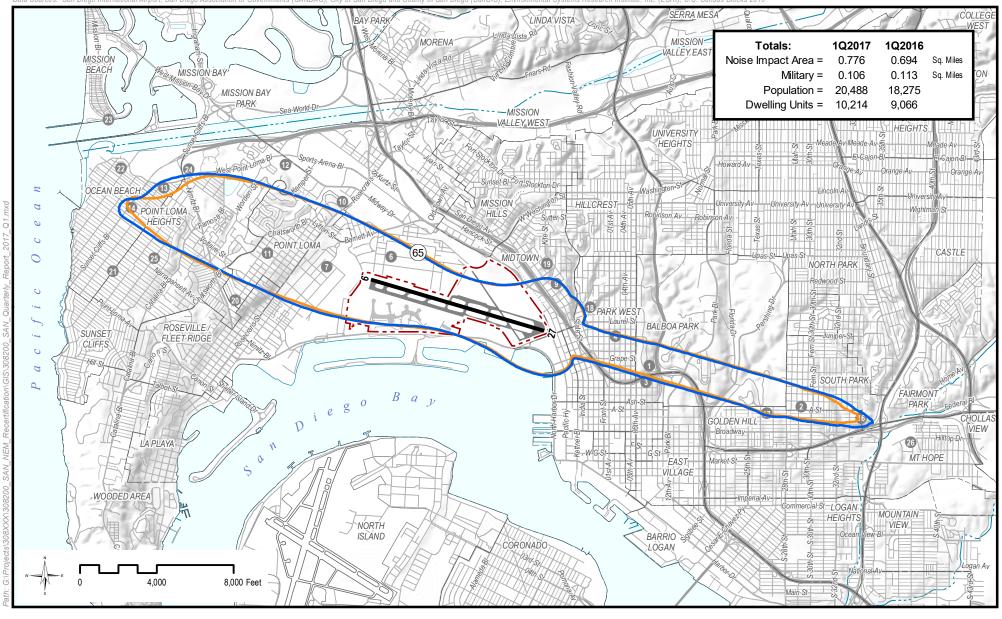
Daily/Monthly CNEL Log — March 2017 * Not in Service

Day	RMT 14	RMT 16	RMT 17	RMT 18	RMT 19	RMT 20	RMT 21	RMT 22	RMT 23	RMT 24	RMT 25	RMT 26
1	65.8	66.4	66.0	63.4	66.8	61.2	58.8	64.3	63.3	*	62.9	64.5
2	64.2	65.2	65.0	64.3	63.9	59.3	57.9	63.2	62.1	*	61.6	63.0
3	64.1	66.4	65.4	65.9	66.2	59.5	57.1	62.8	62.7	*	61.0	63.3
4	65.3	63.8	64.7	62.3	65.5	60.4	58.6	64.1	62.7	*	61.9	62.6
5	65.8	65.5	67.0	63.3	63.3	61.5	59.5	64.7	63.6	*	63.3	65.2
6	65.8	65.7	66.8	62.8	62.8	61.6	59.4	65.8	63.6	*	63.5	64.5
7	65.0	65.3	66.3	63.8	63.1	61.1	63.3	63.7	62.2	*	62.7	64.0
8	65.3	65.2	66.0	65.7	64.3	60.8	58.3	63.7	62.2	64.2	62.4	64.3
9	65.7	65.9	66.0	66.2	65.7	61.5	58.7	64.5	63.3	64.8	62.5	63.8
10	65.5	66.0	66.0	64.1	64.6	61.4	58.5	64.4	64.0	64.5	64.1	64.1
11	65.4	64.4	65.3	62.3	62.2	61.5	57.9	63.8	62.9	63.3	62.6	63.0
12	68.0	61.9	63.5	62.1	63.0	59.3	56.8	63.3	62.6	62.8	61.0	60.4
13	66.5	60.1	61.2	57.7	61.6	59.9	56.0	66.4	61.6	62.6	60.8	58.7
14	62.8	64.4	65.2	62.1	61.9	58.7	55.1	61.4	60.7	61.7	59.0	62.9
15	65.4	65.5	66.3	63.9	63.5	61.4	58.2	64.0	62.6	64.2	62.2	64.1
16	66.4	65.7	66.6	61.4	63.1	62.4	60.5	64.7	63.2	64.5	63.6	64.4
17	66.8	64.0	64.5	59.6	63.3	59.6	56.4	63.5	63.2	63.9	61.2	62.6
18	66.6	62.9	64.4	60.8	62.2	60.8	56.7	64.2	63.5	64.5	61.6	62.3
19	65.5	64.9	66.2	55.9	64.5	61.2	57.3	64.1	64.0	65.0	61.9	64.0
20	66.6	64.6	66.0	63.2	62.9	62.4	60.0	67.7	64.2	65.3	63.8	64.1
21	66.1	65.3	66.2	58.6	62.3	61.7	59.5	65.2	64.3	65.1	63.3	64.5
22	66.5	65.3	66.7	64.5	65.0	60.6	59.0	64.5	63.6	64.6	62.7	64.7
23	66.2	66.4	67.1	65.1	64.8	62.3	60.1	65.1	65.9	65.2	63.6	65.2
24	67.1	66.1	67.2	60.4	62.3	62.7	60.1	65.9	66.1	66.0	63.8	65.2
25	66.3	64.6	66.2	60.0	60.6	62.2	59.9	65.4	64.4	65.1	63.8	63.8
26	65.8	64.6	66.1	60.0	61.1	62.1	59.4	65.0	64.8	65.2	63.3	63.9
27	66.4	65.5	66.3	62.6	66.5	62.0	59.7	67.8	65.3	63.8	63.4	64.2
28	65.9	65.2	65.9	61.0	65.1	61.9	59.3	64.8	64.7	63.0	63.2	64.3
29	65.0	65.1	65.7	63.9	65.3	60.8	57.8	63.8	64.3	61.1	61.8	63.1
30	65.8	66.9	66.9	64.2	65.0	61.2	59.4	64.7	65.8	64.9	62.7	64.8
31	65.8	66.0	66.6	63.1	61.2	62.0	59.6	65.0	65.2	*	63.5	64.6
Month	66.4	65.7	66.4	63.5	64.5	61.7	59.5	65.3	64.3	64.8	63.2	64.4

Appendix B

ANOMS Commercial Flight Operations Mix - 1^{st} Quarter 2017

Air Canada Alaska Alas
A320 10 298 54 392 168 394 417 1733 3460 A321 63 1268 2 2 2 323
A321 63 1268 2 2 1335 2670 A332 91 182 91 91 182 91 91 182 91 91 182 91 91 182 91 91 182 91
A332 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91 182 182 182 182 182 182 182 182 182 182 183 183 183 184 1
B712 56 323 323 323 323 323 646 B734 80 6339 8 57 44 27 6588 1317 B738 650 770 279 1445 21 623 37 3825 7656 B739 766 374 864 2004 400 400 400 400 400 80 80 1 84 168 84 168 84 168 864 80 </td
B733 80 323 323 80 80 160 B737 113 6339 57 44 27 6588 1317 B738 650 770 279 1445 21 623 37 3825 7650 B739 766 374 864 2004 4000 B744 83 1 84 168 B752 2 82 13 69 1 167 334 B763 80 64 64 64 64 128 B764 35 2 2 2 4 2 183 114 373 746 B772 5 2 2 35 70 35 70 35 70
B734 80 6339 8 57 44 27 6588 1317 B738 650 770 279 1445 21 623 37 3825 765 B739 766 374 864 2004 400 B744 83 1 84 168 B752 2 82 13 69 1 167 334 B753 80
B737 113 650 770 279 1445 21 623 37 3825 7650 B739 766 374 864 2004 4000
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B744 83 1 84 168 B752 2 82 13 69 1 167 334 B753 80 80 80 80 160 B762 64 64 64 128 B763 74 2 183 114 373 746 B764 35 35 70 B772 2 2 5 10
B752 2 82 13 69 1 167 334 B753 80 80 80 160 B762 64 64 64 128 B763 74 2 183 114 373 746 B764 35 35 35 70 B772 2 2 2 4 B77W 5 5 10
B753 80 80 80 80 80 160 B762 64 64 64 128 B763 74 2 183 114 373 746 74 B764 35 35 70 B772 2 2 2 4 B77W 5 5 10 5 10
B762 64 64 128 B763 74 2 183 114 373 746 B764 35 35 70 B772 2 2 4 B77W 5 10
B763 74 B764 35 B772 2 B77W 5
B764 35 35 35 35 70 B772 2 2 2 4 2 4 5 10 5 10
B772 2 2 4 B77W 5 5 10
B77W 5 10
B788 90 180
CRJ2 30 60
CRJ7 363 726
CRJ9 2 4
DC10 56 56 112
E170
E175 803 1219 2022 404
MD80+ 22 44
MD90+ 181 181 362
Total 81 1609 97 2078 88 1610 857 265 91 92 394 1615 8107 346 78 2102 451 64 67 308 115 20515 4103
BE99 69 69 138
C208 203 203 406
DH8D 209 209 418
SW3/4 58 58 116
Total 81 1818 97 2078 88 1610 857 265 91 92 394 1615 8107 346 78 2102 451 64 136 511 173 539 1078





2017 1st Quarter 65 dB CNEL Contour 2016 1st Quarter 65 dB CNEL Contour

Runway

Airport Property

RMT Site Location Roads



River / Stream

Comparison of the 2016 and 2017 First Quarter 65 dB **Community Noise Equivalent Level (CNEL) Contours**