

Quarterly Noise Report

For:
California Department of Transportation

4th Quarter 2017
October 1, 2017 – December 31, 2017



SAN DIEGO
INTERNATIONAL AIRPORT

LET'S **GO.**

Airport Noise Mitigation

March 5, 2018



**Quarterly Noise Report
For the Period
October 1, 2017 through December 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 4th Quarter of 2017 was prepared by Airport Noise Mitigation at San Diego International Airport, in accordance with the Airport Noise Standards, State of California.

Brendan Reed
Director of Planning & Environmental Affairs

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President / CEO

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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 = 0.799 sq. miles; Military Noise Impact Area = 0.107 sq. miles

2. Estimated number of dwelling units included in the Noise Impact Area as defined in the Noise Standards:
10,721* (QHP Insulated = 3,479)

3. Estimated number of people residing within the Noise Impact Area as defined in the Noise Standards:
21,414* (QHP Insulated = 8,698)

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 744: 122

5. Total number of aircraft operations during the calendar quarter:
53,244

6. Number of Air Carrier operations by aircraft certified under Federal Aviation Regulations (FAR) Part 36:
48,077

7. 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:
2,738

9. Estimated number of operations by General Aviation aircraft during the calendar quarter:
2,288

10. Estimated number of operations by Military aircraft during the calendar quarter:
141

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 January 1, 2017 to December 31, 2017 to be 0.799 square miles (511.4 acres) and 0.107 square miles (68.5 acres), respectively. As compared to the period between January 1, 2016 to December 31, 2016, the Noise Impact Area increased by 0.042 square miles and the Federal Military Noise Impact Area increased by 0.001 square miles.

Table 1

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

Impact Area	January 1, 2017 to December 31, 2017	January 1, 2016 to December 31, 2016	Change
N.I.A.	0.799	0.757	0.042
M.I.A.	0.107	0.106	0.001

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 January 1, 2017 to December 31, 2017 compared to the period between January 1, 2016 to December 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	70.0	70.1
2	67.0	66.4
3	*	*
4	65.1	64.9
6	69.9	69.9
7	76.0	76.1
9	67.9	68.2
10	64.2	63.5
11	72.3	72.1
12	62.9	62.5
13	66.9	66.7
14	65.5	65.9
16	65.3	64.9
17	66.3	65.6
18	62.4	63.2
19	63.0	62.7
20	61.9	61.4
21	59.2	58.8
22	65.2	64.9
23	64.7	63.9
24	65.0	64.7
25	60.5	58.8
26	63.9	63.9

¹ = For the period January 1, 2017 through December 31, 2017

² = For the period October 1, 2017 through December 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 powering the equipment. Staff is working to connect this site to another electrical source.

Note 3: RMT #26 was decommissioned on November 22, 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	4th Quarter 2017	4th Quarter 2016	Increase / Decrease	Percent Change
Air Carrier	48,077	43,905	4,172	9.50%
Air Taxi	2,738	2,405	333	13.85%
General Aviation	2,288	2,209	79	3.58%
Military	141	179	-38	-21.23%
Total	53,244	48,698	4,546	9.34%

Quarterly Operations Survey Report

The Quarterly Operations Survey Report for San Diego International Airport (SDIA) encompasses the 4th Quarter of 2017. The data used to compile this report was gathered during 24-hour periods on November 14-16, 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 4th Quarter 2017 Operations Survey, an average of 191 daily air carrier arrival operations were conducted. Therefore, the loudest 25% of these arrivals totaled approximately 48. 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 4th Quarter 2017 Operations Survey, an average of 191 daily air carrier departure operations were conducted. Therefore, the loudest 25% of these departures totaled approximately 48. 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 4th Quarter 2017 Operations Survey is as follows:

Table 4

Single Event Noise Exposure Level (SENEL) Comparison

	November 14-16, 2017	November 8-10, 2016	Change (dB)
Departures	100.6	99.2	1.4
Arrivals	95.1	-	-

Table 7, Air Carrier Operations Mix by Time of Day and Runway Use, represents the 381 daily operations, which is less than the 480 daily operations recorded during the 4th Quarter of 2016.

Table 5

Quarterly Operations Survey - Arrivals (RMT #1 from November 14-16, 2017)

* = Missed Approach

Aircraft Type	SENEL (dB)	Arriving From	Flight Number	Date and Time
B744	101.3	LHR	BAW44N	11/15/2017 5:24 PM
DC10	100.8	MEM	FDX906	11/16/2017 5:28 PM
DC10	100.7	MEM	FDX906	11/15/2017 5:42 PM
B744	100.4	LHR	BAW44N	11/16/2017 6:16 PM
B744	98.7	LHR	BAW44N	11/14/2017 5:10 PM
P180	96.9	MRY	N50WG	11/15/2017 5:29 PM
B763	96.7	MEM	FDX906	11/14/2017 5:47 PM
B763	96.5	SDF	UPS922	11/14/2017 5:13 AM
B752	96.1	EWR	UAL1593	11/14/2017 11:07 AM
B763	95.9	SDF	UPS2922	11/14/2017 5:49 PM
B763	95.6	IND	FDX1754	11/16/2017 5:18 AM
B763	95.4	IND	FDX1754	11/14/2017 5:22 AM
B753	95.3	ATL	DAL1567	11/16/2017 7:50 PM
B763	95.2	MEM	FDX1422	11/14/2017 5:19 AM
B763	95.1	MEM	FDX1422	11/15/2017 5:42 AM
B763	95.1	SDF	UPS2922	11/15/2017 6:30 PM
B763	95.1	-	UPS2922	11/16/2017 6:13 PM
B753	95.0	ATL	DAL1567	11/14/2017 7:49 PM
B763	95.0	IND	FDX1754	11/15/2017 6:09 AM
B734	94.8	OAK	RPN441	11/14/2017 7:14 PM
B752	94.8	ATL	DAL1792	11/15/2017 6:02 PM
B739	94.8	IAD	UAL240	11/16/2017 7:49 PM
A332	94.7	HNL	HAL16	11/14/2017 9:58 PM
B763	94.6	IND	FDX3713	11/14/2017 5:06 PM
B763	94.5	IND	FDX3713	11/15/2017 5:22 PM
B752	94.5	OAK	FDX1889	11/16/2017 5:04 AM
B738	94.2	ORD	AAL998	11/14/2017 3:37 PM
B763	94.2	SDF	UPS922	11/15/2017 5:21 AM
B738*	94.2	MSP	DAL1728	11/16/2017 1:17 PM
B738	94.1	PHX	SWA863	11/15/2017 8:20 AM
B763	94.1	IND	FDX3713	11/16/2017 5:09 PM
B752	94.0	OAK	FDX1889	11/14/2017 5:05 AM
B738	94.0	ORD	AAL1035	11/14/2017 10:32 PM
A332	94.0	HNL	HAL16	11/15/2017 9:57 PM
B763	94.0	MEM	FDX1422	11/16/2017 6:18 AM
B738	93.9	PHX	SWA1387	11/14/2017 7:20 AM
B763	93.9	SDF	UPS922	11/16/2017 5:30 AM
B752	93.8	ATL	DAL1639	11/14/2017 10:07 AM
B739	93.8	SEA	ASA412	11/14/2017 3:45 PM

Table 5 Continued

Quarterly Operations Survey - Arrivals (RMT #1 from November 14-16, 2017)

* = Missed Approach

Aircraft Type	SENEL (dB)	Departing To	Flight Number	Date and Time
B738	93.8	ORD	AAL2204	11/16/2017 1:11 PM
B738	93.7	SEA	ASA120	11/15/2017 8:22 AM
B737	93.6	DEN	SWA336	11/15/2017 5:46 PM
B738	93.6	ATL	SWA1575	11/16/2017 12:36 PM
B752	93.6	EWR	UAL1593	11/16/2017 12:46 PM
B738	93.5	MSY	SWA6339	11/14/2017 5:16 PM
B738	93.5	MSP	DAL1687	11/15/2017 10:28 AM
B753	93.5	ATL	DAL1567	11/15/2017 8:01 PM
B738	93.5	MSP	SCX401	11/16/2017 12:22 PM

Table 6

Quarterly Operations Survey - Departures (RMT #7 from November 14-16, 2017)

Aircraft Type	SENEL (dB)	Departing To	Flight Number	Date and Time
B744	105.8	LHR	BAW72A	11/16/2017 8:36 PM
B744	105.1	LHR	BAW72A	11/14/2017 7:41 PM
B744	105.1	LHR	BAW72A	11/15/2017 7:53 PM
A332	101.7	HNL	HAL15	11/15/2017 10:20 AM
B739	101.7	IAD	UAL546	11/16/2017 8:13 AM
B739	101.6	EWR	UAL751	11/16/2017 6:59 AM
A321	101.4	CLT	AAL2107	11/14/2017 7:58 AM
B738	101.3	JFK	AAL94	11/14/2017 7:54 AM
B739	101.0	ORD	UAL307	11/14/2017 6:36 AM
A321	101.0	CLT	AAL2107	11/15/2017 7:56 AM
DC10	101.0	MEM	FDX1222	11/16/2017 7:32 PM
A321	100.9	PHL	AAL529	11/15/2017 6:48 AM
A321	100.9	PHL	AAL754	11/15/2017 8:49 AM
B738	100.8	LIH	ASA857	11/16/2017 8:24 AM
A332	100.7	HNL	HAL15	11/14/2017 10:23 AM
A321	100.6	PHL	AAL529	11/14/2017 6:40 AM
A321	100.6	CLT	AAL1698	11/15/2017 11:14 AM
B739	100.6	ATL	DAL1375	11/16/2017 8:19 AM
B739	100.5	IAD	UAL1915	11/15/2017 12:34 PM
B738	100.5	OGG	ASA829	11/16/2017 7:11 AM
B739	100.4	IAD	UAL546	11/14/2017 8:15 AM
B738	100.4	JFK	DAL1730	11/14/2017 10:40 PM
A321	100.4	YYZ	ROU1886	11/15/2017 12:46 PM
B739	100.4	EWR	UAL2397	11/15/2017 9:19 PM
B739	100.4	ORD	UAL240	11/16/2017 10:55 PM
A321	100.4	CLT	AAL584	11/16/2017 11:01 PM
B739	100.3	DTW	DAL2274	11/15/2017 7:11 AM
A332	100.3	HNL	HAL15	11/16/2017 10:26 AM
A321	100.2	PHL	AAL754	11/14/2017 8:34 AM
A321	100.2	CLT	AAL584	11/14/2017 10:50 PM
B739	100.2	BOS	ASA798	11/15/2017 8:27 AM
B739	100.2	DTW	DAL2274	11/16/2017 7:13 AM
B739	100.2	IAD	UAL238	11/16/2017 10:28 PM
B738	100.1	OGG	ASA829	11/14/2017 7:12 AM
B739	100.1	BOS	ASA798	11/14/2017 8:20 AM
GALX	100.0	DTW	DAL2274	11/14/2017 7:17 AM
B738	100.0	OGG	ASA829	11/15/2017 7:05 AM
B739	100.0	ATL	DAL1375	11/15/2017 8:19 AM
B739	100.0	ATL	DAL1639	11/15/2017 11:21 AM

Table 6 Continued

Quarterly Operations Survey - Departures (RMT #7 from November 14-16, 2017)

Aircraft Type	SENEL (dB)	Departing To	Flight Number	Date and Time
DC10	100.0	MEM	FDX1222	11/15/2017 7:38 PM
A321	100.0	PHL	AAL529	11/16/2017 6:40 AM
A321	100.0	CLT	AAL2107	11/16/2017 8:00 AM
B739	100.0	EWR	UAL2397	11/16/2017 9:52 PM
B738	99.9	LIH	ASA857	11/14/2017 8:36 AM
B739	99.9	ORD	UAL307	11/15/2017 6:30 AM
B739	99.9	EWR	ASA772	11/15/2017 7:01 AM
B739	99.9	IAD	UAL546	11/15/2017 8:10 AM
A321	99.9	CLT	AAL1698	11/16/2017 11:29 AM

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

These numbers are the averages for operations for November 14-16, 2017

Aircraft Type	Runway 27						Runway 09						Total
	Arrivals			Departures			Arrivals			Departures			
	700	1900	2200	700	1900	2200	700	1900	2200	700	1900	2200	
	--	--	--	--	--	--	--	--	--	--	--	--	
	1859	2159	659	1859	2159	659	1859	2159	659	1859	2159	659	
A319+	10	0	1	0	0	0	0	0	0	0	0	0	11
A320+	13	8	0	0	4	2	0	0	0	0	0	0	27
A321+	14	5	0	0	2	4	0	0	0	0	0	0	25
A330+	0	0	0	1	0	0	0	0	0	0	0	0	1
B737+	112	33	29	0	23	27	0	0	0	0	0	0	224
B747+	1	0	0	0	1	0	0	0	0	0	0	0	2
B757+	4	1	1	0	1	2	0	0	0	0	0	0	9
B767+	4	0	3	3	3	1	0	0	0	0	0	0	14
B777+	0	0	0	0	0	0	0	0	0	0	0	0	0
B787+	1	0	0	1	0	0	0	0	0	0	0	0	2
BE99	1	0	0	1	0	0	0	0	0	0	0	0	2
C208	3	0	0	0	0	1	0	0	0	0	0	0	4
CRJ+	6	0	1	4	0	0	0	0	0	0	0	0	11
DC10	1	0	0	0	1	0	0	0	0	0	0	0	2
DH8D	2	0	0	1	1	0	0	0	0	0	0	0	4
E175	22	8	2	0	6	3	0	0	0	0	0	0	41
MD80+	0	0	0	0	0	0	0	0	0	0	0	0	0
MD90+	0	0	0	0	0	0	0	0	0	0	0	0	0
SW3/4	1	0	0	0	1	0	0	0	0	0	0	0	2
Total	195	55	37	11	43	40	0	0	0	0	0	0	381

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.

Aircraft Noise Complaints

During the 4th Quarter of 2017, Airport Noise Mitigation received a total of 27,440 complaints from 161 households. 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 27,440 complaints from 161 households recorded during the 4th Quarter of 2017 reflects an increase of 24,492 from the 2,948 recorded during the 4th 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 Program Manager, Airport Noise Mitigation, for the disposition of incidents.

During the 4th Quarter of 2017, there were a total of 22 curfew violations. The 22 curfew violations recorded during the 4th Quarter of 2017 reflects a decrease of 12 from the 34 curfew violations recorded during the 4th 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>.

Appendix A

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.

Appendix A2

Daily/Monthly CNEL Levels – October 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	69.9	66.6	*	64.8	70.1	77.0	68.0	64.1	73.1	62.5	68.6
2	69.5	66.0	*	64.2	68.9	75.4	67.5	63.3	71.9	62.2	67.5
3	70.0	66.5	*	64.7	69.5	74.4	66.2	63.7	71.0	63.0	66.6
4	70.2	66.4	*	64.7	69.0	74.9	64.5	64.0	71.4	62.0	66.6
5	71.0	66.6	*	65.2	70.6	76.5	67.0	64.1	72.3	62.4	67.0
6	70.2	66.1	*	65.0	70.4	76.0	67.9	63.1	71.6	61.3	65.9
7	67.7	64.6	*	62.9	68.7	74.9	67.4	60.9	70.8	58.7	63.9
8	70.2	66.6	*	64.7	69.7	76.9	68.6	63.4	73.0	61.6	67.1
9	69.9	66.1	*	64.5	69.0	76.2	67.1	63.6	72.4	62.7	67.7
10	70.4	66.1	*	65.2	69.2	75.1	67.9	62.6	70.9	61.3	65.2
11	70.4	66.7	*	66.7	69.5	75.8	64.9	63.9	72.1	62.9	67.3
12	70.8	67.6	*	65.5	69.5	75.9	66.9	63.7	72.2	62.5	67.5
13	71.4	67.3	*	65.8	70.0	75.8	66.6	63.9	71.9	63.8	67.1
14	69.5	65.3	*	64.6	68.4	75.7	67.5	62.5	71.7	60.5	65.8
15	68.5	64.6	*	63.3	69.8	75.6	66.9	61.8	71.0	59.6	64.8
16	67.8	64.5	*	63.4	69.1	74.9	67.3	62.4	70.4	60.8	64.7
17	68.3	64.9	*	63.4	69.5	74.8	67.4	62.3	70.4	60.3	64.3
18	69.7	66.2	*	64.8	69.4	76.2	66.6	63.2	72.5	61.4	66.4
19	70.6	66.9	*	64.7	69.7	75.9	66.4	63.6	72.1	62.1	67.2
20	71.3	67.8	*	66.0	70.4	74.9	68.2	64.1	71.2	62.4	67.0
21	69.5	65.7	*	63.9	68.5	75.4	65.4	62.7	71.5	61.2	66.6
22	68.5	64.6	*	63.2	69.3	75.9	66.0	62.1	71.6	60.0	65.6
23	66.2	63.8	*	62.4	69.2	74.8	66.5	61.9	70.4	61.9	65.1
24	66.7	64.5	*	62.8	70.1	74.8	67.4	61.5	70.9	60.7	64.4
25	66.7	64.1	*	63.1	69.7	74.8	66.9	61.5	70.6	59.2	64.2
26	69.8	65.7	*	64.0	69.8	76.1	67.8	63.1	72.0	61.0	65.7
27	69.7	66.1	*	64.2	68.6	75.5	67.2	62.6	71.6	62.2	65.2
28	69.7	65.8	*	63.7	68.6	74.9	67.2	62.3	70.7	60.1	65.3
29	69.7	66.4	*	64.2	69.2	76.0	66.6	63.0	72.4	61.4	66.9
30	69.9	66.3	*	64.2	69.4	75.4	65.9	63.5	72.0	62.8	67.5
31	69.3	66.0	*	63.8	69.4	74.5	66.1	63.5	71.0	69.7	66.4
Month	70.1	66.5	*	64.9	70.0	76.1	67.5	63.5	72.1	62.8	66.8

Appendix A2 Continued

Daily/Monthly CNEL Levels – October 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	67.0	64.6	65.4	61.0	62.7	61.8	59.4	65.7	65.0	65.7	57.1	63.1
2	66.8	63.9	65.1	60.2	62.1	61.3	59.4	68.2	64.1	65.5	56.5	62.7
3	65.7	64.2	65.8	59.2	61.4	60.8	58.4	64.2	63.3	64.5	55.5	63.1
4	66.1	64.2	65.8	59.1	55.2	61.4	59.0	64.2	62.6	64.3	56.5	63.6
5	66.5	65.0	66.1	65.5	59.9	62.3	59.5	64.5	63.3	64.8	56.8	63.3
6	65.3	64.7	65.7	64.5	63.9	61.1	57.4	63.8	64.0	63.7	55.3	62.6
7	63.7	62.2	63.5	63.6	63.4	58.5	55.0	61.6	62.2	61.9	51.8	60.2
8	65.9	64.9	65.4	60.8	63.9	61.6	58.6	64.7	65.1	64.9	55.4	63.1
9	66.7	64.2	65.4	61.3	61.4	62.0	59.5	66.8	65.0	65.4	56.6	63.2
10	65.2	63.6	65.8	63.4	61.9	60.2	57.4	62.6	61.7	63.0	53.4	62.4
11	66.6	64.2	65.9	60.8	57.6	62.1	59.5	64.8	64.4	64.8	56.4	64.0
12	67.0	65.3	66.9	61.2	57.1	62.2	60.0	65.5	64.7	65.2	57.4	64.5
13	66.2	64.9	66.8	59.4	57.1	62.0	59.5	64.9	64.1	64.9	56.7	63.6
14	65.5	63.5	64.6	61.5	58.6	60.9	57.2	63.4	62.1	63.4	54.3	62.0
15	64.5	62.7	63.8	63.8	60.7	59.1	55.8	62.5	61.4	62.5	51.6	61.2
16	64.3	62.8	64.2	65.9	61.0	59.5	56.8	65.2	61.5	62.3	52.6	61.2
17	63.5	63.1	64.5	64.6	62.9	59.7	55.7	61.8	61.7	62.3	52.3	61.1
18	65.5	64.3	65.2	60.6	62.3	61.0	58.6	64.0	63.3	64.2	55.1	62.9
19	65.9	64.8	65.8	59.4	61.2	61.4	58.8	64.8	64.4	65.0	55.6	63.4
20	65.6	65.8	66.8	64.0	62.7	61.7	59.4	64.9	64.7	65.2	56.5	64.5
21	65.9	63.4	65.1	61.6	63.5	61.2	58.8	64.3	64.3	64.0	56.2	62.1
22	64.7	62.9	64.1	64.3	59.5	61.0	57.4	63.2	63.6	63.4	53.9	61.7
23	63.8	62.7	63.3	64.6	61.7	59.2	55.8	67.3	63.0	62.9	52.0	60.7
24	64.1	64.3	63.5	63.3	62.7	58.4	56.1	61.7	63.1	62.4	50.5	61.2
25	64.0	63.7	63.3	64.5	62.8	58.5	56.1	61.8	62.4	62.2	51.2	60.8
26	65.4	64.5	64.8	63.9	62.6	60.2	56.8	63.3	63.2	63.7	54.0	62.7
27	65.1	63.9	65.4	62.7	60.7	60.7	59.8	62.9	62.8	63.2	53.2	64.0
28	65.5	63.0	64.6	57.7	60.4	59.4	57.3	62.7	61.5	63.0	54.0	61.9
29	65.8	64.5	65.3	58.2	61.2	61.1	57.6	64.0	63.7	64.6	54.7	62.9
30	66.8	64.3	65.3	58.2	60.9	61.4	59.7	67.6	64.6	65.1	56.0	63.1
31	65.8	63.9	65.1	57.0	61.8	60.8	59.8	64.0	63.4	63.9	55.1	62.7
Month	66.1	64.6	65.7	63.0	62.1	61.4	58.8	65.1	64.0	64.6	55.5	63.2

Appendix A3

Daily/Monthly CNEL Levels - November 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	70.7	67.4	*	65.9	69.8	75.1	65.9	64.0	71.5	62.4	66.8
2	71.1	67.4	*	65.3	69.4	75.4	68.1	64.7	71.8	62.3	67.0
3	71.6	67.7	*	66.0	69.3	75.3	65.4	63.8	71.8	62.8	67.1
4	69.4	65.8	*	63.4	68.4	75.3	68.5	62.2	71.7	60.9	66.8
5	70.7	67.5	*	65.3	69.3	76.3	69.7	63.8	72.7	62.3	67.8
6	70.4	66.4	*	64.9	68.9	75.9	65.2	63.8	72.4	63.4	67.6
7	70.0	66.3	*	64.5	69.4	76.3	66.9	64.4	72.4	64.0	67.2
8	71.1	67.1	*	65.3	69.6	76.3	68.5	63.9	72.3	62.1	67.0
9	71.8	67.9	*	65.9	69.4	76.4	66.0	64.1	72.5	62.7	67.8
10	71.7	67.6	*	65.3	70.0	75.6	68.6	64.4	71.7	62.7	67.1
11	70.0	65.6	*	63.8	67.8	74.7	64.0	62.6	71.1	62.2	66.6
12	70.7	67.1	*	65.2	69.4	76.2	68.2	64.4	72.5	63.2	67.9
13	71.0	66.8	*	65.3	69.8	76.1	65.8	63.8	72.3	62.4	66.8
14	70.8	66.4	*	65.0	69.7	75.4	69.8	63.8	71.7	62.8	66.5
15	70.7	66.6	*	64.9	70.1	75.7	70.0	64.2	71.6	62.0	66.3
16	69.9	68.3	*	65.0	69.7	76.1	68.4	63.9	72.4	62.6	67.1
17	71.7	67.7	*	65.8	73.0	75.9	69.0	0.5	72.0	62.2	67.4
18	64.2	65.6	*	66.4	68.9	76.0	67.8	0.0	72.3	62.2	67.0
19	0.5	65.9	*	64.3	68.8	75.5	68.3	63.2	71.4	61.3	66.3
20	70.3	65.9	*	64.7	70.2	75.8	68.5	63.6	71.7	61.8	61.6
21	69.4	65.4	*	64.3	70.7	75.6	69.0	63.3	71.2	62.7	60.2
22	70.1	65.6	*	64.0	71.4	76.4	69.4	63.1	72.0	61.5	65.5
23	65.6	62.2	*	60.4	67.0	73.2	65.1	59.5	69.4	58.0	63.6
24	69.2	65.3	*	63.4	68.6	74.9	67.2	63.9	71.0	60.8	65.2
25	66.8	62.6	*	68.0	69.5	77.9	69.8	63.8	73.9	61.1	66.6
26	71.6	67.8	*	66.1	69.7	76.5	68.9	65.6	72.6	62.0	67.1
27	71.5	67.4	*	65.6	71.1	77.3	67.4	65.7	73.3	63.2	68.2
28	70.9	66.7	*	64.6	69.9	76.2	68.4	0.5	72.2	63.1	67.4
29	69.4	65.3	*	63.6	69.5	74.9	69.7	0.0	71.6	62.7	66.9
30	68.1	63.8	*	62.3	69.3	75.5	68.1	0.0	71.7	62.3	67.2
Month	70.7	67.0	*	65.5	70.2	76.4	68.6	64.0	72.5	62.8	67.2

Appendix A3 Continued

Daily/Monthly CNEL Log – November 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	66.0	65.1	66.4	60.0	60.4	61.4	59.3	64.4	64.8	64.7	55.3	65.1
2	66.5	66.0	66.6	62.0	62.9	61.9	59.8	64.8	63.9	65.2	56.2	69.4
3	66.3	65.4	67.0	58.4	58.2	62.1	59.5	64.9	64.7	65.0	56.6	61.1
4	65.6	63.9	64.9	61.6	63.9	61.2	58.9	64.8	63.0	64.3	56.1	64.1
5	66.2	65.0	66.8	61.8	63.9	62.3	59.2	65.4	64.3	65.6	56.6	62.1
6	66.3	64.1	66.0	55.4	54.8	61.9	59.2	66.2	64.0	65.2	56.1	64.9
7	66.3	64.5	65.6	60.1	61.1	61.7	59.3	64.8	63.6	65.0	56.3	60.0
8	66.3	65.6	66.7	65.4	62.8	61.7	59.1	64.9	63.5	64.9	56.9	60.8
9	66.8	65.9	67.2	60.6	57.6	62.6	60.3	65.4	64.1	65.4	56.9	66.1
10	66.1	65.9	66.8	60.6	62.4	61.8	61.2	64.9	64.1	65.0	58.4	64.6
11	65.7	63.7	64.7	56.9	57.0	60.7	58.5	64.1	63.6	64.2	56.0	63.4
12	66.4	64.7	66.2	59.7	62.2	62.4	59.5	65.6	64.6	65.7	56.4	63.8
13	65.7	65.2	66.0	58.3	59.0	62.2	58.7	64.5	63.1	64.6	55.7	62.5
14	65.7	64.9	65.8	63.8	65.0	61.2	58.6	64.3	63.5	64.5	56.8	64.0
15	65.8	64.9	65.8	65.9	65.6	61.2	58.3	64.1	63.3	64.2	54.6	63.0
16	66.0	65.5	65.9	64.3	63.6	61.9	58.8	64.9	63.9	65.1	55.1	59.2
17	66.3	66.2	67.0	64.4	63.7	62.1	59.4	65.2	64.0	65.3	56.1	65.4
18	67.4	63.7	64.9	62.5	61.4	61.7	59.2	64.7	63.8	64.8	54.2	62.4
19	65.2	64.9	65.5	63.9	62.8	60.7	57.9	64.0	62.7	64.1	54.7	63.2
20	65.4	65.3	65.5	65.0	64.1	61.0	58.2	66.1	63.1	64.2	52.1	63.2
21	65.3	65.5	65.6	65.7	64.0	60.5	57.0	63.4	63.4	63.7	52.7	62.6
22	65.2	65.3	64.8	65.8	66.2	60.1	57.4	63.7	63.2	64.2	54.6	*
23	62.8	60.7	61.8	60.4	58.4	57.9	55.5	61.2	59.9	61.3	54.6	*
24	64.0	64.1	64.4	62.1	61.3	59.5	57.3	62.8	62.4	63.1	55.7	*
25	68.2	60.3	61.9	63.5	64.2	59.5	56.8	63.8	63.7	64.6	55.7	*
26	66.7	65.2	67.2	62.5	61.9	61.7	58.8	64.1	63.2	65.2	57.8	*
27	66.9	67.0	66.8	60.3	60.8	62.8	60.2	67.8	64.7	65.9	60.0	*
28	65.1	65.4	65.9	61.9	62.8	61.8	59.6	65.1	65.5	65.4	59.1	*
29	0.5	63.7	64.3	62.4	65.0	61.5	59.6	64.6	63.8	64.6	61.1	*
30	0.5	62.1	63.0	62.2	62.4	61.8	59.5	65.1	64.8	65.1	0.5	*
Month	66.2	65.4	66.3	63.1	63.2	62.0	59.5	65.3	64.3	65.2	56.9	64.5

Appendix A4

Daily/Monthly CNEL Levels – December 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	68.6	64.6	*	63.1	68.7	75.6	68.7	63.4	71.8	62.4	67.0
2	*	61.2	*	60.0	67.9	74.7	67.2	62.0	71.2	61.0	66.1
3	*	62.6	*	60.7	68.5	75.3	66.8	63.0	71.6	61.0	66.5
4	*	62.5	*	61.5	68.9	75.5	67.7	64.1	71.9	63.1	67.3
5	*	62.1	*	59.4	69.1	73.4	66.0	60.8	69.0	60.0	63.6
6	*	63.4	*	62.2	68.6	73.7	66.4	*	69.5	*	64.5
7	*	61.9	*	62.2	68.5	73.3	61.0	*	69.0	*	61.6
8	*	63.4	*	61.8	68.9	74.4	66.4	61.7	70.3	*	64.1
9	*	60.4	*	58.9	67.5	72.6	68.6	59.9	68.3	*	62.9
10	*	61.7	*	59.4	68.3	73.1	66.5	59.4	68.8	*	63.3
11	*	62.8	*	60.5	69.4	73.7	67.1	61.0	69.0	*	63.3
12	63.0	61.7	*	60.1	68.8	73.4	65.2	60.4	68.3	*	61.8
13	67.5	64.9	*	63.5	68.2	74.2	68.0	60.4	69.1	*	62.8
14	68.2	64.4	*	63.6	71.1	75.6	68.7	54.0	71.1	*	64.8
15	66.8	64.7	*	62.4	69.0	75.5	67.9	*	70.5	*	64.4
16	69.1	65.9	*	63.6	66.9	75.9	70.9	*	72.0	*	67.1
17	66.7	65.4	*	63.2	66.6	75.4	67.7	62.5	71.6	*	66.3
18	68.8	66.3	*	64.1	68.2	75.7	66.3	63.7	71.7	*	66.4
19	71.0	67.2	*	65.0	68.7	76.4	68.1	64.1	72.2	62.3	67.0
20	72.2	68.9	*	66.8	70.0	75.8	69.9	65.5	72.1	62.4	67.8
21	67.2	65.7	*	63.4	68.3	76.0	67.3	63.8	71.6	60.2	66.4
22	70.9	67.3	*	65.5	69.4	76.0	68.4	63.5	71.4	62.2	66.0
23	70.4	66.7	*	65.0	69.1	75.7	68.1	63.2	71.1	60.6	65.4
24	67.7	64.9	*	63.0	66.8	74.5	67.0	62.2	69.5	58.7	63.3
25	68.5	65.6	*	63.7	67.6	73.7	67.2	63.3	69.1	59.0	63.4
26	70.7	67.5	*	66.5	69.2	76.5	69.0	*	72.5	62.2	67.2
27	71.2	67.8	*	66.6	69.8	76.5	70.6	*	72.2	62.1	66.7
28	69.5	64.8	*	65.2	69.8	77.6	70.1	63.8	73.7	62.6	67.0
29	65.8	62.4	*	61.0	74.4	77.4	67.9	62.1	72.9	61.4	65.5
30	68.6	64.2	*	66.1	69.4	77.0	69.5	63.1	73.6	61.5	66.7
31	68.7	65.3	*	63.7	67.0	73.9	66.3	62.2	69.6	59.6	64.8
Month	69.4	65.5	*	64.0	69.6	75.8	68.5	62.9	71.6	61.7	66.0

Appendix A4 Continued

Daily/Monthly CNEL Log – December 2017

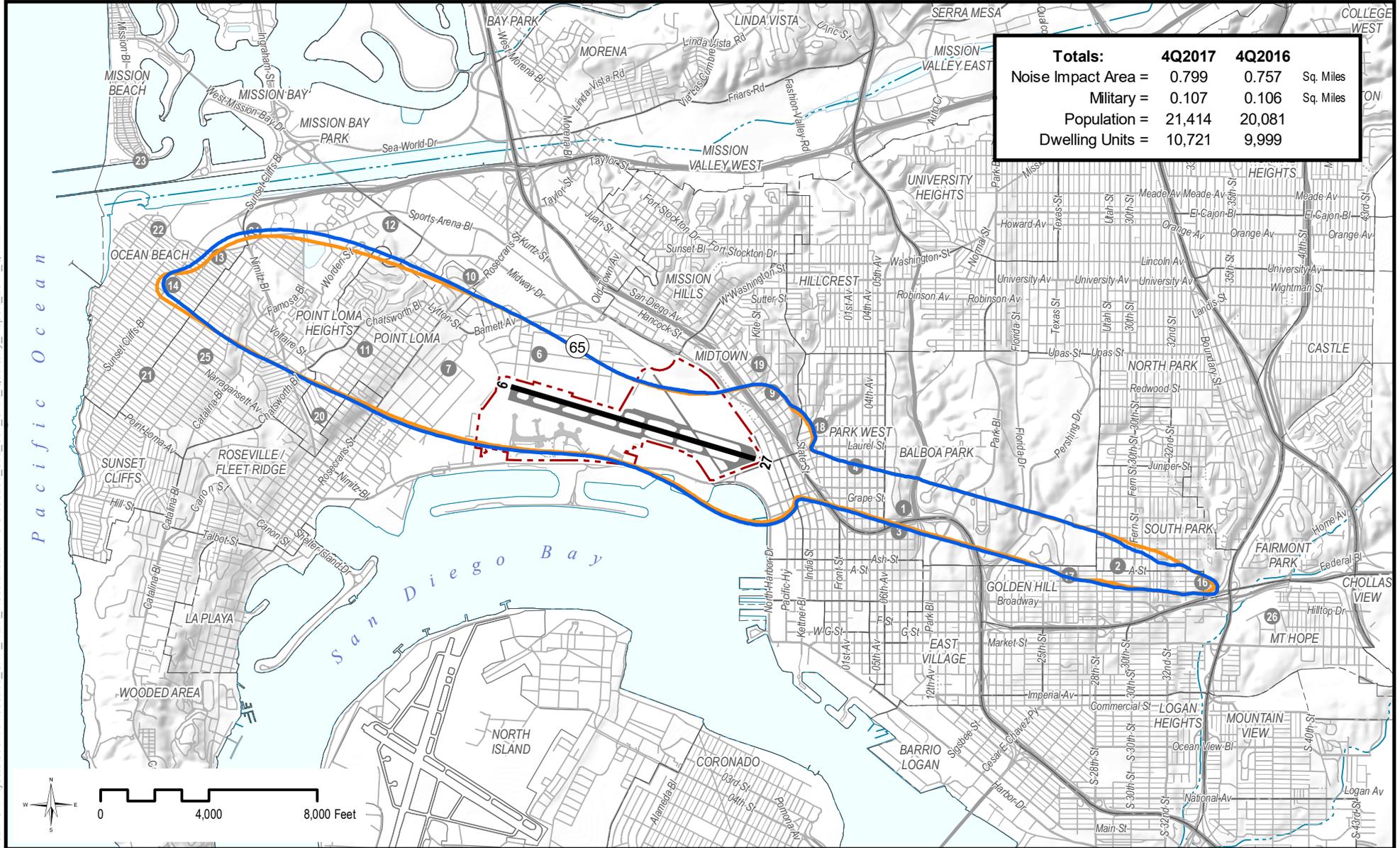
* = Not in Service

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	63.1	63.8	65.6	61.3	61.7	59.9	64.9	65.1	65.0	62.2	*
2	66.1	60.0	60.4	62.1	62.0	60.6	56.5	63.8	63.8	63.8	62.4	*
3	65.8	60.5	61.9	56.3	59.9	61.2	58.6	64.2	63.6	64.1	62.6	*
4	66.4	60.9	62.0	58.7	59.8	61.6	59.6	66.4	64.2	64.9	60.9	*
5	62.8	60.5	61.1	60.4	58.4	57.3	54.9	61.1	60.7	61.8	59.4	*
6	66.0	64.0	62.9	64.6	60.4	58.8	56.3	61.9	60.9	62.3	58.4	*
7	63.3	59.9	61.3	59.6	54.3	56.3	56.7	59.1	58.7	60.9	66.3	*
8	63.7	63.7	62.6	62.6	59.0	59.1	56.9	62.2	61.0	62.5	59.8	*
9	34.7	60.5	59.6	66.5	61.6	57.2	55.4	60.7	60.8	61.4	59.4	*
10	63.2	60.7	60.8	61.9	61.1	58.1	54.9	61.3	61.5	61.2	*	*
11	62.8	61.3	61.8	64.1	61.3	57.1	54.9	61.8	61.9	61.8	58.2	*
12	62.1	60.5	60.5	60.5	59.2	55.5	55.2	59.4	60.8	60.2	59.2	*
13	62.9	65.4	64.1	64.5	63.3	58.8	53.7	60.5	64.0	61.3	59.4	*
14	64.4	65.6	64.3	62.7	64.1	60.0	56.3	62.7	62.5	62.9	60.2	*
15	64.1	68.1	63.9	64.7	62.6	59.3	55.6	62.1	62.6	63.2	60.7	*
16	66.2	64.4	64.7	61.5	66.4	61.5	59.1	65.1	64.9	64.9	*	*
17	63.0	64.1	64.6	59.1	60.8	61.3	58.6	64.2	63.7	64.3	61.4	*
18	65.6	65.6	65.5	61.1	62.0	61.3	58.6	65.8	63.0	64.7	62.4	*
19	63.9	65.9	66.3	60.5	62.4	62.0	59.4	64.8	63.4	65.0	63.4	*
20	66.7	66.9	68.0	66.8	65.2	62.6	60.0	65.6	64.6	65.8	64.0	*
21	64.2	65.2	64.5	63.5	62.3	61.7	58.8	64.2	63.9	64.6	60.5	*
22	64.7	66.8	66.7	64.7	63.0	61.3	58.0	63.7	63.1	64.4	62.0	*
23	64.0	66.2	66.0	62.2	61.0	60.7	56.2	63.1	61.5	63.6	60.7	*
24	62.4	63.4	63.9	60.6	60.2	58.7	55.2	60.5	59.4	61.6	58.7	*
25	61.8	63.7	64.6	62.1	61.7	58.7	54.2	60.5	60.6	61.8	56.5	*
26	66.0	66.2	66.7	63.1	63.4	62.2	58.1	68.0	64.2	65.5	62.7	*
27	64.7	66.4	67.1	66.1	65.3	61.8	58.5	64.3	65.0	65.0	61.9	*
28	68.6	64.8	63.8	64.0	65.4	61.8	58.8	64.7	63.8	64.7	62.4	*
29	67.6	63.5	61.5	62.1	62.6	59.5	56.7	63.1	62.9	63.6	61.1	*
30	67.9	62.9	63.5	62.8	64.2	60.6	57.7	64.4	63.5	64.6	61.1	*
31	61.5	63.0	64.7	56.2	61.8	59.5	56.6	62.4	61.8	62.7	58.3	*
Month	65.4	64.8	64.7	63.5	62.9	60.8	57.9	64.1	63.4	64.1	61.6	*

Appendix B

ANOMS Commercial Flight Operations Mix - 4th Quarter 2017

Aircraft Type	Air Canada Rouge	Alaska	Allegiant	American	British Airways	Compass	Condor	Delta Air Lines	Frontier	Hawaiian	Japan	Jazz	jetBlue	SkyWest	Southwest	Spirit	Sun Country	United	Virgin America	WestJet	Atlas	FedEx	UPS	Total Arrivals	Total Operations	
A306																						3		3	6	
A319	7		89	67			23	66								167		332	82					833	1666	
A320				25			139	219					209			286		535	425						1838	3676
A321	78			1370			58	55	2				214			39			7						1823	3646
A332										92															92	184
B733				9																					9	18
B734		1																							1	2
B736																				8					8	16
B737		12													7158	7	12	46		28					7263	14526
B738		654		703			480								2010		94	581		32					4554	9108
B739		1057					503											1035							2595	5190
B744					59		2																		61	122
B752				63			291											69				77	12	512	1024	
B753							65											1							66	132
B762																					64				64	128
B763							2	5														192	113	312	624	
B764							2																		2	4
B77W					27																				27	54
B788											92														92	184
CRJ2														135											135	270
CRJ7														244											244	488
CRJ9												166		95											261	522
DC10																						61			61	122
E175		194				965								1710											2869	5738
MD80+			22				8																		30	60
MD90+							40																		40	80
Total	85	1918	111	2237	86	965	2	1616	340	94	92	166	423	2184	9168	499	106	2599	514	68	64	333	125	23795	47590	
BE99																					71				71	142
C208																						203			203	406
DH8D		204																							204	408
SW3/4																							62		62	124
Total	85	2122	111	2237	86	965	2	1616	340	94	92	166	423	2184	9168	499	106	2599	514	68	135	536	187	540	1080	



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- 2017 4th Quarter 65 dB CNEL Contour
- 2016 4th Quarter 65 dB CNEL Contour
- Airport Property
- Runway
- # RMT Site Location
- Roads
- - - River / Stream

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