SAN DIEGO COUNTY REGIONAL AIRPORT AUTHORITY

AIRPORT NOISE ADVISORY COMMITTEE (ANAC)

MEETING AGENDA
Wednesday, December 19, 2018, 4:00 p.m.

LOCATION: Holiday Inn Bayside
1st Floor, Point Loma Room
4875 N Harbor Drive, San Diego, CA 92106

1. Welcome and Introductions
2. Presentation Items
    a. Quieter Home Program Update
    b. Missed Approach Statistics
    c. Early Turn & Other Flight Ops Statistics
    d. Curfew Violation Review Panel (CVRP) Statistics
    e. Fly Quiet Program Update
    f. Noise Complaint Statistics
    g. Update on ANAC Recommendations
    h. Part 150 TAC Update
3. Public Comment
4. Action Items
    a. Approval of October 17, 2018 Meeting Summary
5. Next Meeting: February 20, 2019
6. Adjourn

Please note: There is a free City Parking lot next to the hotel, we will not reimburse for parking at the hotel.

SAN DIEGO INTERNATIONAL AIRPORT
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SAN DIEGO INTERNATIONAL AIRPORT
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QUIETER HOME PROGRAM

Airport Noise Advisory Committee

December 19, 2018

PROGRAM STATISTICS	
Applicants / Homes on the Wait List	525/1,045
Homes Completed in October & November	24
Estimated Homes to Complete in CY 2018	270
Total Homes Completed (through November 30, 2018)	3,705

Updates

- Continue to work on eligibility for Commercial Zone parcels
- Forecasted Construction Schedule:

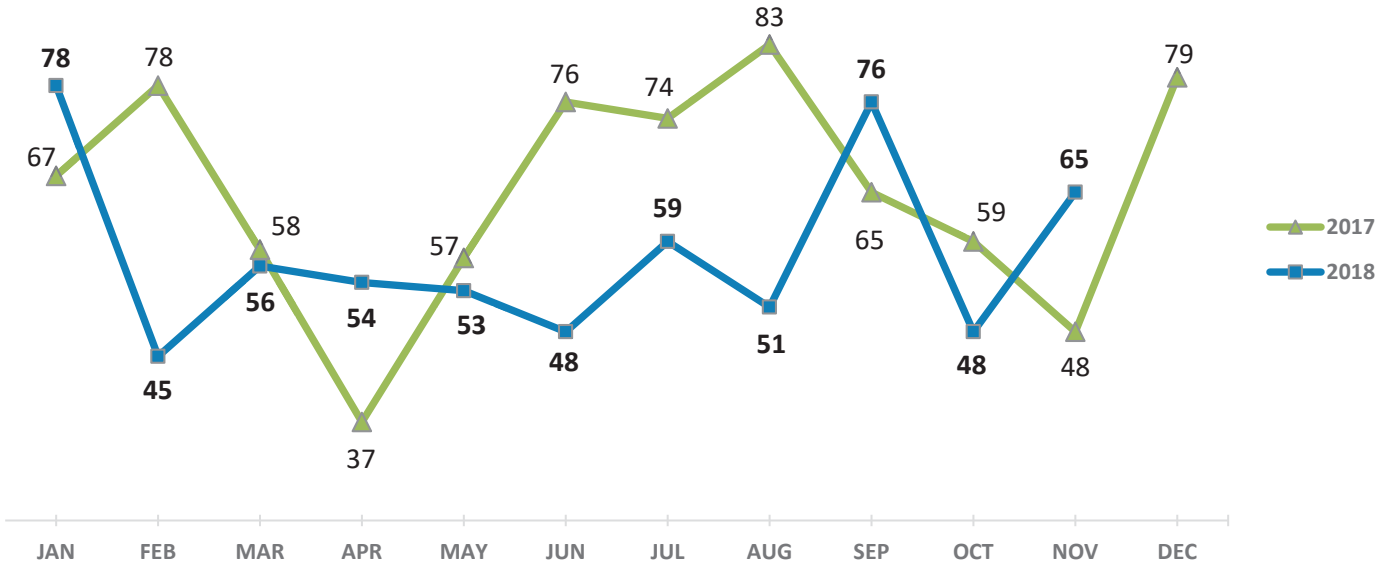
Project	# Units	Estimated Construction Start
9.4	34	Underway
9.5	16	January 2019
9.6	40	January 2019
9.7	19	February 2019
9.8	137	February 2019
9.9	125	Spring 2019
9.10	44	Spring 2019
9.11	48	Spring 2019
9.12	32	Summer 2019
10.1	61	Fall 2019
10.2	67	Fall 2019
10.3	14	Winter 2019

MISSED APPROACH STATISTICS

Airport Noise Advisory Committee

December 19, 2018

Missed Approaches by Month



Missed Approaches by Year

Year	Total Missed Approaches	% Change	Total Arrivals	% Change	% of Total Arrivals that are Missed Approaches
2013	659	--	93,985	--	0.7
2014	637	(3.3%)	95,881	2%	0.7
2015	748	17.4%	96,856	1%	0.8
2016	771	3.1%	98,566	1.8%	0.8
2017	781	1.3%	104,725	6.2%	0.7
2018	633*	--	103,052*	--	0.6

* Through November 30, 2018

MISSED APPROACH STATISTICS

Airport Noise Advisory Committee

December 19, 2018

Missed Approaches by Location

Missed Approaches are safety-related operations and are not subject to FAA Noise Dot agreement

Date	Between 265 °- 295 ° Headings (Standard)	Left of 265 °	Right of 295 °	East of Airport	Day	Night
October	30	5	1	12	47	1
November	44	15	3	3	53	12

Missed Approaches relative to the FAA Noise Dots

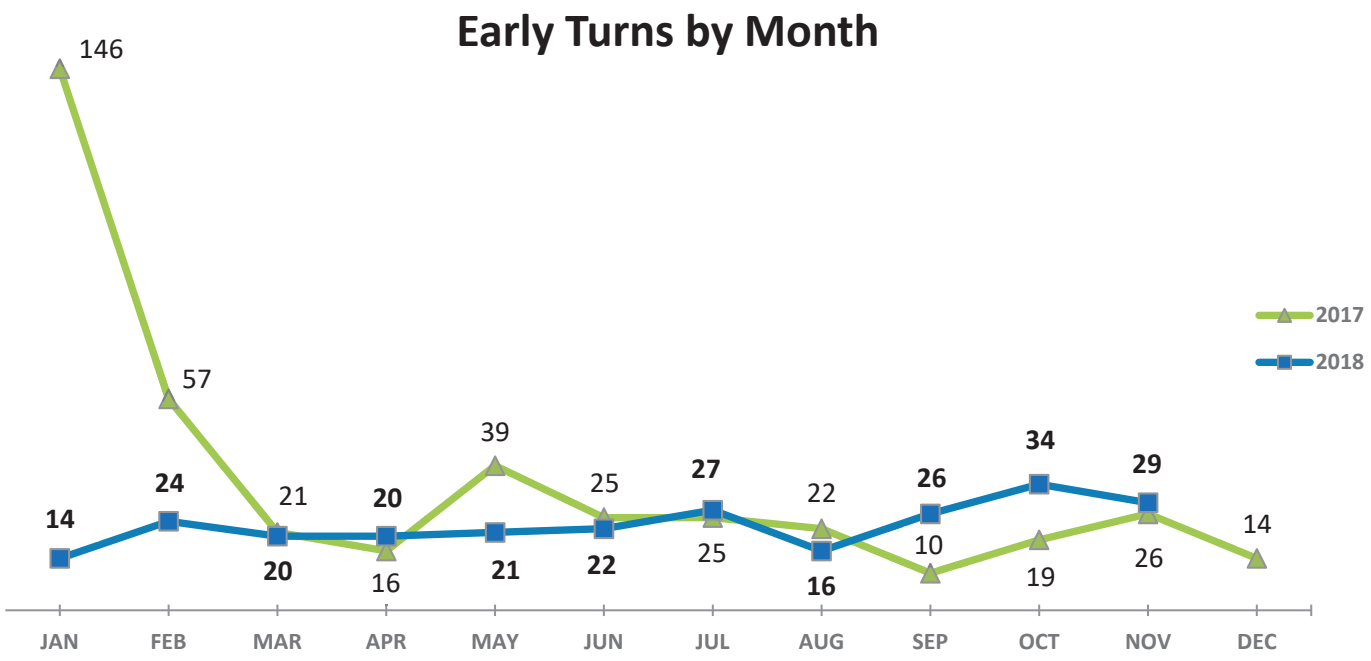
Missed Approaches may fly through more than one location

Date	Between ND #1 - ND #2	Between ND #2 - JETTI	Between JETTI – ND #3	Between ND #3 - ND #4
October	0	21	15	5
November	3	28	14	15

EARLY TURN STATISTICS

Airport Noise Advisory Committee

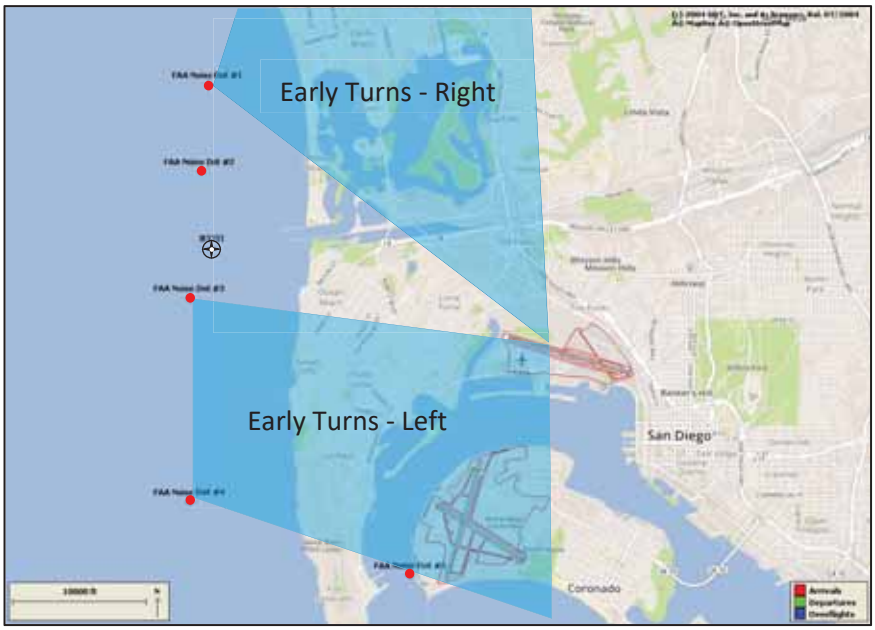
December 19, 2018



Early Turns by Year

YEAR	Early Turns
2013	829
2014	1,105
2015	1,293
2016	776
2017	420
2018	253*

* Through November 30, 2018



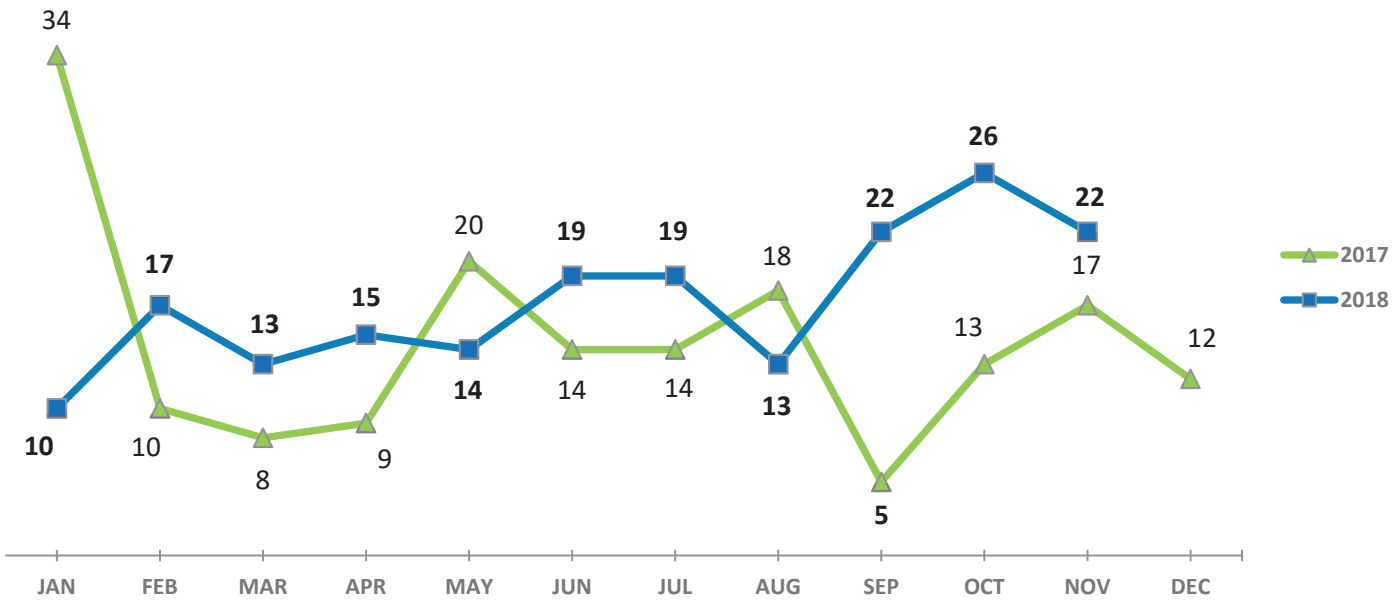
Departures that turn before reaching the FAA Noise Dots or turn back over the peninsula are considered Early Turns.

EARLY TURN STATISTICS

Airport Noise Advisory Committee

December 19, 2018

Over Point Loma



Early Turns by Operator (Oct – Nov 2018)

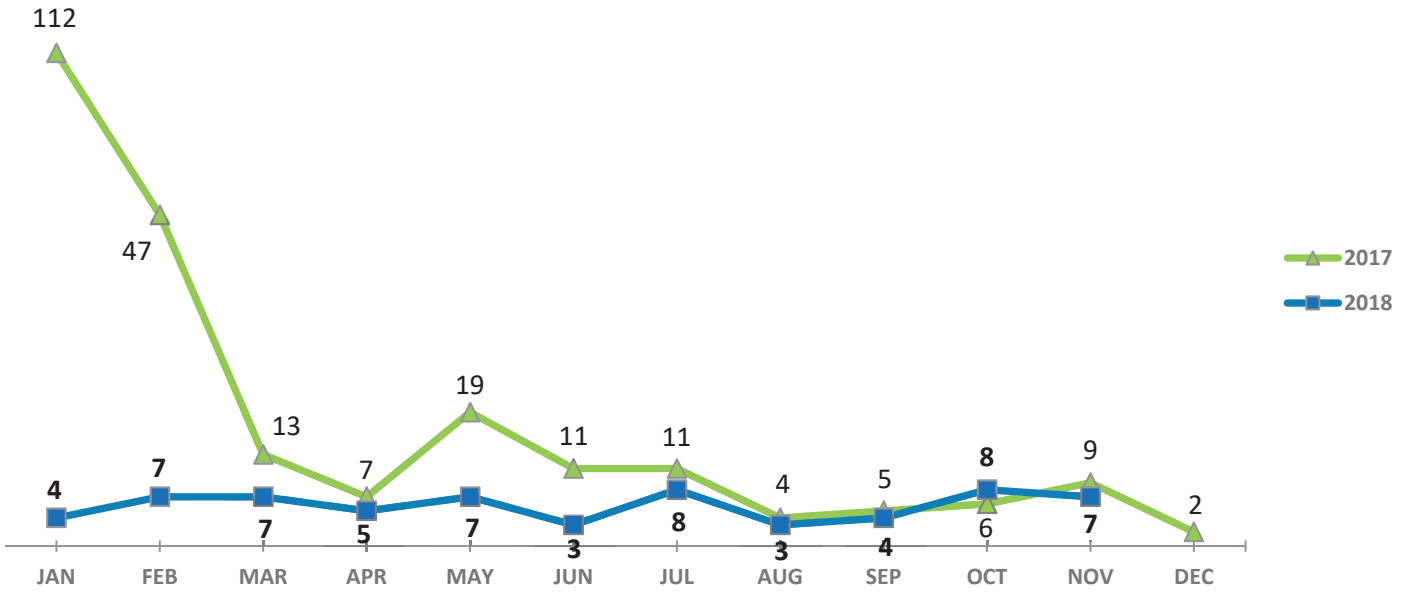
Count	Airline	Aircraft	Total Operator Departures
18	Southwest Airlines	B737, B738	6,476
9	American Airlines	A321, B738	1,450
6	General Aviation	(multiple aircraft)	1,385
4	United Airlines	A320, B739	1,809
2	Frontier Airlines	A320	299
2	jetBlue Airway	A321	274
2	SkyWest Airlines	E75L	1,695
1	Delta Air Lines	A321	1,328
1	Lufthansa	A343	41
1	Edelweiss Air	A343	6
1	FedEx	B767	214
1	UPS	B767	70

EARLY TURN STATISTICS

Airport Noise Advisory Committee

December 19, 2018

Over Mission Beach



Early Turns by Operator (Oct – Nov 2018)

Count	Airline	Aircraft	Total Operator Departures
8	General Aviation	(multiple aircraft)	1,385
3	Jazz Aviation	CRJ9	152
1	Delta Air Lines	B738	1,328
1	FedEx	B752	214
1	Japan Airlines	B788	61
1	Southwest Airlines	B737	6,476

FLIGHT INFO
PT. LOMA

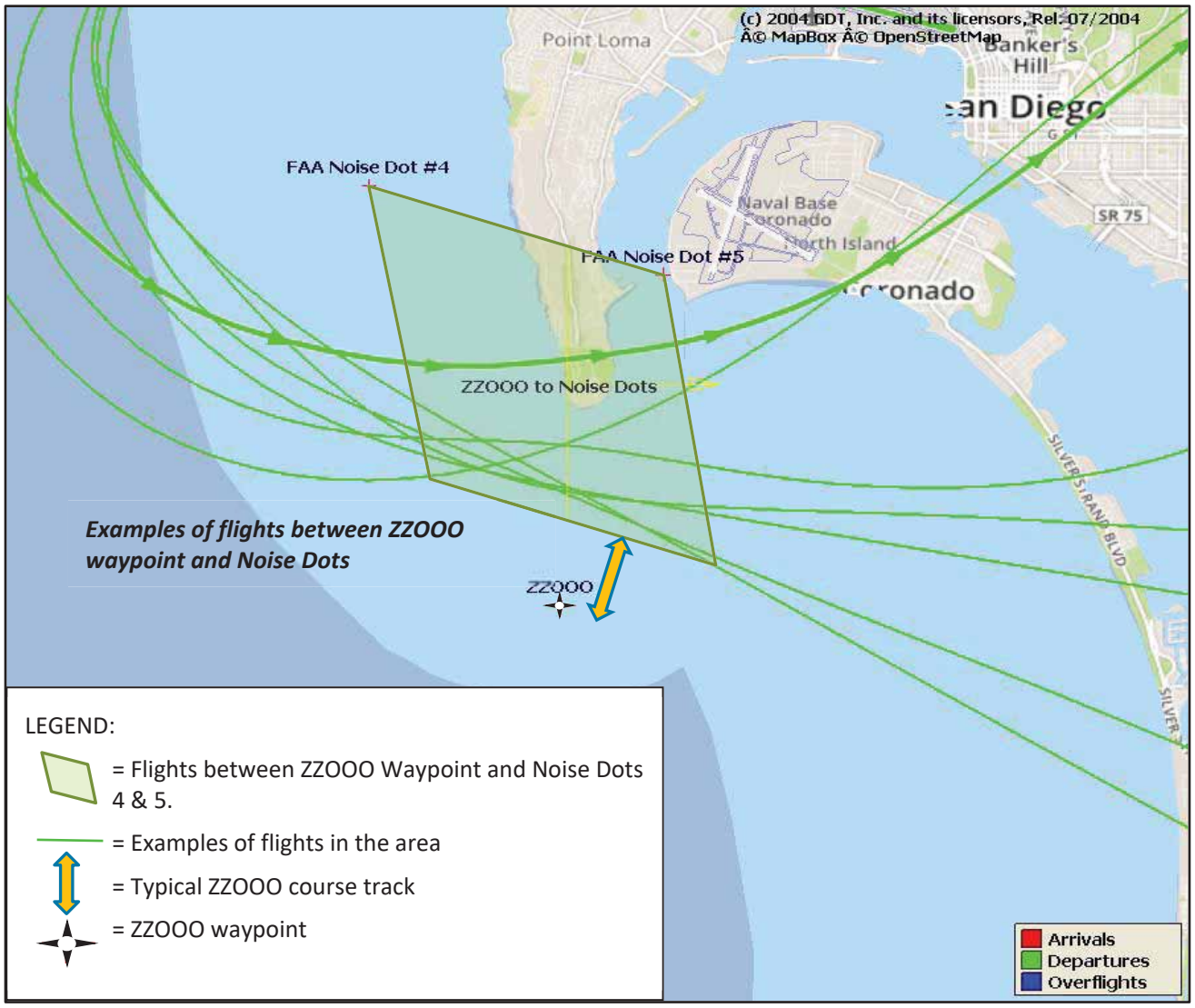
Airport Noise Advisory Committee

December 19, 2018

Flights Between ZZOOO Waypoint and Noise Dots

Note: These flights are all following published flight routes and are not off course

Date	Jets Turning Left	Between ZZOOO & Noise Dots	%
October	4,761	574	12%
November	4,582	748	16%



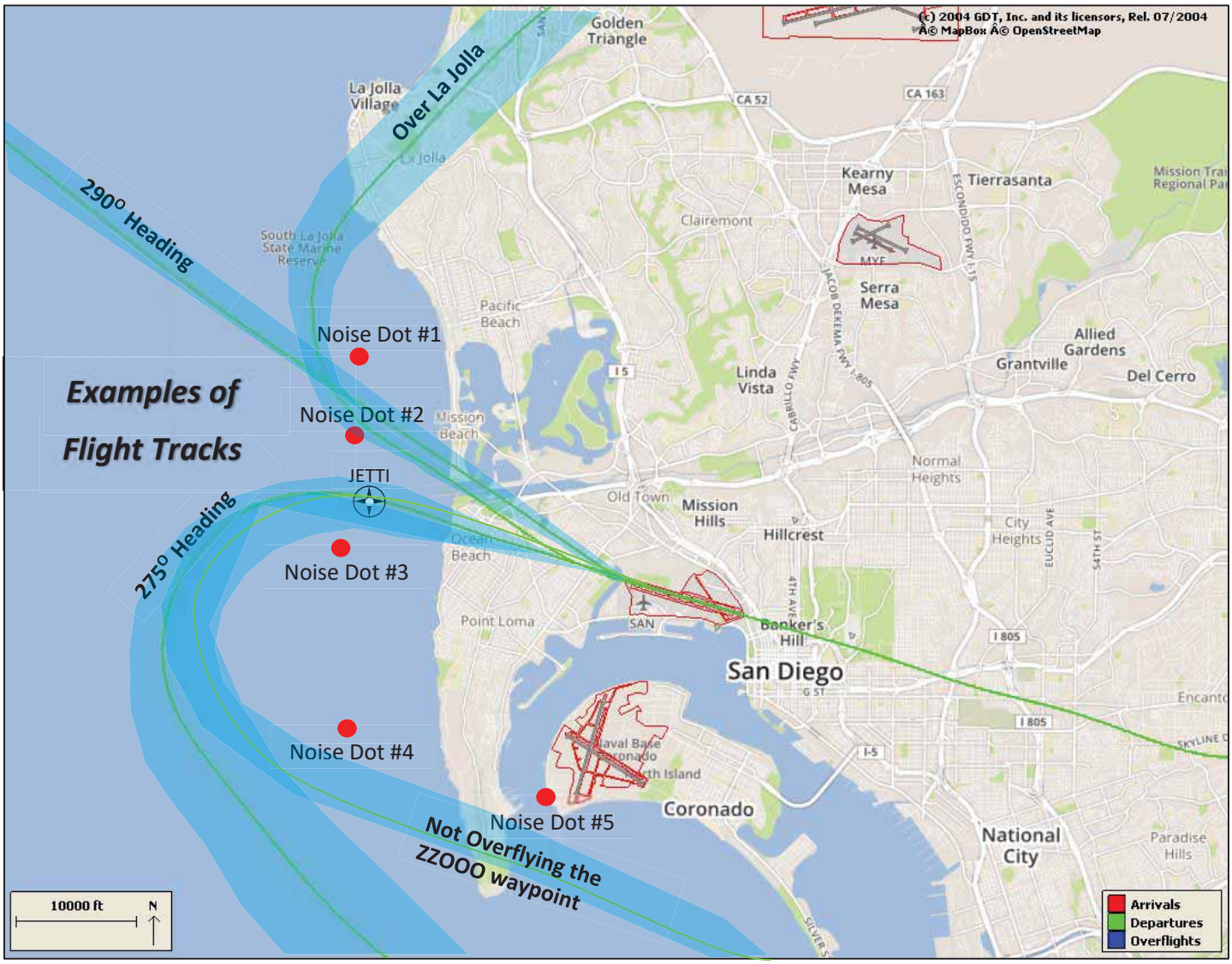
NIGHTTIME DEPARTURE STATISTICS

Airport Noise Advisory Committee

December 19, 2018

Nighttime Departures

Date	Runway Heading (275°)	Early Turns	Adhered to Nighttime Dep. (290°)	Total (Jet)	Over La Jolla (compliant)
October	6	3	276	285	10
November	12	1	349	362	7



SAN DIEGO INTERNATIONAL AIRPORT
LET'S GO.

December 12, 2018

Fly Quiet Report

1st Quarter 2018

Prepared by:

Sjohnna Knack
Program Manager, Airport Noise Mitigation
Planning & Environmental Affairs
San Diego County Regional Airport Authority

1.0 Summary of 1st Quarter 2018 Report

Each quarter, the Airport Noise Mitigation Office publishes a report that outlines the trends on how quietly each operator flies in and out of San Diego International Airport (SDIA). This is a summary of the Fly Quiet Report for 1st Quarter 2018.

NEW this quarter, the Fly Quiet Report was modified to remove the Early Turn element and replace it with a new Noise Exceedance element (technical information on this element can be found in Section 2.0). Early Turns are directed by FAA Air Traffic Control and are rarely done at the discretion of the pilot, therefore making it unreasonable to score. It is however within the operator's control to select the type of aircraft flying at SDIA. **While the Fleet Noise Quality element scores operators on the FAA certified noise levels, the Noise Exceedance element will score based on actual noise levels at SDIA.**

Given the introduction of the new Noise Exceedance element, the 2018 reports were revised to serve as a new baseline for the 2019 reports.

Primary changes due to the implementation are as follows:

- As a result of implementing the Noise Exceedance element, scores for airlines operating larger/heavier aircraft are lower, reflecting heavier loads, slower climb rates and greater overall noise exposure to the community.

- The Fleet Noise Quality element score was improved to reflect the type of aircraft used by the carriers at the airport, and includes the aircraft engine type in the analysis. We expect fleet quality scores to improve over time as airlines take delivery of an increasing number of quieter aircraft such as the Airbus A350, Boeing 787, Boeing 737 MAX, Airbus A220, and A320neo aircraft and integrate them into SDIA operations.

Also new in this report, is a section titled "Notable Operator Noise Reduction Efforts" which will highlight notable changes airline operators took that quarter to reduce overall noise exposure.

Notable Noise Reduction Efforts:

- Allegiant Airlines improved their Fleet Quality element score by removing their MD-80 aircraft, replacing them with Airbus A320 aircraft. The MD-80 retirement from the Allegiant fleet will be complete in December of 2018 improving the overall noise exposure to the community.

- Southwest Airlines increased service to Austin, Houston, New Orleans, Oakland, Portland and Phoenix utilizing the 737MAX.

- The use of quieter Airbus A320neo and Boeing 737MAX aircraft by Frontier, Spirit, and Southwest tripled when compared to Q1 2017. Published schedules show a further increase in the use of these aircraft through the end of 2018.

2.0 Fly Quiet Program Description

The purpose of the SDIA Fly Quiet Program is to encourage individual commercial operators to fly as quietly as possible in the San Diego area by acknowledging those operators that fly the quietest. By grading an operator's performance and making the scores available to the public, the program creates a participatory atmosphere for operators to actively reduce noise.

The Fly Quiet Program offers a dynamic venue for reviewing noise abatement initiatives by praising and publicizing active participation rather than a system that admonishes violations from essentially voluntary procedures.

2.1 Goals

The overall goal of the Fly Quiet Program is to influence commercial operators to fly as quietly as possible in the San Diego area by acknowledging those operators that make the greatest effort. Monitoring, collecting, and analyzing comprehensive amounts of operational and noise data highlights both airport trends and individual operator performance on specific noise abatement programs. Fly Quiet Program data is quantified and translated into quarterly reports for each operator rated in the Fly Quiet Program at SDIA.

2.2 Reports

Fly Quiet reports communicate results in a clear, understandable format on a scale of 0-10, zero being poor and ten being the best. (*Note: an operator can have a score higher than 10 in the Curfew Violations element only, if they had no violations and also cancelled flights to avoid a Curfew Violation*). This allows for an easy comparison between operators over time. Individual operator scores are computed and reports are generated each quarter. These quantitative scores allow operator management and flight personnel to measure exactly how they stand compared to other operators and how their proactive involvement can positively reduce noise in the San Diego area. The overall airport score is tracked to measure the overall improvement over time.

2.3 Elements

Currently the Fly Quiet Program scores commercial operators on the following three elements that will be described in detail in the next section.

- Curfew Violations
- Noise Exceedances
- Fleet Noise Quality

2.3.1 Curfew Violations

SDIA has had a curfew in place since 1976. SDIA's curfew is governed as part of the Airport Use Regulations and may result in a monetary fine if an operator violates the curfew. All departures are restricted from 11:30 p.m. to 6:30 a.m. Aircraft may arrive at SDIA 24 hours a day.

The departure curfew is mandatory; however, there are exemptions for lifeguard and emergency flights; compliance is at the discretion of the pilot or operator. Penalties may be waived if there are local issues impacting safety, such as weather or maintenance of the aircraft.

The curfew violations system includes administrative fines if $2,000 for the first violation by a particular operator in a compliance period; $6,000 for the second violation in a compliance period, and, $10,000 for the third violation in a compliance period. Additionally, a multiplier is added to reflect the number of violations from the previous compliance period. Each compliance period is six (6) calendar months, starting January 1 and July 1. The Fly Quiet Program formalizes the effort of working with the operators to reduce the number of curfew violations of departing aircraft to include encouraging the carriers to cancel potential violating operations. The airport's noise monitoring system documents which operator and aircraft type depart between the curfew times, this information is used to accurately assign the point value for each operation.

Calculation of Rating:

An operator that does not log any curfew violations during the time period is automatically assigned a score of 10 points. Every operator starts with a score of 10 points. Scores are then adjusted based upon the following:

1. Number of Curfew Violations that are Penalized (Fined):

   If the Airport's Curfew Violation Review Panel (CVRP) determines that a flight violated curfew and will be penalized, the score will be adjusted by subtracting 2 points.

2. Number of Curfew Violations that are Not Penalized (Not Fined):

   If the Airport's Curfew Violation Review Panel (CVRP) determines that a flight violated curfew and will not be penalized, the score will be adjusted by subtracting 1 point.

To encourage cancelling potential violations, one (1) point will be added to any operator's score that cancelled a flight in order to avoid violating curfew.

2.3.2 Noise Exceedances

Eliminating loud aircraft noise events is a long-standing goal of the Airport, as a result, the Airport has established an element that identifies the loudest 10% of aircraft arriving and departing at SDIA, as measured at Remote Monitoring Terminals (RMT's) #1 and #7[1], respectively. RMT #1 is located approximately one (1.0) mile from the arrival end of Runway 27 and RMT #7 is located approximately one-half (0.5) mile from the departure end of Runway 27.

Each RMT has established thresholds to identify aircraft. Whenever an aircraft produces a noise level higher than the threshold, a noise exceedance occurs. A noise exceedance may take place during arrival or departure and are logged by the exact operation along with the aircraft type and airline name.

[1] For a map of the Remote Monitoring Terminals, go to the Airport's online flight tracking site: http://webtrak.bkems.net/san

Calculation of Rating:

The Noise Exceedances Score for each operator is determined based upon the total number of noise exceedances for the quarter compared with their total number of operations at the airport. Arrivals and departures are sorted separately, and then combined into the overall score. This is reflected as a "percentage of operations". The percentage of exceedances (exceedances divided by total operations for the period) is then multiplied by a factor of 10 to develop a score between 0 and 10 points.

2.3.3 Fleet Noise Quality

The Fleet Noise Quality score evaluates the noise contribution of each operator's fleet as it actually operates at SDIA. Operators generally own a variety of aircraft types and schedule them according to both operational and marketing considerations. The Fly Quiet Program assigns a higher rating or grade to operators flying quieter, new generation aircraft, while operators flying older, louder technology aircraft would rate lower. The goal of this measurement is to fairly compare operators – not just by the fleet they own, but by the frequency that they schedule and fly particular aircraft into SDIA.

Historically airports have rated fleet noise quality by the relative percentage of Stage 2 vs. Stage 3 operations[2]. Since the completion of the phase out of Stage 2 aircraft mandated by the Airport Noise and Capacity Act (ANCA) of 1990, all aircraft in the U.S. over 75,000 pounds meet the more stringent Stage 3 standards. However, within the allowable Stage 3 criteria, there is a wide range of noise levels, and the Federal Aviation Administration (FAA) does not distinguish between these aircraft types. There is a Stage 4 aircraft type, applicable to aircraft with a type certification issued after January 1, 2006; all aircraft manufactured today that are over 12,500 pounds meet these Stage 4 standards.

The method used here bases an operator's Fleet Noise Quality Rating on aircraft manufacturer noise certification data. For each aircraft type, 14 CFR Part 36 specifies allowable noise levels at three measurement locations: approach, departure, and sideline[3]. Per 14 CFR Part 36 allowable noise limits increase with weight, so that larger aircraft, serving more passengers, are not penalized as compared to smaller types.

The rating method for the Fleet Noise Quality totals the difference between each aircraft's certified noise levels at all three measuring points (takeoff, approach and sideline) and the Stage 3 standard for that aircraft type, weight and engine type. Aircraft with the greatest number of decibels below Stage 3 threshold are rated the best.

Similar to and consistent with 14 CFR Part 36, the Fleet Noise Quality Rating allows for higher noise levels for larger aircraft. It is important to credit larger aircraft serving more passengers, because they offer more air service in fewer flights and less total noise than multiple operations in smaller aircraft types.

[2] Stages 1-4 were established by a Federal Aviation Regulation called 14 CFR Part 36 which mandated the allowable noise levels for the manufacture of aircraft. Over time both Stage 1 and Stage 2 aircraft have been phased out of operation in the U.S. as a result of subsequent federal regulations.

[3] 14 CFR Part 36 standards are measured in terms of the single event metric Effective Perceived Noise Level (EPNdB), which accounts for different frequency characteristics of noise, such as low frequency.

Calculation of Rating:

The Fleet Noise Quality rating calculation takes the takeoff, approach and sideline noise difference of the allowable Part 36 Stage 3 limit from the Part 36 certification level and then produces a total. Table 1 demonstrates this methodology for a B737-700 aircraft where the difference between the Stage 3 limit and certificated value is 4.1 dB on takeoff, 3.8 dB on approach and 6.8 dB for sideline noise; for a total difference of 14.7 dB.

Table 1 – B737-700 Aircraft Example

B737-700 Aircraft	Takeoff (EPNdB)	Approach (EPNdB)	Sideline (EPNdB)	Total dB Below Stage 3 Limits
Part 36 Stage 3 Limit	91.2	99.7	96.6	-
Part 36 Certification Level	87.1	95.9	89.8	-
Difference	**4.1**	**3.8**	**6.8**	**14.7**

The Part 36 certification database for commercial aircraft is very extensive in listing many different noise values for variations on the same aircraft type depending on weight, flap settings, engine types, and other specifications. The Fleet Noise Quality rating methodology looks at each operator at SDIA and their specific aircraft fleet. Certifications values for each aircraft type are averaged together per operator.

Table 2 provides an example for computing the Fleet Noise Quality Sub Score. The example airline has four different aircraft types in their fleet that operate at SDIA. The number of operations is multiplied by the Cumulative Noise Level of the aircraft type generative a product of cumulative noise. The product of cumulative noise is then divided by the sum of operations for the carrier to create a fleet average Sub Score.

Table 2 – Example for Computing the Fleet Noise Quality Sub Score.

Aircraft Types	Cumulative Noise Level	Operations	Sum of Cumulatives Noise
B737	14.3	80.0	1144.0
B737MAX	25.2	10.0	252.0
B738	13.1	50.0	655.0
B738MAX	25.3	10.0	253.0
Fleet Avg (sum of CNEL divided by Total Operations):			**15.4**

Table 3 demonstrates the impact to a particular Fleet Quality score as they incorporate quieter aircraft, like the 737Max or A320neo into their operation at the airport.

Table 3 – Example of Fleet Noise Quality Improvement

Aircraft Types	Cumulative Noise Level	Operations	Sum of Cumulatives Noise
B737	14.3	70.0	1001.0
B737MAX	25.2	20.0	504.0
B738	13.1	40.0	524.0
B738MAX	25.3	20.0	506.0
Fleet Avg (sum of CNEL divided by Total Operations):			**16.9**

The Fleet Noise Quality Score for each operator is determined based upon what range the sub score falls under. The following is a list of the Fleet Noise Quality Scores and corresponding sub score ranges.

- 0 Points; Sub Score between 0 and 5
- 1 Point; Sub Score between 5 and 10
- 2 Points; Sub Score between 10 and 11
- 3 Points; Sub Score between 11 and 12
- 4 Points; Sub Score between 12 and 13
- 5 Points; Sub Score between 13 and 14
- 6 Points; Sub Score between 14 and 15
- 7 Points; Sub Score between 15 and 16
- 8 Points; Sub Score between 16 and 17
- 9 Points; Sub Score between 17 and 18
- 10 Points; Sub Score 18 or Greater

In the example of Table 2, the sub score is 15.4 and therefore the operator's final Fleet Noise Quality score would be 7.0. In Table 3, that same score increases to 8.0 through the utilization of newer aircraft.

3.0 Reports

The following pages contain the individual element reports and summary report for the 1st Quarter of 2018. The Fly Quiet Summary Report contains the total Fly Quiet score and ranking of the commercial operators.

Curfew Violations Report
San Diego International Airport's Fly Quiet Program
1st Quarter 2018 (January 1, 2018 - March 31, 2018)

Higher Number = Better Score

Operator Code		Number of Operations	Percent of Total Operations	Number of Curfew Violations Penalized	Number of Curfew Violations Not Penalized	Number of Cancellations	Curfew Violations Score
SWA	Southwest	17,942	38.5%	0	0	0	10.0
SKW	SkyWest	5,306	11.4%	0	0	0	10.0
ASA	Alaska	5,210	11.2%	0	2	2	10.0
DAL	DELTA	3,254	7.0%	0	0	0	10.0
CPZ	Compass Airlines	1,310	2.8%	0	0	0	10.0
NKS	spirit	890	1.9%	0	0	0	10.0
FDX	FedEx	606	1.3%	0	0	0	10.0
JZA	Jazz	346	0.7%	0	0	0	10.0
UPS	ups	204	0.4%	0	0	0	10.0
BAW	BRITISH AIRWAYS	180	0.4%	0	0	0	10.0
HAL	HAWAIIAN	180	0.4%	0	0	0	10.0
JAL	JAPAN AIRLINES	180	0.4%	0	0	0	10.0
SCX	sun country airlines	178	0.4%	0	0	0	10.0
ROU	rouge	148	0.3%	0	0	0	10.0
GTI	ATLAS AIR	128	0.3%	0	0	0	10.0
WJA	WESTJET	128	0.3%	0	0	0	10.0
VRD	Virgin america	100	0.2%	0	0	0	10.0
AAY	allegiant air	74	0.2%	0	0	0	10.0
DLH	Lufthansa	14	0.0%	0	0	0	10.0
FFT	FRONTIER	618	1.3%	1	0	2	10.0
UAL	UNITED	4,490	9.6%	0	1	0	9.0
AAL	American Airlines	4,258	9.1%	1	0	0	8.0
JBU	jetBlue AIRWAYS	860	1.8%	4	2	0	0.0
Non Scheduled Operators				1	0	0	-
Total		46,604	100%	7	5	4	-
Average		-	-	-	-	-	9.4

Noise Exceedances Report						
San Diego International Airport's Fly Quiet Program						
1st Quarter 2018 (January 1, 2018 - March 31, 2018)						

Higher Number = Better Score

Operator Code		Number of Operations	Percent of Total Operations	Total Noise Exceedances	Sub Score	Noise Exceedances Score
JZA	Jazz	346	0.7%	0	1.00	10
SKW	SkyWest	5,306	11.4%	11	1.00	10
CPZ	Compass Airlines	1,310	2.8%	4	1.00	10
NKS	spirit	890	1.9%	3	1.00	10
VRD	Virgin America	100	0.2%	1	0.99	10
FFT	FRONTIER	618	1.3%	10	0.98	10
SWA	Southwest	17,942	38.5%	380	0.98	10
SCX	sun country airlines	178	0.4%	4	0.98	10
JAL	JAL Japan Airlines	180	0.4%	6	0.97	10
AAY	allegiant air	74	0.2%	4	0.95	9
WJA	WestJet	128	0.3%	7	0.95	9
ASA	Alaska	5,210	11.2%	586	0.89	9
UAL	United	4,490	9.6%	524	0.88	9
JBU	jetBlue Airways	860	1.8%	145	0.83	8
AAL	American Airlines	4,258	9.1%	823	0.81	8
DAL	Delta	3,254	7.0%	762	0.77	8
GTI	Atlas Air	128	0.3%	39	0.70	7
ROU	rouge	148	0.3%	53	0.64	6
UPS	UPS	204	0.4%	81	0.60	6
FDX	FedEx	606	1.3%	283	0.53	5
HAL	Hawaiian Airlines	180	0.4%	115	0.36	4
DLH	Lufthansa	14	0.0%	12	0.14	1
BAW	British Airways	180	0.4%	175	0.03	0
Total		46,604	100%	4028		-
Average		-	-	175.1		7.8

Fleet Noise Quality Report
San Diego International Airport's Fly Quiet Program
1st Quarter 2018 (January 1, 2018 - March 31, 2018)

Higher Number = Better Score

Operator Code		Number of Operations	Percent of Total Operations	Sub Score	Fleet Noise Quality Score
JAL	Japan Airlines	180	0.4%	27.7	10.0
NKS	Spirit	890	1.9%	19.3	10.0
AAY	Allegiant Air	74	0.2%	18.6	10.0
DLH	Lufthansa	14	0.0%	18.5	10.0
HAL	Hawaiian Airlines	180	0.4%	17.6	9.0
VRD	Virgin America	100	0.2%	16.2	8.0
ASA	Alaska	5,210	11.2%	16.1	8.0
UPS	UPS	204	0.4%	16.0	8.0
UAL	United	4,490	9.6%	15.6	7.0
BAW	British Airways	180	0.4%	14.8	6.0
JBU	JetBlue Airways	860	1.8%	14.7	6.0
WJA	WestJet	128	0.3%	14.4	6.0
SWA	Southwest	17,942	38.5%	14.2	6.0
FDX	FedEx	606	1.3%	13.4	6.0
JZA	Jazz	346	0.7%	13.8	5.0
AAL	American Airlines	4,258	9.1%	13.6	5.0
SCX	Sun Country Airlines	178	0.4%	13.5	5.0
SKW	SkyWest Airlines	5,306	11.4%	13.2	5.0
FFT	Frontier	618	1.3%	13.0	5.0
DAL	Delta	3,254	7.0%	12.7	4.0
CPZ	Compass Airlines	1,310	2.8%	12.1	4.0
GTI	Atlas Air	128	0.3%	9.2	1.0
ROU	Air Canada Rouge	148	0.3%	8.6	1.0
Total		46,604	100%	-	-
Average		-	-	15.1	6.3

Higher Number = Better Score
Summary Report Ranks by "Quietest" to "Loudest" Operator
Tie Breaker is the "Number of Operations"

Summary Report
San Diego International Airport's Fly Quiet Program
1st Quarter 2018 (January 1, 2018 - March 31, 2018)

Operator Code		Number of Operations	Percent of Total Operations	Curfew Violations Score	Noise Exceedances Score	Fleet Noise Quality Score	Total Fly Quiet Score	Ranking
NKS	spirit	890	1.9%	10	10	10	30	1
JAL	JAPAN AIRLINES	180	0.4%	10	10	10	30	1
AAY	allegiant air	74	0.2%	10	9	10	29	3
VRD	virgin america	100	0.2%	10	10	8	28	4
ASA	Alaska	5,210	11.2%	10	9	8	27	5
SWA	Southwest	17,942	38.5%	10	10	6	26	6
SKW	SkyWest	5,306	11.4%	10	10	5	25	7
UAL	UNITED	4,490	9.6%	9	9	7	25	7
FFT	FRONTIER	618	1.3%	10	10	5	25	7
JZA	Jazz	346	0.7%	10	10	5	25	7
SCX	sun country airlines	178	0.4%	10	10	5	25	7
WJA	WESTJET	128	0.3%	10	9	6	25	7
CPZ	Compass Airlines	1,310	2.8%	10	10	4	24	13
UPS	ups	204	0.4%	10	6	8	24	13
HAL	HAWAIIAN AIRLINES	180	0.4%	10	4	9	23	15
DAL	DELTA	3,254	7.0%	10	8	4	22	16
AAL	American Airlines	4,258	9.1%	8	8	5	21	17
FDX	FedEx	606	1.3%	10	5	6	21	17
DLH	Lufthansa	14	0.0%	10	1	10	21	17
GTI	ATLAS AIR	128	0.3%	10	7	1	18	20
ROU	rouge	148	0.3%	10	6	1	17	21
BAW	BRITISH AIRWAYS	180	0.4%	10	0	6	16	22
JBU	jetBlue AIRWAYS	860	1.8%	0	8	6	14	23

December 12, 2018

Fly Quiet Report

2nd Quarter 2018

Prepared by:

Sjohnna Knack
Program Manager, Airport Noise Mitigation
Planning & Environmental Affairs
San Diego County Regional Airport Authority

1.0 Summary of 2nd Quarter 2018 Report

Each quarter, the Airport Noise Mitigation Office publishes a report that outlines the trends on how quietly each operator flies in and out of San Diego International Airport (SDIA). This is a summary of the Fly Quiet Report for 2nd Quarter 2018.

In the 1st Quarter, the Fly Quiet Report was modified to remove the Early Turn element and replace it with a new Noise Exceedance element (technical information on this element can be found in Section 2.0). Early Turns are directed by FAA Air Traffic Control and are rarely done at the discretion of the pilot, therefore making it unreasonable to score. It is however within the operator's control to select the type of aircraft flying at SDIA. While the Fleet Noise Quality element scores operators on the FAA certified noise levels, the Noise Exceedance element will score based on actual noise levels at SDIA.

Given the introduction of the new Noise Exceedance element, the 2018 reports continue to be revised to serve as a new baseline for the 2019 reports.

Primary changes due to the implementation are as follows:

- As a result of implementing the Noise Exceedance element, scores for airlines operating larger/heavier aircraft are lower, reflecting heavier loads, slower climb rates and greater overall noise exposure to the community.

- The Fleet Noise Quality element score was improved to reflect the type of aircraft used by the carriers at the airport, and includes the aircraft engine type in the analysis. We expect fleet quality scores to improve over time as airlines take delivery of an increasing number of quieter aircraft such as the Airbus A350, Boeing 787, Boeing 737MAX, Airbus A220, and A320neo aircraft and integrate them into SDIA operations.

Also new in this report, is a section titled "Notable Operator Noise Reduction Efforts" which will highlight notable changes airline operators took that quarter to reduce overall noise exposure.

Notable Noise Reduction Efforts:

- Spirit Airlines lead all airlines in the FlyQuiet program for the 2nd Quarter through the increased use of the A320neo, lack of curfew violations and low incidences of Noise Exceedances.

- United Airlines improved their score by not having any curfew violations in the 2nd Quarter while cancelling two (2) departures that would have resulted in a curfew violation.

- Allegiant Airlines saw a decrease in their scores due to the use of older MD-80 aircraft. These aircraft remain slated for removal from service by the end of the year.

- The use of quieter Airbus A320neo and Boeing 737MAX aircraft by Frontier, Spirit, and Southwest continues to increase in the 2nd Quarter compared with the 2nd Quarter of 2018. Published schedules continue to show a further increase in the use of these aircraft through the end of 2018.

2.0 Fly Quiet Program Description

The purpose of the SDIA Fly Quiet Program is to encourage individual commercial operators to fly as quietly as possible in the San Diego area by acknowledging those operators that fly the quietest. By grading an operator's performance and making the scores available to the public, the program creates a participatory atmosphere for operators to actively reduce noise.

The Fly Quiet Program offers a dynamic venue for reviewing noise abatement initiatives by praising and publicizing active participation rather than a system that admonishes violations from essentially voluntary procedures.

2.1 Goals

The overall goal of the Fly Quiet Program is to influence commercial operators to fly as quietly as possible in the San Diego area by acknowledging those operators that make the greatest effort. Monitoring, collecting, and analyzing comprehensive amounts of operational and noise data highlights both airport trends and individual operator performance on specific noise abatement programs. Fly Quiet Program data is quantified and translated into quarterly reports for each operator rated in the Fly Quiet Program at SDIA.

2.2 Reports

Fly Quiet reports communicate results in a clear, understandable format on a scale of 0-10, zero being poor and ten being the best. (*Note: an operator can have a score higher than 10 in the Curfew Violations element only, if they had no violations and also cancelled flights to avoid a Curfew Violation*). This allows for an easy comparison between operators over time. Individual operator scores are computed and reports are generated each quarter. These quantitative scores allow operator management and flight personnel to measure exactly how they stand compared to other operators and how their proactive involvement can positively reduce noise in the San Diego area. The overall airport score is tracked to measure the overall improvement over time.

2.3 Elements

Currently the Fly Quiet Program scores commercial operators on the following three elements that will be described in detail in the next section.

- Curfew Violations
- Noise Exceedances
- Fleet Noise Quality

2.3.1 Curfew Violations

SDIA has had a curfew in place since 1976. SDIA's curfew is governed as part of the Airport Use Regulations and may result in a monetary fine if an operator violates the curfew. All departures are restricted from 11:30 p.m. to 6:30 a.m. Aircraft may arrive at SDIA 24 hours a day.

The departure curfew is mandatory; however, there are exemptions for lifeguard and emergency flights; compliance is at the discretion of the pilot or operator. Penalties may be waived if there are local issues impacting safety, such as weather or maintenance of the aircraft.

The curfew violations system includes administrative fines if $2,000 for the first violation by a particular operator in a compliance period; $6,000 for the second violation in a compliance period, and, $10,000 for the third violation in a compliance period. Additionally, a multiplier is added to reflect the number of violations from the previous compliance period. Each compliance period is six (6) calendar months, starting January 1 and July 1. The Fly Quiet Program formalizes the effort of working with the operators to reduce the number of curfew violations of departing aircraft to include encouraging the carriers to cancel potential violating operations. The airport's noise monitoring system documents which operator and aircraft type depart between the curfew times, this information is used to accurately assign the point value for each operation.

Calculation of Rating:

An operator that does not log any curfew violations during the time period is automatically assigned a score of 10 points. Every operator starts with a score of 10 points. Scores are then adjusted based upon the following:

1. Number of Curfew Violations that are Penalized (Fined):

   If the Airport's Curfew Violation Review Panel (CVRP) determines that a flight violated curfew and will be penalized, the score will be adjusted by subtracting 2 points.

2. Number of Curfew Violations that are Not Penalized (Not Fined):

   If the Airport's Curfew Violation Review Panel (CVRP) determines that a flight violated curfew and will not be penalized, the score will be adjusted by subtracting 1 point.

To encourage cancelling potential violations, one (1) point will be added to any operator's score that cancelled a flight in order to avoid violating curfew.

2.3.2 Noise Exceedances

Eliminating loud aircraft noise events is a long-standing goal of the Airport, as a result, the Airport has established an element that identifies the loudest 10% of aircraft arriving and departing at SDIA, as measured at Remote Monitoring Terminals (RMT's) #1 and #7[1], respectively. RMT #1 is located approximately one (1.0) mile from the arrival end of Runway 27 and RMT #7 is located approximately one-half (0.5) mile from the departure end of Runway 27.

Each RMT has established thresholds to identify aircraft. Whenever an aircraft produces a noise level higher than the threshold, a noise exceedance occurs. A noise exceedance may take place during arrival or departure and are logged by the exact operation along with the aircraft type and airline name.

[1] For a map of the Remote Monitoring Terminals, go to the Airport's online flight tracking site: http://webtrak.bkems.net/san

Calculation of Rating:

The Noise Exceedances Score for each operator is determined based upon the total number of noise exceedances for the quarter compared with their total number of operations at the airport. Arrivals and departures are sorted separately, and then combined into the overall score. This is reflected as a "percentage of operations". The percentage of exceedances (exceedances divided by total operations for the period) is then multiplied by a factor of 10 to develop a score between 0 and 10 points.

2.3.3 Fleet Noise Quality

The Fleet Noise Quality score evaluates the noise contribution of each operator's fleet as it actually operates at SDIA. Operators generally own a variety of aircraft types and schedule them according to both operational and marketing considerations. The Fly Quiet Program assigns a higher rating or grade to operators flying quieter, new generation aircraft, while operators flying older, louder technology aircraft would rate lower. The goal of this measurement is to fairly compare operators – not just by the fleet they own, but by the frequency that they schedule and fly particular aircraft into SDIA.

Historically airports have rated fleet noise quality by the relative percentage of Stage 2 vs. Stage 3 operations[2]. Since the completion of the phase out of Stage 2 aircraft mandated by the Airport Noise and Capacity Act (ANCA) of 1990, all aircraft in the U.S. over 75,000 pounds meet the more stringent Stage 3 standards. However, within the allowable Stage 3 criteria, there is a wide range of noise levels, and the Federal Aviation Administration (FAA) does not distinguish between these aircraft types. There is a Stage 4 aircraft type, applicable to aircraft with a type certification issued after January 1, 2006; all aircraft manufactured today that are over 12,500 pounds meet these Stage 4 standards.

The method used here bases an operator's Fleet Noise Quality Rating on aircraft manufacturer noise certification data. For each aircraft type, 14 CFR Part 36 specifies allowable noise levels at three measurement locations: approach, departure, and sideline[3]. Per 14 CFR Part 36 allowable noise limits increase with weight, so that larger aircraft, serving more passengers, are not penalized as compared to smaller types.

The rating method for the Fleet Noise Quality totals the difference between each aircraft's certified noise levels at all three measuring points (takeoff, approach and sideline) and the Stage 3 standard for that aircraft type, weight and engine type. Aircraft with the greatest number of decibels below Stage 3 threshold are rated the best.

Similar to and consistent with 14 CFR Part 36, the Fleet Noise Quality Rating allows for higher noise levels for larger aircraft. It is important to credit larger aircraft serving more passengers, because they offer more air service in fewer flights and less total noise than multiple operations in smaller aircraft types.

[2] Stages 1-4 were established by a Federal Aviation Regulation called 14 CFR Part 36 which mandated the allowable noise levels for the manufacture of aircraft. Over time both Stage 1 and Stage 2 aircraft have been phased out of operation in the U.S. as a result of subsequent federal regulations.

[3] 14 CFR Part 36 standards are measured in terms of the single event metric Effective Perceived Noise Level (EPNdB), which accounts for different frequency characteristics of noise, such as low frequency.

Calculation of Rating:

The Fleet Noise Quality rating calculation takes the takeoff, approach and sideline noise difference of the allowable Part 36 Stage 3 limit from the Part 36 certification level and then produces a total. Table 1 demonstrates this methodology for a B737-700 aircraft where the difference between the Stage 3 limit and certificated value is 4.1 dB on takeoff, 3.8 dB on approach and 6.8 dB for sideline noise; for a total difference of 14.7 dB.

Table 1 – B737-700 Aircraft Example

B737-700 Aircraft	Takeoff (EPNdB)	Approach (EPNdB)	Sideline (EPNdB)	Total dB Below Stage 3 Limits
Part 36 Stage 3 Limit	91.2	99.7	96.6	-
Part 36 Certification Level	87.1	95.9	89.8	-
Difference	**4.1**	**3.8**	**6.8**	**14.7**

The Part 36 certification database for commercial aircraft is very extensive in listing many different noise values for variations on the same aircraft type depending on weight, flap settings, engine types, and other specifications. The Fleet Noise Quality rating methodology looks at each operator at SDIA and their specific aircraft fleet. Certifications values for each aircraft type are averaged together per operator.

Table 2 provides an example for computing the Fleet Noise Quality Sub Score. The example airline has four different aircraft types in their fleet that operate at SDIA. The number of operations is multiplied by the Cumulative Noise Level of the aircraft type generative a product of cumulative noise. The product of cumulative noise is then divided by the sum of operations for the carrier to create a fleet average Sub Score.

Table 2 – Example for Computing the Fleet Noise Quality Sub Score.

Aircraft Types	Cumulative Noise Level	Operations	Sum of Cumulatives Noise
B737	14.3	80.0	1144.0
B737MAX	25.2	10.0	252.0
B738	13.1	50.0	655.0
B738MAX	25.3	10.0	253.0
Fleet Avg (sum of CNEL divided by Total Operations):			**15.4**

Table 3 demonstrates the impact to a particular Fleet Quality score as they incorporate quieter aircraft, like the 737MAX or A320neo into their operation at the airport.

Table 3 – Example of Fleet Noise Quality Improvement

Aircraft Type	Cumulative Noise Level	Operations of Type	Sum of Cumulative Noise
B733	14.30	70.00	1,001.0
B737MAX	25.20	20.00	504.0
B738	13.10	40.00	524.0
B738MAX	25.30	20.00	506.0
Fleet Avg (Sum of CNEL divided by Total Operations):			**16.9**

The Fleet Noise Quality Score for each operator is determined based upon what range the sub score falls under. The following is a list of the Fleet Noise Quality Scores and corresponding sub score ranges.

- 0 Points; Sub Score between 0 and 5
- 1 Point; Sub Score between 5 and 10
- 2 Points; Sub Score between 10 and 11
- 3 Points; Sub Score between 11 and 12
- 4 Points; Sub Score between 12 and 13
- 5 Points; Sub Score between 13 and 14
- 6 Points; Sub Score between 14 and 15
- 7 Points; Sub Score between 15 and 16
- 8 Points; Sub Score between 16 and 17
- 9 Points; Sub Score between 17 and 18
- 10 Points; Sub Score 18 or Greater

In the example of Table 2, the sub score is 15.4 and therefore the operator's final Fleet Noise Quality score would be 7.0. In Table 3, that same score increases to 8.0 through the utilization of newer aircraft.

3.0 Reports

The following pages contain the individual element reports and summary report for the 2nd Quarter of 2018. The Fly Quiet Summary Report contains the total Fly Quiet score and ranking of the commercial operators.

Curfew Violations Report
San Diego International Airport's Fly Quiet Program
2nd Quarter 2018 (April, 2018 - June, 2018)

Higher Number = Better Score

Airline Code		Number of Operations	Percent of Total Operations	Number of Curfew Violations Penalized	Number of Curfew Violations Not Penalized	Number of Cancellations	Curfew Violations Score
UAL	UNITED	5,409	10.5%	0	0	2	12.0
ASA	Alaska	5,428	10.5%	0	0	0	10.0
SKW	SkyWest	4,622	9.0%	0	0	0	10.0
CPZ	Compass Airlines	1,985	3.9%	0	0	0	10.0
NKS	spirit	1,299	2.5%	0	0	0	10.0
FFT	FRONTIER	771	1.5%	0	0	0	10.0
FDX	FedEx	626	1.2%	0	0	0	10.0
JZA	Jazz	482	0.9%	0	0	0	10.0
HAL	HAWAIIAN	273	0.5%	0	0	0	10.0
UPS	ups	206	0.4%	0	0	0	10.0
ROU	rouge	184	0.4%	0	0	0	10.0
AAY	allegiant air	182	0.4%	0	0	0	10.0
BAW	BRITISH AIRWAYS	182	0.4%	0	0	0	10.0
SCX	sun country airlines	176	0.3%	0	0	0	10.0
DLH	Lufthansa	128	0.2%	0	0	0	10.0
GTI	Atlas Air	126	0.2%	0	0	0	10.0
JAL	JAPAN AIRLINES	90	0.2%	0	0	0	10.0
EDW	edelweiss	44	0.1%	0	0	0	10.0
WJA	WESTJET	29	0.1%	0	0	0	10.0
AAL	American Airlines	4,550	8.8%	1	1	2	9.0
DAL	DELTA	4,113	8.0%	1	0	1	9.0
SWA	Southwest	19,568	38.0%	1	0	0	8.0
JBU	jetBlue AIRWAYS	1,077	2.1%	1	1	0	7.0
Total		51,550	100%	4	2	5	
Average							9.8

Noise Exceedances Report
San Diego International Airport's Fly Quiet Program
2nd Quarter 2018 (April, 2018 - June, 2018)

Higher Number = Better Score

Airline Code		Number of Operations	Percent of Total Operations	Total Noise Exceedances	Sub Score	Noise Exceedances Score
JZA	Jazz	482	0.9%	0	1.00	10
SKW	SkyWest	4,622	9.0%	3	1.00	10
CPZ	Compass Airlines	1,985	3.9%	6	1.00	10
NKS	spirit	1,299	2.5%	16	0.99	10
SWA	Southwest	19,568	38.0%	343	0.98	10
FFT	FRONTIER	771	1.5%	22	0.97	10
SCX	sun country airlines	176	0.3%	9	0.95	9
ASA	Alaska	5,428	10.5%	425	0.92	9
JAL	JAPAN AIRLINES	90	0.2%	8	0.91	9
UAL	UNITED	5,409	10.5%	520	0.90	9
JBU	jetBlue AIRWAYS	1,077	2.1%	134	0.88	9
AAY	allegiant air	182	0.4%	24	0.87	9
AAL	American Airlines	4,550	8.8%	707	0.84	8
DAL	DELTA	4,113	8.0%	736	0.82	8
WJA	WESTJET	29	0.1%	7	0.76	8
ROU	rouge	184	0.4%	48	0.74	7
GTI	ATLAS AIR	126	0.2%	53	0.58	6
UPS	ups	206	0.4%	95	0.54	5
FDX	FedEx	626	1.2%	289	0.54	5
HAL	HAWAIIAN AIRLINES	273	0.5%	146	0.47	5
EDW	edelweiss	44	0.1%	24	0.45	5
DLH	Lufthansa	128	0.2%	77	0.40	4
BAW	BRITISH AIRWAYS	182	0.4%	156	0.14	1
Total		51,550	100%	3,848		
Average					0.77	7.7

Fleet Noise Quality Report San Diego International Airport's Fly Quiet Program 2nd Quarter 2018 (April, 2018 - June, 2018)					
Airline Code		**Number of Operations**	**Percent of Total Operations**	**Sub Score**	**Fleet Noise Quality Score**
JAL	JAPAN AIRLINES	90	0.2%	27.7	10.0
EDW	edelweiss	44	0.1%	21.7	10.0
DLH	Lufthansa	128	0.2%	21.3	10.0
NKS	spirit	1,299	2.5%	17.4	9.0
BAW	BRITISH AIRWAYS	182	0.4%	17.3	9.0
HAL	HAWAIIAN	273	0.5%	16.8	8.0
AAY	allegiant air	182	0.4%	16.2	8.0
UPS	ups	206	0.4%	16.0	7.0
UAL	UNITED	5,409	10.5%	15.3	7.0
FFT	FRONTIER	771	1.5%	15.2	7.0
ASA	Alaska	5,428	10.5%	15.1	7.0
FDX	FedEx	626	1.2%	14.9	6.0
JBU	jetBlue AIRWAYS	1,077	2.1%	14.7	6.0
SWA	Southwest	19,568	38.0%	14.3	6.0
DAL	DELTA	4,113	8.0%	14.0	6.0
WJA	WESTJET	29	0.1%	14.5	5.0
AAL	American Airlines	4,550	8.8%	13.4	5.0
SCX	sun country airlines	176	0.3%	13.4	5.0
SKW	SkyWest	4,622	9.0%	13.2	5.0
JZA	Jazz	482	0.9%	13.8	4.0
CPZ	Compass Airlines	1,985	3.9%	12.1	4.0
GTI	ATLAS AIR	126	0.2%	9.4	1.0
ROU	rouge	184	0.4%	8.7	1.0
Total		51,550	100%	-	
Average		-	-	15.5	6.3

Higher Number = Better Score

Higher Number=Better Score
Summary Report Ranks by "Quietest" to "Loudest" Operator
Tie Breaker is the "Number of Operations"

Summary Report
San Diego International Airport's Fly Quiet Program
2nd Quarter 2018 (April, 2018 - June, 2018)

Airline Code		Number of Operations	Percent of Total Operations	Curfew Violations Score	Noise Exceedances Score	Fleet Noise Quality Score	Total Fly Quiet Score	Ranking
NKS	spirit	1,299	2.5%	10	10	9	29	1.0
JAL	JAPAN AIRLINES	90	0.2%	10	9	10	29	1.0
UAL	UNITED	5,409	10.5%	12	9	7	28	3.0
FFT	FRONTIER	771	1.5%	10	10	7	27	4.0
AAY	allegiant air	182	0.4%	10	9	8	27	4.0
ASA	Alaska	5,428	10.5%	10	9	7	26	6.0
SKW	SkyWest	4,622	9.0%	10	10	5	25	7.0
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FDX	FedEx	626	1.2%	10	5	6	21	20.0
BAW	BRITISH AIRWAYS	182	0.4%	10	1	9	20	21.0
ROU	rouge	184	0.4%	10	7	1	18	22.0
GTI	Atlas Air	126	0.2%	10	6	1	17	23.0
Total		51,550	100%	225	176		547	-
Average		-	-	-	-		-	11.2

SAN DIEGO INTERNATIONAL AIRPORT
LET'S GO.

December 12, 2018

Fly Quiet Report

3rd Quarter 2018

Prepared by:

Sjohnna Knack
Program Manager, Airport Noise Mitigation
Planning & Environmental Affairs
San Diego County Regional Airport Authority

1.0 Summary of 3rd Quarter 2018 Report

Each quarter, the Airport Noise Mitigation Office publishes a report that outlines the trends on how quietly each operator flies in and out of San Diego International Airport (SDIA). This is a summary of the Fly Quiet Report for 3rd Quarter 2018.

In the 1st Quarter, the Fly Quiet Report was modified to remove the Early Turn element and replace it with a new Noise Exceedance element (technical information on this element can be found in Section 2.0). Early Turns are directed by FAA Air Traffic Control and are rarely done at the discretion of the pilot, therefore making it unreasonable to score. It is however within the operator's control to select the type of aircraft flying at SDIA. While the Fleet Noise Quality element scores operators on the FAA certified noise levels, the Noise Exceedance element will score based on actual noise levels at SDIA.

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Also new in this report, is a section titled "Notable Operator Noise Reduction Efforts" which will highlight notable changes airline operators took that quarter to reduce overall noise exposure.

Notable Noise Reduction Efforts:

- Spirit Airlines lead all airlines in the FlyQuiet program for the 3rd Quarter through the increased use of the A320neo, lack of curfew violations and low incidences of Noise Exceedances.

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- Allegiant Airlines saw a decrease in their scores due to the use of older MD-80 aircraft. These aircraft remain slated for removal from service by the end of the year.

- The use of quieter Airbus A320neo and Boeing 737MAX aircraft by Frontier, Spirit, and Southwest continues to increase in the 3rd Quarter compared with the 3rd Quarter of 2018. Published schedules continue to show a further increase in the use of these aircraft through the end of 2018.

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- Fleet Noise Quality

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SDIA has had a curfew in place since 1976. SDIA's curfew is governed as part of the Airport Use Regulations and may result in a monetary fine if an operator violates the curfew. All departures are restricted from 11:30 p.m. to 6:30 a.m. Aircraft may arrive at SDIA 24 hours a day.

The departure curfew is mandatory; however, there are exemptions for lifeguard and emergency flights; compliance is at the discretion of the pilot or operator. Penalties may be waived if there are local issues impacting safety, such as weather or maintenance of the aircraft.

The curfew violations system includes administrative fines if $2,000 for the first violation by a particular operator in a compliance period; $6,000 for the second violation in a compliance period, and, $10,000 for the third violation in a compliance period. Additionally, a multiplier is added to reflect the number of violations from the previous compliance period. Each compliance period is six (6) calendar months, starting January 1 and July 1. The Fly Quiet Program formalizes the effort of working with the operators to reduce the number of curfew violations of departing aircraft to include encouraging the carriers to cancel potential violating operations. The airport's noise monitoring system documents which operator and aircraft type depart between the curfew times, this information is used to accurately assign the point value for each operation.

Calculation of Rating:

An operator that does not log any curfew violations during the time period is automatically assigned a score of 10 points. Every operator starts with a score of 10 points. Scores are then adjusted based upon the following:

1. Number of Curfew Violations that are Penalized (Fined):

   If the Airport's Curfew Violation Review Panel (CVRP) determines that a flight violated curfew and will be penalized, the score will be adjusted by subtracting 2 points.

2. Number of Curfew Violations that are Not Penalized (Not Fined):

   If the Airport's Curfew Violation Review Panel (CVRP) determines that a flight violated curfew and will not be penalized, the score will be adjusted by subtracting 1 point.

To encourage cancelling potential violations, one (1) point will be added to any operator's score that cancelled a flight in order to avoid violating curfew.

2.3.2 Noise Exceedances

Eliminating loud aircraft noise events is a long-standing goal of the Airport, as a result, the Airport has established an element that identifies the loudest 10% of aircraft arriving and departing at SDIA, as measured at Remote Monitoring Terminals (RMT's) #1 and #7[1], respectively. RMT #1 is located approximately one (1.0) mile from the arrival end of Runway 27 and RMT #7 is located approximately one-half (0.5) mile from the departure end of Runway 27.

Each RMT has established thresholds to identify aircraft. Whenever an aircraft produces a noise level higher than the threshold, a noise exceedance occurs. A noise exceedance may take place during arrival or departure and are logged by the exact operation along with the aircraft type and airline name.

[1] For a map of the Remote Monitoring Terminals, go to the Airport's online flight tracking site: http://webtrak.bkems.net/san

Calculation of Rating:

The Noise Exceedances Score for each operator is determined based upon the total number of noise exceedances for the quarter compared with their total number of operations at the airport. Arrivals and departures are sorted separately, and then combined into the overall score. This is reflected as a "percentage of operations". The percentage of exceedances (exceedances divided by total operations for the period) is then multiplied by a factor of 10 to develop a score between 0 and 10 points.

2.3.3 Fleet Noise Quality

The Fleet Noise Quality score evaluates the noise contribution of each operator's fleet as it actually operates at SDIA. Operators generally own a variety of aircraft types and schedule them according to both operational and marketing considerations. The Fly Quiet Program assigns a higher rating or grade to operators flying quieter, new generation aircraft, while operators flying older, louder technology aircraft would rate lower. The goal of this measurement is to fairly compare operators – not just by the fleet they own, but by the frequency that they schedule and fly particular aircraft into SDIA.

Historically airports have rated fleet noise quality by the relative percentage of Stage 2 vs. Stage 3 operations[2]. Since the completion of the phase out of Stage 2 aircraft mandated by the Airport Noise and Capacity Act (ANCA) of 1990, all aircraft in the U.S. over 75,000 pounds meet the more stringent Stage 3 standards. However, within the allowable Stage 3 criteria, there is a wide range of noise levels, and the Federal Aviation Administration (FAA) does not distinguish between these aircraft types. There is a Stage 4 aircraft type, applicable to aircraft with a type certification issued after January 1, 2006; all aircraft manufactured today that are over 12,500 pounds meet these Stage 4 standards.

The method used here bases an operator's Fleet Noise Quality Rating on aircraft manufacturer noise certification data. For each aircraft type, 14 CFR Part 36 specifies allowable noise levels at three measurement locations: approach, departure, and sideline[3]. Per 14 CFR Part 36 allowable noise limits increase with weight, so that larger aircraft, serving more passengers, are not penalized as compared to smaller types.

The rating method for the Fleet Noise Quality totals the difference between each aircraft's certified noise levels at all three measuring points (takeoff, approach and sideline) and the Stage 3 standard for that aircraft type, weight and engine type. Aircraft with the greatest number of decibels below Stage 3 threshold are rated the best.

Similar to and consistent with 14 CFR Part 36, the Fleet Noise Quality Rating allows for higher noise levels for larger aircraft. It is important to credit larger aircraft serving more passengers, because they offer more air service in fewer flights and less total noise than multiple operations in smaller aircraft types.

[2] Stages 1-4 were established by a Federal Aviation Regulation called 14 CFR Part 36 which mandated the allowable noise levels for the manufacture of aircraft. Over time both Stage 1 and Stage 2 aircraft have been phased out of operation in the U.S. as a result of subsequent federal regulations.

[3] 14 CFR Part 36 standards are measured in terms of the single event metric Effective Perceived Noise Level (EPNdB), which accounts for different frequency characteristics of noise, such as low frequency.

Calculation of Rating:

The Fleet Noise Quality rating calculation takes the takeoff, approach and sideline noise difference of the allowable Part 36 Stage 3 limit from the Part 36 certification level and then produces a total. Table 1 demonstrates this methodology for a B737-700 aircraft where the difference between the Stage 3 limit and certificated value is 4.1 dB on takeoff, 3.8 dB on approach and 6.8 dB for sideline noise; for a total difference of 14.7 dB.

Table 1 – B737-700 Aircraft Example

B737-700 Aircraft	Takeoff (EPNdB)	Approach (EPNdB)	Sideline (EPNdB)	Total dB Below Stage 3 Limits
Part 36 Stage 3 Limit	91.2	99.7	96.6	-
Part 36 Certification Level	87.1	95.9	89.8	-
Difference	**4.1**	**3.8**	**6.8**	**14.7**

The Part 36 certification database for commercial aircraft is very extensive in listing many different noise values for variations on the same aircraft type depending on weight, flap settings, engine types, and other specifications. The Fleet Noise Quality rating methodology looks at each operator at SDIA and their specific aircraft fleet. Certifications values for each aircraft type are averaged together per operator.

Table 2 provides an example for computing the Fleet Noise Quality Sub Score. The example airline has four different aircraft types in their fleet that operate at SDIA. The number of operations is multiplied by the Cumulative Noise Level of the aircraft type generative a product of cumulative noise. The product of cumulative noise is then divided by the sum of operations for the carrier to create a fleet average Sub Score.

Table 2 – Example for Computing the Fleet Noise Quality Sub Score.

Aircraft Types	Cumulative Noise Level	Operations	Sum of Cumulatives Noise
B737	14.3	80.0	1144.0
B737MAX	25.2	10.0	252.0
B738	13.1	50.0	655.0
B738MAX	25.3	10.0	253.0
Fleet Avg (sum of CNEL divided by Total Operations):			**15.4**

Table 3 demonstrates the impact to a particular Fleet Quality score as they incorporate quieter aircraft, like the 737MAX or A320neo into their operation at the airport.

Table 3 – Example of Fleet Noise Quality Improvement

Aircraft Type	Cumulative Noise Level	Operations of Type	Sum of Cumulative Noise
B733	14.30	70.00	1,001.0
B737MAX	25.20	20.00	504.0
B738	13.10	40.00	524.0
B738MAX	25.30	20.00	506.0
Fleet Avg (Sum of CNEL divided by Total Operations):			**16.9**

The Fleet Noise Quality Score for each operator is determined based upon what range the sub score falls under. The following is a list of the Fleet Noise Quality Scores and corresponding sub score ranges.

- 0 Points; Sub Score between 0 and 5
- 1 Point; Sub Score between 5 and 10
- 2 Points; Sub Score between 10 and 11
- 3 Points; Sub Score between 11 and 12
- 4 Points; Sub Score between 12 and 13
- 5 Points; Sub Score between 13 and 14
- 6 Points; Sub Score between 14 and 15
- 7 Points; Sub Score between 15 and 16
- 8 Points; Sub Score between 16 and 17
- 9 Points; Sub Score between 17 and 18
- 10 Points; Sub Score 18 or Greater

In the example of Table 2, the sub score is 15.4 and therefore the operator's final Fleet Noise Quality score would be 7.0. In Table 3, that same score increases to 8.0 through the utilization of newer aircraft.

3.0 Reports

The following pages contain the individual element reports and summary report for the 3rd Quarter of 2018. The Fly Quiet Summary Report contains the total Fly Quiet score and ranking of the commercial operators.

Curfew Violations Report
San Diego International Airport's Fly Quiet Program
3rd Quarter 2018 (July, 2018 - September, 2018)

Higher Number = Better Score

Airline Code		Number of Operations	Percent of Total Operations	Number of Curfew Violations Penalized	Number of Curfew Violations Not Penalized	Number of Cancellations	Curfew Violations Score
UAL	UNITED	5,815	10.8%	0	0	4	14.0
SWA	Southwest	19,968	37.3%	0	0	3	13.0
AAL	American Airlines	4,755	8.9%	4	1	10	11.0
ASA	Alaska	5,165	9.6%	0	0	0	10.0
SKW	SkyWest	4,678	8.7%	0	0	0	10.0
CPZ	Compass Airlines	2,540	4.7%	0	0	0	10.0
FDX	FedEx	612	1.1%	0	0	0	10.0
JZA	Jazz	544	1.0%	0	0	0	10.0
HAL	HAWAIIAN	364	0.7%	0	0	0	10.0
SCX	sun country airlines	205	0.4%	0	0	0	10.0
UPS	ups	204	0.4%	0	0	0	10.0
BAW	BRITISH AIRWAYS	184	0.3%	0	0	0	10.0
JAL	JAPAN AIRLINES	184	0.3%	0	0	0	10.0
ROU	rouge	184	0.3%	0	0	0	10.0
WJA	WESTJET	170	0.3%	0	0	0	10.0
GTI	Atlas Air	134	0.3%	0	0	0	10.0
DLH	Lufthansa	132	0.2%	0	0	0	10.0
EDW	edelweiss	44	0.1%	0	0	0	10.0
FFT	FRONTIER	808	1.5%	1	0	0	8.0
AAY	allegiant air	155	0.3%	1	0	0	8.0
NKS	spirit	1,327	2.5%	1	1	0	7.0
JBU	jetBlue AIRWAYS	911	1.7%	2	1	0	5.0
DAL	DELTA	4,514	8.4%	6	2	1	-3.0
Total		53,597	100%	15	5	18	
Average							9.3

Noise Exceedances Report

San Diego International Airport's Fly Quiet Program

3rd Quarter 2018 (July, 2018 - September, 2018)

Higher Number = Better Score

Airline Code		Number of Operations	Percent of Total Operations	Total Noise Exceedances	Sub Score	Noise Exceedances Score
JAL	Japan Airlines	184	0.3%	0	1.00	10
SKW	SkyWest Airlines	4,678	8.7%	36	0.99	10
SWA	Southwest	19,968	37.3%	244	0.99	10
AAY	allegiant air	155	0.3%	2	0.99	10
CPZ	Compass Airlines	2,540	4.7%	36	0.99	10
SCX	sun country airlines	205	0.4%	3	0.99	10
JZA	Jazz	544	1.0%	8	0.99	10
WJA	WestJet	170	0.3%	3	0.98	10
NKS	Spirit	1,327	2.5%	34	0.97	10
FFT	Frontier	808	1.5%	26	0.97	10
ASA	Alaska	5,165	9.6%	322	0.94	9
UAL	United	5,815	10.8%	629	0.89	9
JBU	jetBlue Airways	911	1.7%	139	0.85	8
AAL	American Airlines	4,755	8.9%	762	0.84	8
DAL	Delta	4,514	8.4%	860	0.81	8
GTI	Atlas Air	134	0.3%	38	0.72	7
UPS	UPS	204	0.4%	61	0.70	7
FDX	FedEx	612	1.1%	191	0.69	7
ROU	Air Canada rouge	184	0.3%	64	0.65	7
HAL	Hawaiian Airlines	364	0.7%	143	0.61	6
DLH	Lufthansa	132	0.2%	80	0.39	4
EDW	edelweiss	44	0.1%	27	0.39	4
BAW	British Airways	184	0.3%	183	0.01	0
Total		53,597	100%	3,891		
Average					0.8	8.0

Fleet Noise Fleet Quality Report San Diego International Airport's Fly Quiet Program 3rd Quarter 2018 (July, 2018 - September, 2018)					
Airline Code		**Number of Operations**	**Percent of Total Operations**	**Sub Score**	**Fleet Noise Quality Score**
JAL	JAPAN AIRLINES	184	0.3%	27.7	10.0
EDW	edelweiss	44	0.1%	21.7	10.0
DLH	Lufthansa	132	0.2%	21.3	10.0
HAL	HAWAIIAN	364	0.7%	19.0	10.0
NKS	spirit	1,327	2.5%	17.4	9.0
BAW	BRITISH AIRWAYS	184	0.3%	17.2	9.0
UAL	UNITED	5,815	10.8%	16.8	8.0
AAY	allegiant air	155	0.3%	16.4	8.0
UPS	ups	204	0.4%	16.0	8.0
FDX	FedEx	612	1.1%	15.9	7.0
JBU	jetBlue AIRWAYS	911	1.7%	14.8	6.0
SWA	Southwest	19,968	37.3%	14.4	6.0
FFT	FRONTIER	808	1.5%	14.2	6.0
ASA	Alaska	5,165	9.6%	14.1	6.0
JZA	Jazz	544	1.0%	13.8	5.0
WJA	WESTJET	170	0.3%	13.5	5.0
SCX	sun country airlines	205	0.4%	13.4	5.0
AAL	American Airlines	4,755	8.9%	13.3	5.0
SKW	SkyWest	4,678	8.7%	12.7	4.0
DAL	DELTA	4,514	8.4%	12.4	4.0
CPZ	Compass Airlines	2,540	4.7%	12.1	4.0
GTI	ATLAS AIR	134	0.3%	9.3	1.0
ROU	rouge	184	0.3%	8.6	1.0
Total		53,597	100%		
Average				15.5	6.4

Higher Number = Better Score

Higher Number=Better Score
Summary Report Ranks by "Quietest" to "Loudest" Operator
Tie Breaker if the "Number of Operations"

Summary Report
San Diego International Airport's Fly Quiet Program
3rd Quarter 2018 (July, 2018 - September, 2018)

Airline Code		Number of Operations	Percent of Total Operations	Curfew Violations Score	Noise Exceedances Score	Fleet Noise Quality Score	Total Fly Quiet Score	Ranking
UAL	UNITED	5,815	10.8%	14	9	8	31	1.0
JAL	JAPAN AIRLINES	184	0.3%	10	10	10	30	2.0
SWA	Southwest	19,968	37.3%	13	10	6	29	3.0
NKS	spirit	1,327	2.5%	7	10	9	26	4.0
HAL	HAWAIIAN	364	0.7%	10	6	10	26	4.0
AAY	allegiant air	155	0.3%	8	10	8	26	4.0
ASA	Alaska	5,165	9.6%	10	9	6	25	7.0
JZA	Jazz	544	1.0%	10	10	5	25	7.0
SCX	sun country airlines	205	0.4%	10	10	5	25	7.0
UPS	ups	204	0.4%	10	7	8	25	7.0
WJA	WESTJET	170	0.3%	10	10	5	25	7.0
AAL	American Airlines	4,755	8.9%	11	8	5	24	12.0
SKW	SkyWest	4,678	8.7%	10	10	4	24	12.0
CPZ	Compass Airlines	2,540	4.7%	10	10	4	24	12.0
FFT	FRONTIER	808	1.5%	8	10	6	24	12.0
FDX	FedEx	612	1.1%	10	7	7	24	12.0
DLH	Lufthansa	132	0.2%	10	4	10	24	12.0
EDW	edelweiss	44	0.1%	10	4	10	24	12.0
JBU	jetBlue AIRWAYS	911	1.7%	5	8	6	19	19.0
BAW	BRITISH AIRWAYS	184	0.3%	10	0	9	19	19.0
ROU	rouge	184	0.3%	10	7	1	18	21.0
GTI	ATLAS AIR	134	0.3%	10	7	1	18	21.0
DAL	DELTA	4,514	8.4%	-3	8	4	9	22.0
Total		53,597	100%					
Average				9	8	6	24	

SAN DIEGO INTERNATIONAL AIRPORT
LET'S GO.

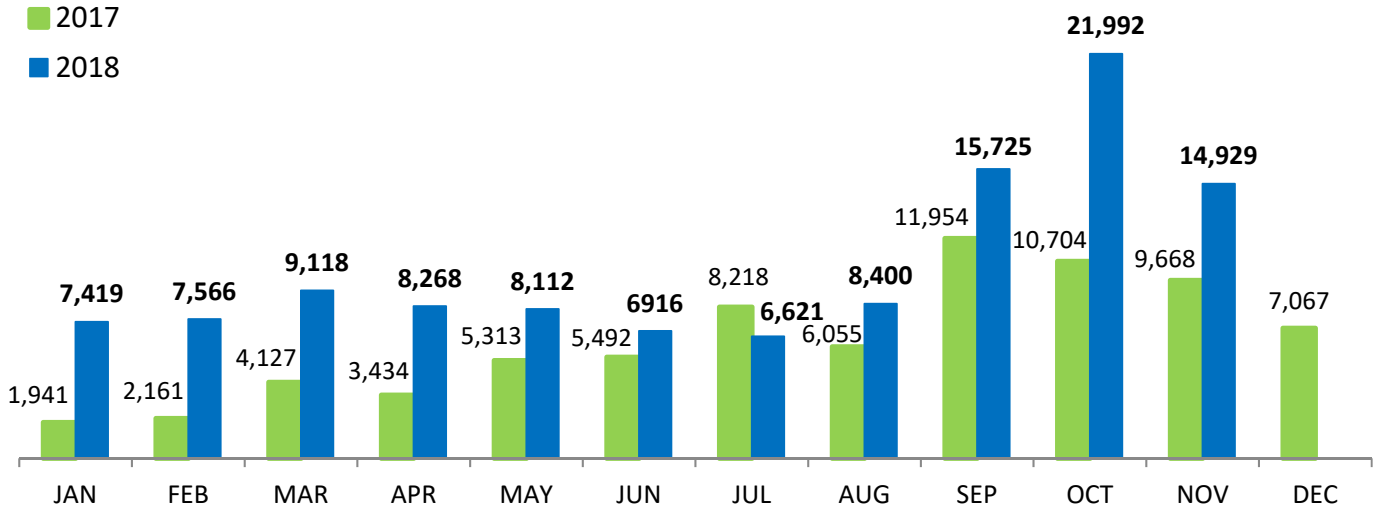
NOISE COMPLAINT STATISTICS

Airport Noise Advisory Committee

December 19, 2018

Total Complaints

Through November 30, 2018



*New noise complaint system started in April 2017.

Disturbance Type

October & November 2018

Reason	Number of Complaints	%
Too Loud	36,477	98.7%
Too Low	245	0.7%
Suspected Off-Course	123	0.34%
Curfew Violation	50	0.14%
Overflight	17	0.047%
Other	6	0.02%
Pollution	3	0.01%

Contact Method

October & November 2018

Contact Method	Number of Complaints
Third Party	34,249
App	1,481
WebTrak	1,123
Phone	68

Note: on November 5, 2018, there were issues with the noise complaint software receiving complaints.

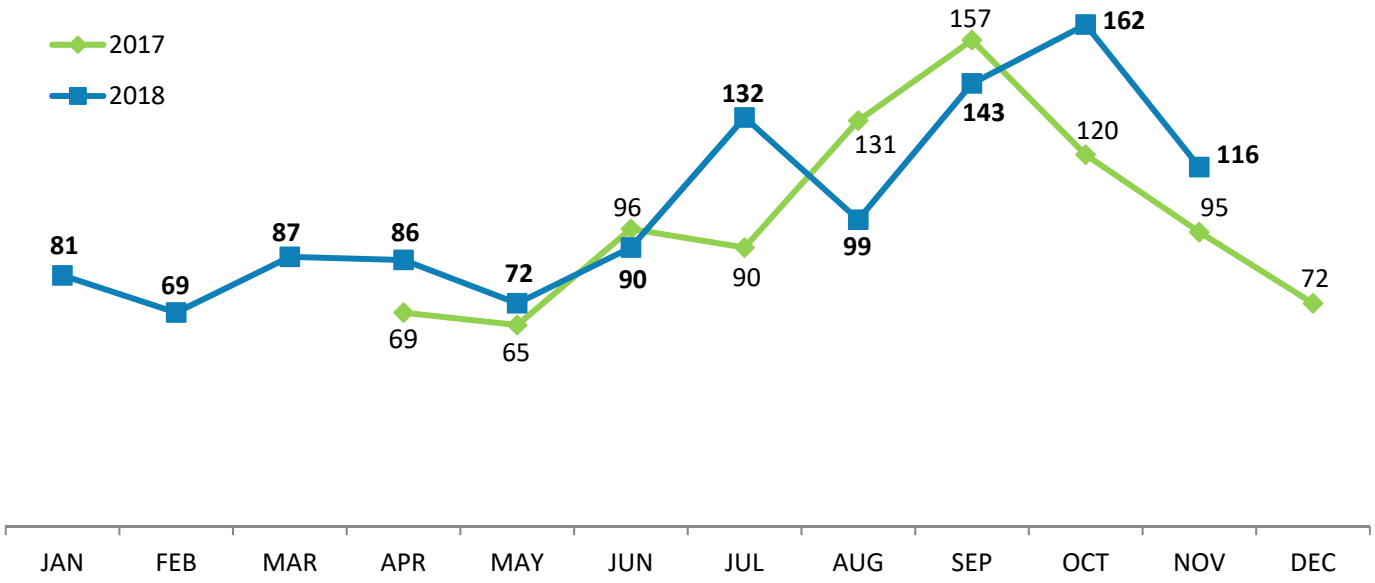
NOISE COMPLAINT STATISTICS

Airport Noise Advisory Committee

December 19, 2018

Number of Households

Through November 30, 2018



Neighborhood by Zip Code	Number of Households*
La Jolla – 92037	49
OB/Sunset Cliffs – 92107	46
Pt. Loma – 92106	46
Mission Beach/PB 92109	21
La Mesa/Mt. Helix - 91941	10
Rolando - 92115	3
Golden Hill - 92102	3
Other (less than 2 Households)	15
Total	**193**

*Combined total for October & November

MEETING SUMMARY

Airport Noise Advisory Committee

Date|Time 10/17/2018 4:00 p.m.

Meeting called to order by: Cindy Lewis

In Attendance

Name	Affiliation	In Attendance
Community Planning Groups Within the 65 dB contour		
Vacant	Downtown Community Planning Council	No
Melissa Hernholm-Danzo	Community Resident at Large within 65 dB CNEL	Yes
Dawn Reilly	Midway-Pacific Highway Community Planning Group	Yes
David Swarens	Greater Golden Hill Planning Committee	Yes
Chris Cole	Uptown Planners	Yes
Tom Gawronski	Ocean Beach Planning Board	Yes
Fred Kosmo	Peninsula Community Planning Board	Yes
Community Planning Groups Outside the 65 dB contour		
Cindy Greatrex	La Jolla Community Planning Association	Yes
Susan Nichols	Grossmont-Mt. Helix Improvement Association	Yes
Jason Legros	Pacific Beach Planning Group	Yes
Deborah Watkins	Mission Beach Precise Planning Board	Yes
Aviation Stakeholders		
Jessica Turner	San Diego County Airports	Yes
Wayne Reiter	City of San Diego Airports	Yes
Carl "Rick" Huenefeld	MCRD	Yes
Robert Bates	Airline Pilot (Active)	Yes
Kallie Glover	Airline Flight Operations	No*
Phil Derner	NBAA	No
Ex-Officio Non-Voting Members		
Justin Cook	Acoustical Engineer	No*
Jessica Meir	Congress, 53rd District, for Rep. Susan Davis	No*
Bruce Williams	San Diego City Council, District 2, for Lorie Zapf	Yes
Kiera Galloway	Congress, 52nd District, for Rep. Scott Peters	Yes
Danny Melgoza	S.D. County Board of Supervisors, District 1, for Sup. Greg Cox	No*
Keith Lusk	FAA Representative	Yes
Staff		
Sjohnna Knack, Craig Mayer, Roman Lanyak, Jim Payne & McKinna Dartez	Authority Staff	Yes
Cindy Lewis	Facilitator	Yes

*Members contacted staff ahead of time and are considered excused.

1. Welcome and Introductions

Cindy Lewis, Manager, Learning & Capability, filled in for Heidi Gantwerk as facilitator for the Airport Noise Advisory Committee (ANAC). She opened the meeting at 4:00 p.m. Introductions were made around the table. Ms. Lewis briefly shared the agenda.

Sjohnna Knack, Program Manager, Airport Noise Mitigation, explained that presentation will look different. Modifications are being made to make sure relevant information is provided. She asked for feedback from the panel on any additions, or modifications. She introduced the FAA rep, Keith Lusk, from the Western Pacific Regional office and noted that if there were questions he couldn't answer, there would be follow-up via email.

Question from ANAC: Fred Kosmo said he noticed some statistics are gone that were previously included, specifically traffic between noise dot four and ZZOOO Waypoint, and wonders why it's not being tracked anymore.

Ms. Knack said at the August meeting, there was a discussion about focusing the statistics on relevant information that can be used to influence change with the stakeholders (FAA and airlines). She asked that after the presentations be made, if there is a belief that members feel certain things should be added back in, then we should have that discussion.

Melissa Hernholm-Danzo said she didn't notice anything in the (August) minutes about certain things being removed, she finds the removal of certain things perplexing.

Presentation Items

Note: A copy of the information in the presentation can be found via our website using the following link:

http://www.san.org/Airport-Authority/Meetings-Agendas/ANAC

Quieter Home Program Update

Craig Mayer, Deputy Program Manager, Quieter Home Program (Program), provided an update on the Program's status. Over the last two months, 81 units were completed and the Program spent just under $2 million, which is generally on par with where we should be on a monthly basis. Staff met with over 300 homeowners at various stages in the process. That's roughly 660 units or homes involved in the Program right now. At the end of construction, each homeowner is given a survey which includes 15-20 questions about their experience throughout the Program. Responses from the survey are overwhelmingly positive.

Question from ANAC: Rick Huenefeld asked if there is about 3.5 year backlog. Is there estimate of, if everyone who qualified for the program, when would it all be done?

Mr. Mayer said, the Program completed 300-350 units a year based on funding levels. There is approximately 4,000-5,000 units left in the program that could be eligible. Beyond residential, there are other opportunities to treat other non-compatible properties such as churches, hospitals, schools.

Mr. Huenefeld said then 12-15 years left on primary residential level.

Question from ANAC: Melissa Hernholm-Danzo asked if presentation format could include number added to wait list in the two-month period, etc.

Mr. Mayer said that information was provided in the member's package.

Ms. Hernholm-Danzo clarified the satisfaction survey is for people already assisted, not people waiting or applying.

Mr. Mayer agreed those that have been on the wait list for a long time are not satisfied with length of time it takes to get to them, but that's all predicated on grant money received and amount of groups we can put together in a year.

Question from ANAC: Fred Kosmo Mr. Kosmo asked how many were done this year.

Mr. Mayer said currently about 225 completed for year; with projects already been awarded, it could go beyond 300. Challenge is having a limited contractor pool, and their lack of ability to perform all the construction contracts in required timeline. He's confident 300 will be hit by end of year, if contractors don't delay construction starts.

Question from ANAC: David Swarens asked what might be the shortest wait that's been experienced.

Mr. Mayer said it depends on timing of submission of application, could be only two months.

Mr. Swarens asked about homeowners who expressed they are unsatisfied, is dissatisfaction with product or process or both?

Mr. Mayer said the predominant complaint is the process took too long, which has a lot to do with 2.5 year delay while sorting things out with FAA. The other thing, consistent with that, was they're not happy that they're not getting the same treatments that people prior to them were getting for similar type homes. Other comments are regarding "lots of dust, more attention to detailed work, more frequent updates." These are all being addressed to help manage expectations.

Question from ANAC: Mr. Swarens asked that the equity program be explained again for those not at last meeting.

Mr. Mayer explained there's an eligibility process; first step is being inside the 65 dB CNEL contour; the second step is to demonstrate that the interior noise level is 45 dB or higher, and if after testing the interior of the home it is 45 dB or higher, the home is considered noisy enough to get full residential sound insulation treatment package. If home is below 45 dB, "Neighborhood Equity" treatments can be provided, which means home is already quiet enough, and we want to encourage homeowners to keep windows and doors closed because it's helping keep noise out. Neighborhood Equity packages will typically be some sort of ventilation system, which in many cases may be air conditioning. Recently, the Program has started to implement those properties into existing construction groups.

Missed Approach Statistics

Roman Lanyak, Noise Specialist, gave the definition of and presented on missed approaches. There were over 20,000 arrivals for September and August. Out of those, 127 were missed approach. Compared with last year, it's about 14% fewer, with an operations increase of about 8%, year-to-date. There is no direct correlation between the increase in operations and missed approaches. The number of missed approaches depends on the day, weather, winds, and visibility. Over 80% of missed approaches fly the standard departure path. San Diego is single surface runway with one of the tougher approaches and lowest landing minimums in the country.

Early Turns

Mr. Lanyak gave the definition of and presented on early turns. There were 42 early turns for August and September, which is a little higher as when compared to 2017. There were only seven early turns to the right over Mission Beach, and 35 turning left over Point Loma. There are more general aviation aircraft turning early so staff is working with National Business Aviation Association (NBAA) and operators specifically to figure out why.

He mentioned that on Friday, October 12th there was significant weather, specifically thunderstorms which greatly impacted FAA Air Traffic Control (ATC). FAA ATC directed 15 total early turns, 7 of which were executed within 7:30 to 8:00 p.m., all were weather-related, to safely avoid the thunderstorm cells.

Question from ANAC: Melissa Hernholm-Danzo asked what accounted for big jump in missed approaches, from 51 in August, to 76 in September.

Mr. Lanyak said most of the missed approaches were required for aircraft traffic separation.

Ms. Knack said they're noticing that some airlines (Southwest, Jet Blue, United) are bringing in quieter Boeing 737 MAX and Airbus Neo, which are quieter than older models. The noise reduction is positive, but pilots have indicated that with these aircraft there has been considerable challenge in landing the aircraft because they are so efficient with flap and winglet settings, it's very difficult to getting their altitude down.

Question from ANAC: Chris Cole asked if with new airplanes, there is a learning curve in flying them or is this a permanent situation?

Robert Bates, Professional Pilot ANAC Member, added that based on his experience the increased efficiency of aircraft is true. With Metroplex design, more modern efficient planes are a bit challenging, depending on winds, etc., to fly the standard arrivals, which means on approach, you might a be a little fast or high coming into San Diego, which might cause a missed approach that we're trying to avoid, but sometimes is necessary. He said there will be some improvement with learning curve, but the published arrivals and approaches are going to remain constant and still challenging to some pilots. He wouldn't' be surprised if larger proportion of missed approaches will be with the NEO and MAX, the new aircraft.

Mr. Kosmo requested to see stats of early turns between Dot 4 and ZZOOO when they cut the corner because they definitely impact Point Loma. He feels if those are not watched closely, they'll be taken advantage of.

Ms. Knack clarified that they're not cutting the corner. Every single early turn is being reported. She understands the concern to Point Loma is between Noise Dot 4 and 5 and ZZOOO, but those are all legal, and oftentimes directed by ATC. They can be looked at, but they're not off-course, they are flying normal procedures.

Mr. Kosmo respectfully disagreed and believes as of Part 150, ANAC Subcommittee has looked at those recommendations to try to make sure those planes fly farther south and closer to ZZOOO, not over people's houses. He thinks seeing those stats are the only way to tell how many there are.

Curfew Violations

Jim Payne, Sr. Noise Specialist, reported there was an increase of one violation over the same period last year. Year-to-date there have been 43 curfew violations through September, which is a 16% decrease. To-date, 37 violations have been reviewed with 27 penalized for a total of $246,000. 10 violations were not penalized, mainly due to local San Diego weather or maintenance issues. At the December CVRP, meeting there are currently 16 violations to review. Of the 16, 10 violations occurred recently on Friday as Roman discussed, due to weather. Mr. Payne expressed that he was surprised to see the continued decrease in curfew violations, given the Runway was not under construction all summer (it was open due to high seasonal traffic levels). As of October 11, the Runway will be closed at night again until Thanksgiving week, closed for a couple weeks, then open again for Christmas.

Noise Complaints

McKinna Dartez, Noise Specialist, presented on noise complaints**.** There was an average of 121 households for month of August and September, which is a decrease compared to last year. There was an increase for

the month of September. The increase in households seems to be from the media reporting the third-party non-Airport Authority app around the last week of August and first week of September. The location of the complaints largely remains the same, higher areas are Point Loma, Ocean Beach, La Jolla. For August and September, 80% of complaints are coming from third-party non-Airport Authority app, which is a decrease from the previous two months of 99%. This was expected due to the outreach the airport authority did with our new noise complaint app.

Question from ANAC: Deborah Watkins asked how many third-party, non-Airport Authority applications there were?

Ms. Dartez said only the one.

Ms. Watkins asked to be able to see breakdown of number of complaints per community and breakdown of type of complaint (i.e., from 3rd party non-Airport Authority app versus Airport Authority App). She also asked if the Airport Authority is going to come out with a clickable app?

Ms. Knack said the Airport Authority is currently testing a beta version of a clicker that is connected to ANOMS, and the FAA radar data feed. The data feed through the third-party app is not as accurate, but complaints from both are counted. She emphasized that the clicker would augment the suite of noise complaint products.

Cindy Greatrex said she thinks it's a great idea, that way data can be aggregated in many different ways and you can control how it is aggregated in a positive way.

Wayne Reiter added that in September, there was a front-page article that may have contributed to increase of noise complaints also.

Ms. Hernholm-Danzo noted that she agrees with Ms. Watkins to see the neighborhoods again, but completely disagree in regards to the breakdown of how the complaint is submitted (i.e., from 3rd party non-Airport Authority app versus Airport Authority App). She agrees that a complaint is a complaint and she doesn't need to see them parceled out. If somebody hears noise, somebody hears noise, and it's their prerogative to stop and go to website or click. She feels it's completely irrelevant how the complaint comes in.

Update on ANAC Recommendations

Sjohnna Knack presented the status update for ANAC recommendations. In the last couple months, with regards to spending curfew penalties on QHP, legal counsel has determined that is feasible. Next step is to go to Accounting and Finance Departments to see how to do it from that perspective, which could be more challenging. In the meantime, that money pays for a good portion of noise programs, we are paid through our general fund and that is where our penalties go to.

The curfew penalty increase was reviewed with legal counsel, who recommends that if we want to be successful in a curfew penalty increase, we should wait until things are normalized without hard Runway closures due to construction, which will be completed in May 2019. Violations will continue to be monitored. If we get curfew violations close to 2016 levels, she will come back to re-engage effort to increase curfew penalties.

Ms. Knack acknowledged there was no Fly Quiet Report in the member materials. She had previously mentioned that early turn score was going to be removed. It's very rare for pilot to request to turn early, which is predominantly at the request of FAA ATC. Staff is working on replacing that measure with a Noise Exceedance report using real noise measurements both east and west of airport, and number of times an airline exceeds the threshold at the noise monitor. That will show how quietly each airline is flying out of the airport. Ms. Knack also indicated they would like to add to the report any actions that have happened

over last quarter that airline has done, such as switching aircraft out, moving a flight earlier, etc., in an effort to fly quieter. She would like ANAC members, at first meeting of the year, to look at previous four reports from previous calendar year and make a recommendation for an operator or airline that they felt flew the quietest. This award will be based on a myriad of factors, such as steps taken to reduce noise impacts, not just the highest scores. That operator would receive an award and recognition in front of ANAC and the Airport Authority Board.

Question from ANAC: Melissa Hernholm-Danzo asked if it will be determined if airline exceeds noise outside the 65?

Ms. Knack said no, they'll look at the specific noise monitors and count how many times airline exceeded threshold. That will be calibrated against number of operations.

Kiera Galloway asked regarding transition of aircraft to quieter ones, is that already being done? Timeline for that?

Ms. Knack said they're seeing that being done now; not all airlines have them. She would also like to have more guest speakers regarding those kinds of things.

Update on Part 150 update

Deborah Watkins reported on Part 150 Update's Technical Advisory Committee (TAC), which met on August 30th, to discuss the final draft flight procedures for departures and arrivals and to provide input on which procedures should move forward to next step, which is noise modeling. Consultants added discussions regarding East County impacts from arrivals from northwest. The next meeting of TAC will be October 25, 10:00 a.m. to noon. CAC will meet 2:00-4:00 p.m. same day, where Part 150 will be kicked off. This will be a joint Flight Procedure Analysis and Part 150 meeting.

Ms. Lewis asked that members send an email to Sjohnna with any components that they felt were missing from tonight's presentation.

2. Public Comment

Tony Stiegler is Secretary of Quiet Skies La Jolla and member of the CAC representing La Jolla, a lower Hermosa/La Jolla resident. He thanked Mr. Lusk for attending. He discussed the desire to add back the stats showing La Jolla. He said he's troubled by suggestion to omit data from third-party app. He talked about the importance of the Flight Procedure Analysis and Part 150 update and potential to reduce noise by modifying flight paths. He suggested that ANAC consider the draft EIR and provide a comment.
Note from Airport Authority Staff: There was no mention of omitting complaints from the 3rd Party Non-Airport Authority App. Those complaints will be received and quantities reported to ANAC.

Martha Gonzalez is a resident of La Jolla. She expressed concerns about the arrivals and departures that create noise over her home and that she hopes noise mitigation and noise abatement measures in La Jolla are discussed. She said that she has been attending meetings and submitting noise complaints for two years but nothing has improved. She said the Airport Authority has changed its reporting system twice since she became involved, which discourages users from relying on the San Diego Airport reporting system. She uses the third-party app, which is reliable and easy to use. She said she would like the ANAC meetings in La Jolla.

Patty Davidson is from La Jolla, she is concerned about the noise over her home. She used to use the flight tracker but the third-party app is much easier to use. She doesn't want to take the time to figure out what the reason is, she just knows that it wakes her up very early in the morning and continues all day long. She believes the aircraft could fly out further before they turn, which could reduce the noise in her community.

Beatrice Pardo said she's probably number one user of the McCann button. She thinks she has close to 15,000 complaints, and that may be funny, but that's 15,000 times she wishes she could do something else to get that plane to get it out of my area. She expressed how frequently she complains and how annoying it is to take time out of her day to complain. She was glad an FAA representative was present but feels much more needs to be done locally and nationally as the NextGen program was not well designed. She's hoping that FAA rep is able to do something.

Steve Johnston said he's a new resident in La Jolla, purchased his house in 2015, done a major remodel, and is just moving in now. He talked about how when he first bought the house he didn't even think about aircraft noise but now he can see and hear them all the time. He talked about not having the time to submit all the details in a noise complaint but how easy it is to press the button. He thinks the flight path should be adjusted so that it doesn't fly close to Bird Rock any longer.

Gillian Ackland said she lives in Bird Rock as well, been there over 50 years, so she's really seen a change. She has stopped complaining because she stated there has been no positive change. Since October of 2016, the noise started and has gotten worse. She doesn't understand residential sound insulation as we all love to be outdoors and that program doesn't help with that. She thinks it is difficult to enjoy the things that make San Diego beautiful with all the aircraft noise.

Len Gross said he's a long-time La Jolla resident, and member of CAC. He's aware that there is no magic wand to wave, as some might hope, on noise problems. He talked about the efforts the TAC and CAC have taken to look at various flight procedure options. He thinks that with regards to the button that 99% of the time the flight is a "normal operation" and not an aborted landing or early turn. He thinks that the aircraft are flying too close to people. He doesn't think it is right to put the burden on the public to determine what type of concern the complaint is.

Casey Schnoor is from Point Loma. He's been on the ANAC Subcommittee and on CAC, and involved in process since August 2015. He thanked Mr. Flusk for attending. Over three-plus years he's been involved, the primary focus has been to try and engage the FAA in dialogue. He asked Mr. Lusk to get involved because he feels that he has been pushed into processes when he thinks that just one-on-one discussions could resolve the problems. He expressed concerns about the data that was removed from the ANAC member materials.

3. Action items

Ms. Lewis asked for approval of meeting summary from April meeting. There was a motion, a second and no discussion. Meeting summary was approved unanimously.

Note from Airport Authority Staff: Statistical data that was not included in the October ANAC member materials was distributed on October 30, 2018 and can be found on the website at this link: https://www.san.org/Airport-Authority/Meetings-Agendas/ANAC?EntryId=12327&Command=Core_Download

4. Next Meeting/Adjourn

Next meeting is December 19, 2018.

Meeting was adjourned.