SAN DIEGO COUNTY
REGIONAL AIRPORT AUTHORITY

AIRPORT NOISE ADVISORY COMMITTEE (ANAC)

MEETING AGENDA
Wednesday, February 19, 2020, 4:00 p.m.

LOCATION: Holiday Inn Bayside
5th Floor, Harbor View Room
4875 N Harbor Drive, San Diego, CA 92106

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1. Welcome and Introductions
2. Action Items
   a. Update on East County Working Group
   b. FlyQuiet Program Awards
   c. Approval of December 18, 2019 – Meeting Summary
3. Public Comment
4. Next Meeting: April 15, 2020
5. Adjourn

Noise Statistics are now found on the Airport's Website at: www.san.org/Airport-Noise

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
LET'S GO.

MEETING SUMMARY

Airport Noise Advisory Committee

Date | Time 12/18/2019 4:00 p.m.

Meeting called to order by: Heidi Gantwerk

In Attendance

Name	Affiliation	In Attendance
Community Planning Groups Within the 65 dB contour		
Anthony Bernal	Downtown Community Planning Council	No
Melissa Hernholm-Danzo	Community Resident at Large within 65 dB CNEL	Yes
Judy Holiday	Midway-Pacific Highway Community Planning Group	Yes
John Kroll	Greater Golden Hill Planning Committee	No
Chris Cole	Uptown Planners	Yes
Anthony Ciulla	Ocean Beach Planning Board	Yes
Fred Kosmo	Peninsula Community Planning Board	Yes
Community Planning Groups Outside the 65 dB contour		
Matthew Price	La Jolla Community Planning Association	Yes
Susan Nichols	Grossmont-Mt. Helix Improvement Association	Yes
Jim Morrison	Pacific Beach Planning Group	No
Deborah Watkins	Mission Beach Precise Planning Board	Yes
Aviation Stakeholders		
Olivier Brackett	San Diego County Airports	Yes
Vacant	City of San Diego Airports	N/A
Carl “Rick” Huenefeld	MCRD	Yes
Robert Bates	Airline Pilot (Active)	Yes
Ex-Officio Non-Voting Members		
Justin Cook	Acoustical Engineer	Yes
Zach Bunshaft	Congress, 53rd District, for Rep. Susan Davis	Yes
Joshua Coyne	San Diego City Council, District 2, for Jennifer Campbell	Yes
Kiera Galloway	Congress, 52nd District, for Rep. Scott Peters	No*
Marvin Mayorga	S.D. County Board of Supervisors, District 1, for Sup. Greg Cox	Yes
William Freeman	FAA Representative	Yes
Dave Foyle	FAA Representative	Yes
Kallie Glover	Performance Engineer, Delta Airlines	Yes
Speakers		
Jim Payne	Senior Aircraft Noise Specialist, SDCRAA	Yes
Christopher Bear	Assistant Chief Pilot. SkyWest	Yes
Gary McMullin	Captain, Mgr. of Airspace and Navigation, Southwest Airlines	Yes
Kallie Glover	Performance Engineer, Delta Airlines	Yes
Heidi Gantwerk	Facilitator	Yes

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

1. Welcome and Introductions

Heidi Gantwerk, facilitator for the Airport Noise Advisory Committee (ANAC), opened the meeting at 4:00 p.m. Introductions were made around the table. Ms. Gantwerk briefly shared the agenda.

Ms. Gantwerk expressed appreciation to Susan Nichols for her work on ANAC and East County Working Group, as this is her final meeting.

2. Presentations

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

https://www.san.org/Airport-Authority/Meetings-Agendas/Archive?EntryId=12711

Fly Quiet Program Update

Jim Payne explained the goal of the Fly Quiet Program is to encourage carriers to fly as quietly as possible. The three components of the program are curfew compliance, fleet quality index (which measures the certified noise levels of the fleet mix) and the noise exceedance, which measures the loudest 10 percent of aircraft going out of the airport. The scoring metric does not penalize anything safety-related or anything that's directed by the FAA (e.g., missed approaches).

Element one: Curfew violations. Carriers begin with a 10-point score; un-fined violations deduct one point, fined violations deduct two and a cancelled flight adds a point. It is possible to have a score greater than ten or less than zero.

Element two: Noise exceedance. This metric encourages carriers to reduce the noise impact of their aircraft by taking actual noise measurements from each end of the runway (arrivals and departures) and penalizing the loudest measurements. The top 10% of all noise events at each site are calibrated to the number of operations for that operator.

Element three: Fleet noise quality looks at the FAA published certified aircraft noise for each of the aircraft in a carrier's fleet and calculates the score against the number of flights with each aircraft type.

The Fly Quiet report is issued quarterly and beginning at the end of 2019, an annual report will compile all of the quarterly data for final awards. There are four recommended awards; Quietest Domestic Carrier, 20 daily departures or fewer; Quietest Domestic Carrier 20 daily departures or more, Quietest International Carrier; and Most Improved operator.

Fourth quarter Fly Quiet will be emailed to ANAC after the curfew violation review panel. Fly Quiet Awards will be presented at the Airport Authority Board Meeting in March.

Questions from ANAC:

A. Ciulla asked how the awards will be promoted?

S Knack said the Noise office will work with Marketing and PR to publically promote the Fly Quiet Awards.

Deborah Watkins whether the Boeing 737 Max mentioned in the report was still going to be produced?

J. Payne said that information came out after the report was completed. D. Foyle said that eventually the aircraft will get recertified, probably in the first half of 2020. Boeing is temporarily halting production because they have a surplus sitting on ramps and at the construction facility.

Airline Panel Discussion

Gary McMullin, Captain and Manager of Airspace and Navigation for Southwest said they participate with the FAA in building procedures around the national airspace system (NAS) to help the efficiency of the NAS through the noise and aircraft usage. Southwest Airlines over the years has always flown the Boeing 737. They flew B727s for some time before the B737s were available (200's, then 300's). The natural progression is to start retiring those as they wear out. Last year, they retired all of the 300s. Now they're 100 percent next-generation. Southwest has 34 B737-MAXs sitting on the ground currently, with another 40 at construction facilities. That airplane will continue to be manufactured. It's just on pause. They've spent over $200 million on updating the avionics of their airplanes, and will continue that on an ongoing basis. They participated with the implementation of RNAV procedures around the NAS. Each of these procedures are designed to move airplanes in and out, and work when done correctly.

Christopher Bear, Assistant Chief Pilot for SkyWest shared that SkyWest has been in operation 47 years has over 14,000 employees and currently serves 267 cities in the US with four partners, Alaska, American, United, and Delta. They've been in operation in San Diego for about 30 years. There are 495 jets in their fleet, all stage four or better. They have 5,350 pilots as of today, with only 123 based in San Diego. Out of San Diego, they have 24 departures a day, 21 with Alaska, the rest of them with United, American, or Delta. Their noise statistics show they tied for the fewest number of early turns over Point Loma, and none over Mission Beach. Their oldest airplane flying for Alaska, the E175, is only three years old and very quiet. They're all ADS-B and RNAV, so they have the same capacity and same structure that Southwest has as far as flying the departures and staying within the corridors. They reduce thrust all the time unless there is wind shear, when they wouldn't take off with a reduced thrust setting, which is typically a little bit quieter than normal.

Kallie Glover, Performance Engineer at Delta Airlines, shared that their noise reduction efforts are driven mainly by their Flight Ops Department and Operations and Customer Center, Airport Initiatives and Fleet Technology. Internally, their 10-7 page is how they communicate with the crews. It outlines the curfew restrictions, noise abatement, departure procedures, a reminder not to turn early, and on arrival they have a note that says due to a steeper than normal glideslope, to be proactive to avoid an unstable approach to try and reduce missed approaches. But if that is the safest option, they still have go-arounds. The curfew is something that they're working on. Any flight actions taken are triggered by what's best for the customers, while trying to be good neighbors to the community. They always try to solve the problem another way, before breaking curfew. Their 10-7 page directs the pilots to coordinate with flight control if they are at risk of breaking curfew. They also review their schedules, have a pre-planning phase where they look at their red-eyes and try to make sure there's adequate ground time in the originating station, where the incoming equipment is coming from and in San Diego. Sometimes incoming equipment from Atlanta and JFK has weather that gets them in late. One solution implemented last summer was a fleet change from the B757-300, of which they have about 20, to the A321, of which they have many more, in order to increase the possibility of using a different aircraft. From a network perspective, since they're driven by revenue and economics, their main goal is to match supply with the passenger demand. They attend ANAC and report back internally. Quarterly noise reports are reviewed as well as the Fly Quiet Report to try to improve their score. When looking at new aircraft, they focus on gauge and fuel burn for revenue and cost; quieter planes are a bonus for them. As Gary mentioned, their phasing out of noisy planes lines up with simply retiring at the end of their useful life. They must balance between the desire for advanced technology with the significant capital expense burden that comes with replacing the fleet, but noise is sometimes considered as a factor. The MD-88 should be almost entirely phased out by next year for the most part. They have begun flying the A220 to John Wayne in September and that along with the A330-900 and A350 are also a lot quieter.

Questions:

Heidi Gantwerk first asked prepared questions:

Question 1: Flying into San Diego, what are particular challenges or issues that pilots and carriers encounter at this airport that are unique to San Diego?

Gary McMullin said he has flown in here for almost 36 years. They treat every airport the same. San Diego only has one trait that makes it just a little bit different. The glide path angle is just a little bit steep. That doesn't necessarily make it more difficult to fly, you have to pay more attention to how the plane is flown. The airplanes they fly are at idle during that entire approach, which is a key piece of flying into San Diego.

Chris Bear said SkyWest also flies at idle on approach, until they get to Bankers Hill. That's where they start adding the power in because that's a requirement to be stabilized for the approach. Every airline has to have a stabilized approach in order to land in San Diego. The single runway is also challenging as it can get quite congested. Air Traffic Control does a great job. Sometimes the winds just aren't right. Sometimes pilot technique is just a little bit different. They're trying to adjust that spacing, and that is a challenge when you have a one runway situation for departures and arrivals.

Kallie Glover added that they give pilots a heads up about the glideslope. Safety is always first.

Question 2: When there are aircraft that don't seem to be following the procedure exactly, it's perceived that there's a shortcut being taken. Where does that originate? Are carriers requesting that? Because of that economic imperative, are carriers looking to cut corners so that they can get here quicker, get out quicker, and save fuel and/or time?

Kallie Glover said it's not about saving fuel or time; usually pilots are following ATC or there may be a request due to weather.

Chris Bear said they might be looking for a shortcut if there's a thunderstorm, or they see a space in traffic, or ATC offers it to them.

Gary McMullin said departures are flown as they're published. He wants to stress when they're given a clearance by ATC to fly a procedure, they have to fly it in its fullest extent. The lateral path, the vertical, the speed, all of that has to be flown, no deviations. They do a very good job at that. They have a system that continually monitors their data to ensure that they're in compliance. Pilots on departure out of San Diego rarely request a shortcut. ATC gives clearance to make a turn, they make the turn, no questions asked. Shortcuts occur for the safety of the NAS. There is nothing more in a pilot or controller's mind than safety first. That's all they think about. Shortcuts are actually just turns that have to be made to clear traffic, and they comply with whatever the controller needs. On arrivals, it's somewhat the same. They fly arrivals very precisely. The turn toward the runway is where you'll start seeing differences. They make those because the controller is trying to turn them in to hit a hole. They're turning at different locations into the airport to be able to get into this airport efficiently, as fast as they can, with the best means of being able to get the aircraft on the ground. There's no thought of shortcuts; they're simply following a vector from ATC to get lined up with the runway.

Question 3: When adding operations, new flights, how do you determine when it's time to add a new flight, and how do you pick departure and arrival times?

Gary McMullin said that decision is made at a very high level in the company. With thousands of flights a day, putting all those in sequence and using aircraft efficiently is really an impossible task. When an aircraft has a maintenance issue and breaks the daily sequence of events, it's a huge ripple effect.

Chris Bear said those decisions are made for them by Delta, Alaska, American and United.

Kallie Glover said their network team typically look to add flights over hubs that are running high load factors and performing well financially. They also want to connect passengers in all geographic directions.

Questions from ANAC:

Rick Huenefeld asked how much quieter is a stage four aircraft than a stage three? What can be expected in terms of the improving technology affecting noise as fleet models change?

Justin Cook said stage four is about 10 dB quieter than stage three, in terms of EPNL, which is what is utilized for certifying aircraft. Stage five is further reduced. They're certified from the moment of manufacture, so some that are certified as a stage three could possibly meet stage four or five limits. They just have not been certified to that level. They would have to go back and recertify, which is costly to airlines.

Chris Bear said the efficiency of an engine is based on how much air you can push through with less fuel. The newer engines designs push more air with less fuel (and less associated noise). Also, engines that are being newly introduced have a scalloping around the outside tail side of the engine, which then causes less dynamic noise coming out of the back.

Fred Kosmo thanked the panel for coming. He said for the people of Point Loma, early turns are very offensive, and noted that recent numbers keep going up and that Southwest has more than the other carriers. He asked if Southwest is doing anything specific to try to prevent early turns?

Gary McMullin said asking a pilot to do something from the ground is a huge safety issue they will not cross. The pilot is flying the airplane the best he or she knows how at that point in space, following instructions that they're given. They'll never ask a pilot not to do something that they need to do. So telling the pilots in general not to take early turns is a safety issue. If they're told to make a turn by the FAA, they're going to make it without question. There are probably more early turns by Southwest because they have so many flights out of San Diego. But they're not doing it on purpose. It's because there's a reason to do it. They won't tell pilots to question a clearance that they're given.

Mr. Kosmos asked if any efforts are being made by Southwest to work with the FAA to reduce the number of early turns?

Dave Foyle (FAA) said there's no airline flying out of San Diego that's requesting early turns. Early turns are initiated by ATC. There really are only two reasons: either there's weather, which is one time a pilot might request the early turn, but ATC also sees that on their radar displays; or because they need to blend that traffic with other traffic either exiting the San Diego area or with arrival traffic into Brown Field, North Island, or Tijuana. They do take them seriously. He gets a report from the Airport Authority and they review about 30 a month to determine whether there was a basis for it, and when there wasn't, they provide performance feedback to controllers involved that they didn't comply with noise abatement procedures. It is the FAA's responsibility on early turns, and they take compliance with noise abatement procedures seriously.

Sjohnna Knack clarified that her office sends the FAA reports of what they consider to be egregious early turns (not traffic separation or weather). In November and December, statistics show they were predominantly weather-related.

Chris Cole asked if carriers' attendance at this meeting indicates an ongoing relationship with ANAC and the Airport Authority over the noise problem?

Gary McMullin said Southwest has a strong relationship with every airport; this is not a one-off.

Ms. Knack pointed out that Kallie Glover comes regularly from Atlanta to these meetings and that Chris Bear sits on the Technical Advisory Committee for the Part 150 Study.

Robert Bates asked what do SkyWest and Southwest have published on their 10-7 pages to make pilots aware of this specific situation unique to San Diego?

Chris Bear said SkyWest's 10-7 just acknowledges that there is noise, because if you fly the departure procedure, you are flying the noise abatement procedure. Some airports do have a noise abatement procedure which is a separate procedure than the typical departure procedure assigned by ATC. Their pilots get special education about San Diego's terrain and the steep glide path, and the possibility of vectoring for a single runway, but that's it.

Gary McMullin said Southwest is exactly the same. The steep glide path here is part of their arrival briefing. They call it a station information page. There's nothing special in it to instruct the pilot. It's very clear. Pilots don't control that because they don't take off until the company says they can take off. If they're outside the curfew, they don't make the decision. The company makes decisions and pilots do what they're asked to do. Within their ops center, a very high level person makes the decision whether to take off or not, taking into consideration all factors. Pilots are aware of the 11:30 p.m. takeoff curfew; it's published on the station information page which is FAA approved.

An ANAC member asked for clarification whether Delta mainline is using majority of B757s, as opposed to A321Neos. Any plan for fleet attrition for the B757s?

Kallie Glover said that's one of their regular aircraft at San Diego. The fleet mix changes seasonally, but they do fly the B757s. She doesn't have dates for the B757s, but the average life of a plane is around 30 years.

Susan Nichols said East County was without air traffic noise until the last couple of years with changes from Metroplex. The East County Working Group was advised that one factor may be airframe noise due to the location and unique topography of East County. What remedy might there be?

Gary McMullin said he lives under the DFW flight tracks. There are times when an airplane comes across at idle, and he can't hear the engine, but he can hear the airframe noise, which gets a little higher when flaps are extended, speed brakes are used, etc. It's not that significant, but it is noise.

Deborah Watkins asked if over Mission Beach it's more weather-related because of being near the ocean?

Gary McMullin said they rarely have any early turns in that area, unless there's something that needs to be managed between a pilot and air traffic control.

Melissa Hernholm-Danzo asked, knowing the restrictions that exist with the single runway, and knowing the proposal for an expansion in air traffic, how can airlines add more flights to an already over-capacity airport?

Chris Bear said his office window overlooks the runway and he sees a lot of downtime with no traffic, so he does see a lot of opportunity for more airplanes. At hub times, it is at capacity now. That's where it can't be pushed tighter. But in the middle of the day, he sees lots of space for more travel. If the demand is there, then obviously, the airlines are going to supply it.

Ms. Hernholm-Danzo asked if the increase of flights over neighborhoods is ever a consideration in regard to the economic imperative of the airlines?

Mr. Bear said the FAA tells them they can take off at 6:30 a.m., so they're lined up to do it. That's their job. They don't make those decisions. Mr. McMullin said that when he flies over Point Loma, he's very high. They just think about flying the route that they're assigned. They think about doing what we're asked to do.

Dave Foyle said that airlines make decision on schedule. San Diego Lindbergh is not a slot controlled airport. If asked, the FAA will provide feedback, but there isn't a formal role for the FAA in scheduling for the airport. The airlines are very aware of capacity in terms of what can ATC move per hour. Generally speaking, in good weather conditions, it's 22-24 arrivals per hour and 22-24 departures per hour, which is very busy on the ATC side because they have to keep spacing just right on final. The hours when there's less demand are not necessarily hours people want to fly.

Jim Payne said the airlines are going to maximize their schedule based on the hub and spoke system, with the exception of Southwest. Southwest is more about getting you point to point. An airport itself can't put a cap on the operations; the runway caps it. When there is demand, they'll meet it. In terms of economics, there's a very thin profit margin, so they won't quit going to San Diego just because it's congested. They are there to meet demand. They'll wait for slot allocation action and it will cost more to fly here. Our average fare is about $240-$250. At a slot-controlled airport, it's $320-$350.

Matthew Price mentioned Mr. Bear's explanation that as the airport expands, there will be a distribution where every hour will be like primetime, which emphasizes the need for smart growth and the integration of noise abatement initiatives. He asked if early turns are automatically identified or only identified through citizen complaints?

Sjohnna Knack said they're automatically identified in the Airport Noise and Operations Monitoring System, based on the FAA noise dots.

Mr. Price asked if a flight at 11 p.m. is supposed to fly ZZOOO and flying the evening procedure along the ocean, then cutting south, if they fly north instead and loop around La Jolla inside the air dots, would those be captured in the system as an early turn?

Ms. Knack said that would not count as an early turn, but that is a classic example of something that she's sent Dave Foyle as a concern to the public. They're not waiting for noise complaints; they already know it's a concern, so those are sent to the FAA.

Mr. Price asked if there is pressure for pilots to request an early turn to land on time or on the ATC to help pilots or planes that may be running late by taking a short turn over La Jolla?

Mr. McMullin said the answer is no. A statistical example, if he was flying from here to New York, and he accelerated the airplane as fast as he could possibly fly it over normal cruise speed, it would save 4 minutes. Shortcuts don't really give any benefit; they are done out of operational necessity.

Mr. Price asked if there is an understanding and concern for airlines to be on time when they're routed at night to have more efficient routing which is why Metroplex was first put into place, to improve efficiencies, so that there can be fuel and time savings.

Dave Foyle said he can only answer generally in that Metroplex routes were designed not necessarily to be shorter, although in some cases they were slightly shorter. But sometimes a route would have three to five small turns and the desire was to straighten that out if possible. Also, on arrivals when appropriate to have an optimized profile descent, where the aircraft could descend in a more neutral throttle from cruise altitude down to a lower altitude. Fuel burn is more efficient and as it gets closer to the ground, if they can stay in that kind of configuration it's quieter because there's less engine noise. Individual controllers are not told whether a flight is on time or not, and specifically they don't want to because they want them to focus on safe separation of aircraft and doing their job. The only time they ever hear anything from the crew is in the tower on departure if somebody has a flight crew duty issue, and they'll ask if we can help them get off the ground within the next 15 minutes. Otherwise, the crew is going to time out, in which case the aircraft has to go back to the gate, they have to deplane and get another flight crew.

Chris Bear said pilots want to get as high as they can, as quickly as they can and separate themselves from the ground because they know that altitude is safety in an airplane, especially a jet; plus efficiencies are gained by getting up to altitude. They'd rather stay on the route because of the short distances they fly.

Mr. Price said he believes the community of San Diego would second you that they would like the planes to get higher faster and that in the last three years as Metroplex departures are significantly lower for a longer period of time.

Melissa Hernholm-Danzo asked what is the feasibility of San Diego, from a pilot's perspective, being able to operate departures like Orange County?

Dave Foyle said the safety of a procedure like Orange County would be something that the flight standards end of the FAA would weigh in on, it is not an ATC call. Geographically, there's a more populated area between the runway and the coast at Orange County than San Diego. Even if a higher climb rate were possible here, or a noise procedure such as Orange County has, the aircraft, even at a max rate of climb, wouldn't get high enough to where they'd throttle back as they do at Orange County before hitting the coast.

Part 150 Study Update

Sjohnna Knack said on November 20th, the Technical and Citizen Advisory Committees met to review the alternatives that will be analyzed by the consultant, which include the subcommittee recommendations and alternatives required to be considered by the FAA, all which center solely on the 65 dB contour. The public workshop was held the following day with about 30-35 people attending. The next step is to work with the FAA to get their review of the noise contours before working on the alternatives. There is not a schedule for that at this point. They're working closely with the FAA to see if it can be done as quickly as possible, so they can move forward with the analysis.

3. Public Comment

Janet Holland, Point Loma Heights She wants to address three concerns. One, it has been her observation that for several weeks planes departing from Lindbergh Field are flying in a more southerly direction, much closer to their house than before. Two, they appear to be flying lower than before, causing more aircraft noise. Third, she has noticed increased air pollution in her yard and on her windows. This is unhealthy air quality obviously. She's very concerned about the future, what's going to happen with constant noise.

Maggie Locke, Point Loma, said she has also witnessed the same thing. She feels there's a troubling disconnect between airline business interests and reality. The Metroplex approach to air traffic isn't working in lots of places around the country, and certainly not in San Diego. The computerized system is being imposed on a broad swath of San Diego coastal neighborhoods in a dictatorial manner, with little transparency and even less cooperation with the public. Under these circumstances, no increase in air traffic should be permitted to go forward. In fact, a return to former, more moderate scale is the goal of residents like herself. She expressed grave concern about the airline industry's role as one of the largest contributors of carbon dioxide to the atmosphere, and its complete failure to take steps to address climate change in order to maximize profit. She believes public awareness is growing with greater presence of flying shame and climate grief as well as a desire among folks to behave more like citizens and consumers and expressed a hope that such activism comes to San Diego as soon as possible.

Deb Porter, Ocean Beach said they were told a few years ago that they would take this new vector, which is the one that comes over Silver Gate School and Warren Walker and Sunset Cliffs, and that it would only be used for emergencies or efficiency. She believes that is no longer the case because the frequency of air

flights is just unbelievable. She started out thinking that she wanted to ask about where the noise sensors are, how they're distributed, if they're still maintained, but she's getting the impression that the 65 dB doesn't really matter anymore. It's really more how many flights can be fit in. She thinks she's picked up that the only way to get more flights is to fan out the approach levels. The pilots obviously don't make a decision. FAA seems deaf to our desires. She asked who she should be talking to, to make her voice heard.

Tony Stigler, La Jolla, Member of CAC, Secretary of Quiet Skies said La Jolla is seriously impacted by noise from NextGen Metroplex and would be severely adversely impacted by the ADP, Airport Development Plan. The ADP proposes adding 11 new gates and an undisclosed number of additional remain overnight jet parking places. Both will dramatically increase operations at SDIA. The ADP Draft EIR notes that there will be a very significant but unavoidable harm to human health associated with this project, caused by increased jet noise from more frequent flight operations during all hours. Those human health risks include increased physiological harm, stress, coronary heart disease, stroke, cognitive and learning deficits for our children, and cancer. The DEIR discloses that the ADP will cause atmospheric environmental harm from greenhouse gas emissions and damage to environmentally sensitive areas and biodiversity. The SDCRAA itself says that the project implementation would cause a 3 dB or more increase in noise-sensitive areas, starting as early as 2024, due to a substantial increase in flight operations. Additional jet overnight parking will guarantee a corresponding increase in the number of early morning departures and late evening arrivals. Before spending $3 billion on an airport improvement project, health and environmental studies should be conducted and assessed and noise mitigation measures implemented before the damage to human health and the environment is irreversible. The SDCRAA is also ignoring the 2018 FAA Reauthorization Act, which requires that additional noise and health impact studies be completed for San Diego as part of Congress' funding renewal. Inexplicably however, the SDCRAA concludes that the effects of noise on cardiovascular health are too speculative for further evaluation. The correct process and order should be to first gather and assess the medical evidence regarding risks of the proposed airport expansion and the NextGen Metroplex project. Number two, assess and implement reasonable proposals to mitigate jet noise associated with NextGen and the ADP. And three, only after these steps, consider whether to expand the airport and increase these operations.

4. Motion to approve minutes and Next Meeting/Adjourn

Chris Cole moved to approve the meeting summary. It was seconded by Anthony Ciulla and motion passed.

Next meeting is February 19, 2020.

Meeting was adjourned.

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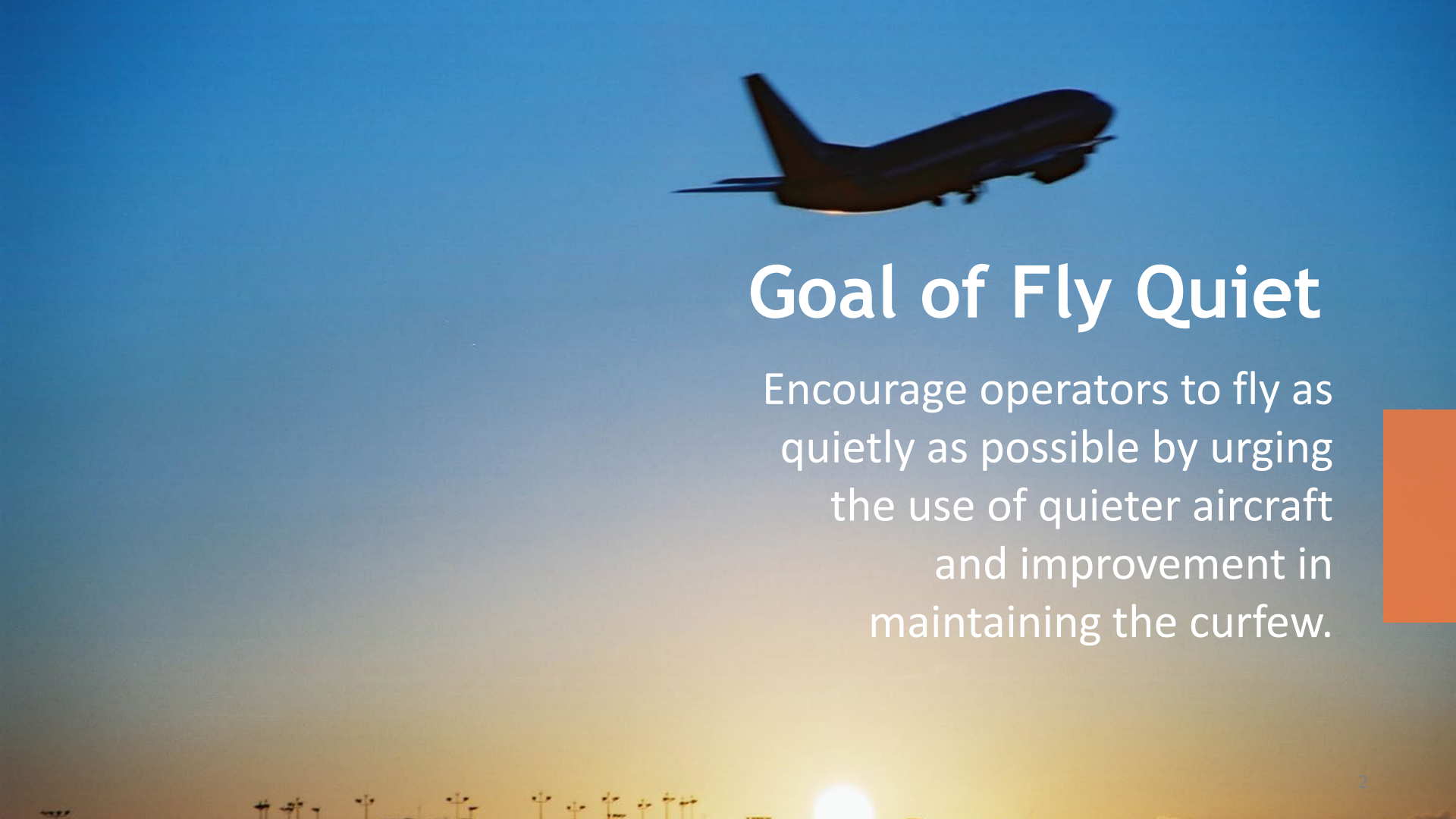
Fly Quiet Program Update

Jim Payne

Sr. Aviation Noise Specialist

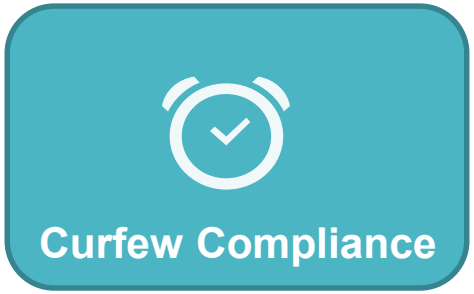
February 19, 2020



Goal of Fly Quiet

Encourage operators to fly as quietly as possible by urging the use of quieter aircraft and improvement in maintaining the curfew.

What is the Fly Quiet Program?



The Fly Quiet Program was introduced in 2017 as a scoring system based on specific metrics to encourage operators at San Diego International Airport to fly as quietly as possible.

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Large Domestic Carrier
United Airlines

United Airlines achieved this award with a high score in the Curfew Violation component. This was done through having only one penalized curfew violation throughout the year and the cancellation of 14 departures that would have resulted in a violation.

Small Domestic Carrier
Allegiant Airlines

Allegiant Airlines achieved this award through the retirement of their MD-80 fleet, replacing them with significantly quieter A319 aircraft.

International Carrier
Japan Airlines

Japan Airlines achieved this award predominantly due their quiet aircraft fleet. They are the only international carrier at the airport that uses the Stage 4 Boeing 787. It is worth noting that while significant weather events and maintenance issues have been encountered over the years, Japan Airlines has not had a single curfew violation in their 7 years of operation at San Diego.

Most Improved Carrier
American Airlines

American Airlines improved their overall score in 2019 from their 2018 by 17%. This was largely accomplished with their compliance with the curfew. In 2018, with a high number of curfew violations, staff worked with American Airlines corporate offices. They developed a strategy that brought the violation decision making process to the local San Diego level. This has resulted in a reduction of penalized violations for 2019 by nearly 70%.

Questions ?

SAN DIEGO INTERNATIONAL AIRPORT
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February 12, 2020

Fly Quiet Report

4th Quarter 2019

Prepared by:

Jim Payne
Sr. Aircraft Noise Specialist, Airport Noise Mitigation
Planning & Environmental Affairs
San Diego County Regional Airport Authority

1.0 Summary of 4th Quarter 2019 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 4th Quarter 2019.

Last year, the Fly Quiet Report was modified to remove the Early Turn element and replace it with a new Noise Exceedance element establishing a new baseline for the 2019 reports. In addition, a section discussing changes in the operating environment having an impact on noise.

Air Carrier Fleet Updates:

- American Airlines added the Stage 4 Airbus A321Neo to the market in November. Forward schedules show slow, but steady increases in use through 2020.

Notable results in the report for the 4th Quarter of 2019 vs. the 4th Quarter of 2018:

- Curfew Violation compliance was improved this quarter with an average score of 9.7 points. For the year, violations are down 23% after a 15% decline in 2018. While the violations have been curtailed in the last few years due to airfield work, scheduled closure periods have been relatively consistent. Additionally, there has been an increase in weather events this year, which leads to increased runway availability at night as airfield work is halted or delayed during weather events.

- The most improved carrier for the quarter is American Airlines increasing their overall score by 7-points. The primary driver was their curfew violation compliance score.

- Frontier Airlines, Spirit and Allegiant tied for first with perfect scores. This is largely due to their continuing increased use newer aircraft, including the use of the Stage 4 A320Neo family at Frontier and Spirit.

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. The FlyQuiet awards will be presented to the operators each year at the March Airport Authority Board Meetings.

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 ten (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. Compliance periods rum from January through June and then July through December each year. Additionally, a multiplier is added to reflect the number of violations from the previous compliance period.

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 two (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 one (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.

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

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

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 4th Quarter of 2019. 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
4th Quarter 2019 (October - December, 2019)

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
AAL	American Airlines	4,465	8.6%	0	1	3	12.0
UAL	UNITED	4,964	9.6%	0	0	1	11.0
DAL	DELTA	4,438	8.5%	0	0	0	10.0
SKW	SkyWest Airlines	4,018	7.7%	0	0	0	10.0
CPZ	Compass Airlines	1,921	3.7%	0	0	0	10.0
FFT	FRONTIER	905	1.7%	0	0	0	10.0
NKS	spirit	854	1.6%	0	0	0	10.0
FDX	FedEx	662	1.3%	0	0	0	10.0
JZA	Jazz	448	0.9%	0	0	0	10.0
HAL	HAWAIIAN AIRLINES	368	0.7%	0	0	0	10.0
UPS	ups	268	0.5%	0	0	0	10.0
ROU	rouge	186	0.4%	0	0	0	10.0
JAL	JAPAN AIRLINES	180	0.3%	0	0	0	10.0
WJA	WESTJET	144	0.3%	0	0	0	10.0
GTI	Atlas Air	130	0.3%	0	0	0	10.0
DLH	Lufthansa	116	0.2%	0	0	0	10.0
AAY	allegiant air	12	0.0%	0	0	0	10.0
EDW	edelweiss	0	0.0%	0	0	0	10.0
ASA	Alaska	6,224	12.0%	0	1	0	9.0
SWA	Southwest	20,206	38.9%	1	0	0	8.0
SCX	sun country airlines	232	0.4%	1	0	0	8.0
BAW	BRITISH AIRWAYS	164	0.3%	1	0	0	8.0
JBU	jetBlue AIRWAYS	1,074	2.1%	1	1	0	7.0
Total		51,979	100%	4	3	4	
Average							9.7

Noise Exceedances Report						
San Diego International Airport's Fly Quiet Program						
4th Quarter 2019 (October - December, 2019)						

Higher Number = Better Score

Airline Code		Number of Operations	Percent of Total Operations	Total Noise Exceedances	Sub Score	Noise Exceedances Score
AAY	allegiant air	12	0.0%	0	1.00	10
CPZ	Compass Airlines	1,921	3.7%	12	0.99	10
JZA	Jazz	448	0.9%	3	0.99	10
SKW	SkyWest Airlines	4,018	7.7%	28	0.99	10
WJA	WestJet	144	0.3%	2	0.99	10
NKS	spirit LESS MONEY, MORE GO	854	1.6%	15	0.98	10
FFT	FRONTIER LOW FARES DONE RIGHT	905	1.7%	19	0.98	10
SWA	Southwest	20,206	38.9%	464	0.98	10
SCX	sun country airlines	232	0.4%	8	0.97	10
JAL	JAL JAPAN AIRLINES	180	0.3%	10	0.94	9
ASA	Alaska	6,224	12.0%	535	0.91	9
JBU	jetBlue AIRWAYS	1,074	2.1%	118	0.89	9
UAL	UNITED	4,964	9.6%	658	0.87	9
DAL	DELTA	4,438	8.5%	709	0.84	8
AAL	American Airlines	4,465	8.6%	943	0.79	8
ROU	AIR CANADA rouge	186	0.4%	42	0.77	8
HAL	HAWAIIAN AIRLINES	368	0.7%	112	0.70	7
GTI	ATLAS AIR	130	0.3%	42	0.68	7
UPS	ups	268	0.5%	100	0.63	6
FDX	FedEx	662	1.3%	278	0.58	6
DLH	Lufthansa	116	0.2%	73	0.37	4
BAW	BRITISH AIRWAYS	164	0.3%	160	0.02	0
EDW	edelweiss	0	0.0%	0	0.00	0
Total		51,979	100%	4,331		
Average					0.8	7.8

Fleet Noise Quality Report						
San Diego International Airport's Fly Quiet Program						
4th Quarter 2019 (October - December, 2019)						

Higher Number = Better Score

Airline Code		Number of Operations	Percent of Total Operations	Sub Score	Fleet Noise Quality Score
FFT	FRONTIER	905	1.7%	20.2	10.0
NKS	spirit	854	1.6%	18.5	10.0
HAL	HAWAIIAN AIRLINES	368	0.7%	20.6	10.0
JAL	JAPAN AIRLINES	180	0.3%	27.7	10.0
DLH	Lufthansa	116	0.2%	21.4	10.0
AAY	allegiant air	12	0.0%	19.2	10.0
JBU	jetBlue AIRWAYS	1,074	2.1%	15.4	7.0
UPS	ups	268	0.5%	15.9	7.0
BAW	BRITISH AIRWAYS	164	0.3%	15.4	7.0
SWA	Southwest	20,206	38.9%	14.2	6.0
UAL	UNITED	4,964	9.6%	14.6	6.0
ASA	Alaska	6,224	12.0%	13.7	5.0
AAL	American Airlines	4,465	8.6%	13.5	5.0
SKW	SkyWest AIRLINES	4,018	7.7%	13.3	5.0
FDX	FedEx	662	1.3%	13.5	5.0
JZA	Jazz	448	0.9%	13.8	5.0
WJA	WESTJET	144	0.3%	13.9	5.0
CPZ	Compass Airlines	1,921	3.7%	12.1	4.0
SCX	sun country airlines	232	0.4%	12.7	4.0
GTI	ATLAS AIR	130	0.3%	12.9	4.0
DAL	DELTA	4,438	8.5%	11.4	3.0
ROU	AIR CANADA rouge	186	0.4%	9.3	1.0
EDW	edelweiss	0	0.0%	0.0	0.0
Total		51,979	100%		
Average				14.9	6.0

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
4th Quarter 2019 (October - December, 2019)

Airline Code		Number of Operations	Percent of Total Operations	Curfew Violations Score	Noise Exceedances Score	Fleet Noise Quality Score	Total Fly Quiet Score	Ranking
FFT	FRONTIER	905	1.7%	10	10	10	30	1
NKS	spirit	854	1.6%	10	10	10	30	1
AAY	allegiant air	12	0.0%	10	10	10	30	1
JAL	JAPAN AIRLINES	180	0.3%	10	9	10	29	4
HAL	HAWAIIAN AIRLINES	368	0.7%	10	7	10	27	5
UAL	UNITED	4,964	9.6%	11	9	6	26	6
AAL	American Airlines	4,465	8.6%	12	8	5	25	7
SKW	SkyWest AIRLINES	4,018	7.7%	10	10	5	25	7
JZA	Jazz	448	0.9%	10	10	5	25	7
WJA	WESTJET	144	0.3%	10	10	5	25	7
SWA	Southwest	20,206	38.9%	8	10	6	24	11
CPZ	Compass Airlines	1,921	3.7%	10	10	4	24	11
DLH	Lufthansa	116	0.2%	10	4	10	24	11
ASA	Alaska	6,224	12.0%	9	9	5	23	14
JBU	jetBlue AIRWAYS	1,074	2.1%	7	9	7	23	14
UPS	ups	268	0.5%	10	6	7	23	14
SCX	sun country airlines	232	0.4%	8	10	4	22	17
DAL	DELTA	4,438	8.5%	10	8	3	21	18
FDX	FedEx	662	1.3%	10	6	5	21	18
GTI	ATLAS AIR	130	0.3%	10	7	4	21	18
ROU	AIR CANADA rouge	186	0.4%	10	8	1	19	21
BAW	BRITISH AIRWAYS	164	0.3%	8	0	7	15	22
EDW	edelweiss	0	0.0%	10	0	0	10	23
Total		51,979	100%					
Average				10	8	6	24	