

Norman Y. Mineta
San José International Airport
2017 Annual Noise Report



NORMAN Y. MINETA
SAN JOSE
INTERNATIONAL
AIRPORT
SILICON VALLEY'S AIRPORT

Annual Noise Report for Norman Y. Mineta San José International Airport

Introduction and Purpose

The purpose of this annual report is to communicate the efforts undertaken by the City of San José (“the City”) and Norman Y. Mineta San José International Airport (“SJC” or “Airport”) to minimize the airport’s noise impact on the surrounding communities. This report contains an explanation of the curfew and violation process, as well as a summary of records for the calendar year detailing the number and type of curfew violations.

Operational Restrictions and the Curfew

Chapter 25 of the San José Municipal Code (“SJMC”) details the city ordinances regarding Airport-related noise as well as the Airport curfew. The SJMC defines the curfew as, “...a time use restriction that limits the hours in which the city will allow certain aircraft operations to be conducted and that prohibits the scheduling and operation of certain aircraft operations at the airport during curfew hours.”

The weight-based curfew for the Airport was original formulated in 1984 with subsequent revisions to a noise-based curfew in 2003. The revisions also allowed for monetary fines for curfew violations and included newer business jet type aircraft.

The noise-based curfew restricts flight activity into and out of the Airport between the local hours of 11:30 PM and 06:30 AM for aircraft operations by jet aircraft with Federal Aviation Administration (“FAA”) certified and published Effective Perceived Noise level in decibels (“EPNdb”) above 89.0. Aircraft types grandfathered in to be exempt from this noise level as well as those that are compliant with the curfew are listed for easy reference on the Schedule of Authorized Aircraft.

Responsibility for monitoring and managing the airport noise and curfew programs at SJC belongs to the City’s Airport Operations Division.

Types of Curfew Violations

Any aircraft operation in an aircraft type whose EPNdb is above 89.0, not on the Schedule of Authorized Aircraft, that depart from or arrive to the Airport between the local hours of 11:30 PM and 06:30 AM is defined as a non-compliant operation. A non-compliant operation is then further defined as being either an intrusion or a violation. An intrusion is defined as a non-compliant operation that was documented to occur during curfew hours due to circumstances outside of the aircraft operators’ control (e.g. Air Traffic Control delays, Weather delays, etc.) which are referred to in the SJMC as “Force Majeure” events. A violation is defined as a non-compliant operation that did not have acceptable documentation justifying the operation to occur during curfew hours.

For a non-compliant operation to be categorized as an intrusion rather than a violation, the operator must communicate the extenuating circumstances to the Airport. If those circumstances are accepted by the Airport, the operation will be categorized as an intrusion and no fine will be levied. Fines for violations are \$2,500 per occurrence.

Actions Taken by Airport Operations Department

Throughout the year, Airport Operations staff publishes the Monthly Noise Summary Charts on the Airport’s website which details the total number of curfew compliant and non-compliant operations as well as the number

of noise complaints submitted. Additionally, Airport Operations staff uses data from the FAA along with data from an airport noise monitoring system to compile a Quarterly Noise Report for concerned residents, as well as other City, County, and State officials.

The noise monitoring system mentioned above was originally installed in November of 1992, with updated hardware and software installed more recently. The system records and measures aircraft noise levels at strategic locations in noise-sensitive locations under the aircraft arrival and departure paths. The noise system also compiles flight track and flight identification information, noise complaints and complainants' addresses, and noise events. The quarterly noise monitoring and reporting is conducted in compliance with State regulations.

Airport Operations staff continually investigates and responds to noise complaints, tracks flight activity, reviews curfew operations for compliance with the SJMC and assesses fines as necessary. Airport Operations staff also participate in Airport Commission meetings to communicate the findings contained in the Monthly Noise Summary Charts and to respond to questions from residents of neighboring communities.

Airport staff also review airline provided justification for curfew violations, and work with aircraft operators to minimize the number of non-compliant operations during curfew hours thereby reducing the disturbance to the public. The Airport Operations staff strives to take a proactive approach to managing the noise associated with SJC and the need to be polite neighbors to the surrounding residential communities.

2017 Operations During Curfew

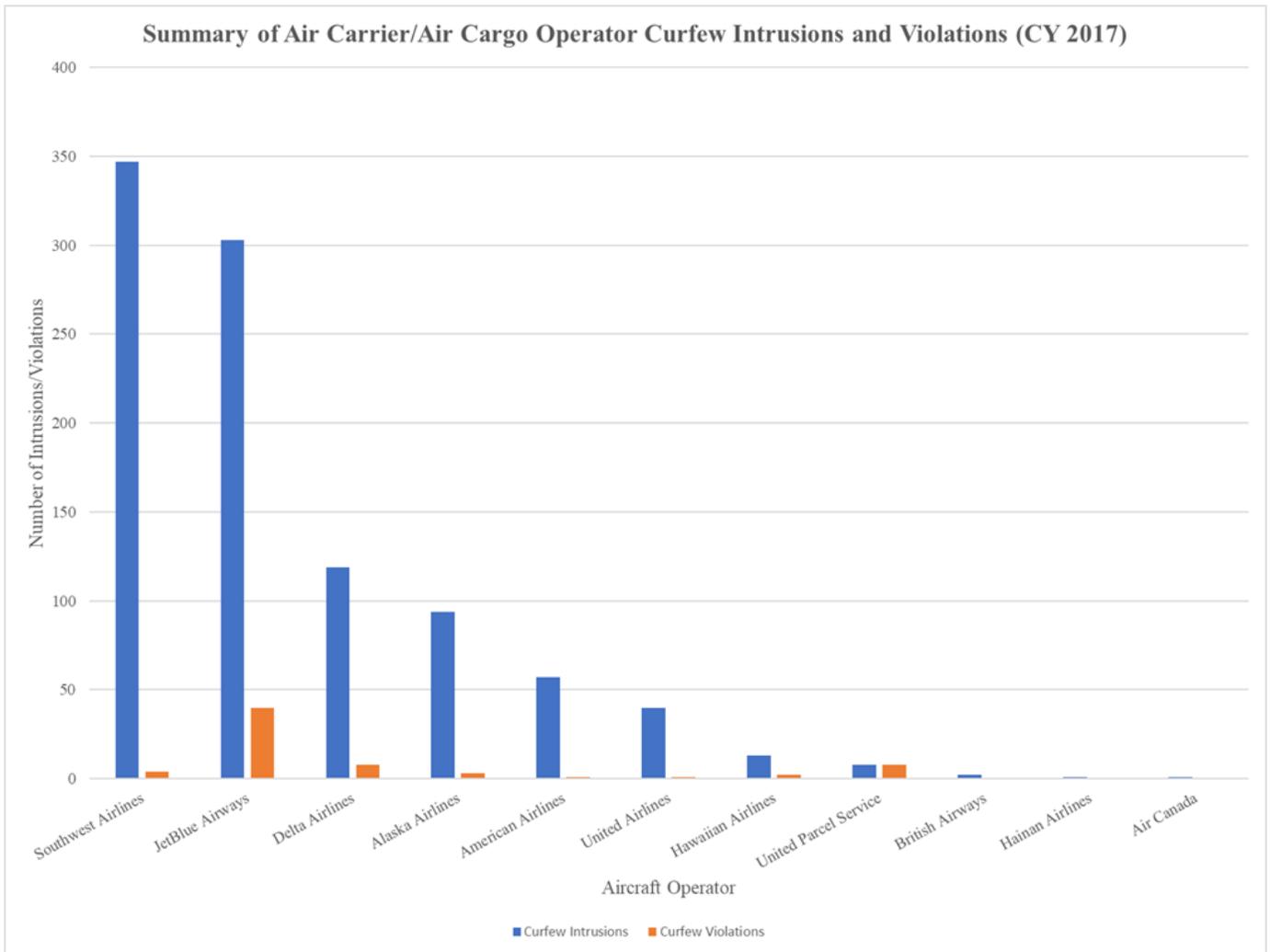
In calendar year 2017, there were 3,400 operations during the curfew hours out of the 171,883 total operations for the Airport (approximately 1.98%). For comparison, calendar year 2016 had 2,622 curfew operations out of the total 153,419 operations for the airport (approximately 1.71%).

Of the 3,400 curfew operations, 1,051 were found to be intrusions which represents approximately 0.61% of all operations at SJC for a curfew compliance rate of over 99%. Of those 1,051 intrusions, 77 were found to be violations and were cited; this represents approximately 0.00045% of all operations at SJC.

In 2017, the airport hosted 16 Commercial Air Carrier tenants and 2 Air Cargo tenants. Of those 18 operators Aeromexico, Air China, All Nippon Airways, Federal Express, Frontier Airlines, Lufthansa, and Volaris each committed zero curfew intrusions.

In 2017 Southwest Airlines, Jetblue Airways, Delta Airlines, and Alaska Airlines were responsible for the majority (86.39%) of curfew intrusions.

The chart and table on the following page depict the commercial and air cargo carriers' annual intrusions and related violations for calendar year 2017.



Bar Chart of CY 2017 Air Carrier/Air Cargo Intrusions

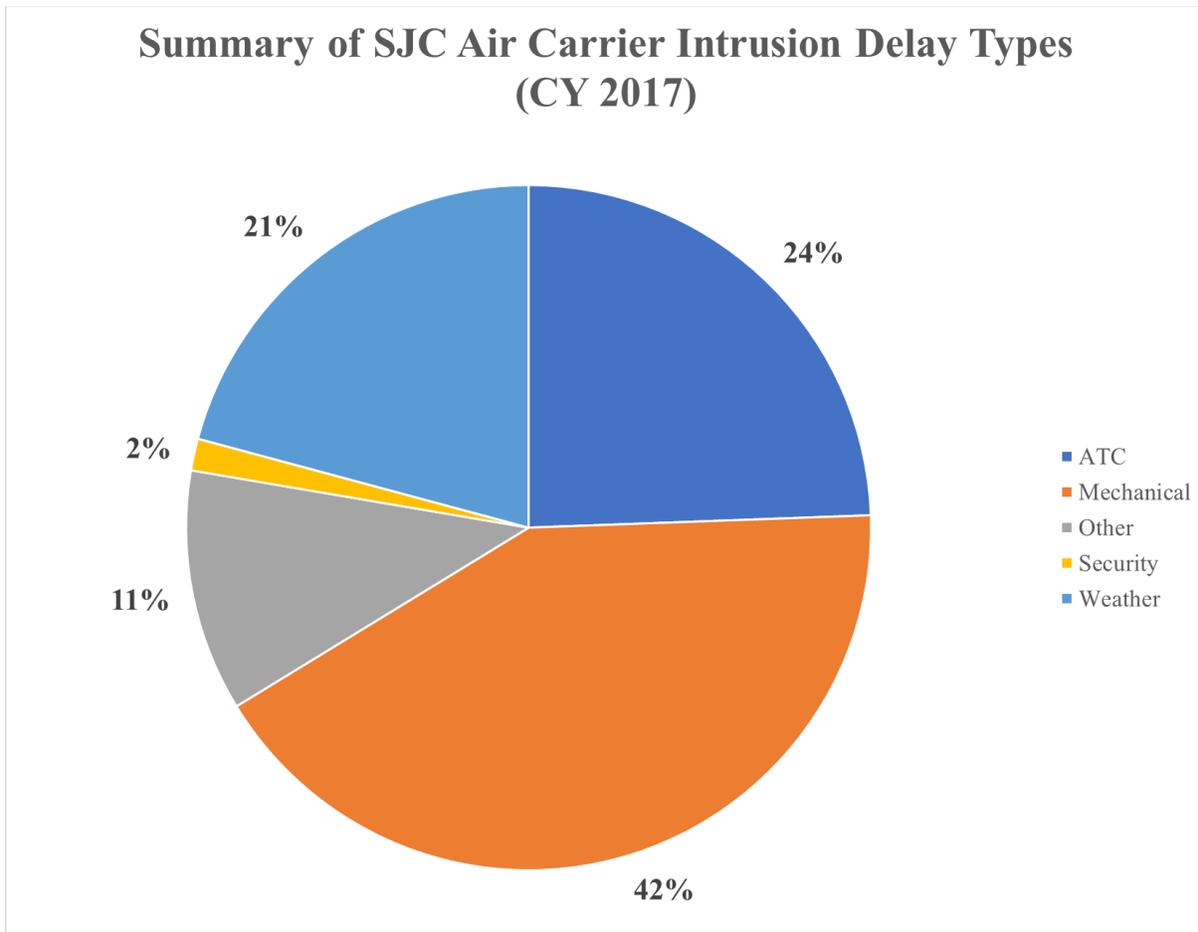
SJC Air Carrier Intrusion Data 2017		
Airline	Number of Intrusions	Number of Violations
Southwest Airlines	347	4
JetBlue Airways	303	40
Delta Airlines	119	8
Alaska Airlines	94	3
American Airlines	57	1
United Airlines	40	1
Hawaiian Airlines	13	2
United Parcel Service	8	8
British Airways	2	0
Hainan Airlines	1	0
Air Canada	1	0

Table of CY 2017 Air Carrier/Air Cargo Intrusions

For **JetBlue Airways**, the curfew intrusions came from both nightly flights connecting to Boston and New York City. Most of these intrusions were due to poor weather conditions on the East Coast which led to departure delays to San José. However, the cited violations were often due to the inability to turn the arriving flight quick enough to send the departing flight out before the curfew went into effect. Airport Operations staff worked with JetBlue Airways to adjust their scheduled time which has caused a noticeable drop in intrusions not due to Force Majeure events.

For **United Parcel Service (UPS)**, the carrier informed Airport Operations staff that due to a forecasted increase in holiday-related packages through the Bay Area, such as in 2016, that they would be adding additional arrivals during the curfew hours between 4:00 AM and 5:00 AM. Airport Operations staff reminded UPS of the airport's curfew and commitment to minimizing its noise impact on the surrounding communities. This year, UPS again chose to hold departures until the curfew timing expired but did have seven violating arrival flights that they were cited for. The eighth violation was an unrelated intrusion in July.

For the SJC-based air carriers in general, many of the delays come from mechanical issues that are experienced on the specific aircraft carrying the flight throughout the day on its flight network. There are also about as many delays due to ATC and Weather combined. Occasionally there are also delays for more specific incidents such as required security sweeps or when a crew member calls in sick. The following chart illustrates the breakdown of how many flights were affected by weather, mechanical, air traffic control, security, or other delays.



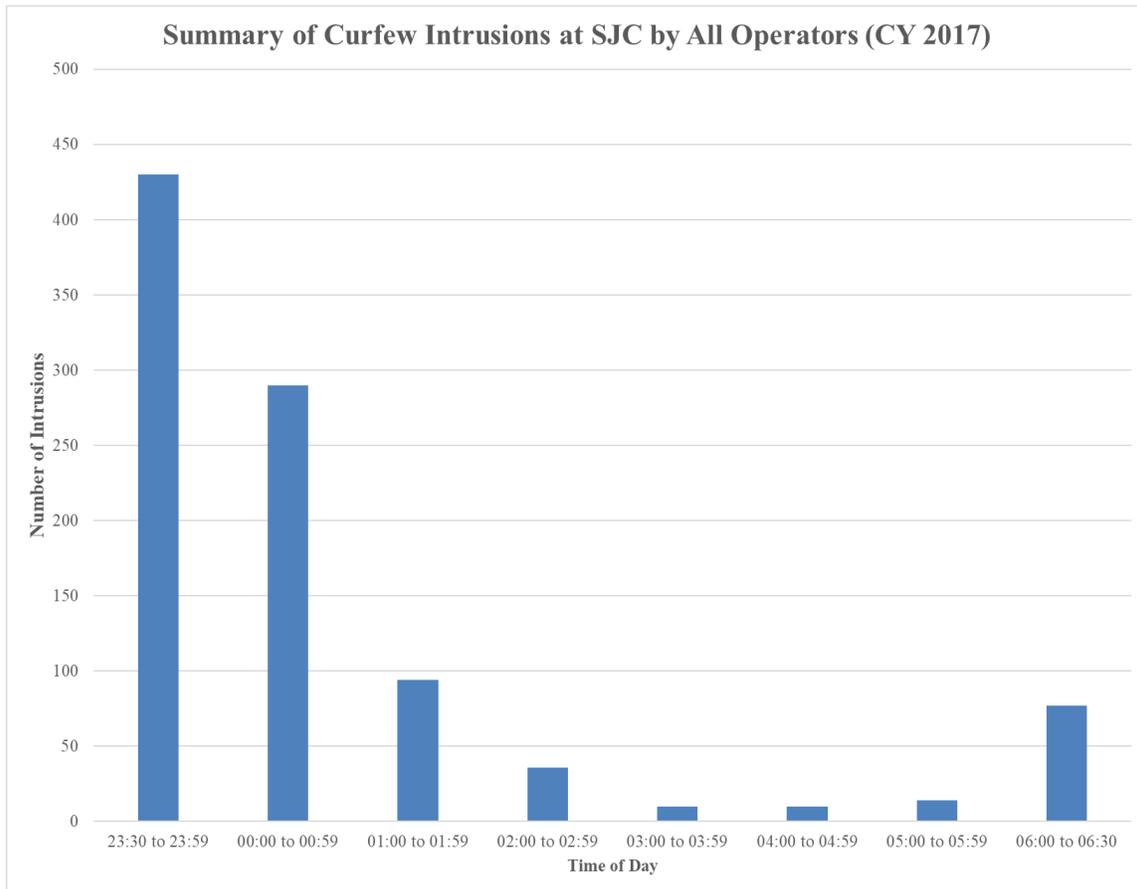
Pie Chart of CY 2017 Air Carrier Intrusion Delay Types

The table below shows the various charter operators who committed curfew intrusions. All but one of the non-compliant curfew operations were cited by the Airport. Paradigm Air responded to their curfew intrusion notification stating that they were awaiting takeoff clearance but were delayed due to inbound landing traffic. This delay caused them to depart after the onset of the curfew.

Operator	Intrusions	Violations
Detroit Red Wings	2	2
NHL Charter		
Jet Aviation	1	1
Private Charter		
K5-Aviation GmbH	1	1
Private Charter		
Paradigm Air	1	0
NHL Charter		
Sun Country Airlines	1	1
University Charter		
Xtra Airways	1	1
University Charter		

Table of Charter Operators and Curfew Intrusions/Violations

The majority of curfew intrusions occur during the first 90 minutes of its onset with a dramatic fall after the midnight to 12:59 AM time period. This shows that the aircraft operators are attempting to serve their passengers while also creating as minimal of a noise impact as possible.



Bar Chart of 2017 Curfew Intrusions at SJC

Engine Runs

In addition to takeoff and landing restrictions at the Airport, the Airport Operations staff also limit maintenance and engine run-ups during the curfew hours to help limit the noise generated during curfew hours. If an aircraft operator must perform engine maintenance run-ups to prepare for a 06:30 AM flight, Airport Operations will direct the aircraft to the north end of the airfield to avoid generating noise towards the surrounding residential uses at the Southeast end of the airfield. Those engine maintenance run-ups can be performed as early as 2 hours before the scheduled departure, as published in the SJMC.

Airport Operations staff record the number of engine maintenance checks performed during curfew hours which require a full engine run-up. In 2017, three full engine maintenance run-ups were performed during curfew hours.

Airport Noise Complaints

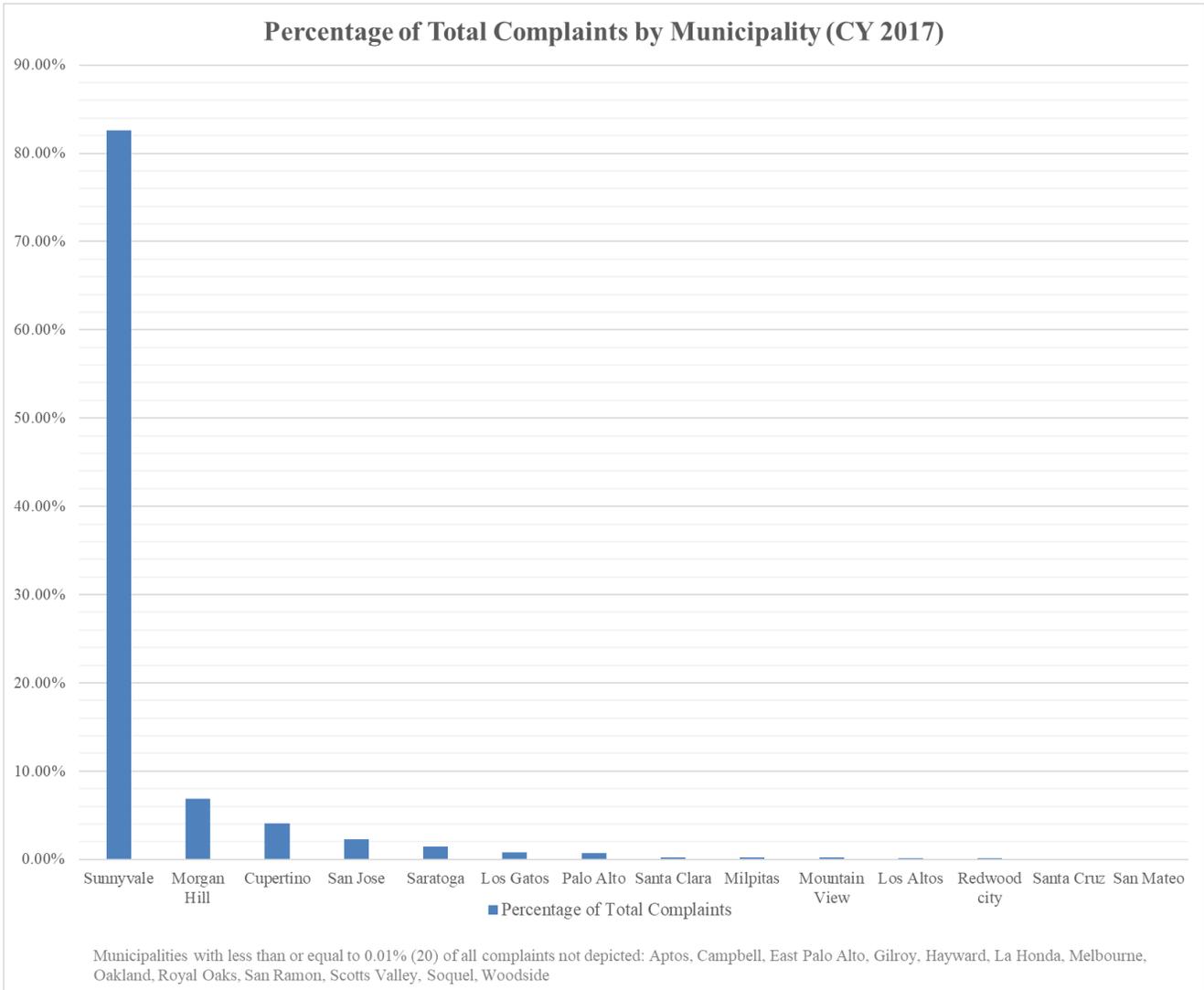
Like many other airports in noise sensitive communities, the Airport collects noise complaints from residents of the City of San José as well as the surrounding municipalities through the “WebTrak” system. This system allows concerned residents to monitor a slightly delayed live feed of aircraft operations in the South Bay Area. Community members regularly use this tool to investigate deeper into their noise disturbances and to report their noise disturbances to the Airport’s Noise Management Office. Some complaints also arrive through direct e-mail.

Airport staff responds to curfew-related complaints whenever possible by including the reason the flight in question operated during curfew hours, an explanation of the approach or departure procedures to the Airport, and acknowledgement of whether or not a late-night operation was a curfew violation. Additionally, response from Airport staff may include whether a flight was operating at another airport in the area, or its status as an emergency response aircraft.

There was a total of 148,969 complaints submitted by 1,040 individual residents throughout the area. This group of complaint reporters represents approximately 0.0008% of the total San José population (1.25 Million). Of those complaints, nearly 50% (72,284) were submitted by a group of 10 individuals which means that nearly half of the Airport’s complaints were received from approximately 0.96% of the total complaint reporters. These complaint numbers represent a 324.06% increase from 2016 (45,970 complaints).

The population of complaint reporters is not growing, but the number of complaints are growing at an exponential rate since 2015 which indicates that individuals are submitting hundreds, if not thousands, more complaints than an average person typically would; the top reporter submitted just over 10,000 complaints in 2017. The Airport is aware of an automated reporting system that some residents use to automatically submit a complaint for any flight in South Flow Operations which makes up the bulk of the complaints received. Some of the other complaints concern other SJC traffic, but sometimes also reference other airports in the area such as San Francisco, San Carlos, and Moffett Federal Airfield.

The chart on the following page shows a breakdown by city of noise complaints:



Bar Chart of 2017 Complaints by Municipality

Sunnyvale residents continue to submit a significant amount more noise complaints than their neighboring cities. In 2017 there were 120,854 complaints submitted by Sunnyvale residents which represents a 329.84% increase over 2016 in which they submitted 36,640 complaints. It is worth noting that the number of operations has not increased at nearly the rate that the complaint numbers have increased. General fluctuations in complaint numbers also seem to correlate with when the Airport is utilizing South Flow Operations.

The number of complaints submitted by San José residents increased to 3,348 for an increase of 263.62%. There are no flight path changes associated with this increase so the increased public participation may come from new awareness of the noise reporting program through community groups, social networking sites, or increased media attention of the implementation of NextGen procedures in the Bay Area.

South Flow Operations

Occasionally, due to weather or regional traffic flow requirements, SJC arrivals will land from the north on Runways 12R or 12L instead of approaching the airfield from the south and landing on Runways 30L or 30R. In 2017, the Airport utilized South Flow Operations approximately 13.0% of the year compared to 2016 wherein the traffic operated in South Flow 15.8% of the year.

When the airport does operate in South Flow conditions, the communities in Santa Clara, Cupertino, Mountain View, and Palo Alto become more impacted by the SJC arrivals than they are under normal operating conditions.

In January 2017 the Director of Aviation sent formal communications to passenger airline and cargo operators based at San José to remind staff both locally and at their headquarters of the efforts to operate aircraft, regardless of their noise impacts to the community, outside of curfew hours.

In October 2017 the San José City Council approved the formation of the Ad Hoc Advisory Committee on South Flow Arrivals as well as its continuance for 120 days. The Committee was established to explore possible solutions to address the noise impacts on residents when weather conditions over the airfield require the Airport to operate in a South Flow configuration. It was formed of community members who each represented their municipality of residence. The committee will present their final proposal to the FAA for consideration.

Throughout the Ad Hoc Committee, the Airport has stayed true to committing to provide any services it can offer to the community members including but not limited to compiling aircraft operations data sets and producing maps of flight tracks. The FAA has also been present at these meetings and has responded to questions and concerns regarding noise.

Airport Operations continues to communicate with the FAA about the impacts of the communities outlined in this report while also communicating to elected officials of San José and other areas in the Bay Area that the FAA ultimately directs and determines flight traffic activities.