

Norman Y. Mineta
San Jose International Airport
2016 Annual Noise Report



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 Jose (the City) and Norman Y. Mineta San José International Airport (SJC or Airport) to minimize the Airport's noise impact on the surrounding communities. The 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

San Jose Municipal Code (SJMC) Chapter 25 details the local ordinances related to airport-related noise and the Airport curfew, including the definitions and details of the airport curfew. The curfew is defined 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 originally 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 the newer business jet aircraft.

The noise-based curfew restricts flight activity into and out of the Airport between the hours of 11:30 PM and 6:30 AM for aircraft operations by aircraft with FAA certified and published noise impacts greater than 89.0 dB.

Responsibility for monitoring and managing the airport noise and curfew programs at SJC falls on the City's Airport Operations Division.

Types of Curfew Violations

Any aircraft operation with a noise impact greater than 89 dB, and not on the grandfathered list of authorized aircraft, that utilize the Airport between the hours of 11:30 PM and 6:30 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 or weather delays). A violation is defined as a non-compliant operation that did not have acceptable documentation justifying the operation to occur during curfew hours.

In order 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 non-compliant violations are \$2,500 per occurrence.

In addition to take off 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 6:30 AM flight, Airport Operations will move the aircraft to the north end of the airfield and away from

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 SJMC.

Actions Taken by Airport Operations Department

Throughout the year, Airport Operations staff publishes the Monthly Noise Summary Charts on the Airport's website which includes the number of operations (both compliant and non-compliant) and the number of noise complaints received each month. Additionally, Airport Operations staff uses data from the Federal Aviation Administration (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 1992, with updated hardware and software installed more recently. The system records and measures aircraft noise levels at strategic locations in noise-sensitive locations strategically located 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 investigate and respond to noise complaints, track flight activity, review curfew operations for compliance with the SJMC and assess fines as necessary. Airport Operations staff also participate in Airport Commission meetings to communicate the findings contained in the monthly noise summary chart and 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 need to fly during curfew hours or disturb the public. The Airport Operations staff strives to take a proactive approach to managing the noise generated by SJC. Staff meets regularly with airline representatives to discuss the curfew program at SJC and the need to be a good neighbor to the surrounding community.

2016 Air Carrier Operations during Curfew

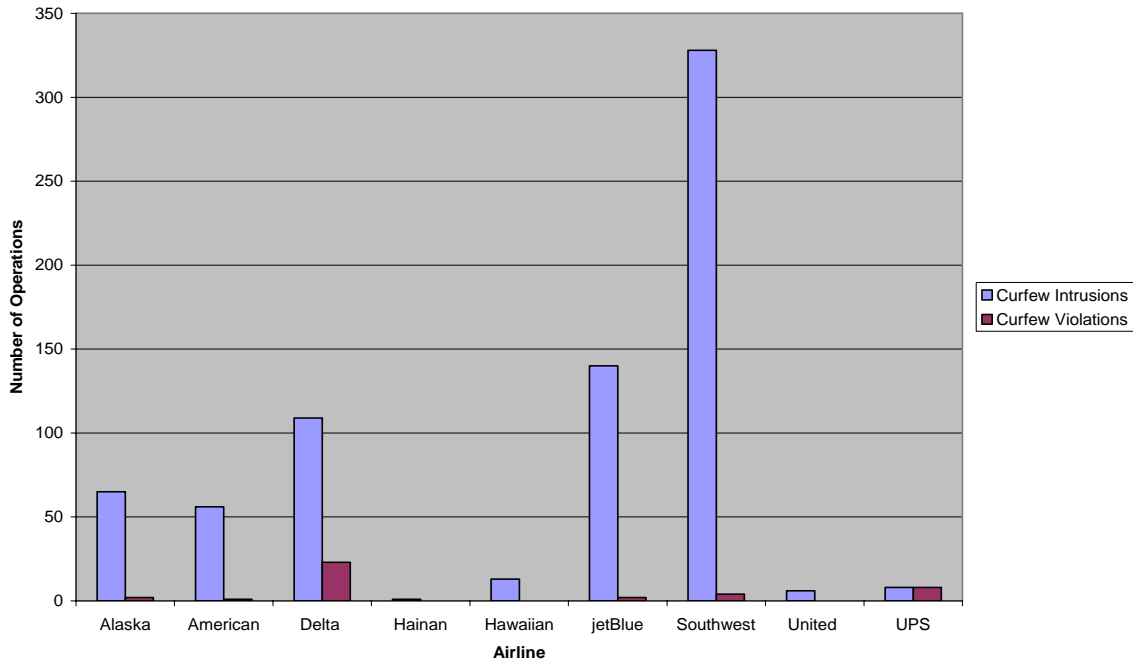
In calendar year 2016, 2,622 operations out of the total 153,419 operations occurred during the curfew hours of 11:30 PM to 6:30 AM (approximately 1.7%). For comparison, calendar year 2015 had 2,450 curfew operations out of the total 134,969 operations (approximately 1.8%)

In 2016, the Airport had 14 commercial air carrier tenants and 2 cargo air carrier tenants. Of those 16 operators, Air China, All Nippon Airways, British Airways, Federal Express, Lufthansa and Volaris each had zero curfew intrusions and violations.

In 2016, Delta Airlines, Southwest Airlines and United Parcel Service were responsible for the majority (54%) of curfew violations.

The figure and table below depict the commercial and air cargo carrier's annual violations and intrusions for the calendar year of 2016.

Curfew Intrusions vs. Non-Compliant Violations, CY 2016



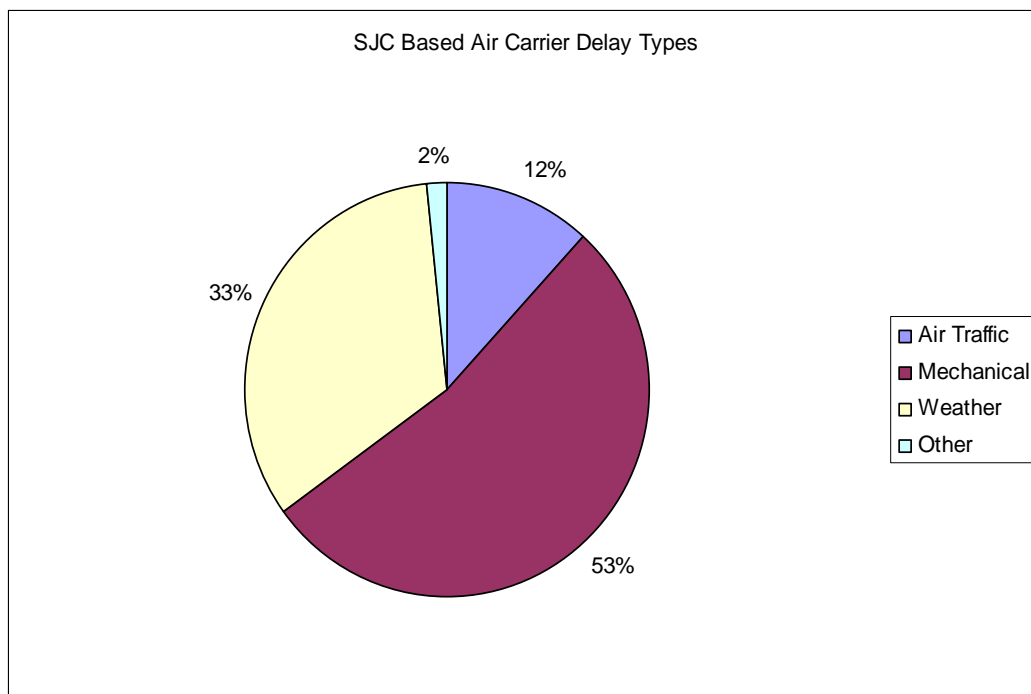
Airline	Intrusions	Violations	Airline	Intrusions	Violations
Air Canada	1	1	Hawaiian	13	0
Alaska	65	2	JetBlue	140	2
American	56	1	Southwest	328	4
Delta	109	23	United	6	0
Hainan	1	0	UPS	8	8

During 2016, approximately 9% of the curfew intrusions were deemed violations by Airport staff and incurred the monetary fine of \$2,500, receiving the violation paperwork.

For **Delta Airlines**, the majority of the curfew violation operations occurred due to a scheduling error which resulted in the scheduling of a non-compliant aircraft to arrive at SJC between 11:30 P.M. and 11:59 P.M. Airport staff communicated the concerns with the scheduling of the aircraft both locally and with their headquarters. A written letter was sent from the SJC Noise Office concerning the scheduled times of the arrivals in the non-compliant aircraft. Although Delta Airlines strived to arrive at SJC prior to 11:30 P.M., the airline was cited for 22 of the 25 scheduled operations.

For **United Parcel Service (UPS)**, the carrier informed Airport Operations staff that due to a forecasted increase in holiday packages outbound from the Bay Area, the carrier would be adding early morning service scheduled to arrive between 5:00 A.M. and 6:00 A.M. The Airport staff communicated the concerns of the community with UPS staff both locally and at their headquarters. This year, UPS did depart after the curfew restrictions lifted in the morning leading up the holidays; however, the airline did arrive prior to 6:30 A.M. and therefore cited for all 8 arrivals.

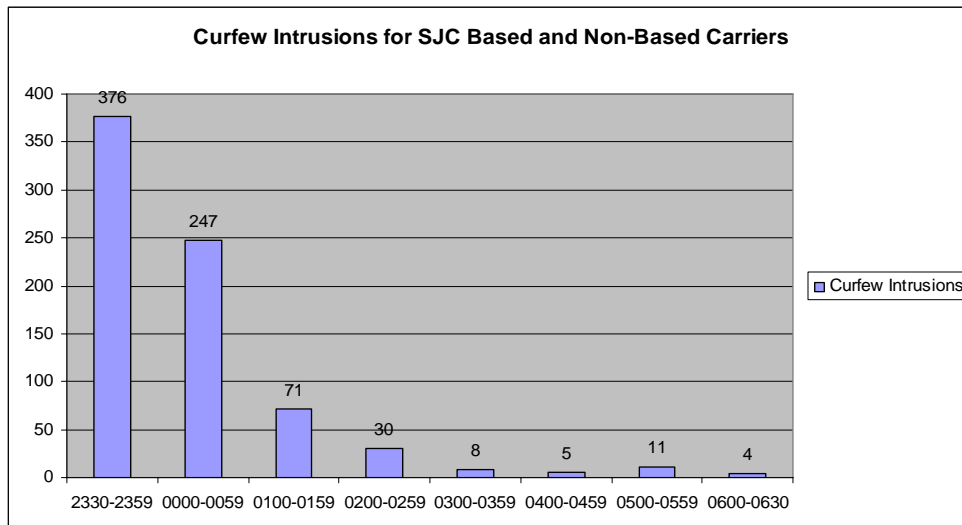
For the SJC-based air carriers, a majority of the curfew intrusions occurred due to weather or mechanical delays at SJC or at other airports nationwide throughout the day. The following chart illustrates the breakdown of how many flights were affected by weather, mechanical delays, air traffic delays or other.



The table below shows that all of the charter operations which occurred during curfew hours incurred the monetary fine and received violation paperwork from the Airport staff, with the exception of one flight. Eastern Airlines appealed their citation to the Airport Commission and the Airport Commission found the arrival to be delayed due to a mechanical delay at the point of origin.

Airline	Intrusions	Violations
Air Canada	1	1
NHL Charter		
Detroit Red Wings	1	1
NHL Charter		
Eastern Airlines	3	2
Private Charters		
First Virtual Air LLC	1	1
Private Flight		
Flightworx	1	1
Soccer Team		
Kaiser Air	11	11
NHL Charter		
MLW Air, LLC	1	1
NHL Charter		
Paradigm Air	2	2
NHL Charter		
Sun Country Airlines	1	1
University Charter		
Swift Air LLC	3	3
NHL Charter		
University Charter		

Of all curfew intrusions, a majority of the intrusions occur during the first 90 minutes of curfew (see table below). This demonstrates that the air carriers are attempting to balance serving their customers with minimizing impacts to the communities surrounding SJC.



Engine Runs

Airport Operations staff record the number of engine maintenance checks performed during curfew hours which require a full engine run-up. In 2016, SJC did not have any operators perform a maintenance full engine run-up 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 Jose as well as surrounding municipalities through a WebTrak system. This system allows for a concerned resident to load a slightly-delayed map of air traffic in the south bay area, research which aircraft could be causing the disturbance, and submit a noise complaint to Airport staff.

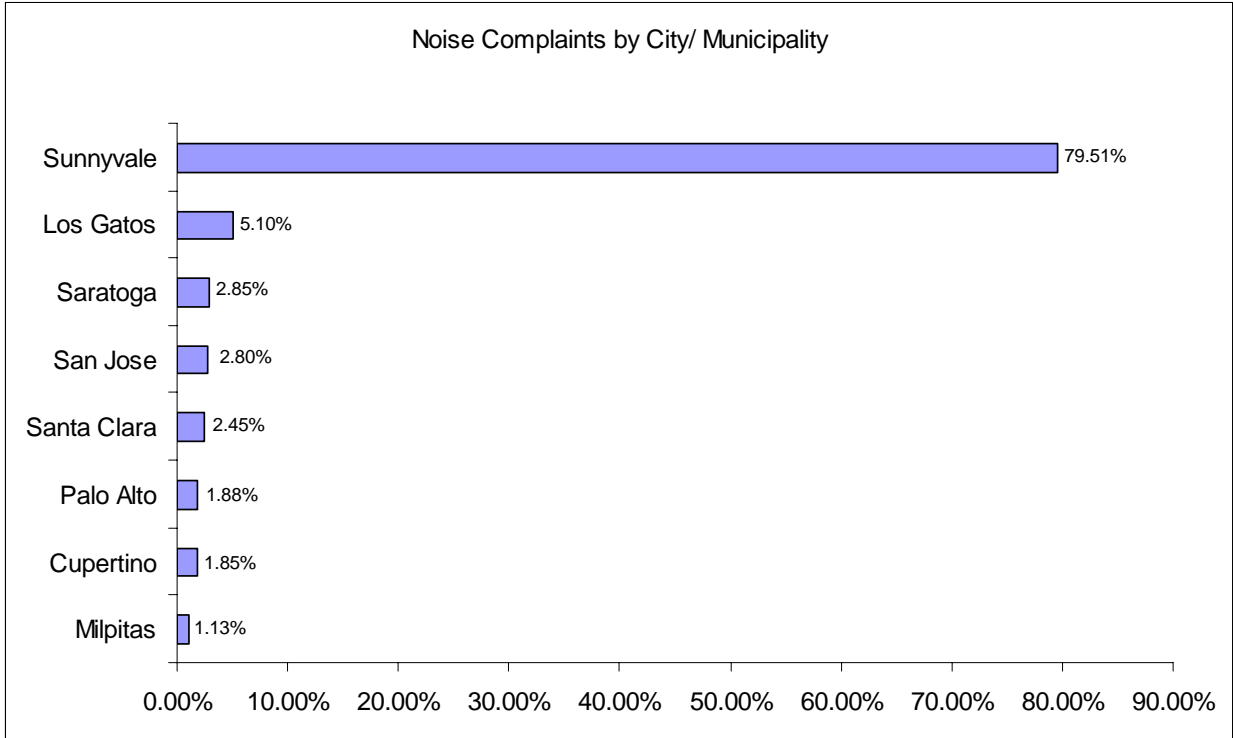
Airport staff also receives noise complaints or questions through email.

When possible, airport staff responds to curfew-related complaints by including the reason the aircraft in question passed overhead or nearby, an explanation of approach or departure procedures to the airport, and acknowledgement of whether or not a late night operation was a curfew violation. Additionally, responses from Airport staff may include whether a flight was flying to or from another area airport, whether the flight was an air ambulance flight or law enforcement agency.

Due to a high volume of complaints from the community of Sunnyvale during the final quarter of 2016, noise staff issued a communitywide email to those residents that issued complaints during curfew, and requested a response, acknowledging noise disruptions over the community and providing updates on noise office actions in response.

There were a total of 45,970 complaints submitted by 1,103 individual residents throughout the area. This is a 859% increase over 2015 complaints (5,351 complaints). These complaints are based on aircraft operations that are associated with SJC, but also operations to and from San Francisco International Airport, Palo Alto, San Carlos, Moffett and Reid-Hillview Airport.

The chart below shows where the majority of the noise complaints and concerns are originating from.

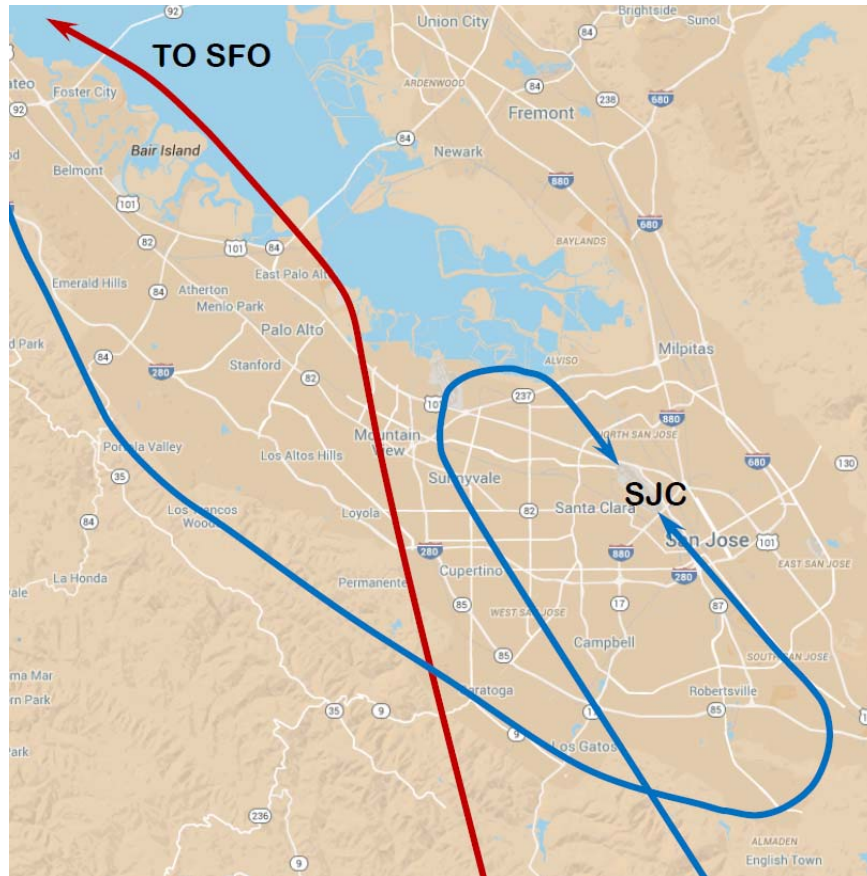


In February, residents of San Jose and Santa Clara submitted 731 complaints during the week prior to the Super Bowl game at the beginning of February 2016. These complaints were submitted by 11 residents due to the increase in helicopter and other aircraft activity either taking photos of the stadium or offering aerial security and surveillance.

Starting in July 2016, the number of noise complaints from cities and municipalities began to increase from places of residence to the west of the airport due to the increase in south flow activities (see page 9) as a result of unseasonal winds from the south. The use of the south flow procedure increased the number of complaints from the communities of Sunnyvale and Mountain View starting in the summer 2016 until the end of the calendar year.

While Sunnyvale submitted 36,640 complaints throughout the year, there still exists an increase in noise complaints from those residents in other communities from 5,351 complaints in 2015 to 9,330 complaints in 2016, an increase of 174%. The number of complaints from San Jose in 2016 totaled 1,270 while residents of San Jose submitted 629 complaints in 2015.

The graphic below shows that the flight paths into the Airport as well as San Francisco International Airport fall in line with the communities in which the airport receives the majority of the noise complaints for 2016.



The blue lines indicate the approximate path for arrivals into SJC whereas the red line indicates the approximate path for arrivals into SFO. Ultimately, these paths can change as directed by the FAA.

Runway 12 Operations (South Flow)

Occasionally, due to weather or regional traffic flow requirements, SJC arrivals will land from the north on Runway 12R or 12L instead of approaching the airfield from the south and landing on Runway 30L or 30R. In 2016, the Airport traffic operated in south flow conditions 15.8% of the year compared to 2015 wherein the traffic operated in south flow 9.1% 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. Residents who live in the downtown area are also impacted by south flow departures scheduled between 6:30 AM and 7:00 AM.

Future Efforts in Airport Noise

Airport Operations staff will continue to communicate and work with commercial air carrier and cargo air carrier management regarding flight schedules and will continue striving to minimize noise impacts on the communities surrounding the airport. The air carriers continue to remain a critical partner in this effort by scheduling flights outside of the curfew hours, and investing in updated, modern aircraft fleets which have less of a noise impact on neighboring communities.

In 2016, the Airport Operations maintained awareness of and followed the discussions that were hosted by the FAA in relation to the Select Committee on South Bay Arrivals wherein members of the public and elected officials met with the FAA to discuss alternate routes into the Bay Area and the effect of aircraft noise to those under the approach path.

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

Airport Operations expects that the number of complaints from members of the communities to the west of SJC will continue to be much higher than the number of complaints submitted in the previous years. South flow arrivals into SJC and general aviation traffic in and out of San Carlos, Palo Alto and Moffett Airfield will likely continue to be the reason for complaints from the communities of Sunnyvale, Mountain View and those residents in the surrounding areas.

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