



Charles M. Schulz - Sonoma County Airport

Neighborhood Guide to Airport Operations and Activities





**Charles M. Schulz -
Sonoma County Airport**

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Feedback is always appreciated

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Introduction

In response to community interest, this booklet was developed to provide an overview of Airport operations and the complaint process. It will explain how and what aircraft operate in vicinity of STS, their interaction with our neighbors, and how complaints are handled. (STS is the identifier selected by the Federal Aviation Administration for the Charles M. Schulz - Sonoma County Airport. All airports have a three-character identifier; local examples are SFO for San Francisco Airport and OAK for Oakland Airport.)

Airport History

In 1939, the County purchased 339 acres of agricultural land and began constructing a runway. The U.S. Army took over the STS in 1942 and added 826 acres, extended the runway, built a second runway, added taxiways, apron areas, and other facilities. Two of the hangars constructed by the Army remain in use today. The County resumed operation of the STS in July 1946, and continues its operation as an Enterprise Fund within the Department of Transportation and Public Works. STS is designed to be self-supporting through user fees and does not rely on general fund contributions. Although the County operates STS, it is done so under the jurisdiction of the Federal Aviation Administration (FAA).

Throughout most of its history, STS has been both a general aviation facility serving private planes and business jets, and a commercial airline facility with scheduled commuter service. Commercial service halted temporarily in October 2001 and resumed in March 2007.

In addition to being self-supporting, STS users generate over \$1,300,000 annually in tax revenues for Sonoma County and County School Districts.

Air Traffic Operation Counts

Year	Operations
1999	136,499
2000	132,283
2001	134,966
2002	114,393
2003	120,550
2004	131,763
2005	114,900

Airport Operations

STS serves many different types of operations including Propeller Aircraft, Turbine Aircraft, Helicopters, and Hot Air Balloons. While this does not cover every type of operation, these categories cover 95% of our activity. Scheduled commercial airline flights may eventually total up to 12% of Airport operations with up to 21 departures a day and a total of 15,200 operations per year.

The following sections will provide a quick explanation of the various types of aeronautical activities that operate in and around STS.

Propeller Aircraft Operations

Propeller driven aircraft approach STS from all directions. During Air Traffic Control Tower (ATCT) operating hours, all aircraft at about 10 miles from STS contact the ATCT and are given instructions on how to enter a landing pattern and which runway to use. The ATCT provides instructions that maintain separation of the aircraft and directs them to a runway approach. The routes the aircraft then fly are variable, based on wind direction, runway in use, and separation of arriving and departing aircraft. The traffic pattern of these small aircraft is 800 feet above ground level and can be expected at 800 feet or less

within a two mile radius of the Airport. Departing aircraft also receive instructions from the ATCT and clearances for take off based on similar criteria.

The flight pattern is generally, but not always, a rectangular flight path parallel to the active runway and turning right or left back to the runway in use. It may also be straight in or a circle over the field down to the runway. (See Noise Contour Map on page 9.) With four possible landing ends, and at least three basic approach paths for each, this gives at least twelve zones around STS where aircraft can be expected at 800 feet or less.

As aircraft take off, full power is applied to attain altitude as quickly as possible. The sound level is loudest in this phase of the flight; as they gain altitude, they reduce the rate of climb and reduce power, resulting in reduction of the aircraft noise level.

Turbine Aircraft

Turbine-powered aircraft using STS include military, corporate, private, and public service aircraft. Turbine-powered aircraft includes both jet and propeller aircraft. Military aircraft occasionally use STS as a training destination, while corporate and private aircraft serve the business community and bring visitors and travelers to the County. Public service aircraft operations include law enforcement, California Department of Forestry aircraft engaged in fire suppression, medical evacuation, and organ donor flights from a variety of private contractors, and other transient operations.

Federal regulations, through the administration of Air Traffic Control entities, dictate the approach and departure routes of aircraft using STS. Light airplanes usually approach STS at 1,000 feet above ground level, then descend to 800 feet, which is a standard traffic pattern altitude. Turbine aircraft, due to greater speed, traditionally use a traffic pattern altitude of 1,500 feet above ground level to keep them clear of obstacles and slower traffic. The ATCT does adjust the flow of traffic based on level of activity, prevailing wind conditions, or other variables. Turbine aircraft, as with most other types, operate with a reduced power setting below 1,500 feet when landing.

On takeoff, most turbine operations maintain a direct runway alignment to an altitude of 700 feet to avoid making turns over noise sensitive areas. Turbine aircraft operators, upon reaching a minimum safe altitude on climb-out, habitually reduce power settings to reduce noise profiles, ease unnecessary stress on engines, enhance passenger comfort, and reduce fuel burn.

The overwhelming majority of turbine operations are flown by highly-trained professional pilots who make the aviation industry a career. They are, as a general population, sensitive to the noise and safety concerns of residential communities surrounding airports they utilize.

Helicopter Operations

Helicopters can often be seen flying in and around STS. There are a few general aviation helicopters that use STS; however, most of the helicopter traffic consists of the REACH Air Medical Services helicopter and the Sonoma County Sheriff's helicopter flights.

Helicopters typically fly between 500 – 1,000 feet above the ground, but can and will fly lower at times to avoid other aircraft or if the helicopter is part of the 911 system and near an emergency call (accident, law enforcement, etc.). There are no FAA minimum altitude requirements for helicopters.

Helicopters use four main approach and departure routes around STS (see the Noise Contour Map on page 9). The route used most often is located at a point east of STS at Highway 101 and River Road. This is the most common arrival route returning to base from hospitals in Santa Rosa. The second most commonly used route is over Highway 101 and Shiloh Road. Helicopters also approach and depart directly west and south of STS over less populated areas when going toward the coast or Marin County. Helicopters are asked to fly at 500 feet when reaching these points. These routes are specifically designed to safely keep helicopters under airplane traffic around STS.

After ATCT hours, helicopters can approach from any direction but usually use the routes described above.

Hot Air Balloon Operations

Hot Air Balloon operators generally use STS for landing activity due to its wide open space. Balloons are mostly flown in the early morning when the winds are stable and the air is cool. Wind travels in different directions at different altitudes and it is these winds that balloon pilots use to steer the balloons. Pilots add heat to the balloon to increase altitude and let them cool to descend. The heat burners are only used intermittently.

Balloon flights normally take around one hour. Pilots perform flight planning before the launch to ensure that the forecast wind direction does not take the balloon towards unsuitable areas.

Balloons fly at different altitudes. The typical balloon flight may be anywhere from treetop level to about 3,000 feet above the ground. Although the direction of flight is dependent on the wind, vertical control of a balloon can be very precise.

Balloons are registered like any other aircraft. All pilots are licensed by the FAA and have to pass regular flight checks. The FAA controls ballooning with the same regulations that apply to airplanes. Balloons must meet ATCT requirements if they are within five miles of STS and must have radio contact with ATCT.

Plans for STS

STS is currently in the process of updating its Master Plan. As part of this planning process, STS will be evaluating the extension of its main use runway by 885 feet (from 5,115 to 6,000 feet), construction of a new passenger terminal building, land acquisition, hangar developments, and any other aspects required to meet future operational needs. The master plan process is expected to be completed near the end of 2007, with numerous opportunities for public input. All projects identified in the new master plan will require the Board of Supervisors' approval prior to any action from STS.

Frequently Asked Questions

Q. Who operates the Air Traffic Control Tower?

A. The FAA operates STS's ATCT and the staff is employed by the Federal government.

Q. What hours can aircraft fly into and out of STS?

A. STS is a 24 hour facility. The ATCT operates from 7:00 AM until 8:00 PM, seven days a week.

Q. Why do aircraft fly over my home sometimes more, sometimes less?

A. Aircraft arrive from all directions and for safe operations they must take off and land into the wind. Wind direction changes by season and by time of day. This may often place aircraft over residential areas. Pilots are asked to fly in a neighborly fashion to reduce noise through appropriate procedures. Finally, STS is in the process of creating formal noise abatement recommendations, expected to be published in 2006.

Q. Are jets prohibited from operating at STS?

A. Jet aircraft are allowed to, and do, operate out of STS. During daytime operation, no aircraft shall operate from STS that exceeds 83.2 dba between 6:00 AM and 10:00 PM. For nighttime operations, 10:00 PM to 6:00 AM, the noise level shall not exceed 72.0 dba. An aircraft is rated by its take off noise level per the FAA Advisory Circular 36-3.

Q. Are any aircraft exempt from the County Noise Limits?

A. Yes. The exemptions are:

- 1) Aircraft operating on emergency missions, including their support functions
- 2) Aircraft of the United States Government and its various agencies

3) Daytime operations by aircraft based at STS prior to the establishment of the aircraft operating noise limits. (See Noise Contour map on page 9.)

4) Vintage aircraft

Q. How low can aircraft fly?

A. According to Federal Aviation Regulations Section 91.119: **Except when necessary for takeoff or landing**, no person may operate an aircraft below the altitudes in the following areas or conditions:

a) *Anywhere*. If an engine fails, an altitude allowing an emergency landing without undue hazard to persons or property on the surface.

b) *Over congested area*. Over any congested area of a city, town, or over any open air assembly, an altitude of 1,000 feet above the highest obstacle.

c) *Over other than congested areas*. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.

d) *Helicopters*. Helicopters may be operated at less than the minimums prescribed above if the operation is conducted without hazard to persons or property on the surface. In addition, each operator shall comply with any routes or altitudes specifically prescribed for helicopters by the FAA.

e) Traffic pattern altitude for propeller and smaller aircraft is generally 800 feet above ground. Large twin engine propeller and jet aircraft traffic pattern altitude is generally 1,200 feet above ground.

Q. Why can't Airport staff always identify each aircraft that disturbs me?

A. Without the aircraft identification number, staff must try to recreate the situation that occurred during the time of the complaint. To do this we contact the FAA personnel in the ATCT (who are not required by law to assist STS in this effort), review digital recordings of the radio frequency, and contact Airport operators. We are not always able to narrow it down to a specific aircraft relying on these sources. However, you can assist STS with identifying those aircraft by providing as many specific details about its description as possible, including tail description, numbers of engines and wings, color, etc., as well as date and time of day.

Q. What does it mean when an aircraft is "outside the Airport's control/jurisdiction area"?

A. The ATCT has a five mile control area that extends up to 2,500 feet above the Airport Surface Level that encircles the airfield, also known as Class D Airspace. (STS is the center of the five mile radius. See map on pages 4 and 5.) While the ATCT is in operation (7:00 AM until 8:00 PM seven days a week), all aircraft must establish communications with the ATCT prior to entry into and departure from STS. Thereafter, communication must be maintained at all times while inside the Class D airspace. If an aircraft is flying outside the five-mile control area or after the ATCT is closed, it is unlikely that STS staff will be able to identify that aircraft, since no radio communications are required with STS. The Airport loses jurisdiction over the aircraft as soon as it is airborne, at which point it falls under the jurisdiction of the FAA.

Complaint Process

Neighbors who are disturbed by loud flying aircraft or other types of operations are encouraged to call the Airport's Complaint Line at (707) 544-4787. This line is connected to a digital recorder that takes messages 24 hours per day, seven days a week. One call equals one complaint regardless the number of aircraft detailed.

In addition, complaints will be accepted by phone, voice mail, fax, or a personal visit to the Airport office. If a specific aircraft is identified through the investigation process, the aircraft owner will be notified that their operation generated a complaint and they will be requested to fly in a neighborly fashion. The

Airport is in the process of drafting a formal noise abatement brochure for distribution to pilots. This document is anticipated to be published by late 2006.

If the operation is in violation of STS's noise limitations, a letter will be sent to the owner of the aircraft informing them of the violation and that future visits of that aircraft may result in fines.

Additionally, if the aircraft appears to have violated FAA Regulations, the incident will be turned over to the FAA for their investigation and action.

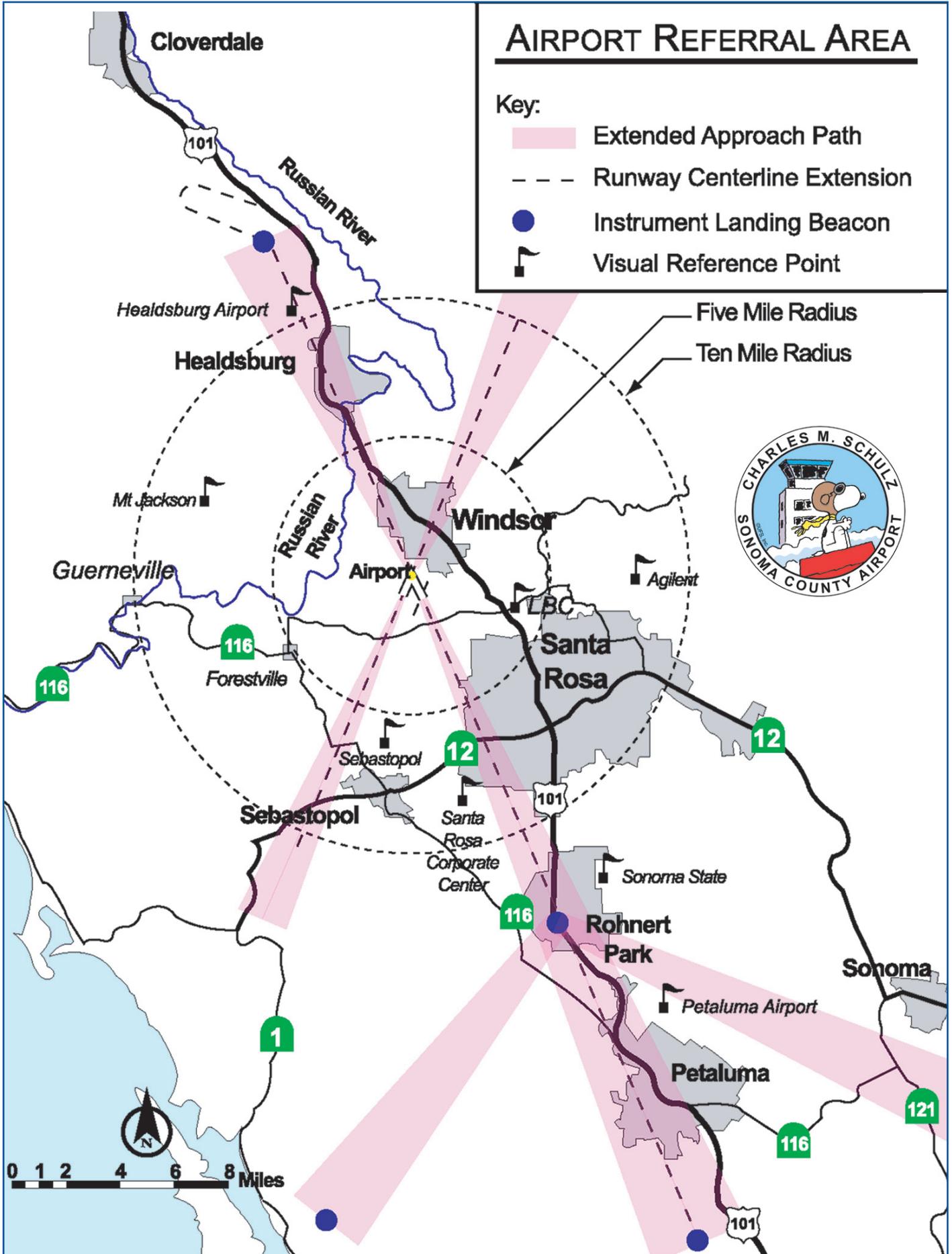
All complaints are reviewed by the Aviation Commission at their regularly scheduled meetings. In addition, all complaints received are presented annually to the Sonoma County Board of Supervisors for their review.

Community Noise Equivalent Level (CNEL)

Under California law, STS must evaluate noise under the CNEL methodology. This methodology creates noise exposure contours to show cumulative noise impacts.

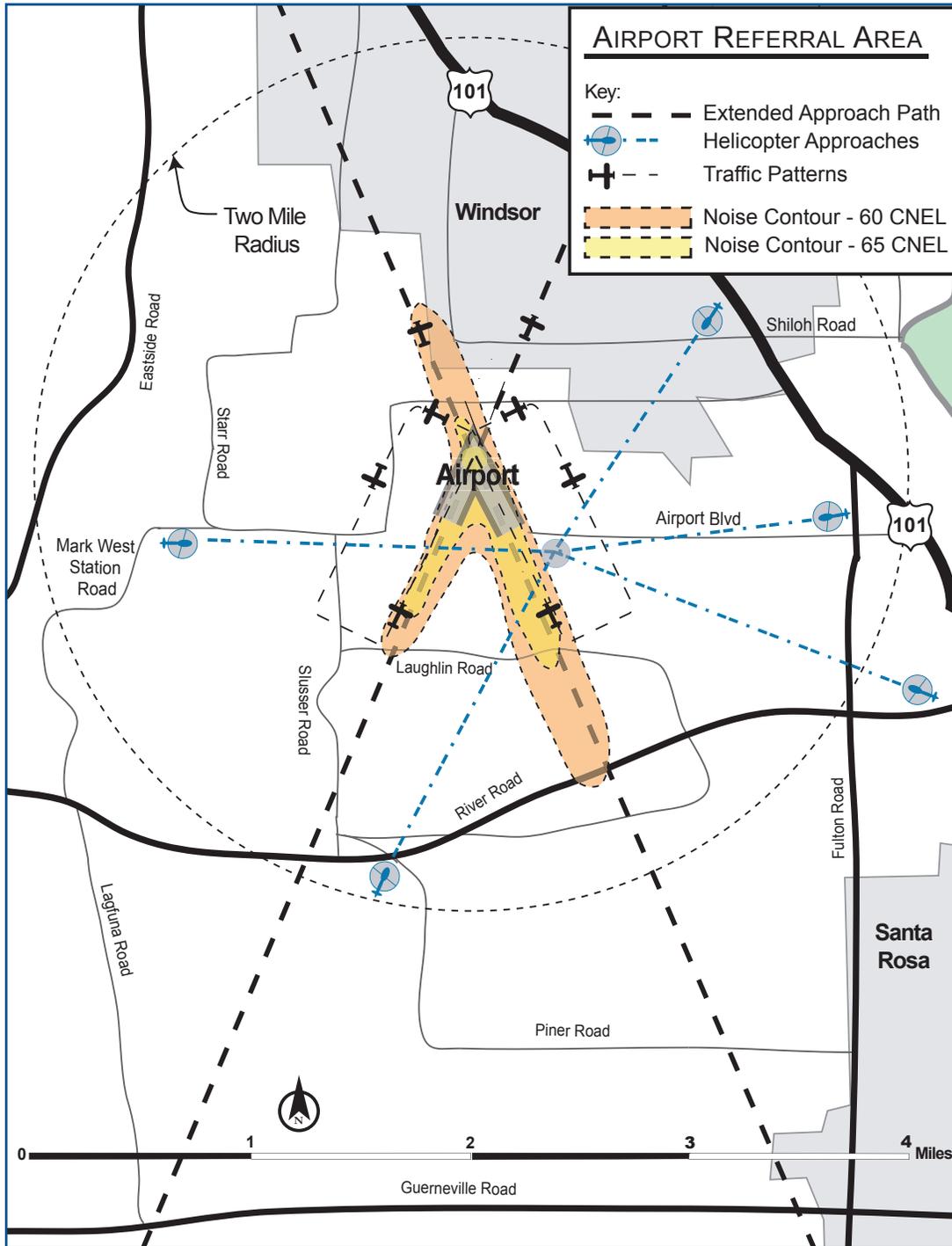
CNEL is a 24-hour, time-weighted energy average noise level based on the A-weighted decibel. It is a measure of the overall noise experienced during an entire day. The term "time-weighted" refers to the penalties attached to noise events occurring during certain sensitive time periods. In the CNEL scale, noise occurring between the hours of 7 pm and 10 pm is penalized by approximately 5 dB. This penalty accounts for the greater potential for noise to cause communication interference during these hours, as well as typically lower ambient noise levels during these hours. Noise that takes place during the night (10 pm to 7 am) is penalized by 10 dB. This penalty was selected to attempt to account for the higher sensitivity to noise in the nighttime and the expected further decrease in background noise levels that typically occur in the night time. (See Noise Contour Map on page 9.)





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Noise Contour Map



Please note: Traffic patterns are approximate and may vary due to ATCT direction.