

**SANTA BARBARA COUNTY**  
**AIRPORT LAND USE PLAN**

**SANTA BARBARA COUNTY**  
**AIRPORT LAND USE COMMISSION**

**SANTA BARBARA COUNTY**  
**ASSOCIATION OF GOVERNMENTS**

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## GLOSSARY

Airport Area of Influence – Area designated by the Airport Land Use commission in which land uses are influenced by airport related noise and safety considerations.

ALUC, Airport Land Use Commission – A body (Santa Barbara County Association of Governments) which is responsible for land use policy around airports with respect to airport related noise and safety.

Approach Zone (runway approach zone) – An area at ground level that begins at the end of each runway clear zone and extends under the path of landing or departing aircraft as defined in FAR 77.25 (c).

Clear Zone (runway clear zone) – An area at ground level which extends from the end of each primary surface to the approach zone where the approach surface reaches a height of 50 feet as defined in FAR 77.25 (c).

CNEL (Community Noise Equivalent Level) – The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7-10 p.m. and after addition of 10 decibels to sound levels from 10 p.m. to 7 a.m.

Decibel (db) – A unit for describing the amplitude of sound.

Dba (A-weighted sound level) – Measure of magnitude the way people perceive sound.

F.A.A. – Federal Aviation Administration.

F.A.R. – Federal Aviation Regulation.

L..A. – Lompoc Airport.

L<sub>dn</sub> – (Day-Night average level) Average equivalent A-weighted sound level during a 24-hour day similar to CNEL.

Noise Exposure Contours – Lines drawn about a noise source indicating constant energy levels of noise exposure.

Precision Instrument Runway – A runway having an approach procedure utilizing an instrument landing system.

Primary Surface – A surface longitudinally centered on a runway which extends 200 feet beyond the ends of the runway.

SBCAG – Santa Barbara County Association of Governments which is the ALUC for Santa Barbara County. The membership is the five members of the County Board of Supervisors and one elected representative from each city in Santa Barbara County.

SBMA – Santa Barbara Metropolitan Airport.

SMPA – Santa Maria Public Airport.

SYVA – Santa Ynez Valley Airport.

UCSB – University of California at Santa Barbara.

Utility Runway – A runway which generally accommodates aircraft under 12,500 pounds gross weight.

VAFB – Vandenberg Air Force Base.

## SUMMARY

In accordance with state law, enacted to ensure compatible lands use surrounding airports, and requiring each County to create an Airport Land Use Commission (ALUC), the Board of Supervisors determined that the Santa Barbara County Association of Governments was the appropriate body to assume such planning responsibilities and subsequently designated the Board as the Airport Land Use Commission (California Public utilities Code, Section 21670). State law requires such commissions to develop airport land use plans. Emphasis of the law centers on aircraft noise and accident potential for public airports served by at least one certificated carrier. It is optional to include other general aviation or military airports in such plans.

In this airport Land Use Plan, the two public airports in the county with certificated carriers, Santa Barbara Municipal airport and Santa Maria Public airport are addressed in detail. Lompoc City Airport and the County's one public general aviation airport at Santa Ynez Valley are included as is Vandenberg Air Force Base. A plan for New Cuyama Airport has not yet been prepared. This plan is intended to complement and enhance the local comprehensive planning process of agencies responsible for the land use in areas surrounding the airports.

Basic goals of the Airport Land Use Commission are:

- 1) preservation of navigable airspace around airports,
- 2) general safety of people and property around airports, and
- 3) mitigation of aircraft noise impacts.

Powers and duties of the Airport Land Use Commission as set forth in Sections 21670-21678 of the Public Utilities Code are:

- 1) to assist local agencies in ensuring compatible land uses in the vicinity of existing airports to the extent that land in the vicinity of such airports is not already devoted to incompatible uses,
- 2) to coordinate planning at the state, regional and local levels so as to provide for the orderly development of air transportation while at the same time protecting the public health, safety and welfare,
- 3) to prepare and adopt an airport land use plan,
- 4) to review the plans, regulations and other actions of local agencies and airport operators.

It is important to recognize that the commission has no powers or control over the following:

- 1) lands presently developed as incompatible uses near airports,
- 2) the operation of any airport,
- 3) the territory or operation of any military airport.

This plan establishes planning boundaries around each airport's area of influence. It sets forth appropriate land use, including building height restrictions and soundproofing standards, for each planning area to the extent that such land is not already devoted to incompatible uses.

In general, Santa Barbara County airports may be described as safe airports because their past accident records are relatively free of incidents involving the public or the public welfare. In addition, existing structures do not violate the airspace requirements and no future problem with the building height restriction is foreseen.

With respect to noise, problems are evident. Noise problems are particularly evident at Santa Barbara Airport which accommodates air carrier aircraft and also at Santa Maria Airport. There is a history of noise complaints from residential areas surrounding these two airports, and less so from Santa Ynez Valley Airport.

Airport noise policy was adopted to assure that new land uses in airport environs are compatible with aircraft generated noise.

ALUC noise policy is:

Within the boundaries of the 65 Community Noise Equivalent Level (CNEL) contour as projected in the Airport Land Use Plan

- 1) Institutional land uses such as schools, hospitals, convalescent homes and other in-patient health care facilities shall not be permitted.
- 2) Multi-family residential land uses may be permitted subject to an acoustical analysis showing that all structures have been designed to limit interior noise levels in any habitable room to 45 dB CNEL.

***Within the boundaries of the 60 CNEL contour as projected in the Airport Land Use Plan***

- 1) Residential land uses may be permitted subject to an acoustical analysis showing that all structures have been designed to limit interior noise levels in any habitable room to 45 CNEL..

In general, land uses external to airport boundaries are compatible with the airport from the perspective of safety. Some exceptions to this exist and are found in unincorporated areas around Santa Barbara Airport. To minimize loss of life in event of an accident, criteria are set and policies adopted to limit concentration of population in clear and approach zones of airports. Criteria and policy are the most stringent in airport clear zones just off the end of runways where residential development is prohibited and permitted uses are limited to activities such as equipment storage yards which require few people in their operation. Restrictions on permitted uses are also set for airport approach zones including limits on population density in all uses and on residential uses within one mile of the runway end. Within the approach zone, the area within one mile of the end of the runway is subject to greater restriction than the remaining area. All development within clear and approach zones of airports will be reviewed on a case by case basis by the ALUC. Development in the general airport traffic pattern which results in large concentrations of people will also be subject to review by the AL

# CHAPTER 1

## INTRODUCTION

“California is very aviation oriented. In terms of both commercial and general aviation activity, it is the busiest state in the nation. Six of the ten busiest airports in the country are located in the state. Five of these airports are located in southern California. In addition, the Los Angeles/San Francisco corridor is the busiest air passenger corridor in the world.

There are approximately 1,000 airports in the state, of which 311 are open for public use, 27 are fully developed commercial air carrier airports, and 24 facilities support commuter air carrier service. The remaining airports are private use or general aviation airports that are scattered primarily through the rural areas of the state. This abundance of aviation has greatly assisted California in maintaining success full economic development in our highly technical, and sophisticated jet age.

Concomitant with this high level of aviation activity is a host of problems which the activity generates. From the standpoint of safety, the proper development of airport facilities, the congested air space over our state’s urban areas, and our frustrating inability to properly control land uses in the vicinity of airports rate as high concerns. Aircraft-generated noise is a very serious problem in California and is probably the single greatest constraint to the full development or our current airport system.”<sup>1</sup>

Airport land use planning is critical to the continued maintenance and development of aviation. The concern of the Airport Land Use Commission (ALUP) is the orderly development of lands around airports in such a manner that:

- 1) Existing and planned airport operations are not inhibited,
- 2) Safety of people living and working in airport environs is assured, and
- 3) Aircraft noise impacts are mitigated.

## STRUCTURE OF REPORT

The airport Land Use Plan addresses the concerns set out above. It is composed of seven chapters and four technical appendices.

Chapter 1 provides background into the need for, and legal mechanism of, airport land use planning in California, what issues the plan may and may not address, and factors which limit the ability of the ALUC to assure future compatibility between land use and airport operations.

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<sup>1</sup> California State Assembly Committee on Transportation, California Transportation Today, No. 722, January 1979.

Chapter 2 examines the problems of airport noise and safety, and the legal basis for dealing with them in land use decisions.

Chapter 3 provides general guidelines for land use around airports.

Chapter 4 defines the airport area of influence and presents criteria for planning boundaries.

Chapter 5 presents Airport Land Use Commission policy for dealing with noise and safety issues.

Chapter 6 is an airport specific examination of existing and expected operations, existing and planned land uses around airports, and specific land use recommendations for airport land use compatibility.

Chapter 7 recommends implementation responsibilities and procedures for the Airport Land Use Commission, local jurisdictions, and airport owners and operators.

## THE AIRPORT LAND USE COMMISSION (ALUC)

The Santa Barbara County Association of Governments has been designated the Airport Land Use Commission to assume planning responsibilities under Sections 21670-21678 of the Public Utilities Code and Section 65302.3 of the Government Code<sup>2</sup>. These sections of California law mandates establishment of such commissions, and details their duties:

- (a) To assist local agencies in ensuring compatible land uses in the vicinity of all new airports and in the vicinity of existing airports to the extent that land in the vicinity of such airports is not already devoted to incompatible uses.**
- (b) To coordinate planning at the state, regional and local levels so as to provide for the orderly development of air transportation while at the same time protecting the public health, safety and welfare.**
- (c) To prepare and adopt an airport land use plan pursuant to Section 21675.**
- (d) To review the plans, regulations, and other actions of local agencies and airport operators pursuant to Section 21676.**

It is important to recognize that the commission has no powers or control over the following:

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<sup>2</sup> After receiving letters of concurrence from the mayors of the Cities of Carpinteria, Guadalupe, Lompoc, Santa Barbara, and Santa Maria, the Board of Supervisors voted unanimously on December 28, 1970 to designate the Santa Barbara County-Cities Area Planning Council as the Santa Barbara County Airport Land Use Commission. On December 31, 1970, the County Clerk notified the Secretary of State of California by letter of the decision. Resolution 71-APC-7 of the APC designated the APC as the Airport Land Use Commission. In 1990 the Area Planning Council was renamed the Santa Barbara County Association of Governments.

1. Lands presently developed as incompatible uses near airports;
2. The operation of any airport;
3. The territory or operation of any military airport.

## THE AIRPORT PLANNING ADVISORY COMMITTEE

To assist the ALUC in execution of its responsibilities, and also, to facilitate implementation by member jurisdictions, a technical advisory committee serves the ALUC to study and recommend solutions for land use conflicts or other relevant issues pertaining to the duties of the ALUC.

This committee consists of members of the present SBCAG Technical Planning Advisory Committee with three additional members: the three public airport (Santa Barbara, Santa Maria and Lompoc) managers and the Director of the County Public Works Department. This Technical Advisory Committee, containing directors of planning agencies of member jurisdictions is the ALUC's principal link with member jurisdictions. The committee shall be known as the Airport Planning Advisory Committee.<sup>3</sup>

## THE AIRPORT LAND USE PLAN

Section 21674 of the California Public Utilities Code mandates that the Airport Land Use commission shall formulate an Airport Land Use Plan (ALUP).

- (a) **The commission shall formulate a comprehensive land use plan that will provide for the orderly growth of each public airport and the area surrounding the airport within the jurisdiction of the commission, and will safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general. The commission plan shall include a long-range master plan that reflects the anticipated growth of the airport during at least the next 20 years. In formulating a land use plan, the commission may develop height restrictions on buildings, may specify use of land, and may determine building standards, including soundproofing adjacent to airports, within the planning area. The comprehensive land use plan shall not be amended more than once in any calendar year.**
- (b) **The commission may include, within its plan formulated pursuant to subdivision (a), the area within the jurisdiction of the commission surrounding any federal military airport for all the purposes specified in subdivision (a). This subdivision does not give the commission jurisdiction or authority over the territory or operations of any military airport.**
- (c) **The planning boundaries shall be established by the commission after hearing and consultation with the involved agencies.**

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<sup>3</sup> Resolution 79-APC-134 created and established the role of the Airport Planning Advisory Committee.

The Airport Land Use Plan may not:

- (1) Regulate airport operation;
- (2) Control existing land uses.

Emphasis of the law centers on aircraft noise and accident potential for public airports.

Inclusion of military airports is optional; this plan includes all public, general aviation as well as commercial, and the one military airport in Santa Barbara County. They are:

1. Santa Barbara Municipal Airport
2. Santa Maria Public Airport
3. Lompoc Airport
4. Santa Ynez Valley Airport
5. New Cuyama Airport
6. Vandenberg Air Force Base Airport

Their locations within Santa Barbara County are shown on Map I-1. A plan has not yet been prepared for New Cuyama Airport.

#### IMPLEMENTATION OF ADOPTED AIRPORT LAND USE PLAN

After a long series of public hearings and extensive debate the Airport Land Use Commission adopted the first plan in October, 1982. During the 1982 California legislative session AB-2920 (Chapter 1041) was passed and signed into law which amended airport land use planning law. The revised law required that general and specific plans of local jurisdictions be consistent with the Airport Land Use Plan.

**21676. (a) Each local agency whose general plan includes areas covered by an airport land use commission plan, shall, by July 1, 1983, submit a copy of its plan or specific plans to the airport land use commission. The commission shall determine by August 31, 1983, whether the plan or plans, are inconsistent with the commission's plan, the local agency shall be notified and that local agency shall have another hearing to reconsider its plans. The local agency may overrule the commission after such hearing by a two-thirds vote of its governing body if it makes**

**specific findings that the proposed action is consistent with the purposes of this article stated in Section 21670.**

**(b) Prior to the amendment of a general plan or specific plan, or the adoption or approval of a zoning ordinance or building regulation within the planning boundary established by the airport land use commission pursuant to Section 21675, the local agency shall first refer the proposed action to the commission. If the commission determines that the proposed action is inconsistent with the commission's plan, the referring agency shall be notified. The local agency may, after a public hearing, overrule the commission by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article state in Section 21670.**

**(c) Each public agency owning any airport within the boundaries of an airport land use commission plan, shall, prior to notification of its airport master plan, refer such proposed change to the airport land use commission. If the commission fails to make the determination within that period, the proposed action shall be deemed consistent with the commission's plan.**

**(d) Each commission determination pursuant to subdivision (b) or (c) shall be made within 60 days from the date of referral of the proposed action. If a commission fails to make the determination within that period, the proposed action shall be deemed consistent with the commissions plan.**

During 1983 -1985 the ALUC reviewed local land use plans for consistency with the Airport Land Use Plan. Specific findings were made and transmitted to the Cities of Santa Barbara, Lompoc, Santa Maria, and the County of Santa Barbara. Since 1982 the ALUC has also reviewed many projects near airports for consistency with the Airport Land Use Plan and have worked with airports to update Airport Master Plans. Recent amendments to the Airport Master Plans and VAFB noise study necessitated this update to the ALUP.

As indicated in the previous section, the ALUP is based on forecasts of airport operations found within Airport Master Plans. During 1985-1987 three of the County's largest airports updated their Master Plans or prepared new noise studies which updated noise contours at these airports. Following the preparation of these studies the ALUC adopted a series of amendments to the 1982 ALUP which reflects updated noise contours. These amendments were adopted following public hearings and significant debate. This version of the ALUP which reflects updated noise contours. These amendments were adopted following public hearings and significant debate. This version of the ALUP incorporates the most recent noise contours for Santa Barbara, Santa Maria, and Vandenberg Air Force Base airports. The ALUC will evaluate the consistency of proposed projects with these new noise contours and existing policies to assess the consistency of development with airport operations.

## SANTA BARBARA COUNTY AND ITS AIRPORTS

Santa Barbara County is well defined by physical features. The south and west boundaries are the Pacific Ocean; the Santa Maria and Cuyama Rivers form the north boundary; and the east boundary is located in a rugged mountain area contiguous to Ventura County. Four channel islands, Santa Barbara, Santa Cruz, Santa Rosa, and San Miguel, are included in Santa Barbara County. Anacapa Island, the most easterly, lies within Ventura County jurisdiction.

The narrow south coast plain, which is pinched off at the Ventura County line thus forming a physical barrier to inter-county development, contains the major population concentration. The largest city of seven, Santa Barbara, and the City of Carpinteria, as well as the unincorporated but urbanized Goleta area lie on the south coast plain. They are served by the Santa Barbara Municipal Airport, a commercial airport and the County's largest in operations. It is situated in Goleta about seven miles west of downtown Santa Barbara.

The agriculturally oriented Santa Ynez Valley parallels the coastal plain, accessible over the Santa Ynez Mountains or Coast Range through the San Marcos Pass and Gaviota pass. The cities of Solvang and Buellton which lie within the Valley are served by the Santa Ynez Airport, and general aviation airport with no scheduled air carriers.

To the north and east is an extremely rugged mountainous area which comprises most of the Los Padres National Forest. This northeast one half of Santa Barbara County has a population of only 1,300.<sup>4</sup> This area is served by New Cuyama Airport.

The Santa Maria river Valley which forms the northwestern margin of the county contains Santa Maria, the second largest city, and Guadalupe, the smallest. The Santa Maria region is served by the Santa Maria Airport, a commercial airport, and the County's second largest. Along most of the west coast lies Vandenberg Air Force Base, a major military installation, which, through the site of continuing aerospace operations has relatively little military aircraft traffic. Lompoc, just east of Vandenberg, and the county's third largest city, is served by Lompoc Airport, a general aviation airport.

Santa Barbara Airport and Santa Maria Airport are both served by commercial air carriers. Both are in areas subject to urban encroachment and problems with aircraft noise now exist. Lompoc

Airport is also in an urban area subject to potential noise problems, but presently, like Santa Ynez Airport, it is a utility airport serving primarily light aircraft. Vandenberg Airport has a history of causing noise to residents of Lompoc, but present approach procedures have somewhat reduced the problem.

Santa Barbara County is fortunate with respect to its airport locations and operations in that:

- 1) A general absence of physical hazards to aviation exist,
- 2) there have been no recent aircraft accidents involving injury to the public and no commercial air carrier accidents,
- 3) A low density of commercial and military operations promotes a generally safe aircraft mix in the proximity of airports.

Existing problems with respect to airport locations and operations include:

- 1) Urban encroachment at Santa Barbara and Santa Maria airports which has reduced both airport's operational capabilities.
- 2) Santa Barbara and Santa Maria airports and, to a lesser extent, the other public airports experience continuing noise complaints, though presently, noise is at a less than critical level as defined in the state administrative code.<sup>5</sup>

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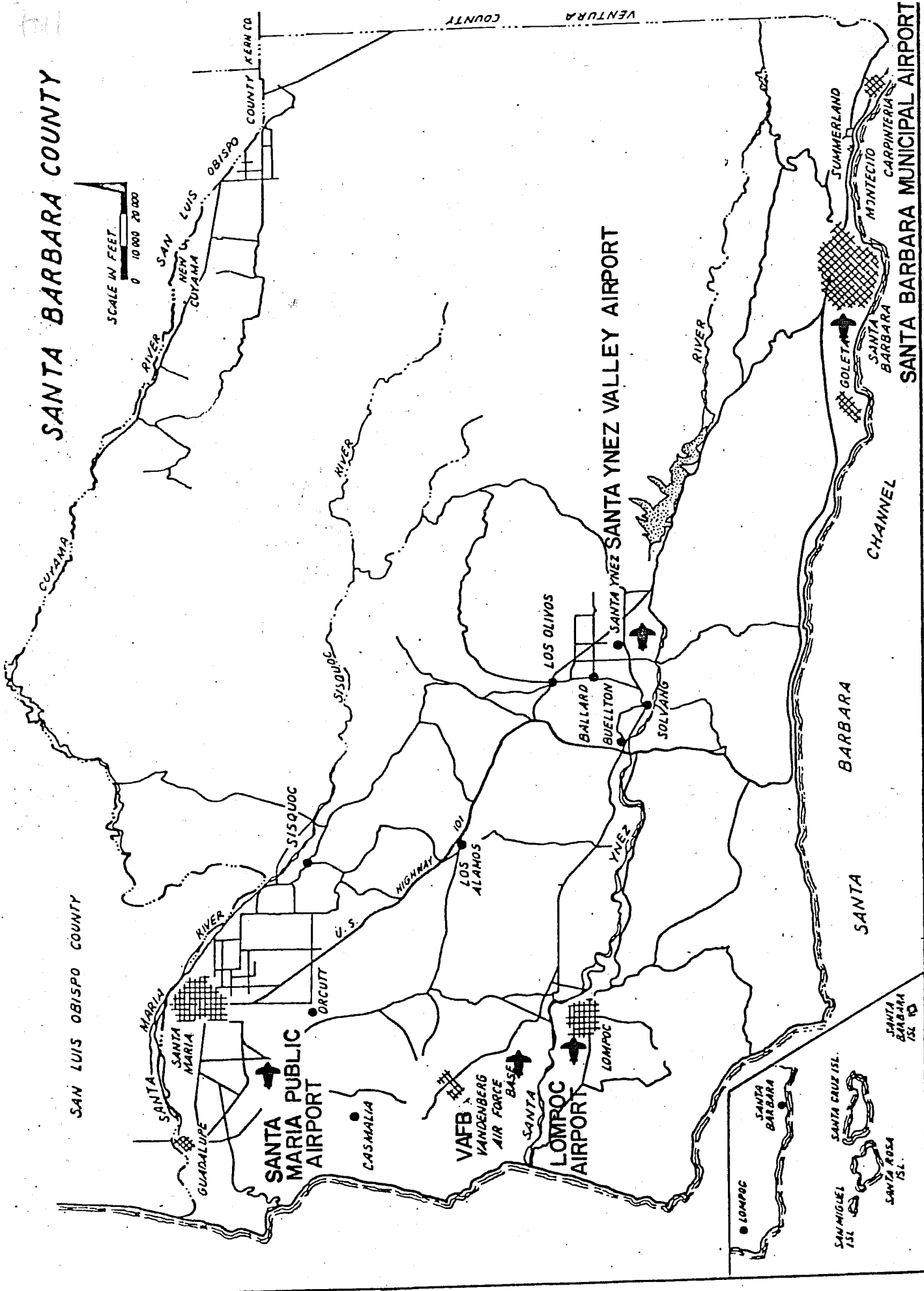
<sup>4</sup> 1990 U.S. Census.

<sup>5</sup> California Administrative Code, Title 4, subchapter 6, Article 2.

SANTA BARBARA COUNTY

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MAP 1. AIRPORTS IN SANTA BARBARA COUNTY

## **CHAPTER 2**

### **CRITERIA FOR AIRPORT LANDUSE PLANNING**

#### **INTRODUCTION**

The objective of the Airport Land Use Commission is to promote the orderly development of each public and military airport in Santa Barbara County and the area surrounding these airports in a manner which: 1) safeguards the general welfare of the inhabitants in such area, 2) assures the safety of air navigation, and 3) maintains the utility of each airport. Three general areas of concern are building height restriction, safety, and aircraft noise. This chapter examines each area along with the legal basis for defining the extent of the problem and actions which may mitigate problems.

#### **BUILDING HEIGHT RESTRICTION**

Tall structures in areas near airports, including areas where aircraft may be in the airport traffic pattern preparing to land or subsequent to takeoff, present a hazard to aircraft.

Federal Aviation Regulations require aircraft to maintain minimum altitudes above structures while not in the airport traffic pattern, thus, unless near airports, the burden of maintaining vertical separation rests upon the airplane pilot. In the vicinity of airports, however, aircraft must descent to low altitude to queue into the traffic pattern and approach the ground prior to landing. A similar situation exists after takeoff in which the aircraft must attain safe operating altitude while safely following a traffic pattern out of the airport area. Thus, building height restrictions in airport areas must exist to allow necessary low altitude operations with an ample safety margin.

Federal Aviation administration (FAA) Federal Aviation Regulations (FAR) Part 77 “Objects Affecting Navigable Airspace” sets forth criteria for preservation of navigable airspace in the area of airport traffic patterns. Obstruction standards and procedure for notification of the FAA prior to construction or alteration of a existing or potential obstruction to navigable airspace are included within FAR Part 77.

Santa Barbara County, the City of Santa Maria, and Lompoc have zoning ordinances<sup>1</sup> which include airport approach zone overlays which apply more rigorous standards than generally imposed by FAR Part 77. Thus, height restriction has not generally been a problem within Santa Barbara County. Planning boundaries and airport specific recommendations for height restrictions are described in Chapters 4 and 6 of this plan.

## SAFETY

Airport safety land use restrictions are designed to minimize the potential tragedy of an airplane crash. While Santa Barbara County has experienced no crashes involving the public or scheduled air carriers in recent years, the possibility exists.

Approximately 50% of civilian aircraft accidents occur within airport boundaries. Approximately 15% occur outside airports, approximately 60% are concentrated within narrow strips of land at both ends of runways<sup>2</sup> land uses in these areas should be uses in which loss of life and property will be minimized and which will pose as small an additional hazard as possible to an aircraft's occupants in the event of an accident.

Certain land uses and activities within the approach and clear zones which extend from the end of the runways may distract or cause confusion to the pilots of landing aircraft and thus may add materially to the hazard within this area and therefore should be avoided. They include:<sup>3</sup>

Any use which would direct a steady light or flashing light of white, red, green or amber color toward an aircraft engaged in an initial straight climb following take-off or toward an aircraft engaged in a straight final approach toward a landing at an airport, other than an FAA approved navigational signal light or visual approach slope indicator (VASI).

Any use which would cause sunlight to be reflected toward an aircraft engaged in an initial straight climb following take-off or toward an aircraft engaged in an initial straight

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<sup>1</sup> County of Santa Barbara Zoning Ordinance, Section 2.F...R-Airport Approach Area Combining Regulations.

Santa Maria City Zoning Ordinance, "A-A Airport Approach Zone Combining Regulations," adopted 1976.

Lompoc Zoning Ordinance, "F...F-Airport Approach Zone Combining Regulations.

<sup>2</sup> "Aircraft Accidents in the Vicinity of Airports," prepared for the Assembly Committee on Natural Resources and Conservation, Air Safety Publications, January 2, 1973.

<sup>3</sup> Federal Aviation Administration, Advisory Circular No: 150/5190-3A, September 19, 1972.

climb following take-off or toward an aircraft engaged in a straight final approach toward a landing at an airport.

Any use which would generate smoke or which may otherwise affect safe air navigation within this area.

Any use which would generate electrical interference that may be detrimental to the operation of aircraft and/or airport instrumentation.

Other land uses which are not compatible from a safety standpoint within approach and clear zones are uses which create concentrations of people, particularly the young, elderly, or infirmed. Chapters 4 and 6 delineate specific land uses which are not compatible and the specific area in which such incompatibility occurs for Santa Barbara County airports.

Land use compatibility within the area surrounding airports over which airport traffic patterns general occur is not so easily defined. These larger areas, encompassing from about four to about twenty square miles are often highly urbanized and the hazard to any site within these areas is much less than that which occurs off the end of runways. Land use compatibility judgments must be based on airport specific operational procedures. This is done in Chapter 6 of this plan.

In addition to the land use issue, there is a concern about the ability of public safety agencies to effectively deal with emergencies within clear zone properties. This requires careful attention to emergency services for individual parcels. Examples of potential issues include location and concentration of fire hydrants, water availability, and site and building access.

## AIRPORT NOISE

Noise is defined as unwanted or objectionable sound. Airport noise is the sound of aircraft taxiing, taking off, landing, or flying in the airport traffic pattern, or aircraft engines being run up for maintenance, testing or pre-takeoff checks.

## Noise Properties and Measurement

Sound is a form of energy detectable by the human hearing system. It is commonly produced when some object is set into vibration. The vibration is transmitted to any surrounding media, such as air, causing pressure variations or “sound waves” among air particles. These waves spread out from the source, and along their path the waves can reflect off surfaces, they can bend around obstacles, and they can be absorbed by insulative materials. Measurement of sound involves three variables: magnitude, frequency, and duration:

Magnitude of variation in air pressure results in the “loudness” of sound. Magnitude is expressed in decibels (dB) which are logarithmic ratios comparing measured sound pressure to a reference pressure.

Thus a “loudness” of 70 dB is 10 times the sound pressure of 60 dB and twice the sound pressure of 67 dB. An apparently small increase in number decibels can actually represent a major increase in sound pressure.

Frequency refers to the number of times per second the object which produces the sound vibrates. Within the audible ranges, subjective response to pitch varies. People generally find higher frequency sounds more annoying. Thus, people may complain more vigorously about a high frequency but relative low magnitude jet or turboprop aircraft noise than lower frequency sounds of the same or greater magnitude from other sources.

Duration is the length of time a noise lasts. Noise induced hearing loss is directly related to magnitude, frequency content, and duration of noise exposure.

To adequately describe a noise environment, it is necessary to quantify the variation in noise level over time. An energy equivalent sound level, in which the amount of acoustical energy composed of magnitude and duration for each individual noise is summed, is the basis for the Community Noise Equivalent Level (CNEL), which is the quantification method used in airport noise legislation in California.

Noise in a residential, or other noise-sensitive setting, is often more bothersome at night than during daytime. For CNEL calculations, the day is divided into time periods with the following weightings:

<b>Community Noise Equivalent Level</b>			
Daytime:	7 a.m.	7 p.m.	Weighting Factor of 1
Evening:	7 p.m.	10 p.m.	Weighting Factor of 3
Nighttime:	10 p.m.	7 a. m.	Weighting Factor of 10

Thus, in estimating noise contours, a plane departing after 10 p.m. and before 7 a.m. is weighted 10 x the same plane departing after 7 a.m. and before 7 p.m., i.e., 1 flight now equals 10 flights if it occurs at nighttime.

#### Noise Exposure Contours

Noise exposure contours are the mapped expression of points subjected to equal average noise level, analogous to topographic contours. Noise contours may be drawn with respect to any noise measure; for airport land use planning CNEL contours are used. Noise contours attempt to refer only to airport noise and aircraft in the traffic pattern as noise sources; although multiple sources such as railroad tracks or freeways in combination with airports increase actual noise level in some areas.

#### Airport Noise Legislation

Land use and building insulation standards within this plan are based on the following legal guidelines. Specific planning boundaries and areas in which they apply are contained within Chapters 4 and 6.

Public Utilities Code, State of California, Section 21675: mandates formation of this Airport Land Use Plan and creation of an airport area of influence for each airport. The plan...”may specify use of land, may develop building standards, including soundproofing adjacent to airports, within the planning area.”

Administrative Code, State of California, Title 4, Subchapter 6: sets regulations regarding noise in the vicinity of airports. As of January, 1986, the criterion CNEL for airports having >25,000 air carrier operations (i.e., Santa Barbara and Santa Maria

Airports) is 65dB. This criterion is the threshold for alleviating residential development near airports. Compatible land uses within this noise impact area are:

- Agriculture
- Airport Property
- Industrial property
- Commercial property zoned open space
- High Rise Apartment with proper noise insulation together with central air conditioning. Exterior Noise to be attenuated to assure that the interior noise level does not exceed 45 dB during aircraft operations.
- Property subject to aviation easement for noise.
- Administrative Code, State of California Title 25, Chapter 1, Subchapter 1, Article 4: sets standards for noise insulation from exterior sources. It requires that residential structures located within a CNEL contour of 60 dB require an acoustical analysis showing that the structure has been designed to limit intruding noise to not more than 45 dB CNEL in any habitable room.

#### OTHER NOISE STANDARDS

United States Department of Housing and Urban Development (HUD). Policy Circular 1390.2: sets standards for noise exposure for HUD programs. It uses Noise Exposure Forecast (NEF) and Composite Noise Rating (CNR) as criteria for acceptable airport noise exposure. An exposure of 65 dB CNEL to 75 dB CNEL is roughly within a range which is considered discretionary but normally not acceptable for new construction. HUD projects within this range require noise attenuation measures, concurrence of the regional administrator, and 102 (2)c environmental statement.

Santa Barbara County Comprehensive Plan Noise Element, adopted March 5, 1979 and revised February 27, 1981; which states on pages 59 and 60:

“8) Residential use should be avoided within the 65 dB CNEL contour of any airport and under airport traffic patterns.”

“a) Noise mitigation [for noise sensitive uses] should consist of insulation of structures so that interior noise levels do not exceed 45 dB L<sub>DN</sub> and, for residential projects, measures to reduce noise levels below 60 dB L<sub>DN</sub> in exterior living spaces.”

## NOISE EXPOSURE CONTROL MEASURES

Control of exposure to airport related noise is complex. It may involve a hierarchy of measures ranging from noise suppression at the source to purchase of noise impacted land by airports. The ALUC's role in control of exposure to airport noise is limited by California Statute, it includes:

Compatible Use Zoning which permits only non-noise sensitive uses in noise impacted areas can prevent future incompatibilities. The airport benefits by not becoming cramped by encroaching neighborhood development; the community benefits by maintaining a comfortable environment for its residents. This is usually the best way to avoid having airport noise impact undeveloped property. Implementation responsibility rests with the local zoning jurisdiction, though the ALUC may require adoption of compatible zoning through the ALUP.

Building Code Provisions insure that new construction will incorporate adequate sound insulation to keep interior noise to acceptable levels. A major shortcoming of this approach is that even with the highest level of acoustical insulation, attenuation of more than 5 to 10 dB is impossible if windows are opened even a few inches for ventilation. Implementation rests with the local zoning jurisdiction though the ALUC may require compliance.

The above section has emphasized the quantitative and legal aspects of noise measurement. However, noise at levels less than the state standards used in this report may be obtrusive to many individuals engaged in various activities. There is a history of noise complaints from residential areas surrounding county airports as identified in Chapter 6. Appendix 1 contains an array of noise control measures with comments on effectiveness and legal implementation responsibilities. The reader is reminded that some of these control measures are not within the purview of the ALUC.<sup>4</sup>

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<sup>4</sup> California Public Utilities Code Division 9, Part 1, Chapter 4, Articles 3.5, Section 21674 (e).

## CHAPTER 3

### GUIDELINES FOR LAND USE

Airports are significantly affected by, and in turn affect, adjacent land users. The height and extent of structures can present obstructions in the airport vicinity which are hazardous to aircraft as well as structure occupants. Population concentrations present an aircraft noise exposure and safety hazard which may result in complaints and subsequent restriction on airport operations. Some types of commercial and industrial uses, however, presenting a low building profile, high construction standards and low population densities represent compatible land uses having little effect upon airport operations. Such compatible uses can, in fact, support and complement airport operations.

A balance between airport contiguous land uses and airport operations is a critical issue in planning. With the exception of open air assemblies, residential and certain institutional developments, most land uses are compatible with airport operations from a noise standpoint. Even housing may be made acceptable in noise affected areas of under 65 dB CNEL through adequate soundproofing and low density zoning to permit residences to be placed to the sides of approach zones with the orientation of major doors and windows away from the approach path.

The Public Utilities Code<sup>1</sup> gives the Airport Land Use Commission the power **“...to assist local agencies in ensuring compatible land uses in the vicinity of existing airports to the extent that the land in the vicinity of such airports is not already devoted to incompatible uses.”**

The ALUC must design a proscriptive land use plan for airport environs such that land uses incompatible with airports are not permitted, but maximum discretion is left to local jurisdictions to plan land uses for local needs.

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<sup>1</sup> California, State of, Public Utilities Code, Article 3.5, Section 21674.

This chapter provides very broad airport land use guidelines<sup>2</sup>. Within Chapter 6 are parcel specific recommendations for the area surrounding each of the county's airports.

Various land uses have been evaluated and their suitability as airport contiguous land uses are summarized below.

Natural Uses are compatible with aircraft noise to the extent airport operations are not affected. However, flood areas and swamps may be associated with low visibility (ground fog) or flooding; and ponds, swamps, and game and fish preserves may cause a bird hazard.

Agricultural Uses are compatible with aircraft noise, with a few exceptions. Poultry farms should not be located under the approach zones<sup>3</sup>; poultry crowding together because of high noise levels may suffocate or may produce fewer eggs. Grain and seed crops may attract birds which may endanger aircraft.

Highways and Railroads are good uses except when close to the runway end where vehicles may intrude into clear zone airspace requirements; and motorists may be distracted by low flying aircraft.<sup>3</sup>

Recreational Areas generally are good land uses around an airport; the following are examples of exceptions because of noise exposure and the hazard involved in a large concentration of people in the open:

- 1) Playgrounds-marginal, avoid in approach zones.
- 2) Athletic Fields-marginal in approach zones.
- 3) Outdoor Theaters-poor in approach zones.
- 4) Fairgrounds and Race Tracks-poor in airport approach zones.

No recreational use is appropriate in runway clear zones.

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<sup>2</sup> Guidelines in this chapter are taken from "Advisory Guidelines for Land Use Planning in the Vicinity of Airports" Draft, California State Department of Transportation, Division of Aeronautics, 9-1976.

<sup>3</sup> Clear zones and approach zones include land at both ends of runways over which aircraft fly at low altitude prior to landing and subsequent to takeoff. Their extent, and airspace requirement is defined in Chapter 4 and Appendix 2.

Municipal Utilities are compatible as far as noise is concerned, but the following may present obstructions or hazards:

- 1) Gas and Oil facilities, including above ground pipelines and storage facilities-marginal under approach zone surfaces.
- 2) Electrical Plants-marginal under approach zone surfaces.
- 3) Power Lines-poor under approach zone surfaces.

In addition, trash dumps and incinerators may create a smoke problem, and garbage dumps attract birds.

Commercial Uses Restaurants, shopping centers, office buildings, public buildings. Banks, gasoline stations, hotels, motels and theaters are generally good uses on an airport or adjacent to it, but should incorporate sound insulation in buildings for internal livability. None of these should be constructed in airport approach zones.

Industrial Uses are acceptable except for those that produce smoke, electronic interference, or misleading lights. Sound conditioning of structures may be required to reduce exterior noise to acceptable levels for internal operations. Some industries cannot be located near airports because noise and vibrations interfere with delicate instruments.

Residential and Certain Institutional Uses are considered poor adjacent to airport areas, and particularly under the approach zones because of both noise and hazard. Acoustical treatment will reduce noise in the buildings but it will not reduce noise during outdoor activity.

## CHAPTER 4

### PLANNING BOUNDARIES AND AIRPORT AREAS OF INFLUENCE

#### INTRODUCTION

The California Public Utilities Code<sup>1</sup> specifies that Airport Land Use Commissions shall determine planning boundaries around each public and military airport within their jurisdictions. This chapter sets forth criteria in establishing these boundaries. The encompassed area is referred to as the Airport Area of Influence. Airport specific planning boundaries are found in Chapter 6.

The precise methodology for determining planning boundaries is not set forth in the legislation. Determination of aircraft operations and aircraft mix, anticipated physical development of the airport as shown on an adopted airport master plan, and local airport traffic patterns, including anticipated approach and departure proceedings. The methodology for establishing airport planning boundaries for Santa Barbara County airports is described in the chapter. As anticipated changes in airport operations and/or physical development affect contiguous lands, the airport specific land use plans will require updating.

Figure 4-1 portrays a hypothetical Airport Area of Influence divided into areas of major concern: height restriction, safety, and noise. Within Zone I, policies regarding height restrictions apply; within Zone II, policies regarding safety, as well as height apply; within Zone III, policies regarding noise, safety and height apply. General guidelines for ALUC policy within each zone are detailed below.

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<sup>1</sup> Public Utilities Code, Section 21675(C), 21676.

# TYPICAL AIRPORT AREA OF INFLUENCE

**AIRPORT AREA OF INFLUENCE**

**ZONE I**  
HEIGHT RESTRICTION

**ZONE II**  
AIRPORT SAFETY AND HEIGHT

**ZONE III**  
AIRPORT SAFETY HEIGHT AND NOISE RESTRICTIONS

SAFETY AREA 1 (CLEAR ZONE)  
SAFETY AREA 2 (APPROACH ZONE)  
SAFETY AREA 3 (GENERAL)

65 dB CNEL CONTOUR

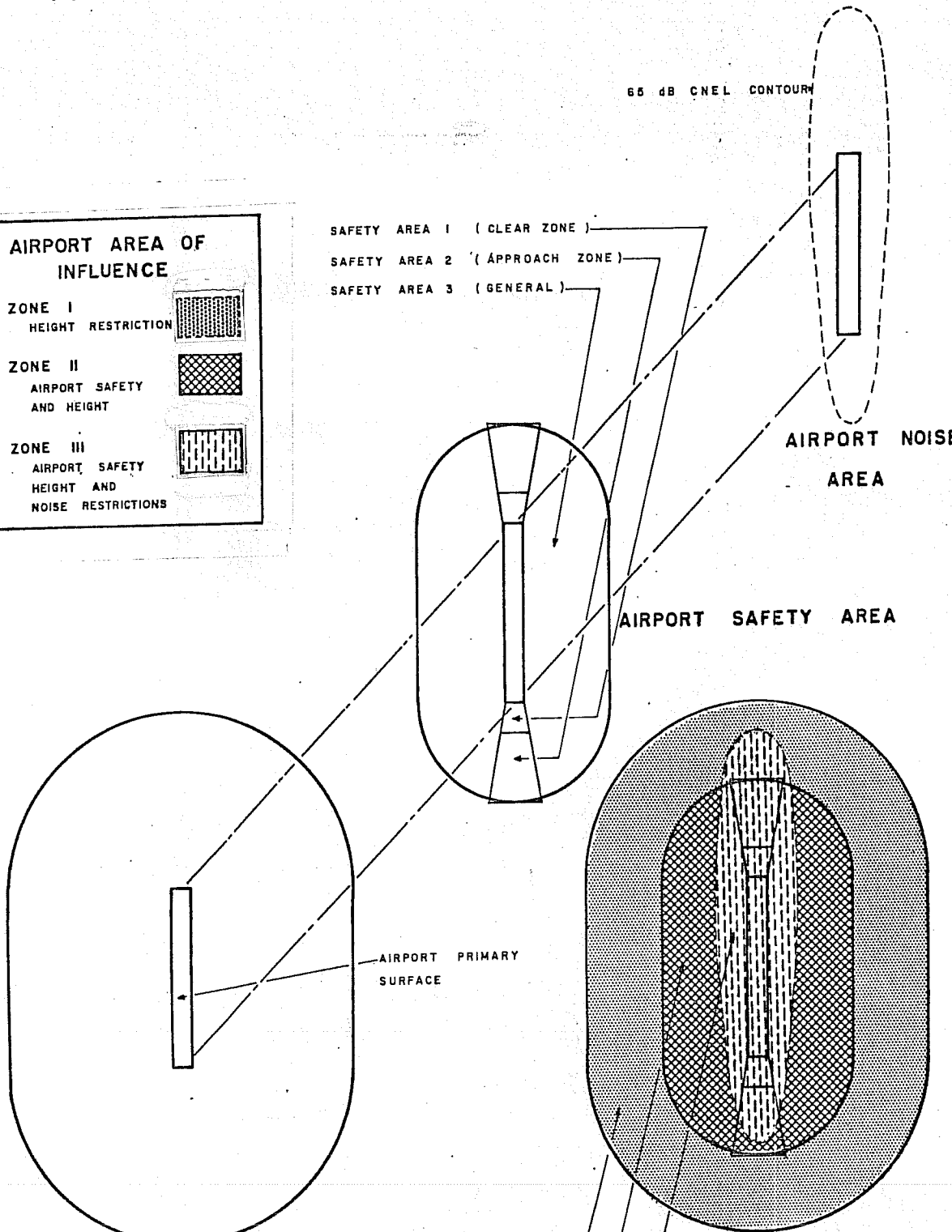
AIRPORT NOISE AREA

AIRPORT SAFETY AREA

AIRPORT PRIMARY SURFACE

AIRPORT HEIGHT RESTRICTION AREA

ZONE I  
ZONE II  
ZONE III



37  
17

## ZONE I AIRPORT HEIGHT RESTRICTION AREA

Zone I begins the most aerial extensive zone, defines the airspace requirement of an airport. It is defined in accordance with Federal Aviation Regulations (FAR) Part 77. Height limitation of structures within this zone is defined by the imaginary conical surface and horizontal plan depicted in Appendix 2, Height and Safety Criteria for Land Use Planning. The aerial extent of the horizontal plane depends on the size, configuration and category of the airport. The boundaries of the individual airport height restriction areas are depicted on the individual airport maps which accompany Chapter 6.

Generally Zone I height limits pose no hardship to any existing or expected land uses in Santa Barbara County.

## ZONE II AIRPORT SAFETY AREA

Within Zone II, safety restrictions, as well as height limitations are to be considered. Its boundary conforms to the outer limit of the horizontal surface depicted in Figure 4-1. The dimensions of the zone and its component areas vary with airport configuration and category. The boundary of Zone II for each of Santa Barbara County's airports is depicted on each individual airport map which accompanies Chapter 6. Appendix 2, Height and Safety Criteria for Airport Land Use Planning provides criteria for the dimensions of these zones.

Zone II is divided into three safety areas which are based on degree of hazard. They are:

Safety Area 1	Clear Zone
Safety Area 2	Approach Zone
Safety Area 3	Airport Traffic Pattern Zone

Safety Area 1 (Clear Zone) This is the most restrictive area as it is subject to greatest danger. It must contain no obstructions which extend into airspace requirements of landing aircraft as defined in FAA FAR Part 77.

It is the FAA's recommendation that clear zones be airport property and, if airport property, that they be maintained as cleared fields with restricted access. Off airport clear zone development must be limited to uses consistent with clear zone policy presented in Chapter 4 of this report.

The clear zone is defined as land under the approach slope from the primary surface end out to the point where the approach slope is 50 feet above ground level. The length of the clear zone varies with runway class; for Santa Barbara County's Airports its extension from the runway's end is:

SBMA:	Runway 7	2,700 feet
	Runway 25	1,900 feet
	Runway 15-33, E, W	1,200 feet
SMPA:	Runway 12	2,700 feet
	Runway 30	1,900 feet
	Runway 2-2	1,200 feet
LA:	Runway 7-25	1,200 feet
SYVA:	Runway 8-26	1,200 feet

#### Safety Area 2 (Approach Zone)

This zone is an extension of the clear zone in which uses which do not result in a concentration of people or particular fire hazard are generally allowed. Height restrictions in the approach zone are more severe than in other zones except the clear zone and must be absolutely enforced. Height restrictions in this zone are conceptually depicted in Appendix 2.

#### Safety Area 3 (General)

This area encompasses the remainder of Zone II and is least restrictive. This is the area in which airport traffic patterns occur.

Traffic patterns vary from airport to airport due to:

- 1) Runway configuration,
- 2) Prevailing Winds,
- 3) Topography,
- 4) Population Concentration, and

5) Noise Abatement Procedures.

Portions of the general safety area of any airport are frequently overblown and others infrequently overblown. Land use safety recommendations for this area must be more airport specific than recommendations for clear and safety zones. Chapter 6 contains airport specific recommendations for Safety Area 3.

Table 4-1 provides a guide to land use compatibility within Safety Areas 1, 2, and 3 in Zone II. It is concerned only with safety compatibility and not with noise compatibility which may vary within each safety area.

ZONE III AIRPORT NOISE AREA

Within this zone, land use will be influenced by airport noise as well as height restrictions and safety. The boundary of this zone is determined by using the California Airport Noise Standard which sets for the criterion Community Noise Equivalent Level (CNEL) contour. The state requirement currently is for 65<sup>2</sup>. Chapter 3 provides a more detailed examination of airport noise related legislation.

State regulations established as a general standard that residential uses, including mobile homes, schools, hospitals, institutional uses and other uses that are a basis for large concentrations of people are incompatible with noise levels above 65 dB CNEL. Airport owners and operations are now considered responsible for noise problems which existing land uses experience from airport operations although "local governments, pilots and the department....work cooperatively to diminish noise."<sup>3</sup>

It is in the airport noise zone that most existing airport noise zone that most existing airport related land use problems are found in Santa Barbara County, and that most potential problems will occur unless future land use decisions are subject to careful controls. Additionally, this zone's extent is based on anticipated airport operations over the next 20 years, and unanticipated changes in operations will require new noise measurement and redefinition of the airport noise zone.

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<sup>2</sup> Cal. Adm. Code, Dept. of Aeronautics: Title 4, Article 2, subchapter 6, section 5012.

Noise contours on airport maps which accompany this report are, where possible taken from airport master plan projections. They should not reflect current noise levels but rather expected future noise levels. Noise contours will be reviewed periodically by ALUC staff as new measurements and operational projections become available.

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<sup>3</sup> IBID. Section 5000, Preamble.

TABLE 4-1

LAND USE GUIDELINES FOR SAFETY COMPATIBILITY ONLY  
 (Noise Compatibility may Vary Within Each Safety Area)

LAND USE CATEGORY	COMPATIBILITY WITH SAFETY AREAS		
	1 (Clear Zone)	2 (Approach Zone)	3 (General Traffic Pattern Area)
<b>RESIDENTIAL</b>			
Single Family	No	Yes 1	Yes
Multi-family dwelling	No	No 2	Yes 3
Mobile home pars or courts	No	No 2	Yes 3
Transient lodging, hotels, motels	No	No 2	Yes 3
<b>INDUSTRIAL/MANUFACTURING</b>			
Chemicals and allied products	No	No	Yes 3
Petroleum refining & related industries	No	No	Yes 3
Rubber and misc. plastic	No	No	Yes 3
Misc. manufacturing	No	Yes 3	Yes 3
Warehouse, storage, of non-flammables	No 6	Yes 3	Yes
<b>TRANSPORTATION, COMMUNICATIONS AND UTILITIES</b>			
Railroad, rapid rail transit	No 6	Yes	Yes
Highway and street	No 6	Yes	Yes
Auto parking lots	No 6	Yes	Yes 3
Utilities	Yes 4	Yes	Yes

<b>RESIDENTIAL</b>			
Other trans, comm, and util.	No 6	Yes	Yes 3
<b>COMMERCIAL/RETAIL TRADE</b>			
Wholesale Trade	No 6	Yes 3	Yes 3
Building materials-retail	No 6	Yes 3	Yes 3
General merchandise-retail	No	No 2	Yes 3
Food-retail	No	No 2	Yes 3
Automotive	No	Yes 3	Yes 3
Eating and drinking	No	No 2	Yes 3
Other retail trade	No	No 2	Yes 3
<b>PERSONAL AND BUSINESS SERVICES</b>			
	No	Yes 3	Yes 3
<b>PUBLIC AND QUASI-PUBLIC SERVICES</b>			
Cemeteries	No	No	Yes 3
Other public and quasi-public services	No	No	Yes 3
<b>OUTDOOR RECREATION</b>			
Playgrounds, neighborhood parks, camps	No	No	Yes 3
Nature exhibits	No	Yes 3	Yes 3
Spectator sports incl. arenas	No	No	Yes 3
Golf course, riding stables	No	Yes 3, 5	Yes 3, 5
Auditoriums, concert halls	No	No	Yes 3
Outdoor amphitheaters, music shells	No	No	Yes 3

**RESIDENTIAL**

**RESOURCE PRODUCTION, EXTRACTION,  
AND OPEN SPACE**

Agriculture (except livestock)	Yes	Yes	Yes
Livestock farming, animal breeding	No	Yes	Yes
Forestry activities and related services	No	Yes	Yes
Mining activities	No	Yes	Yes
Permanent open space	Yes	Yes	Yes
Water areas	Yes	Yes	Yes

1. Single family residential is a compatible land use within the approach zone only if the population density is less than two single family residences per acre within one mile of the runway end.
2. Use not compatible in approach zone within one mile of the runway end. Use subject to ALUC review if more than one mile from the runway end.
3. Uses subject to ALUC review if they result in large concentrations of people underneath downwind and base legs or departure paths of frequently used airport traffic patterns. The Airport Planning Advisory Committee will provide assistance to the ALUC and its staff in this determination. Threshold for review of "large concentrations" is on the order of 25 people per acre for non-residential uses or more than four units per acre for residential use.
4. No above grade transmission lines, no on or above grade gas or oil pipelines.
5. Equestrian activity, including riding trails, is not compatible with areas overflowed by low flying aircraft as horses may be frightened by aircraft.
6. Intensive development in the clear zone is prohibited. All specific development plans must be reviewed by the ALUC to assure that temporary or permanent concentrations of people greater than 25 people per acre are avoided, that storage of concentrations of hazardous materials will not occur, and that the local public safety agency will be able to effectively provide emergency services to the parcel.

## **CHAPTER 5**

### **AIRPORT LAND USE COMMISSION POLICY**

#### **INTRODUCTION**

The objective of the Airport Land Use Commission is to promote the orderly development of lands contiguous to each public and military airport in a manner which safeguards the general welfare of the inhabitants, assures the safety of air navigation, and maintains the utility of each airport.

To fulfill this objective, Airport Areas of Influence, defined in Chapter 4, which encompass these areas where compatible land use planning is essential, have been developed for each airport in Santa Barbara County. The following policy goals, each applied to its special zone within the Airport Area of Influence, address three areas of concern:

- 1) Preservation of navigable airspace, and
- 2) General safety of people and property, and
- 3) Mitigation of aircraft noise impact.

This plan recognizes the need for consistent, rational application of criteria for land use around airports. It also recognizes the individuality of each airport; that each airport serves different aircraft types in different quantities in different operating environments and that each impacts its surroundings in a different way. Therefore, the policies presented in this plan are general in nature. They are based on federal and state standards for noise and safety, and are designed to be adapted to individual cases. Within the restraint imposed by the ALUC's height, noise, and safety policy, land use planning for local need is left entirely to local jurisdictions.

## GENERAL POLICY

Within the boundaries of the Airport Area of Influence, the ALUC recognizes its authority and jurisdiction is limited by the California Public Utilities Code. General policies of the Commission shall be:

1. The Airport Land Use Plan will set general parameters for development of specific regulations and zoning for land uses within the Area of Influence of the airports as guidelines for each member agency in the development or amendment of General Plans, specific plans, zoning ordinances, or other regulations required to achieve the goals of the Airport Land Use Plan for each airport within the jurisdiction of a member agency.
2. For member agencies, the Commission will assist them in reviewing changes in General Plans or other community plan changes and proposed new land uses contiguous to airports (within the Airport Area of Influence) to ensure consistency with the ALUP prior to formal actions by cities or county. Coordination of such efforts also will be the responsibility of the Commission's staff and Technical Advisory Committee.
3. ALUC staff shall work closely with affected local agencies and airport management to implement provisions of this plan and to achieve the objectives of the ALUC.
4. ALUC staff will work with member jurisdictions to develop procedures which will facilitate identification of parcels within each zone and safety area of the Airport Area of influence prior to actions such as zoning changes or issuance of building permits to assure compliance the goals of the ALUP.
5. In creation of Airport Areas of Influence, the ALUC shall use FAR Part 77 contours and CNEL noise contours from the best sources available. Airport management should prepare or revise contours if ALUC contours are believed inadequate or if operational changes result in contour change.

6. The ALUC has no jurisdiction over airport operations which include: The number and type of aircraft taking off and landing, time of aircraft activity, and airport traffic pattern used. The ALUC has no jurisdiction over land use within airport boundaries.
7. The ALUC has no jurisdiction or authority over existing land uses within the Airport Area of Influence even though the uses may be incompatible with ALUC noise and safety or height restriction policy.

In December, 1987 the Santa Barbara Area Planning Council acting as the county Airport Land Use commission adopted Resolution 87-13 which clarified procedures taken on ALUC matters referred by lead or responsible agencies. These procedures are set forth below.

1. A referral from a lead agency or responsible agency shall be considered, reconsidered and reviewed in accordance with any instructions, restrictions and requirements of the referring agency.
2. Such action may be placed upon the agenda of a regular meeting of the Area Planning council, or any special meeting duly called for such purpose, by any member, and may be approved by majority vote of the members in attendance of any such meeting at which there is a quorum present, pursuant to any notice requirement provided by the referring agency.
3. In absence of a notice requirement by a referring agency, written notice of a meeting on such action shall be mailed to the applicant, and to all persons who have requested notice in the matter, at least 15 days before the meeting, first class U.S. postage prepaid, and addressed to the last address furnished the Commission in connection with the matter.
4. The environmental assessment, negative declaration, Environmental Impact Report, Draft E.I.R., as may be available for the project shall be submitted with the application or referral and shall be available to the commission at the time of the consideration of the matter.

5. The Commission shall take such action as required by the referring agency. Any reconsideration of the action of the Commission shall be made by action of the Commission taken on the same day that the vote to be reconsidered was taken (or on the next succeeding day in a session which lasts more than one day). If, following the vote to be reconsidered, and at the same meeting at which such vote was taken, the matter is continued for further discussion to a later date or to a later meeting of the Commission, the Commission may determine to reconsider such vote by motion approved on the day to which the matter was continued. The motion is made, regardless of their presence during the original vote.
  
6. In absence of the conditions identified above, a reconsideration of the action of the Commission shall be made only upon request or further referral by the lead agency or responsible agency for the project.

#### AIRPORT HEIGHT RESTRICTION POLICY

To assure safe passage of aircraft in, out, and around airports by safeguarding and preserving navigable airspace is the objective of airport height restriction policy. Federal Aviation Regulations (FAR) Part 77 sets forth criteria for describing the navigable airspace requirement of each airport. Objects which penetrate above imaginary surface described in FAR Part 77 can impair safety and raise weather minimums for instrument approaches, thereby decreasing the operational capacity of an airport.

ALUC height restriction policy shall be:

To designate height restriction areas for all county airports as laid out in Chapters 4 and 6 of this plan;

To restrict the development of new incompatible land uses within airport height restriction areas which penetrate FAR Part 77 surfaces;

To review any specific projects within the Airport Area of Influence which may pose an intrusion into navigable airspace.

## AIRPORT SAFETY POLICY

The ALUC safety policy shall be:

To designate airport safety areas identified according to degree of hazard as Safety Area 1 (Clear Zone), Safety Area 2 (Approach Zone) and Safety Area 3 (General Airport Traffic Pattern Zone);

To restrict development of new incompatible land uses within airport safety areas 1,2, and 3.

Within airport safety area 1 and 2, the ALUC defines incompatible land uses as follows:

Any use which would direct steady or flashing lights at aircraft during initial climb or final approach, other than an FAA approved navigational signal or visual approach slope indicator (VASI).

Any use which would cause sunlight to be reflected toward an aircraft on initial climb or final approach.

Any use which would generate smoke or attract large concentrations of birds, or which may otherwise affect safe air navigation within the area.

Any use which would generate electrical interference that may be detrimental to operation of aircraft or airport instrumentation.

Within Safety Area 1 (Clear Zone) incompatible uses are:

Residential development.

Any use which may result in long or short term concentration of people.

Hazardous installations such as oil or gas storage.

The range of permitted uses includes the following:

Open space; agriculture; commercial nursery; truck, bus, and construction equipment storage; recreational vehicle and boat storage; building materials storage and wholesale; hay, grain, and feed wholesale; building contractors year; parking lot; auto wrecking year; agriculture storage; mini storage warehouses; auto sales display areas; or similar uses which limit concentration of people or hazardous materials.<sup>4</sup>

Review of proposed development in Safety Area 1 (Clear Zone) by affected jurisdiction's public safety agency with respect to agency's ability to respond and deal with emergencies on site is required.

All development plans within Safety Area 1 shall be reviewed on a case by case basis by the ALUC.

Within Safety Area 2 (Approach Zone) incompatible uses are:

All residential construction within one mile of the runway end except new single family construction on existing recorded parcels and rebuilding and alteration which will not increase density. (Residential noise concerns should also be noted in the noise policy section below.)

Non-residential uses within one mile of the runway end which would result in large concentrations of people such as, but not limited to, shopping centers, schools hospitals, or stadiums.

Hazardous installations such as oil or gas storage.

All project proposals in Safety Area 2 within one mile of the runway end, and proposals which would result in large concentrations of people in Safety Area 2 more than one mile from the runway end shall be reviewed on a case by case basis by the ALUC.

Within Safety Area 3 (General Airport Traffic Pattern Area), the ALUC recommends the following as incompatible land uses:

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<sup>4</sup> Amended by ALUC June 16, 1983, 83-APC-25.

Any use which would result in large concentrations of people, such as schools, hospitals, apartment blocks, or shopping centers beneath “downwind and base legs or departure paths” of frequently used traffic patterns. The Airport Planning Advisory Committee will provide assistance to the ALUC and its staff in this determination. Large concentrations is a purposely vague term as the issue will vary with the land use and location. For general purposes, the threshold for review is roughly 25 persons per acre for on-residential uses or more than four units per acre on residential land.

## AIRPORT NOISE POLICY

The ALUC noise policy objective is to assure that new land uses in airport environs are compatible with aircraft generated noise. Compatible land use planning and acoustical insulation in new structures, the purview of the ALUP, require the development and enforcement of regulations involving zoning for general compatibility, site planning, and acoustical insulation standards.

ALUC noise policy is:

Within the boundaries of the 65 CNEL contour as projected in the Airports Land Use Plan

- 1) Institutional land uses such as schools, hospitals, convalescent homes and other in-patient health care facilities shall not be permitted.
- 2) Multi-family residential land uses may be permitted subject to an acoustical analysis showing that all structures have been designed to limit interior noise levels in any habitable room to 45 dB CNEL.

Within the boundaries of the 60 CNEL contour as projected in the Airport Land Use Plan

- 1) Residential land uses may be permitted subject to an acoustical analysis showing that all structures have been designed to limit interior noise levels in any habitable room to 45 CNEL.

Compliance with the acoustical analysis requirement shall be as specified in Section 28, Noise Insulation Standards, Title 25, Chapter 1, Sub-chapter 1, Article 4 of the California Administrative Code.

## CHAPTER 6

### SANTA BARBARA COUNTY AIRPORTS

#### INTRODUCTION

In this chapter, the county's airports are examined on an individual basis in light of noise and safety considerations. No attempt is made to exhaustively detail land uses or airport operations or plans, which are to be found in other county documents (see bibliography), but rather to confine comments to airport noise and safety within the Airport Area of Influence. Specific reference is made to parcels for which zoning or general plan designation is incompatible with noise and safety recommendations.

The regulations governing the content of the Airport Land Use Plan requires that the plan:

**Shall be based on a long range master plan or an airport layout plan, as determined by the Division of Aeronautics of the [State] Department of Transportation, that reflects the anticipated growth of the airport during at least the next 20 years.<sup>1</sup>**

Currently only Santa Barbara and Santa Maria Airports have Master Plans whereas Lompoc and Santa Inez Airports have airport layout plans. VAFB information was collected from their Airport Air Installation Compatible Use Zone Study and Cuyama Airport data is lacking since it only recently became a public use airport.

Airport approach and clear zones are based on FAA FAR Part 77 as explained in Chapter 4 and Appendix 2. They are different from, and in some cases, less restrictive than the "F-combining" regulations used by the county for height restrictions beneath approaches. Where development under the F-combining regulations exists, it is compatible with recommendations in this report except for clear zones where a complete absence of structures is desirable.

#### SANTA BARBARA MUNICIPAL AIRPORT

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<sup>1</sup> State of California, Public Utilities Code, Section 21675 (a).

## Background

Until the mid-1800's, the area which is now the Santa Barbara Municipal Airport was an open harbor which could be navigated by ocean going ships. In 1861, a severe flood occurred and a shallow lagoon or slough was created. In 1928, the first airport on the site was established in a private field. In 1941, the City of Santa Barbara purchased the airport, but before any improvements could be made, the United states government took possession and extended the site to include what is now the existing airport of approximately 1,000 acres and the UCSB Campus. Most existing runway development was completed during World War II, when the airport served the military. In April, 1946, the property was returned to the city. It remains a portion of the incorporated area of the City of Santa Barbara surrounded by unincorporated land and connected to the main body of the city by a narrow corridor that runs offshore through submerged tidelands along the coast.

Santa Barbara Municipal Airport is approximately nine miles west of Santa Barbara's central business district and just southwest and contiguous to the unincorporated community of Goleta's central business district. It is situated in the Goleta Valley, west of Ward Memorial Freeway between U.S. 101 Freeway and the Pacific Ocean. The airport's property encompasses over 946 acres of which 350 acres are salt march (the Goleta Slough), 500 acres are devoted to aviation, and approximately 100 acres of non-aviation related acreage are used for commercial and industrial purposes.

The airport is a municipal department managed by an airport director. There is an Airport Commission which is advisory to the City Council and decisions on airport policy matters are made by the City Council.

## Operations

Santa Barbara Municipal Airport has two fixed base operators who offer flight instruction, aircraft rental, sales, and repairs. Six certified, scheduled airlines utilize the airport: American Eagle (Wings West), United Express (West Air), TransWorld Express, Sky West – the Delta connection, American, and United Airlines. United and American Airlines operate heavier, large type jet aircraft and the remainder operate smaller turboprop aircraft. American Airlines operates "quieter" Stage III aircraft while United Airlines operates both Stage III and Stage II

aircraft. The diversity of service and changes in aircraft operators and schedules illustrate the effect of nationwide airline deregulation on our local community.

Santa Barbara Municipal Airport has three runways: runway 7-25, and East-West high speed runway with precision instrument approach from the west; and runways 15-33 East and West, two parallel north-south runways which are used in visual approaches only. Wind direction variation and frequently heavy traffic require that all four approaches be used at different times, sometimes two at the same time. This results in a number of aircraft traffic patterns which take aircraft over much of the lands surrounding the airport. The heavier jet aircraft, which are responsible for few operations but create the highest single-event noise levels always make straight-in approaches on runways 7 and 25.<sup>2</sup> These patterns are depicted on Map SB-2.

Table 6-1 breaks out number of annual operations (takeoffs and landings of aircraft), by aircraft type for the last few years and provides a forecast of future operations which is discussed below.

TABLE 6-1  
SANTA BARBARA MUNICIPAL AIRPORT OPERATIONS<sup>3</sup>

Year	Air Carrier/ Commuter	General Aviation	Military	Total
1987	52,184	134,509	948	187,641
1990	65,614	122,277	948	188,839
<b><u>Forecast</u></b>				
1995	75,600	172,600	1000	249,200
2000	84,600	210,000	1000	295,600
2005	97,000	243,400	1000	341,400

<sup>2</sup> Runways are numbered with the first two digits of their magnetic heading. Thus, runway 7-25 has a magnetic heading in one direction of 070 and, in the other direction, its reciprocal, 250.

## Forecast of Operations and Noise Contours at Santa Barbara City Airports

In 1981, Santa Barbara Municipal Airport developed an Airport Master Plan. Noise contours developed in the Master Plan were originally proposed for adoption as part of the ALUC Airport Land Use Plan. However, ALUC Board members expressed reservations about the assumptions used to develop the noise contours. These reservations centered around the optimism expressed about future jet air carrier traffic recognizing increasing fuel prices and deregulation. The ALUC postponed adoption of the noise contours in August, 1981 pending receipt of additional information.

In October, 1981, the City of Santa Barbara contracted under an FAA planning grant with the firm of PRC Speas to conduct an Airport Noise Control and Land Use Compatibility (ANCLUC) Study. The objective of this study was the determination of appropriate recommendations for future land use in the vicinity of the Santa Barbara Airport through an evaluation of existing and future noise levels, noise abatement techniques and land use strategies. The ANCLUC Study was approved by the Santa Barbara City Council on July 27, 1982.

One noise impact scenario, which assumed five jet air carrier operations per day, one of which would be in the 7:00 – 10:00 p.m. period, was subsequently adopted by the ALUC and incorporated in the ALUP.<sup>4</sup>

In September 1986, the ANCLUC study was updated to meet Federal Aviation regulations Part 150 Airport Noise Compatibility Planning requirements. The study developed new airport noise contours based on the existing and projected level of airport operations. Current air carrier jets using Santa Barbara Airport include United Airlines B727-200's and American Airlines MD-80's. The former represent noisier Stage II aircraft while the latter represent Stage III aircraft which dramatically reduces the land area affected by noise due to aircraft operations.

During 1985 there were, on average, 8.3 air carrier and 54.2 commuter and air taxi operations per day. Approximately 1/3 of all air carrier operations are with Stage III aircraft.

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<sup>3</sup> Santa Barbara Airport, Manager's Office, 1990 SBMA Master Plan Update, P & D Technologies, November, 1990.

<sup>4</sup> PRC Speas, Santa Barbara Municipal Airport, Airport Noise and Land use Compatibility Study, May, 1982.

The scenario developed in the Part 150 study includes a projected noise exposure over a five year period.<sup>5</sup> Air carrier departures are projected to increase to 10.8 per day, 28% of which are assumed to be quieter, stage III aircraft. One of the 10.8 per daily jet operations is assumed to be a Stage II aircraft operating between 7:00 p. m. and 10:00 p.m. This assumption, based on existing operations, results in an arbitrary 3 dba penalty weighing in the CNEL computation of noise events that occur in this late evening period.

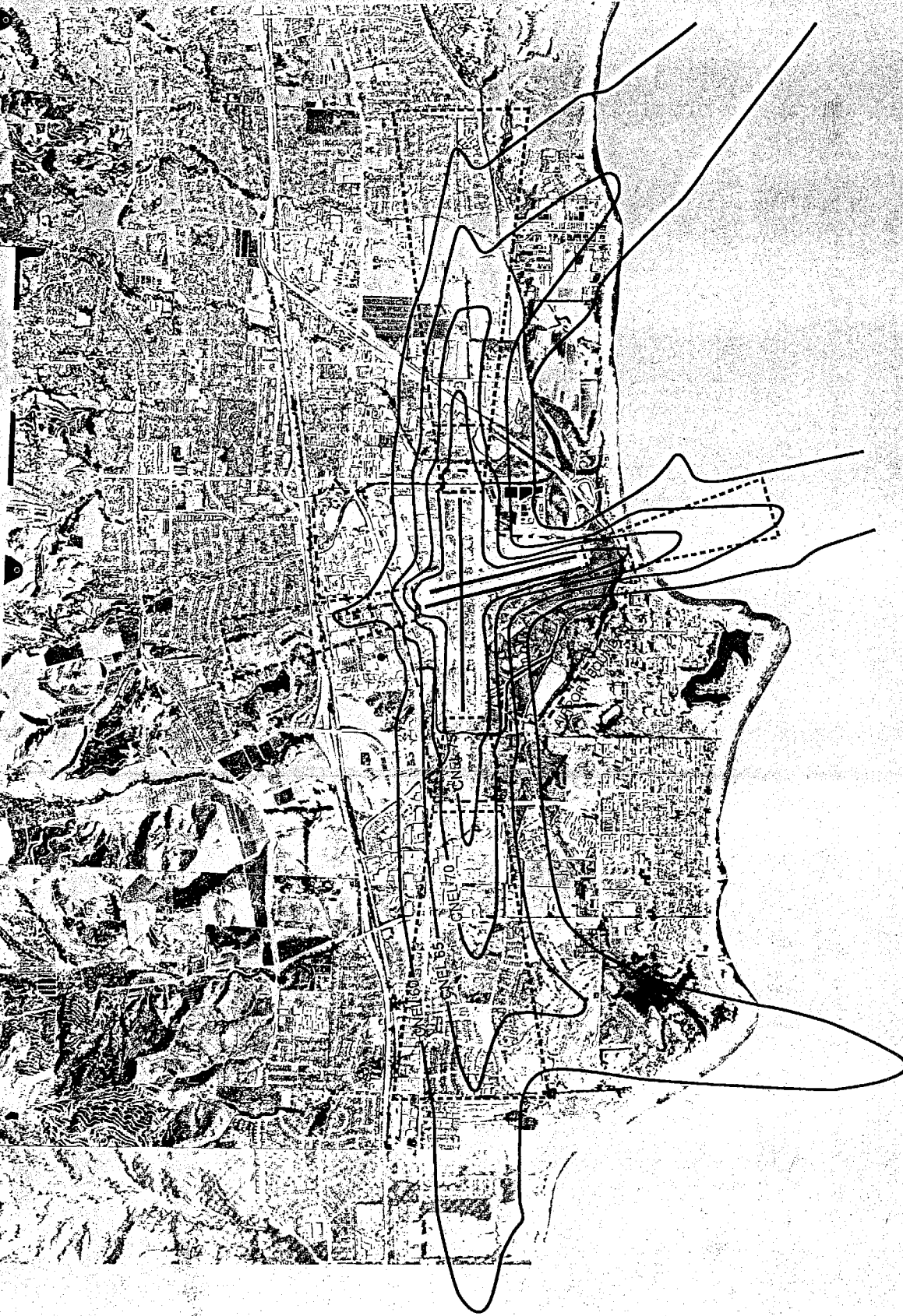
The noise contours and the resulting land use recommendations would be revised at the time that the quieter Stage III aircraft begin operating at the Santa Barbara Airport. While these aircraft are currently being introduced at various airports by the larger airlines such as United, it is impossible to determine when they might be in consistent use at the Santa Barbara Airport. Map SB-1 depicts the 60 dB and 65 dB CNEL noise contours. When the model used in the study simulated the impact of projected airport operations the noise impact area enlarged by 15 acres.

General aviation aircraft are directed to flight tracks which attempt to avoid concentrations of residential units. This noise abatement strategy can have only limited success as some housing, such as UCSB New Married students Housing, is frequently overflowed by aircraft which are avoiding even larger concentrations of housing. Map SB-2 depicts commonly used flight tracks of aircraft in the pattern.

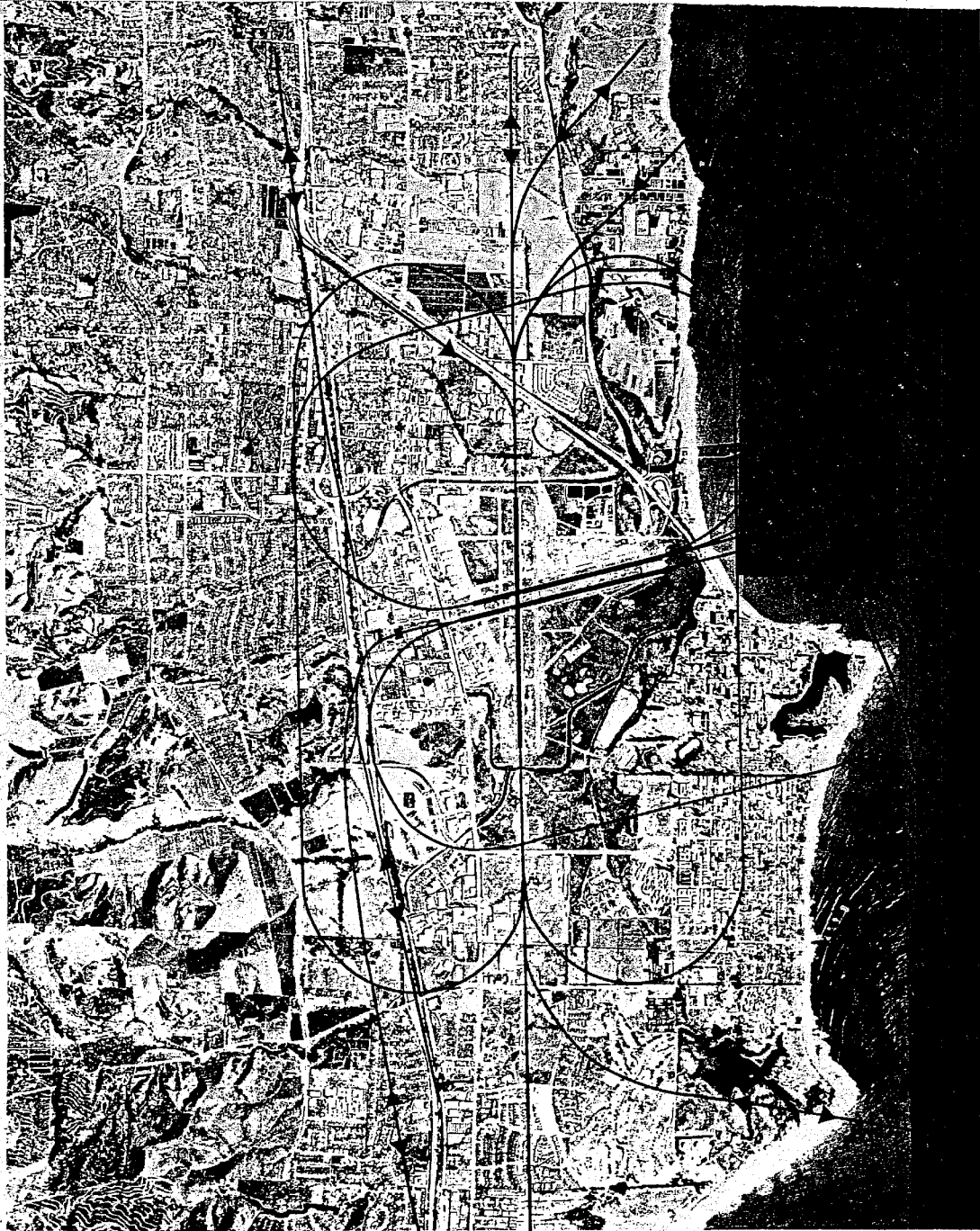
Aircraft noise complaints occur from Isla Vista, UCSB, Hope Ranch, the area north of the airport and to the east and west of runway 7-25, although only the latter are subject to the 65 dB CNEL which became the threshold level for a determination of airport noise impactation on January 1, 1986.<sup>6</sup>

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<sup>5</sup> PRC Engineering, September 1986 "Santa Barbara Municipal Airport FAR Part 150 Airport Noise Compatibility Study."



Map SB - 1	<b>SANTA BARBARA MUNICIPAL AIRPORT</b>	<b>Area of Influence And Noise Contours</b>	Scale 1 to 1600	Source PHC Engineering Inc, 1986	↑ N
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Map  
SB - 2

**SANTA BARBARA AIRPORT TRAFFIC PATTERN**

Scale  
1 to 1600

Source  
PHC Engineering, INC. 1986

↑ N

## Safety

The area overflown by aircraft in approach and departure patterns of Santa Barbara Municipal Airport presents no significant safety hazards as defined by FAA FAR Part 77. Aircraft are directed by the tower not to overfly the main UCSB campus due to both safety and noise considerations. The various patterns do, however, overfly concentrations of people in residential, commercial, and industrial settings all around the airport. Generally, level topography and absence of tall buildings make this practice consistent with safety to a greater degree than at most urban airports.

Map SB-1 portrays airport clear and approach zones. Runway clear zones at the west end of 7-25 and the south end of 15-33 meet the safety recommendations of Chapter 3, but the other two clear zones do not. The clear zones at the north end of 15-33 and the east end of 7-25 have industrial development within these zones. The structures do not protrude into the airspace requirement defined in FAA FAR Part 77, however, they present a hazard. Future development within clear zones should be discouraged and, if allowed, should be subject to very careful controls and conditions with respect to both noise and safety.

### Existing Land Uses of Special Concern

The Goleta Slough, located on airport property between the airport and UCSB, has been designated by the California Department of Fish and Game to remain a wildlife area. The airport's recognition of the slough's importance is reflected in the City of Santa Barbara Airport Zoning Ordinance No. 3690. The concentration of birds in the slough has presented no threat to aircraft operation and continued exclusion of human disturbance in the slough should minimize such a threat.

The UCSB campus to the south of the airport has been the source of some noise complaints. Intermittent noise of jets taking off disrupts lectures a few times a day and frequent noise of light aircraft in the pattern is obtrusive but far below 65 dB CNEL. UCSB should follow state and federal noise criteria guidelines for any new construction, particularly residential development planned near the airport on the Storke Campus west of the Main Campus.

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<sup>6</sup> California State Administrative Code title 4, Subchapter 6, Article 2, Section 5012.

## Land Use Recommendations

As indicated, the purview of the ALUC in land use planning is limited to the following areas:

1. Height restriction recommendations on new buildings near airports.
2. Land use regulation recommendations to assure safety of air navigation.
3. Achievement of compatible land uses in the vicinity of airports to the extent that land is not already devoted to incompatible uses.

All new development, including remodeling or additions to existing structures, should conform to Airport Land Use Commission Policy which is described out in Chapter 5.

The following pages lists large parcels within the Santa Barbara Municipal Airport of Influence which, if developed to their zoning or general plan designation without noise mitigation, any be in conflict with ALUC policy. The potential conflict and appropriate mitigation, if any, is included on a parcel specific basis. This list includes only large vacant parcels which have been brought to the attention of ALUC staff, It does not include all parcels on which development may be affected by this plan. All development proposals within the airport area of influence should be reviewed by the local planning jurisdiction for conformance with the ALUP. If found inconsistent, proposals should be reviewed by the ALUC per policy and implementation responsibilities set forth in Chapters 5 and 7.

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Parcel Number : 65-09-26  
Comprehensive Plan Designation : Residential 4.6 units/acre  
Acres : 9.07  
Concern: Part within the noise projection of 60 dB CNEL.  
Mitigation: Acoustical insulation is required to assure that the interior noise level of any habitable room due to exterior sources does not exceed 45 dB CNEL.

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Parcel Number : 65-320-01, 02,04, 07, 08, 09, 10  
Comprehensive Plan Designation : P.D. 300 units  
Acres : 300  
Concern: Parcel partially within 60 dB CNEL contour.  
Mitigation: Same as above.

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Parcel Number : 70-170-13  
Comprehensive Plan Designation : General Industry  
Acres : 26.83  
Concern: Southern one half of parcel is within the clear zone of runway 7-25, the high speed runway.  
Mitigation: This portion of property must contain no obstructions which intrude into the airspace requirement of landing aircraft. Permitted uses must not result in permanent or temporary concentrations of people greater than twenty-five people per acre or storage of toxic or flammable materials. Permitted uses must be consistent with ALUC clear zone policy.

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Parcel Number : 73-120-09  
Comprehensive Plan Designation : Residential 4.6 units/acre  
Acres : 58.36  
Concern: Northern margin of parcel is within the 60 dB CNEL contour projection and under the approach zone  
Mitigation: Provide acoustical insulation in residential structures to assure that interior noise level of any habitable room due to exterior sources does not exceed 45 dB CNEL.

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Parcel Number : 75-090-38, 55  
Comprehensive Plan Designation : P.D. 12.3 on 63 acres  
Acres : 83.21  
Concern: The entire parcel is within the 65 dB CNEL contour and under airport approach zone  
Mitigation: Provide acoustical insulation in resident structures to assure that interior noise levels of any habitable room due to exterior sources does not exceed 45 dB CNEL. See ALUC noise and safety policies.

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Parcel Number : 73-090-26  
Comprehensive Plan Designation : Residential 12.3 units/acre  
Acres : 8.59  
Concern: Land is within the 65 dB CNEL and 60 dB CNEL contour.  
Mitigation: Provide acoustical insulation to assure that interior noise levels of any habitable room due to exterior sources does not exceed 45 dB CNEL. See ALUC noise and safety policies.

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Parcel Number : 72-210-45  
Comprehensive Plan Designation : Residential 4.6 units/acre  
Acres : 6.83

Concern: Parcel is within the 60 dB CNEL contour projection.

Mitigation: Provide acoustical insulation to assure that the interior noise level due to exterior sources does not exceed 45 dB CNEL.

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Parcel Number : 73-09-49  
Comprehensive Plan Designation : Residential 3,500 ft/2 unit  
Acres : 7.35

Concern: Parcel partially within 65 dB CNEL contour projection.

Mitigation: Provide acoustical insulation to assure that the interior noise level of any habitable room due to exterior sources does not exceed 45 dB CNEL.

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Parcel Number : 73-23-51 2 unit  
Comprehensive Plan Designation : Residential 3,500 ft/2 unit  
Acres : 4.29

Concern: Parcel is within the 65 dB CNEL contour projection.

Mitigation: Provide acoustical insulation to assure that the interior noise level of any habitable room due to exterior sources does not exceed 45 dB CNEL.

## SANTA MARIA PUBLIC AIRPORT

### Background

Santa Maria Public Airport was established as an army Air Corps Field during World War II. In 1946, Santa Barbara County acquired the field as a public airport. In 1949, the city of Santa Maria obtained one half interest. In 1963, the Santa Maria Public Airport District was formed and title was transferred to the District in 1964. Policy is set by a Board of Directors with daily operations supervised by a General Manager.

The airport is located in the southern portion of the City of Santa Maria. Its boundaries are coterminous with the southern city limits; thus, as with all county airports, most land around the airport is unincorporated. The airport contains approximately 3,000 acres of which approximately half is devoted to aviation services. A 260 acre industrial park exists on airport district property as does the 888 space Village Mobile Park mobile home development. These uses as well as all others on airport property are not within the purview of the Airport Land Use Commission.

### Operations

Santa Maria Public Airport provides facilities for two commuter airlines which serve Santa Maria with propeller driven aircraft. There are four fixed base operators offering flight instruction, aircraft rental and repair, and refueling. The airport is served by an FAA control tower. In 1985 there were 167 general aviation aircraft based at the airport.

There are two runways. The primary runway, 12-30, is used by air carrier aircraft and heavy general aviation aircraft, including jets. The secondary runway, 2-20 is utilized primarily by general aviation aircraft. The precision instrument approach is to runway 12, from the northwest.

## The Airport Master Plan

The Santa Maria Public Airport District has prepared an Airport Master Plan for the Airport.<sup>1</sup> SBCAG (ALUC) determined in June, 1987 that plan was consistent with the policies in the ALUP and approved amendments to the ALUP in August, 1987. Operational projections in the Master Plan form the basis of ALUC policy for the Santa Maria Public Airport Area of Influence.

Forecasted operations are shown below:

<u>Year</u>	<u>Actual 1990</u>	<u>Master Plan 2005</u>
Commercial Aircraft Movements	26,496	40,800
General Aviation Movements	71,645	229,600
Passengers (Enplanements and Deplanements)	77,955	532,000
Based Aircraft	178	470

According to the findings of the Airport Master Plan study, the operational capacity of the existing runway configuration will be reached during the 1990 to 2005 time from. A major recommendation of the Master Plan is the development of a new parallel runway to be in place and operational when actual airport operations (landings and takeoffs) reach 230,000 per year. The Master Plan anticipates this level of utilization by the year 2005 (approximately). The FAA recommends that planning for additional capacity be initiated when annual operations reach 60 percent capacity of the existing runway system, and that actual implementation (approximately), according to projections for annual aircraft operations contained in the Airport Master Plan. However, according to actual data for 1990, this level of utilization was not achieved. Eighty percent capacity (184,000) annual operations) will be reached by 1996 (approximately), according to the Master Plan projections, which appear optimistic.

Runway 12R-30L, to be built parallel to the existing main runway (12-30) is planned to be 4,000 feet long by 75 feet wide. Planned pavement strength is 30,000 pounds (single-wheel loading)

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<sup>1</sup> PRC Engineering, Inc. April, 1986 "Master Plan for Santa Maria Public Airport."

so that it will be able to serve commuter aircraft of the size currently serving the airport, should the main runway be closed for maintenance or an emergency.

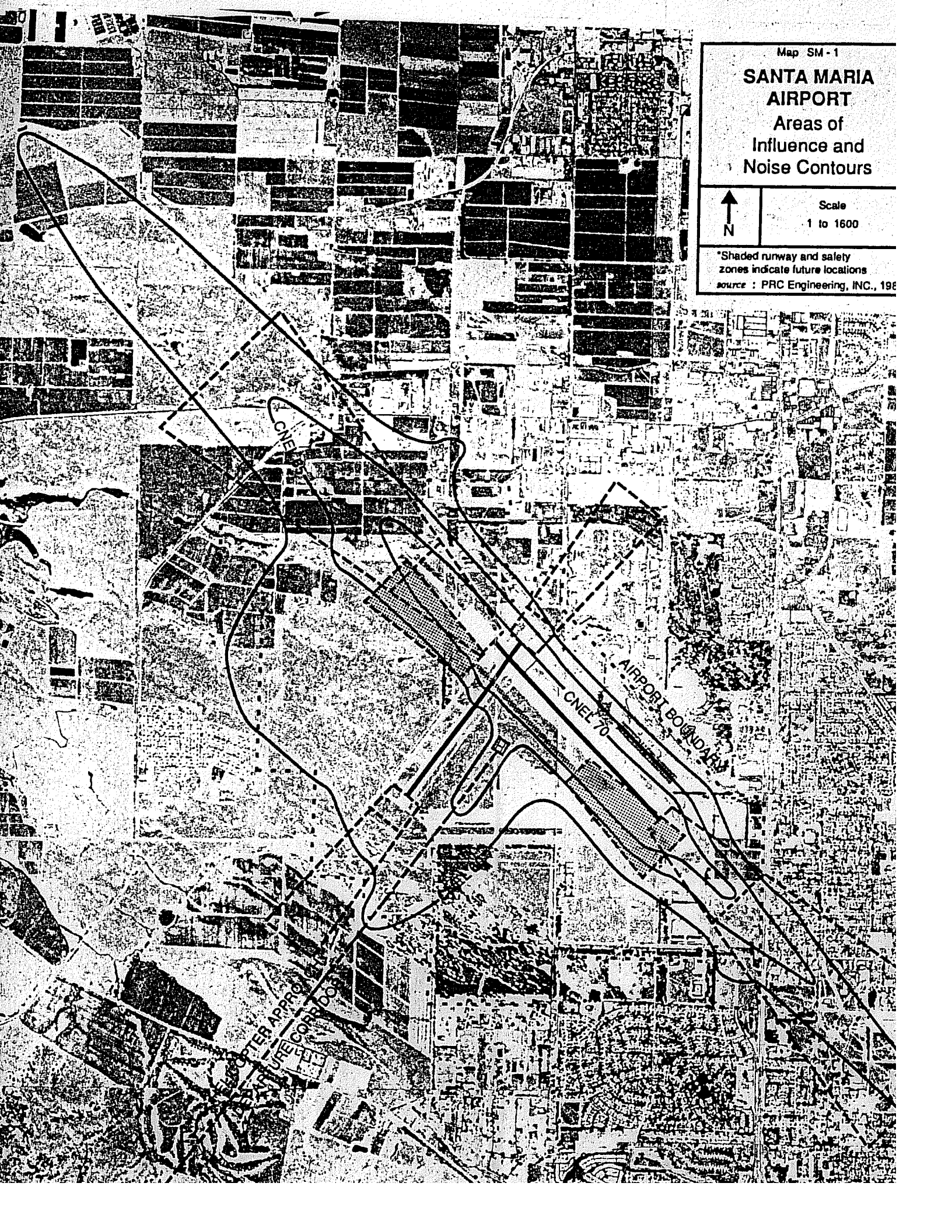
In addition to the proposed runway other facilities include establishment of a helicopter base and construction of additional FBO facilities (Fixed Base Operators supply products and services to pilots). Establishment of a helicopter base responds to a forecast of increased helicopter activity due to future development of offshore oil and gas resources in the northern and central Santa Maria Basic, i.e. offshore from Pt. Arguello to the Nipomo dunes. The Master Plan Estimates that 50 daily operations would occur and the traffic pattern would direct arrivals and departures toward the southwest.

Projections in the Master Plan indicate the potential for up to 10 daily operations by new commercial jet aircraft within the planning period. Two scenarios were developed to estimate airport noise impacts. One scenario assumed the jets were “quieter” Stage III aircraft, another assumed the jets were the somewhat noisier Stage II aircraft. SBCAG (ALUC) determined that in order to prevent land use incompatibilities the worst case, Stage III jet aircraft, scenario was selected. Noise contours associated with this scenario are presented in Map SM-1.

## Airport Impacts On Land Use

### Noise

Normal continuous landings and takeoffs produce irritating noise and flight at low altitudes over currently-developed residential areas to the west (Tanglewood), south (Foxenwoods) and southeast (unincorporated areas). Takeoff normally occurs on runway 30 as dictated by the prevailing wind. Management has designated runway 30 the preferred runway for takeoff during calm wind conditions as well. Unusual wind conditions occasionally dictate the use of runway 12 for takeoff, at which time heavy single event noise exposure is experienced to the southeast and south. Map SM-2 shows normal flight tracks.



Map SM - 1

# SANTA MARIA AIRPORT

## Areas of Influence and Noise Contours



Scale  
1 to 1600

\*Shaded runway and safety zones indicate future locations  
source : PRC Engineering, INC., 198...

CNEI 70

CNEI 70

AIRPORT BOUNDARY

HELICOPTER APPROACH CORRIDOR

Management has placed a curfew on all takeoffs or landings by aircraft not meeting FAR Part 36 noise standards from 10:30 p.m. to 7:00 a.m. Aircraft landing at Santa Maria will ordinarily use Runway 30 and will expose those area to the south and southeast within a two-mile radius to noise resulting from overflight at a low altitude.

During very low visibility conditions, aircraft failing to gain visual contact with the runway during an instrument letdown will reject the approach and expose densely populated area to the northeast and north to heavy noise exposure during their climbs.

Construction of a new parallel runway will create a new airport approach zone. Map SM-1 portrays the existing clear and approach zones and the new zones for the proposed parallel runway based on Federal Aviation Administration criteria. For the most part these clear and approach zones for the new runway are located within Airport district property.

## Safety

The runway clear zones are all within airport property and have ideal freedom from obstruction; the approaches are also considered as safe. Operational flexibility, however, has been severely compromised by urban encroachment to the north, east and south of the airport. Runway 12 is rarely used for takeoffs due to the need of departing aircraft to climb out over urbanized areas. Commercial carriers do not land in the opposite direction on the same runway to avoid final approaches over the same urbanized area. Thus, safety and acceptable noise levels have been achieved through operational limits which do not allow best use of airport facilities.

## Land Use Recommendations

The Airport Land Use Commission's principal policy in land use recommendations for the Santa Maria Public Airport Area of Influence is to avoid land uses which will further inhibit the Airport's operation capability.

Map SM-1 portrays noise impacts due to forecast aircraft operations. The 65 dB CNEL noise contour impacts part of a residential infill area within the southeast approach zone to runway 12-30. The 60 dB CNEL contour reaches to Bradley Road. To the northwest the 65 dB CNEL noise contour impacts an area under an (imaginary) extended runway center line running to



Black Road. Helicopter operations are forecast to impact the area to the southwest due to traffic using runway 2-20. While these operations are not expected to exceed a noise impact of 55 dB CNEL it is important to limit residential development under the helicopter approach/departure corridor to avoid future land use conflicts.

Agricultural land use to the northwest of runway 12-30, along the approach zone is compatible with that runway's function as the precision instrument runway for large aircraft. The present general plan designation and zoning of agriculture should remain in effect to protect the precision instrument approach.

Maintenance of an open strip along the southeast approach to runway 12-30 is desirable for safety as this path is constantly used by aircraft flying at sufficiently low altitudes so that only very limited maneuvering is possible in the event of a power failure. The airport district has requested that a 1,500 ft. wide open space corridor centered along an extension of run 12-30 to the southeast be maintained. The county Land Use Element includes a 1,500 ft. wide airport safety corridor that precludes development which is incompatible with airport operations. The county is to be commended for taking this positive step. Three more undeveloped parcels include portions of airport safety corridor (Table VI-4 below).

Residential infill within the southeast approach zone to runway 12-30 and within the Airport Pattern Protection Area designated on Map SM-1, except for construction of new single family structures on existing recorded parcels and minor rebuilding and alteration of existing structures, should be reviewed on a case-by-case basis by the ALUC.

All new construction within the projected 60 dB CNEL contour should be subject to acoustical analysis and treatment to assure that interior noise caused by aircraft will not exceed 45 dB CNEL.

## LOMPOC AIRPORT

### Background

Before World War II, the County of Santa Barbara owned a small airport within the city limits. During the war, it was purchased by the federal government and converted to a blimp base.

Because the airport was too small and urban encroachment prevented expansion, the present site was selected. The FAA approved the sale of the old airport to finance the local share of the cost of the present Lompoc Airport. In 1991 ownership of the Airport was transferred from the County to the City of Lompoc.

TABLE 6-4  
UNDEVELOPED LANDS OF SPECIAL CONCERN

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Parcel Number	:	107-220-02
Zoning	:	DR-3-0
Comprehensive Plan Designation	:	Planned Development (P.D.)
Acres	:	76.9
Concern:		The 1,500 foot wide open space airport safety corridor runs through this parcel. A portion of the parcel is within the 60 dB CNEL projection.
Mitigation:		Approved development plans which leave the airport safety corridor as open space should be followed.  Noise insulation should assure that interior noise from exterior sources does not exceed 45 dB CNEL.

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Parcel Number	:	107-250-09, 10
Zoning	:	10-R-1
Comprehensive Plan Designation	:	P.D.
Acres	:	39.2
Concern:		The airport safety corridor passes through the parcel.
Mitigation:		Development should be clustered outside of the airport safety corridor per pending development plans.

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Parcel Number	:	107-250-08
Zoning	:	10-R-1-
Comprehensive Plan Designation	:	P.D.
Acres	:	78.7
Concern:		The airport safety corridor passes through the parcel.
Mitigation:		The parcel should be rezoned for planned development to leave the airport safety corridor as open space.



The airport is on the south bank of the Santa Ynez River west of State Highway 1. The Lompoc Federal Correctional Institute is to the northwest of the airport and Vandenberg Air Force Base lies just beyond this facility and its airspace extends along the coast both north and south of Lompoc Airport.

Residential development north of the airport has occurred in Vandenberg Village and Mission Hills and will continue. Some city property to the east of the airport is zoned for commercial development, though the current land use is agriculture. County land east of the airport is planned principally for agriculture.

Lompoc Airport is a general aviation airport administered by a fixed base operator under contract with the city. Airport services include flight instruction, aircraft repair, sales and rental, and charter flights. The airport has no FAA control tower.

There is a single east-west runway 3,600 feet long which can accommodate single and multi-engine propeller-driven aircraft and small business jets. The western clear zone is on airport property but the eastern clear zone extends over city property beyond the airport boundary.

Current operations average sixty to seventy operations per day. Increases are inhibited by lack of hanger and tie-down facilities both of which have waiting lists.

### Airport Impact On Land Use

#### Noise

The position of the Lompoc Airport relative to residential development and Vandenberg Air Force Base (with airspace that may not be overflowed by civilian aircraft without prior permission) has dictated a right hand pattern to the north of the airport. Approaching and departing aircraft overfly Vandenberg Village and Mission Hills which has resulted in noise complaints.

The noise contours shown on Map LOM –1 are taken from the City of Lompoc's General Noise Plan Element. They are projections of noise for 250 operations per day rather than the current

60-70. No existing or planned residential development lies within either the 60 65 dB CNEL contours. Map LOM-2 shows normal flight tracks within the airport traffic pattern.

### Safety

The existing land uses around the airport are considered safe land uses. A structure exists within the city limits on the southern margin of the eastern clear zone but it is below and to the south of the approach path.

Land in the clear zone to the east of the runway is zoned PCD (Planned Commercial Development) by the City of Lompoc.

### Land Use Recommendations

Parcel Number	:	93-05-64
General Plan Designation	:	Commercial
Acres	:	5.5

Concern: This parcel, currently in agriculture use, is within the runway clear zone.

Mitigation: Permitted uses must not result in permanent or temporary concentrations of people greater than twenty-five people per acre or storage of toxic or flammable materials. Permitted uses must be consistent with clear zone policy in Chapter V.

## SANTA YNEZ VALLEY AIRPORT

### Background

The 1946 Santa Barbara County Master Plan of Airports indicated a need for an airport in the Santa Ynez Valley. In 1948, property was located and purchased and in 1949 the first runway was constructed. The United States government underwrote 25% of the purchase price and Santa Barbara County paid 75%.

The airport is southeast of the community of Santa Ynez, south of State Highway 246. The Santa Ynez Valley is a rural valley with an agricultural based as well as tourist based economy. A small percentage of the valley is committed to urban use.

The extraordinary scenic quality of the valley and its location relative to Santa Barbara and Los Angeles have resulted in migration to the Santa Ynez Valley of wealthy people, many of whom use the airport for weekly or daily commuting by private aircraft or air taxis. Tourism utilizing private aircraft is also responsible for much activity at the Santa Ynez Valley Airport, particularly on weekends.

### The Airport

Santa Ynez Valley Airport is a general aviation airport. The airport is owned by Santa Barbara County and managed by a fixed base operator. Services include fuel, flying instruction, rentals, charters, and glider towing and instruction. The airport is an uncontrolled field (there is no FAA control tower) through the fixed based operator operates a unicom to provide pattern information to aircraft.

There is a single east-west 2,813 foot long runway. The facility accommodates single and multi-engine propelled aircraft and a few of the smaller type business jets. Both runway clear zones are entirely within airport property and are free of any structures.

No record of operations is kept, but the number of aircraft based at the airport increased from 40 to 115 during the period 1975-1980, but decreased to 102 in 1982. Ramp, tiedown areas, and hanger facilities have been, and continue to be expanded, though not fast enough to meet demand.

Santa Ynez Valley Airport is a small airport which is very active. It will remain a public use general aviation facility providing unscheduled air taxi and air freight services as well as support facilities to private aircraft.

### Airport Impact On Land Use

Noise

Aircraft noise is at times a problem, although no residential areas are subject to over 60 dB CNEL. The Santa Ynez Valley is a quiet area in which even low levels of aircraft noise may be intrusive. The airport manager has responded to noise complaints by imposing a noise abatement operation requiring a left hand pattern to runway 26 which directs aircraft over sparsely populated, predominantly agricultural land to the south of the airport. An immediate turn to the south on takeoff minimizes noise to residents between Santa Ynez and Solvang. Map SY-1 shows flight tracks within the airport traffic pattern.

The 60 and 65 dB CNEL contours shown on Map SY-2 are taken from the County's 1972 Bolt, Beranek and Newman Study. It does not reflect the current operation level and probably covers too small an area, though it is unlikely that any existing residences now fall within the current 60 dB CNEL contour.

Santa Ynez Valley airport is the County's most fortunate Airport in having the most compatible contiguous land uses. Noise complaints will continue however, and are legitimate in terms of aircraft noise intrusion on an otherwise tranquil environment. However, they presently involve a lower level of noise than the 65 dB CNEL which constitutes the criteria for determining compatible land uses.

## Safety

Land surrounding the airport on three sides is general planned and zoned for agriculture. Contiguous land to the northwest is generally planned for 5 acre parcels. It presents no current hazard to airport operation and these uses are safe uses around a general aviation airport.

## VANDENBERG AIR FORCE BASE AIRPORT

### Background

Camp Cooke and Cooke Air Force Base were the predecessors of Vandenberg Air Force Base. In 1941 the site was selected for an army installation. By 1946, Camp Cooke was deactivated and caretaker status was assumed by the Army Disciplinary Barracks. Personnel. In 1950, the camp was reactivated. In 1953, the Army Disciplinary Barracks again assumed caretaker status.

In 1957, 63,730 acres were transferred to the Air Force and 19,668 acres to the Navy in 1959. On October 4, 1958, the base was renamed Vandenberg Air Force Base. In 1964 the Navy facility was transferred to the Air Force. In 1966, 14,000 additional acres were annexed bringing the base total to 98,400 acres.

The base, located entirely within Santa Barbara County, comprises 5.6% of the County's total land area and 33% of its coastline. Vandenberg Air Force Base does not fall within Santa Barbara County's political jurisdiction. Therefore, this document is concerned only with Vandenberg's airport impacts to lands off the base.

### The Airport

Vandenberg's only runway, 12-30, lies well within the base and Airport Area of Influence Zones I and II are entirely within the base except for the precision instrument approach to runway 30.

Vandenberg's airspace criteria are established in Air Force Regulation. It requires a 50:1 slope from the end of the runway to an elevation of 500 feet above the airfield elevation (25,000 feet from the end of the runway); it then continues horizontally at this elevation out to 50,000 feet from the end of the runway. This latter surface extends over the southwest portion of the city of Lompoc. It therefore imposes no practical height or safety restriction on land use.

### Airport Impacts On Land Use

#### Noise

As a military airport, Vandenberg presents some planning problems to the county. The operations at the airport are largely transient and vary beyond local control or predictability, however, the Air Force has agreed to report to SBCAG development which affect areas outside the base.<sup>1</sup> The U.S. Air Force at Vandenberg Air Force Base has developed an Air Installation Compatible Use Zone, or AICUZ, study "...to protect local citizens from the noise and accident hazards associated with flying activities and to prevent degradation of mission capability due to

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<sup>1</sup> Memorandum of Understanding between the USAF, VAFB, CAC, and the California State Clearinghouse, OPR, Office of the Governor, and the Areawide Clearinghouse, Santa Barbara County-Cities Area Planning Council implementing OMB Cir. A-95, December 4, 1974.

encroachment.”<sup>2</sup> Noise impacts of transient aircraft using Vandenberg AFB, such as C-141’s, KC-135’s, and B-52, were evaluated.

The AICUZ study includes airport noise contours to the level of 65 dB LDN. The 65 dB contour is the only contour in the AICUZ report that extends off base, intruding onto farmland northeast of Lompoc (Map VAFB-1). At the request of ALUC staff Vandenberg AFB also prepared an analysis of the 60 dB LDN noise contour since this is required for a noise element.

The 60 dB contour covers a large area of Lompoc and the unincorporated farmland. The State Administrative Code, Title 25, Chapter 1, Subchapter 1, Article 4 sets standards for noise insulation from exterior sources. It requires that residential structures located within a noise contour of 60 dB CNEL undergo an acoustical analysis showing that the structure has been designed to limit intruding noise to not more than 45 dB CNEL in any habitable room. However, while the 60 dB contour covers a large area, much of it is either already developed agricultural land that is unlikely to be developed.

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<sup>2</sup> Vandenberg Air Force Base, January, 1986, “Air Installations Compatible Use Zone Study” (AICUZ), p. 9.

## Safety

Vandenberg presents no substantial hazards to any off base land uses. The approach to runway 30 passes over Lompoc Airport's Area of influence (Map VAFB-2), but results in no serious conflict between the two airport's operations as Lompoc's pattern is to the north of the field. The AICUZ study contains an extensive discussion of safety issues. However, the discussion of safety issues. However, the discussion does not highlight the existence of a toxic propellant storage area" in the airport approach zone, within Accident Potential Zone (APZ) II. This facility is approximately two miles from the end of the runway.

The location of a toxic propellant storage area in the airport approach zone is inconsistent with ALUP land use compatibility guidelines. Even through this facility represents a pre-existing use the ALUC has requested Vandenberg AFB to expedite relocation of all toxic propellants stored in the southeast airport approach zone, and, to completely phase out the existing toxic propellant storage facility. Vandenberg AFB has indicated it will comply with this request.

## Land Use Recommendations

Unincorporated land under the approach between the base and the city limits of Lompoc is zoned for agriculture and should remain so to assure noise compatibility.

Vandenberg Air Force Base should periodically provide the ALUC with updated noise contour projections for base related activity.

Residential infill in southwest Lompoc within the 60 dB CNEL contour for VAFB on Map VAFB-1 should be subject to noise insulation to assure that interior noise due to exterior sources does not exceed 45 dB CNEL.

## NEW CUYAMA AIRPORT

New Cuyama Airport is located in the small unincorporated community of New Cuyama in the northeast portion of Santa Barbara County. In June 1989 SBCAG approved the request operation Enterprise Inc. to change the status of New Cuyama Airport from private to public use.

The public use status was formally approved in January 1991 when the California Division of Aeronautics issued a public use permit.

The 60" x 3970" runway accommodates general aviation aircraft. Total annual operations for 1984-85 totaled 1300. A comprehensive land use plan has not yet been prepared for New Cuyama Airport. Future utilization of the airport, in the short term, will likely be limited.

## **CHAPTER 7**

### **IMPLEMENTATION RESPONSIBILITIES.**

#### **INTRODUCTION**

The Airport Land Use Commission is an extension of and service for local governments. In this capacity, the ALUC assumes the role of:

- 1) providing policy direction, advice and technical assistance to local jurisdiction;  
and
- 2) coordinating local airport land use regulation within the county.

To fulfill those roles, to maximize local jurisdiction involvement in airport land use planning, and to minimize ALUC interference in non-airport related land use decisions, the following broad areas of implementation responsibility for airport land use regulation are recognized (see Table 7-1).

#### **IMPLEMENTATION RESPONSIBILITIES OF THE ALUC**

The Airport Land Use Commission shall have primary responsibility for:

1. The preparation, adoption, and updating of airport land use policies and the Airport Area of Influence boundary maps. The Airport Land Use Plan and its planning boundary maps shall, upon adoption, be subject to annual review by the ALUC and shall be updated as required.
2. The review of General Plan, specific plans and zoning changes within the Airport Areas of Influence, under the purview of Section 21676 of the Public Utilities Code.
3. Review of exceptional cases and appeals of local government decisions relating to airport land use where there is conflict with ALUC plans and policies. Review of land

use problems within the Airport Areas of Influence, which relate to ALUC policies, may be requested through the Commission by any member of the ALUC, the Technical Advisory Committee or by Airport ownership or management.

4. The coordination of airport land use decisions of member jurisdictions, airport owners, and state and federal agencies concerned with airport land use.
5. The gathering and dissemination of information relating to airport land use and aircraft noise and safety factors which may affect land use to the extent time permits.
6. Collection and maintenance of a file of airport noise complaints given submission of complaints by airport operators.

#### IMPLEMENTATION RESPONSIBILITIES OF MEMBER JURISDICTIONS

With regard to implementation and administration of land use regulatory measures around airports, member jurisdictions shall have major responsibilities for:

1. Local adoption of ALUC policies and Airport Area of Influence maps.
2. Amendment of local General Plans and zoning ordinances to incorporate adopted ALUC policies, maps, and recommendations.
3. Ongoing review of land uses within Airport Areas of Influence to ensure that land use changes are compatible with ALUC policies and plans. To this end, member jurisdictions will work closely with ALUC staff to establish and carry out review coordination with the ALUC.
4. Coordination with airport owners and operators in their jurisdiction to facilitate implementation of ALUC policies.

TABLE 7-1

AIRPORT LAND USE REGULATIONS  
MAJOR ACTIVITIES AND FACILITATORS

<b>Primary Responsibility Advisory Responsibility</b>  <b>MAJOR ACTIVITIES</b>	<b>FACILITATORS</b>		
	<b>ALUC</b>	<b>MEMBER JURISDICTIONS</b>	<b>AIRPORT OWNERS &amp; OPERATORS</b>
Policy Plan Preparation	●	○	○
Policy Plan Adoption	●	●	
Planning Boundary Map Preparation	●	○	○
Inventory of Existing Land Use	●	●	
Amendments to General Plans	○	●	
Amendments to Zoning Ordinances	○	●	
Ongoing Implementation	○	●	○
Exception Case and Appeal Review	●	○	○
Information Gathering and Dissemination	●	○	○
Ongoing Research and Updating	●	○	○
Coordination with State and Federal Concerns	●	○	○
Coordination with AP Owners and Operators	●	●	
Noise Complaint Monitoring	○	○	●
Airport Operations Information Dissemination			●
Noise Contour Update		○	●
Noise Mitigation Measures			●

## IMPLEMENTATION RESPONSIBILITIES OF AIRPORT OWNERS AND OPERATORS

Operational factors determine the Airport Areas of Influence and land use within them.

Therefore, airport owners and operators shall:

1. Inform the ALUC of operational changes and anticipated changes such as airline schedule changes or airport traffic pattern changes which may be judged to affect the ALUP as per Section 21676 of the Public Utilities Code.
2. Inform the ALUC of planned physical plant changes which may affect operations such as runway extensions, structural developments or relocation, run-up area, etc. as per Section 21676 of the Public Utilities Code.
3. Prepare FAR Part 77 height restriction surfaces and CNEL contours for their airports if ALUP surfaces and contours are considered to be inadequate and advise the ALUC of such revisions.
4. Maintain a file of noise complaints and pass on to the ALUC copies of written communications regarding noise and records of verbal and telephoned complaints.
5. Make every endeavor to introduce operations that mitigate noise impacts when these occur and to sensitize pilots to noise impacted areas.

## APPENDIX 1

### AIRPORT NOISE MITIGATION MEASURES

Control of exposure to airport related noise is complex. It may involve a hierarchy of measures ranging from noise suppression at the source to purchase of noise impacted land by airports. The ALUC's role in control of exposure to airport noise is limited by California Statute, however, any array of noise control measures are presented below along with comments on effectiveness and legal implementation responsibilities.

#### AIRCRAFT NOISE:

Source Noised Control (quieting the airplane noise) is the province of federal regulation. It is being accomplished through establishment, in 1969, and continual tightening of aircraft noise emission standards through FAA FAR Part 36.

Letdown and Departure Procedures to minimize noise impacts while maintaining safe aircraft operation are established by the FAA. Advisory Circular (AC) 91-53 describes a noise abatement departure profile for airports near noise abatement letdown procedure.

#### AIRPORT OPERATIONS:

Airport Noise Abatement Policy is the responsibility of airport owners and operators. Article 3.5 specifically denies the ALUC control over airport operations. The ALUC must, however, be based on airport operation plans and noise abatement policies may significantly alter the extent of noise impacted areas thus it is necessary for the ALUC to be aware of operational factors.

Preferential Runway Use can reduce noise in some areas at the expense of increased noise for other areas. Santa Maria Public Airport (SBMA) and runway use to minimize noise over highly sensitive areas.

Preferential Flight Track is much the same as preferential runway use. All county airports use preferential flight tracks to some extent. Map SB-1 depicts SBMA's preferential flight track for VFR operations. Some housing, such as married students housing at UCSB is not identified as noise sensitive, and thus is subject to increased noise in order to spare other residential areas.

Limitation on Operations or Aircraft Type has the potential to reduce noise for many without corollary increases for others. Examples are SMPA which does not allow aircraft which do not meet FAR Part 36 (see source noise control) standards from the hours of 10 p.m. to 7 a.m.; and Santa Monica Airport which allows no jet operations.

#### LAND USE OPTIONS:

Land or Easement Acquisition by airport owners. An aviation noise easement gives the airport the right to expose land to a specified noise level and compensate the owner for less than the full value. The airport may also purchase development rights. Ownership gives the airport full control over land use and is recommended for all land subject to more than 70 dB CNEL by the FAA.

Real Property Noise Notices notify prospective buyers of homes near airports that they will be living in a noise impacted area. The notice in no way abrogates an individual's right to take later action against the airport. This policy has not been widely adopted. Responsibility for implementation rests with the local zoning authority.

Compatible Use Zoning which permits only non-noise sensitive uses in noise impacted zones can prevent future incompatibilities. The airport benefits by not becoming cramped by encroaching neighborhood development; the community benefits by maintaining a comfortable environment for its residents. This is usually the best way to avoid having airport noise impact undeveloped property. Implementation responsibility rests with the local zoning jurisdiction, though the ALUC may require adoption of compatible zoning through the ALUP.

Building Code Provisions insure that new construction will incorporate adequate sound insulation to keep interior noise to acceptable levels. A major shortcoming of this

approach is that even with the highest level of acoustical insulation, attenuation of more than 5 to 10 dB is impossible if windows are opened even a few inches for ventilation. Implementation rests with the local zoning jurisdiction through the ALUC may require compliance.

#### REMIDIAL PROGRAMS:

Sound Insulation of Existing Buildings may make interior noise levels acceptable in marginal areas. A common technique, adding central air conditioning and keeping windows closed, typically yields a 10 dB reduction in interior noise levels. Retrofit is expensive in first cost and operating cost, is an energy user, and does not help noise problems in outdoor play areas. The initial expense may be borne by airport owners or operators as a less expensive alternative to property acquisition in noise impacted areas. Operating expense is usually borne by the property owner.

Real Property Noise Notices (see same heading under Land Use Options).

Real Estate Acquisition and Redevelopment into compatible uses by the airport is the most extreme step for areas within a noise contour found to be unacceptable for human residential habitation. This step is expensive, creates displacement, and reduction of housing stock.

## APPENDIX 2

### HEIGHT AND SAFETY CRITERIA FOR AIRPORT LAND USE PLANNING

The building height and safety zones of the airport areas of Influences are defined by the civil airport imaginary surfaces of Federal aviation Regulations, FAR Part 77 [7] the dimensions of these surfaces vary with the category of each runway. Santa Barbara airports have runways in three categories.

		<u>Runway</u>
Precision Instrument runway	SBMA:	7
	SBMA:	12
Non-precision instrument runway	SBMA:	25
	SBMA:	30
Visual runway	SBMA:	15-33 E,W
	SBMA:	2-20
	LA:	7-25
	SYVA	8-26

Though not a civil airport and thus not directly covered by FAR Part 77, Vandenberg AFB Airport is treated as a precision instrument runway.

Dimensions of the approach slopes and radii of the horizontal and conical surfaces are established in Table 2-1. The geographic areas to which these are applied are represented conceptually in Figure 4-1 on a one-dimensional surface and in the attached 2-1 in this Appendix on a two dimensional surface.

The 7:1 transition slopes from the runway edges to the horizontal surface 150 feet above the airport elevation do not appear in Figure 4-1 (Chapter 4) as they are within airport boundaries for all airports within Santa Barbara County. The approach slopes and center of the radii of the

TABLE 2-1  
DIMENSIONS OF AIRPORT  
APPROACH SLOPE

DIM	ITEM	DIMENSIONAL STANDARDS (FEET)					
		Visual Runway		Non-precision Instrument Runway			Precision Instrument Runway
		A	B	A	B		
					C	D	
A	Width of primary surface and approach surface width at inner end.	250	500	500	500	1,000	1,000
B	Radius of horizontal surface	5,000	5,000	5,000	10,000	10,000	10,000
		Visual Approach		Non-precision Instrument Approach			Precision Instrument Approach
		A	B	A	B		
					C	D	
		C	Approach surface width at end	1,250	1,500	2,000	3,500
D	Approach surface length	5,000	5,000	5,000	10,000	10,000	*
E	Approach Slope	20.1	20.1	20.1	34.1	34.1	*

A Utility runways

B Runways larger than utility

C Visibility minimums greater than  $\frac{3}{4}$  mile

D Visibility minimums as low as  $\frac{3}{4}$  mile

\* Precision instrument approach slope is 50.1 for inner 10,000 feet and 40.1 for an additional 40,000 feet

horizontal and conical surfaces start at the end of each primary surface 200 feet from the threshold of each runway so that, for example, in approach surface length of 5,000 feet extends 5,200 feet from the end of the runway.

Runway clear zones (Airport Safety Area I in Chapter 4) are areas at ground level which begin at the end of each primary surface and extend with the width of the approach surface to terminate directly below each approach surface at the point where the approach slope reaches 50 feet above the elevation of the runway or 50 feet above ground at the outer extremity of the clear zone, whichever distance is shorter.

Runway approach zones (Airport Safety Area II in Chapter 4) are the land beneath the runway approach surfaces. They have the same dimensions as approach surfaces. The outer margin of the horizontal surface 150 feet above the established airport elevation (Figure 2-1) defines the boundary of the airport safety area.

The outer margin of the 20:1 conical surface (Figure 1) defines the boundary of the height restriction area.

<Add map insert here, "AIRPORT LAND USE PLANNING" (Excerpts from the Public Utilities Code)>

## APPENDIX 4

### RECOMMENDED BUILDING REQUIREMENTS FOR A MINIMUM NOISE LEVEL REDUCTION OF 25 dB.<sup>1</sup>

Both the State Noise Insulation Standards<sup>2</sup> and the Noise Element of Santa Barbara County's General Plan<sup>3</sup> require that residential uses and other noise sensitive uses within the 60 dB CNEL contour be insulated so that interior noise due to exterior sources does not exceed 45 dB CNEL. The following building requirements should exceed the required noise attenuation recommendation by 5 dB.

#### General

- A. Brick veneer, masonry blocks or stucco exterior walls shall be constructed airtight. All joints shall be grouted or caulked airtight.
- B. At the penetration of exterior walls by pipes, ducts, or conduits the space between the wall and pipes, ducts or conduits shall be caulked or filled with a mortar.
- C. Window and/or through-the-wall ventilation units shall not be used.
- D. Through-the-wall/door mail boxes shall not be used.

#### Exterior Walls

- A. Exterior walls other than as described in this section shall have a laboratory sound transmission class rating of at least STC-39.

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<sup>1</sup> Bolt Beranek and Newman, Inc., A Building Code for Exterior Noise Isolation with Respect to Aircraft Noise, BBN, Report 2944, June 1976.

<sup>2</sup> California Administrative Code, Title 25 Chapter 1, Subchapter 1, Article 4 Noise Insulation Standards, Section T25-1092(e) (2,3).

<sup>3</sup> Santa Barbara County Comprehensive Plan, Noise Element, adopted March 5, 1979, page 59 (3).

- B. Masonry walls having a surface weight of at least 25 pounds per square foot do not require a furred (stud) interior wall. At least on surface of concrete block walls shall be plastered or painted with heavy “bridging” paint.
  
- C. Stud walls shall be at least 4: in nominal depth and shall be finished on the outside with siding-on-sheathing, stucco, or brick veneer.
  - 1. Interior surface of the exterior walls shall be of gypsum board plaster at least ½” thick shall cover the exterior side of the wall studs behind wood, or metal siding. Asphaltic or wood shake singles are acceptable in lieu of siding.
  - 2. Continuous composition board, plywood or gypsum board sheathing at least ½” thick shall cover the exterior side of the wall studs behind wood, or metal siding. Asphaltic or wood shake singles are acceptable in lieu of siding.
  - 3. Sheathing panels shall be butted tightly and covered on top exterior with overlapping building paper. The top and bottom edges of the sheathing shall be sealed.
  - 4. Insulation material at least 2” thick shall be installed continuously throughout the cavity space behind the exterior sheathing and between wall studs. Insulation shall be glass fiber or mineral wool.

### Windows

- A. Windows other than as described in this section have a laboratory sound transmission class rating of at least STC-28.
  
- B. Glass shall be at least 3/16” thick.

- C. All operable windows shall be weatherstripped and airtight when closed so as to conform to an air infiltration test not to exceed 0.5 cubic foot per minute per foot of crack length in accordance with ASTM E-283-65-T.
- D. Glass of fixed-sash windows shall be sealed in an airtight manner with a non-hardening sealant, or a soft elastomer gasket or glazing tape.
- E. The perimeter of window frames shall be sealed airtight to the exterior wall construction with a sealant conforming to one of the following Federal Specifications: TT-S-00227, TT-S-002230, or TT-S-00153.
- F. The total area of glass in both windows and doors in sleeping spaces shall not exceed 20% of the floor area.

#### Doors

- A. Doors, other than as described in this section shall have a laboratory sound transmission class rating of at least STC-28.
- B. All exterior side-hinged doors shall be solid-core wood or insulated hollow metal at least 1-3/4" thick and thick and shall be fully weatherstripped.
- C. Exterior sliding doors shall be weatherstripped with an efficient airtight gasket system with performance as specified in Section 7-4.C. The glass in the sliding doors shall be at least 3/16" thick.
- D. Glass in doors shall be sealed in an airtight non-hardening sealant, or in a soft elastomer gasket or glazing tape.
- E. The perimeter of door frames shall be sealed airtight to the exterior wall construction as described in Section 7-4.E.

#### Roofs

- A. Combined roof and ceiling construction other than described in this section and Section 7-7 shall have a laboratory sound transmission class rating of at least STC-39.
- B. With an attic or rafter space at least 6" deep, and with a ceiling below, the roof shall consist of closely butted ½" composition board, plywood or gypsum board sheathing topped by roofing as required.
- C. If the underside of the roof is exposed, or if the attic or rafter spacing is less than 6", the roof construction shall have a surface weight of at least 25 pounds per square foot. Rafters, joists or other framing may not be included in the surface weight calculation.
- D. Window or dome skylights shall have a laboratory sound transmission class rating of at least STC\_28.

#### Ceilings

- A. Gypsum board or plaster ceilings at least ½" thick shall be provided where required. Ceilings shall be substantially airtight, with a minimum number of penetrations.
- B. Glass fiber or mineral wool insulation at least 2" thick shall be provided above in the ceiling between joists.

#### Floors

- A. Openings to any crawl spaces below the floor of the lowest occupied rooms shall not exceed 2% of the floor area of the occupied rooms.

#### Ventilation

- A. A mechanical ventilation system shall be installed that will provide the minimum air circulation and fresh air supply requirements for various uses in occupied

rooms, as specified in the uniform building code, without the need to open any windows, doors, or other openings to the exterior.

- B. Gravity vent openings in attic shall not exceed code minimum in number and size.
- C. If a fan is used for forced ventilation, the attic inlet and discharge openings shall be fitted with sheet metal transfer ducts of at least 20 gauge steel, which shall be lined with 1" thick coated glass fiber, and shall be at least 5 ft. long with one 90 degree bend.
- D. All vent ducts connecting the interior space to the outdoors, excepting domestic range exhaust ducts, shall contain at least a 5 ft. length of internal sound absorbing duct lining. Each duct shall be provided with a bend in the duct such that there is no direct line of sight through the duct from the venting cross section to the room-opening cross section.
- E. Duct lining shall be coated glass fiber duct liner at least 1" thick.
- F. Domestic range exhaust ducts connecting the interior space to the outdoors shall contain a baffle plate across the exterior termination which allows proper ventilation. The dimensions of the baffle plate should extend at least one diameter beyond the line of sight into the vent duct. The baffle plate shall be of the same material and thickness as the vent duct material.
- G. Fireplaces shall be provided with well-fitted dampers.