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FINAL
COMPREHENSIVE
LAND USE PLAN

RIALTO
MUNICIPAL AIRPORT

January 1991
San Bernardino County
Airport Land Use Commission

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INTRODUCTION AND BACKGROUND

This Comprehensive Land Use Plan (CLUP) was prepared pursuant to Chapter 4, Article 3.5 of the California Public Utilities Code**. The plan was prepared by airport planning consultant, Ray A. Vidal, in conjunction with, and assistance from, staff of the San Bernardino County Airport Land Use Commission (ALUC), the City of Rialto - Planning Department and Transportation Department.

The unique elements associated with aviation and airports, dictates that special considerations be given to planning the peaceful and safe coexistence of airports and their surrounding communities. Consequently, the California State Legislature enacted airport land use planning laws which are intended to:

- provide for the orderly development of each public use airport in the state and the area surrounding these airports so as to promote the overall goals and objectives of the California airport noise standards adopted pursuant to Section 21669 and to prevent the creation of new noise and safety problems.

- protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses.

The general mechanism that the statutes provided for compliance with the airport planning laws, is for counties to establish an ALUC. In turn, the commission shall adopt a CLUP that will provide for the orderly growth of each public airport and the area surrounding the airport within the jurisdiction of the commission.

The initial object of this CLUP is to effectively identify areas, located outside of the airport proper, that would be influenced by the future operations of the airport. Planning boundaries are established on the perimeters of these areas, which are plotted, by applying the specific operational criteria of the airport, to various planning models that have been primarily developed by the FAA.

**Appendix "A," Section 21670 et seq. State Aeronautics Act, Public Utilities Code (Chapter 4, Article 3.5)

In comparison to other airports, and considering its planned development, Rialto Municipal Airport is one of the larger, general aviation airports located within the county. Especially due to the proposed enhancement of the airport's runways, it is extremely important that every measure necessary, to ensure a safe and harmonious compatibility between the airport and the surrounding environs, be taken.

The planning boundaries and some specific calculations etc. found within this plan have been compiled from a variety of Federal, State and local guidelines for the specific operations of Rialto Airport. They are not necessarily applicable to, nor compatible with, any other airport.

The text of this plan, in many cases, may contain only a brief description of a particular action or regulation. It is necessary, when using this plan, to thoroughly review the appendix and other reference material, in conjunction with the Summary of Findings and Recommendations, before making any planning decisions.

In an effort to simplify and consolidate the various findings and recommendations unique to the area surrounding Rialto Municipal Airport, this plan has established three general referral areas, within the section "Summary of Findings and Recommendations." Note that, land use compatibility is determined by comparing proposed land uses against each of the height, noise and safety guidelines. Any proposed land use must be compatible with all.

The Noise and Safety Impact sections of this plan contain information that is intended to provide the reader with a general understanding of the specific effects of each impact, the size of, and how the boundaries of each impact area are plotted and just what mitigation alternatives are available. A number of different agencies findings have been included within these sections, specifically to provide examples of the variety of options that are available to planners when addressing land use issues in areas surrounding airports.

ABBREVIATIONS and GLOSSARY

AICUZ: Air Installation Compatible Use Zone: In study form, an identification of impact zones, generated from military airfield use, on the land surrounding the specific military facility. (DOD Instruction 4165.57, November 8, 1977)

ALUC: Airport Land Use Commission: A California State authorized body, existing in each county, and having the responsibility to develop plans for achieving land use compatibility between airports and their environs.

APZ: Accident Potential Zone: A designated area of higher likelihood of accidents.

BU: Basic Utility: An FAA classification of airport type.

CFR: Code of Federal Regulations: A codification of the general and permanent rules published in the Federal Register by the executive department and agencies of the Federal Government.

CLUP: Comprehensive Land Use Plan: A specific plan, formulated by the ALUC, that will provide for the orderly growth of each public airport and the area surrounding the airport within the jurisdiction of the commission.

CNEL: Community Noise Equivalent Level: An average daily noise level, averaged for each of the 24 hours, and weighted more heavily during evening and nighttime hours to account for the lower tolerance of persons to noise during those hours.

dB: Decibel: A unit for describing the intensity or level of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to a standard reference pressure.

Displaced Threshold: A runway threshold that is located at a point other than the designated beginning of the runway.

DOA: Division of Aeronautics: A Division of the California, Department of Transportation with responsibility for all public use airports located within the State.

FAA: Federal Aviation Administration: A Federal agency charged with regulating air commerce to promote its safety and development, encouraging and developing civil aviation, air traffic control, and air navigation and promoting the development of a national system of airports.

FAR: Federal Aviation Regulation: Regulations issued by the FAA to regulate air commerce; issued as separate “Parts”.

FSS: Flight Service Station: FAA facilities which provide pilot briefings on weather, airports, altitudes, routes, and other flight planning information.

GA: General Aviation: All types of aviation other than that performed by air carriers and the military.

IFR: Instrument Flight Rules: Rules governing the procedures for conducting flight under instrument meteorological conditions.

ILS: Instrument Landing System: An electronic instrument guidance system, designed to permit the pilot of a properly equipped aircraft, exact alignment and angle of descent on final approach for landing.

Ldn: Average day-night sound level.

NAVAID: Navigational Aid: Any visual or electronic device (airborne or on the surface) which provides point to point guidance.

Nonprecision Instrument Runway: A runway having an existing or planned instrument approach procedure from which a straight in landing is approved but no electronic glide slope information is available and for which no precision approach facilities are planned.

NTSB: National Transportation Safety Board: Federal Government agency that investigates and records all aviation accidents.

NPIAS: National Plan of Integrated Airport Systems: A plan, prepared by the FAA, which identifies the nation's system of airports and airport development.

OFA: Object Free Area: A two dimensional ground area surrounding runways, taxiways, and taxilanes which is clear of objects except for objects whose location is fixed by function.

OFZ: Obstacle Free Zone: The airspace defined by the runway OFZ and as appropriate, the inner-approach OFZ and the inner-transitional OFZ, which is clear of object penetrations other than frangible NAVAID's.

OPR: Office of Planning and Research: Author of the State of California, General Plan Guidelines..

Runway: A defined rectangular surface on an airport prepared or suitable for landing or takeoff of airplanes.

RPZ: Runway Protection Zone: An area (formerly the clear zone) used to enhance the safety of aircraft operations. It is at ground level beyond the runway end.

Safety Zone: An area located in the vicinity of an airport in which land use restrictions are established to protect the safety of the public.

Threshold: The beginning of that portion of the runway available and suitable for the landing of airplanes.

REFERENCES

Federal Government:

FAA – Advisory Circular 150/5020-1. Noise Control and Compatibility Planning for Airports.

FAA – Advisory Circular 150/5300-13. Airport Design.

FAR Part 77 – Objects Affecting Navigable Airspace.

FAR Part 150 – Airport Noise Compatibility Planning.

California State Government:

DOA – Airport Land Use Planning Handbook.

OPR – Guidelines for the Preparation and Control of the Noise Elements of the General Plan.

Note: while not specifically incorporated as references in this plan, overriding guidelines and more detailed information may be found in the OPR - General Plan Guidelines.

San Bernardino County:

General Plan – Noise Element

– Man-Made Hazards

i. Airport Safety Issue

ii. Noise Issue

ALUC - Interim Plan.

City of Rialto

General Plan Update (1985)

Rialto Municipal Airport – Draft Master Plan Report (1989)

ALUC PLAN CONSISTENCY

Once this CLUP has been adopted by the City of Rialto and the San Bernardino County ALUC, development applications that fall within the criteria of this plan, need not be referred to the ALUC for approval, unless it is the specific desire of the City or of a developer to do so. Any zoning changes (apart from those recommended, and thus adopted, within this CLUP) contemplated by the City, that lie within the referral areas defined within this plan, must be referred to the ALUC.

Section 65302.3 of the California Government Code – Planning and Zoning Law (Table I-1), requires that General Plans be consistent with ALUC plans. Once adopted by the ALUC, the City of Rialto has 180 days to accomplish this consistency, with this CLUP.

If the ALUC finds that a city or county has not revised its general plan, or overruled the ALUC, the ALUC may require that city or county to submit all subsequent actions, regulations, or permits in the affected area to the ALUC for consistency determination. If the ALUC finds the proposed action inconsistent, the city or county must hold a public hearing to reconsider its proposal. If, after the public hearing, the city or county still wishes to pursue the action, it may overrule the ALUC, once again, on a two-thirds vote based on specific findings.

Table I-1

Section: 65302.3 General and applicable specific plans; consistency with airport land use plans; amendment; nonconcurrence findings.

(a) The general plan, and any applicable specific plan prepared pursuant to Article 8 (commencing with Section 65450), shall be consistent with the plan adopted or amended pursuant to Section 21675 of the Public Utilities Code.

(b) The general plan, and any applicable specific plan, shall be amended, as necessary, within 180 days of any amendment to the plan required under Section 21675 of the Public Utilities Code.

(c) If the legislative body does not concur with any provision of the plan required under Section 21675 of the Public Utilities Code, it may satisfy the provisions of this section by adopting findings pursuant to Section 21676 of the Public Utilities Code.

(Amended by Stats. 1984, c. 1009, § 5.4; Stats.1987, c. 1018, § 1.)

AIRPORT OPERATIONS AND FACILITIES:

a) Existing:

Rialto Municipal Airport is located approximately at a center point of a triangle bounded by State Freeways 10, 15 and 215 (Figure I-2). The airport is owned and operated by the City of Rialto, with a staff in attendance during normal office hours. Classified in the National Plan of Intergrated Airport Systems (NPIAS) as a General utility -Reliever airport, Rialto Airport has approximately 250, primarily single engine, based aircraft. The nearest Flight Service Station (FSS) is located at Riverside.

Rialto Airport has a 4,500 foot primary runway (6/24) and a 2,600 foot cross-wind runway (17/35). A number of fixed wing and helicopter flight training schools are based at the airport. Complete maintenance facilities, fuel (100 and Jet-A) and a cafe are located on the airfield.

The San Bernardino County Sheriff's Department operates a helicopter facility on the airport. The City Fire Department and an Emergency Air Ambulance Service also operate from Rialto Airport. A more comprehensive identification of existing facil- ities is shown in Figure I-3 (taken from the master plan).

b) Ultimate:

A variety of alternatives for future operations and facilities at the airport have been presented in the draft master plan. The most significant change to the airport, and impact on the surrounding area, will result from the lengthening and relocation of the primary runway. These changes are detailed in the Airport Layout Plan (Figure I-4).

Figure I-2

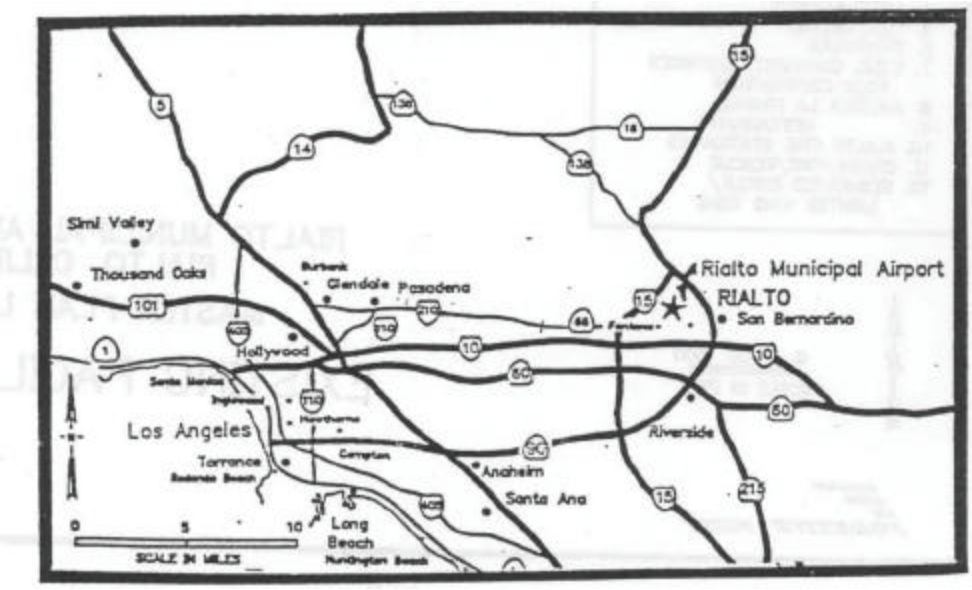

Figure I-3

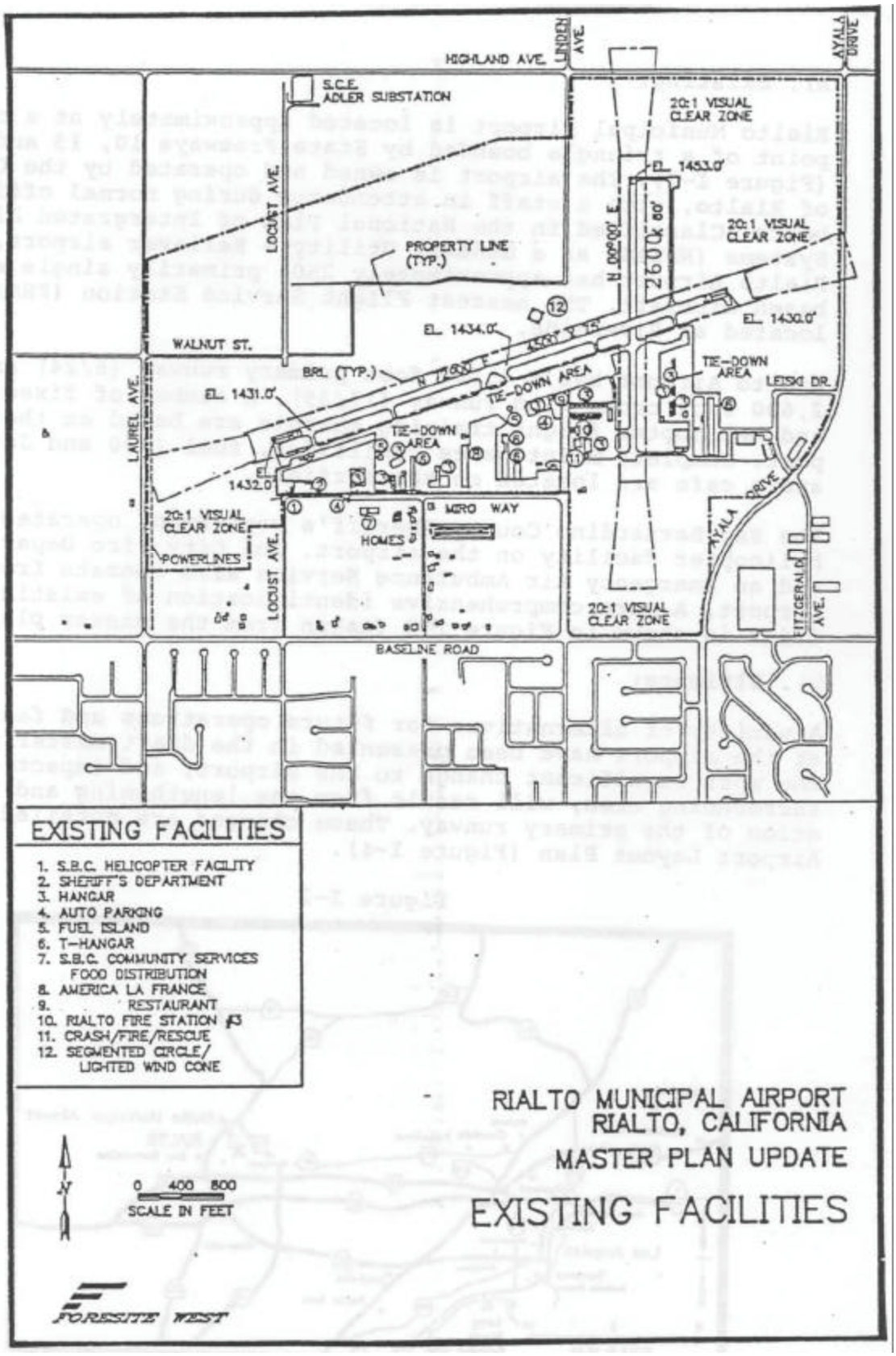
HIGHLAND AVE.
LINDEN AVE.
AYALA DRIVE
S.C.E. ADLER SUBSTATION
20:1 VISUAL CLEAR ZONE
EL. 1453.0'
LOCUST AVE.
PROPERTY LINE (TYP.)
N 00°00' E
2600'
80'
20:1 VISUAL CLEAR ZONE
EL. 1434.0'
EL. 1430.0'
WALNUT ST.
BRL (TYP.)
TIE-DOWN AREA
TIE-DOWN AREA
LEISKI DR.
EL. 1431.0'
LAUREL AVE.
TIE-DOWN AREA
1432.0'
20:1 VISUAL CLEAR ZONE
MERO WAY
HOMES
POWERLINES
LOCUST AVE.
AYALA DRIVE
20:1 VISUAL CLEAR ZONE
FITZGERALD AVE.
BASELINE ROAD
EXISTING FACILITIES
1. S.B.C. HELICOPTER FACILITY
2. SHERIFF'S DEPARTMENT
3. HANGAR
4. AUTO PARKING
5. FUEL ISLAND
6. T-HANGAR
7. S.B.C. COMMUNITY SERVICES FOOD DISTRIBUTION
8. AMERICA LA FRANCE
9. RESTAURANT
10. RIALTO FIRE STATION #3
11. CRASH/FIRE/RESCUE
12. SEGMENTED CIRCLE/ LIGHTED WIND CONE
N
0 400 800
SCALE IN FEET
RIALTO MUNICIPAL AIRPORT
RIALTO, CALIFORNIA
MASTER PLAN UPDATE
EXISTING FACILITIES
FORESITE WEST

Figure I-4
Airport Layout Plan
(Legal size)

Figure I-4
Airport Layout Plan
(11” x 17”)

PLAN REVIEW:

The airport land use planning law makes provision to amend this plan no more than once in any calendar year. (PUC Section 21675 a.)

This plan is based on an unadopted master plan. Concurrence was obtained from the Division of Aeronautics Table I-5.

Table I-5

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS
1130 K STREET - 4th FLOOR
MAIL: P.O. BOX 942873
SACRAMENTO, CA 94273-0001
(916) 322-3090
TDD (916) 445-5945

October 17, 1990

Mr. Ray A. Vidal
Vidal Incorporated
P.O. Box 4337
Auburn, CA 95604

Dear Mr. Vidal:

Your October 4, 1990 letter has requested approval from the Division of Aeronautics, per AB4265-Clute (90-563), to base the CLUP for Rialto Airport upon its currently unadopted master plan. From our perspective, this is an acceptable approach until such time that the master plan is adopted. It would then be advisable to indicate in the CLUP that it is based upon an adopted 20-year master plan.

We appreciate your timely request, since each airport in question will be evaluated on a case-by-case basis.

Sincerely,

Fred Stewart

Fred Stewart, Chief
Office of Local Planning

The planning boundaries plotted in this CLUP were calculated from a consolidation of existing and future operations and development of the airport, as projected within the unadopted master plan. Should the primary runway be relocated and use of the existing runway be discontinued, the impact areas as identified in this plan will change.

SUMMARY OF FINDINGS AND RECOMMENDATIONS:

This section consolidates all of the Rialto Municipal Airport generated impacts into three primary referral areas. Each impact description and use recommendation is deliberately intended to be as brief as possible. As such, when reviewing this section, it is necessary to refer to the more detailed impact identification and land use compatibility matrices, located elsewhere in this plan.

Referral Area "A"

This is the most critical safety impact area associated with any airport. The area is made up of the FAA classified primary surface of the airport, the Runway Protection Zone (RPZ) and a portion of the approach and departure surface. The majority of this area is designated as an Object Free Area (OFA) with this status also applying to moving objects i.e. vehicles.

The RPZ was formerly known as the "Clear Zone." The intent is to ensure that this zone remains clear of all obstacles that could create a potential hazard to aviation. The FAA has recommended that the airport owner acquire all land that lies within this zone.

Land uses within Referral Area "A" are extremely restricted. Under normal circumstances, no structures whatsoever are permitted. Few people (no people is preferred, or if necessary only up to 10 persons per acre at any one time) should be allowed within the outer area of the RPZ. Some agricultural land use (provided it doesn't attract birds) would be acceptable.

At Rialto Airport, the majority of the existing and proposed primary surfaces and PRZ's lie on airport property. Existing zoning is predominately Planned Industrial Development (PID) with a small area of Single Family Residential (D-1C) located near the north-eastern boundary of the airport. Note that the PID zoning was formerly known as Restricted Manufacturing (M-1R) and it is still referenced as such in Figure I-6. All of the 70 CNEL and the majority of the 65 CNEL noise impact zones lie within this referral area.

Recommendations
Referral Area "A"

The airport owner (City of Rialto) should acquire all land within this area.

Existing PID and R-1C zoning within this referral area should be re-zoned to "Open Space" or Agricultural, i.e. restricted airport - object free, open space.

Referral Area "B"

This area is made up of Safety Zone II plus the balance of the approach and departure zones not falling within the RPZ. Traditionally, this area experiences a high percentage of aircraft accidents. As such, all proposed residential and industrial development within this area should be carefully evaluated. Portions of the 65 CNEL noise impact zone are found in Referral Area "B." The provisions of the State's noise standards (particularly Section 5014 - Appendix page "B-7") must be adhered to when granting permits for residential development.

A limited number of detached, Single Family dwellings are acceptable within this area. All public buildings are prohibited, along with any other facility or outdoor usage that could result in a congregation of 50 persons or more per acre.

Limited light industrial or manufacturing land uses would be acceptable within this area provided that population density restrictions are adhered to. No use whatsoever of any hazardous nature is permitted.

Recommendations
Referral Area "B"

Existing PID (M-1R) zoning - permitted uses should be reevaluated to ensure conformity with those uses described under "Safety Zone II" limitations. I.e. no chemical laboratories and restrictions placed on the total number of persons permitted within each facility at a given time.

Further development within the C-1A zone on Baseline Road between Alder and Tamarind Avenues should be subject to additional scrutiny until such time as runway 6/24 is relocated and Safety Zone II boundaries are replotted.

Existing R-1A/R-1B and R-1C zoning should be reevaluated within this area to prohibit Public Buildings etc. (local ord. Section 18.10.020G.) and to restrict the number of single family swellings per acre (especially within zone R-1C).

All development should be subject to obtaining a standard form of Avigation Easement.

Referral Area "C"

This referral area is made up of Safety Zone III plus the Horizontal and Transitional Surfaces. The threat of aircraft accidents in this area is below that of the other referral areas; however, some do occur, and it is necessary to ensure that some restrictions are imposed when planning or developing in this area.

Any large public assembly in this area is a safety concern. Large movie theaters, stadiums and arenas are not compatible land uses in Referral Area "C." Smaller theaters (single or double) along with neighborhood and community shopping centers are acceptable. Regional shopping centers are not.

Light industrial and manufacturing facilities are acceptable within this area, provided that they do not generate any visual, electronic or physical hazards to aircraft. No above ground hazardous materials are allowed; however, underground fuel tanks used at service stations etc. are acceptable. General business facilities, office buildings, motels, banks and eating and drinking facilities are permitted. In all cases, consideration should be given to some form of shielding, such as the use of trees etc.

Minimal noise from the airport is apparent in most of this area; however, a certain level of community annoyance may be expected under certain conditions.

Recommendations
Referral Area "C"

No changes to the existing residential zoning should be made.

Existing Planned Industrial Development and Central Commercial zoning is consistent with uses permitted within this area, however, Zone C-2 and C-3 height limitations (Section 18.32.030A.) need to be revised.

All development should be subject to obtaining a standard form of Avigation Easement.

General

An ALUC has no power over the operations of an airport; however, it is recommended that the airport owner do all possible to help mitigate the effects of any impact generated by the airport operations. As an increasing number of training flights are occurring at the airport, it would be prudent to initiate specific flight training patterns, ensuring that aircraft and helicopters remain within the critical impact boundaries plotted in this plan.

An evaluation of alternate flight patterns could be made in an effort to further mitigate the impact areas around the airport. One suggestion is to enforce a right turn on takeoff from runway 24 (existing and future) to ensure that aircraft fly over the undeveloped land before Palmetto Avenue. Should this occur, then it would be necessary to change the boundary of Referral Area "B." specifically the 65 CNEL noise impact area and Safety Zone II.

Recommendation

At such time as any significant change in the operations of the airport occur, particularly those caused by the discontinued use of an existing runway, this plan shall be amended to accurately reflect the new referral area boundaries cause by the change in impact areas resulting from the altered airport operations. At that time the plan should also be amended to reflect the fact that it tis now based on an adopted master plan (should that be the case at that time).

The height restriction are (Conical Surface) does not lie within any of the referral areas discussed in this plan. This area extends on a radius of 4,000 feet from the perimeter of Referral Area "C".

Recommendation

A mechanism needs to be devised to inform potenttial developers of the specific impact and referral areas associated with the airport and to ensure that the FAA height notice requirements are compled with.

All development with the "Conical Surface" area should be subject to a standard Avigation Easement

Figure I-6
Zoning Map
(Legal size)

Figure I-6
Zoning Map
(11” x 17”)

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NOISE IMPACT

and

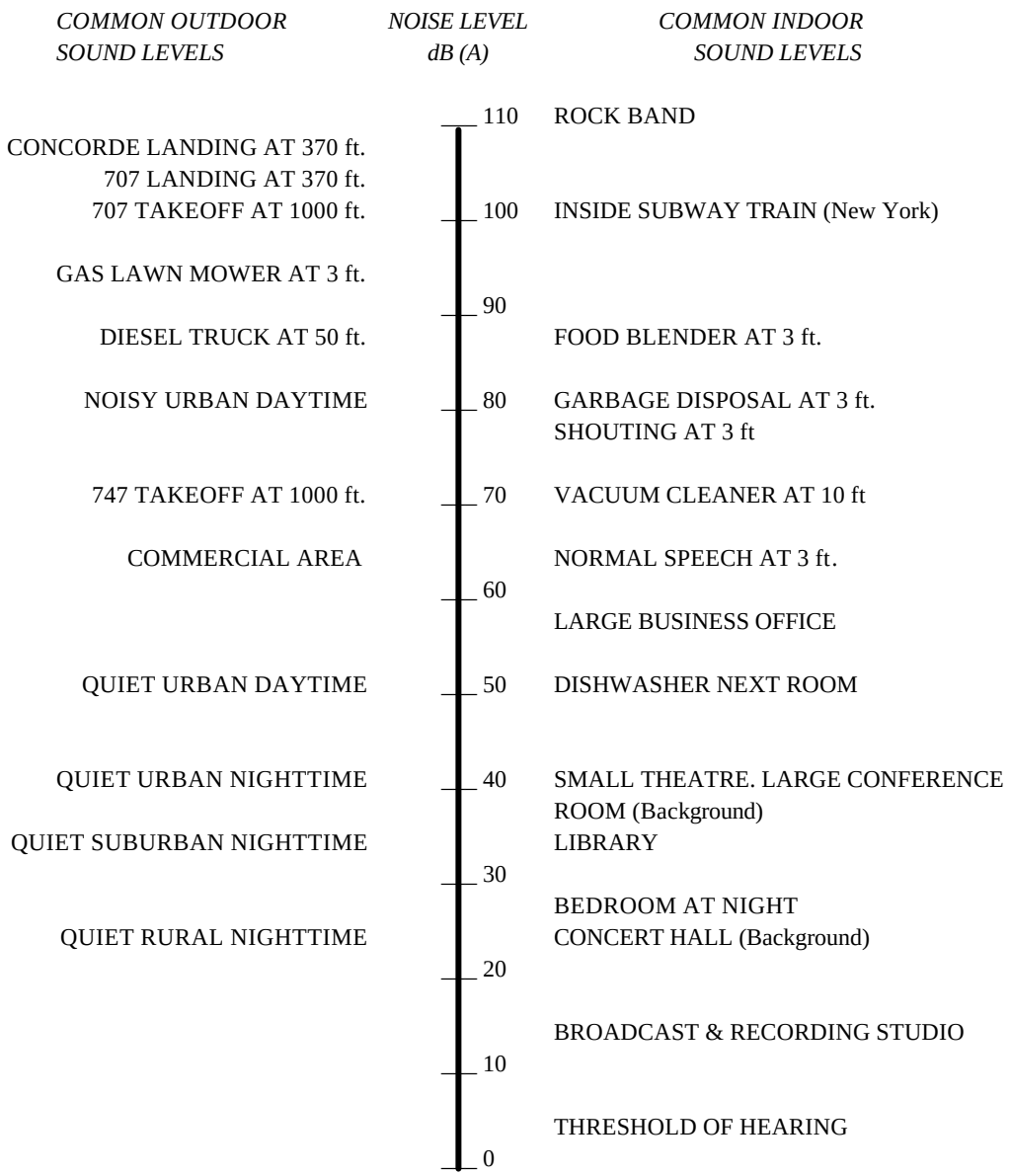
REFERRAL AREAS

NOISE

The intensity of aircraft noise varies, depending upon the type of aircraft and the proximity of the listener. The ear shattering sound of a large jet aircraft at close range is a far cry from the sound of a small, single engine, general aviation aircraft at a distance of a couple of hundred yards. Examples of common indoor and out door sound levels are provided in Figure II-1.

The dB scale measures single event noise incidents on an occurrence by occurrence basis. With aircraft noise, the sound level increases as the aircraft approaches and it diminishes as the aircraft fly away. The sound measurements of the events itemized were taken at the peak of the occurrence.

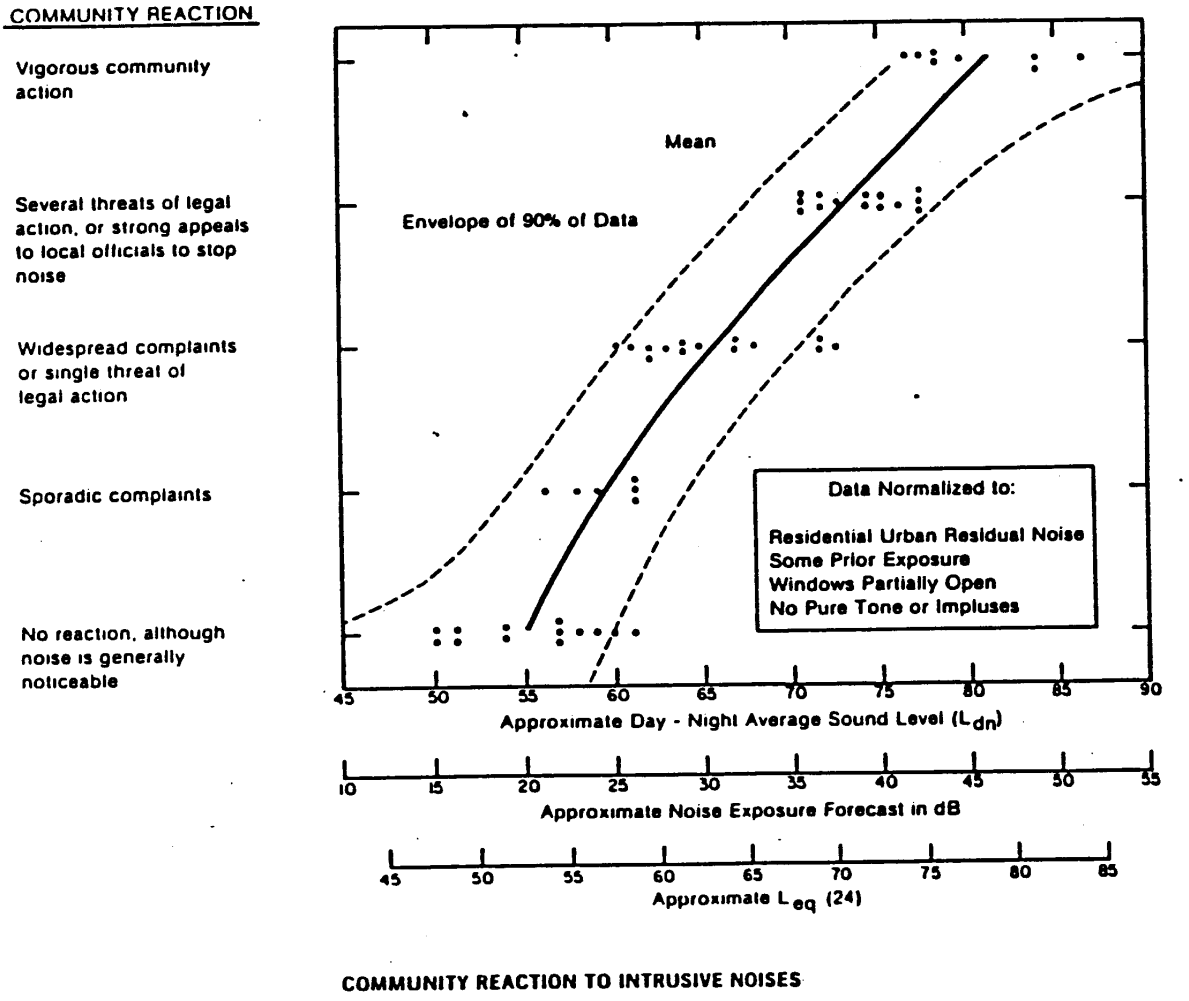
Figure II-1



Aircraft noise has a varying effect on individuals. Jet noise in the middle of the day on a busy street, may hardly even be noticed. The same level of noise at night, when relaxing or awakened from sleep, could be extremely annoying. For land use planning purposes, it is important to know when annoyance results in community action and just how much action. The way community response relates to noise exposure level is illustrated in Figure II-2. Note that the day-night average sound level (Ldn) shown in that figure is essentially equivalent to the Community Noise Equivalent Level (CNEL) scale.

California has adopted a standard (PUC Section 21669) for the acceptable level of aircraft noise for persons living in the vicinity of airports. This standard is 65 CNEL. Guidelines for airport noise planning have been established by various Federal, State and Local government agencies. The California, DOA - Noise Standards are included in this plan in Appendix "B."

Figure II-2



COMMUNITY REACTION TO INTRUSIVE NOISES

The State of California developed a noise rating method (CNEL) that is used to calculate community noise exposure around airports. Note that the Federal Government modeled its equivalent (Ldn), from California's CNEL, and only a marginal difference (less than 1 dB at 65 CNEL) exists between the two scales. CNEL is calculated in decibels and represents the average daytime noise level during a 24 hour day, adjusted to an equivalent level to account for the lower tolerance of people to noise during evening and night time periods relative to the day time period.

In the California State - Airport Land Use Planning Handbook, an analysis of ALUC plans for a number of general aviation airports, showed that residential development was discouraged in the 60-65 CNEL noise impact area. Also, as Rialto Airport caters mostly to VFR operations, the potential for annoyance (and thus complaints) exists anywhere within the airport traffic pattern and anywhere aircraft are flying below 500 feet. This is traditionally within the 55 CNEL contour which generally extends for up to a mile from the runway, at a width of between one quarter to one half a mile as flown by pilots.

Land use restrictions within the 60 CNEL, and in some cases the 55 CNEL impact areas, may include prohibiting residential development underneath the traffic pattern or limiting development to low density uses. Other measures that have been recommended where aircraft are below 500 feet and in the general overflight area, include requirements for noise easements and notification of prospective property owners.

In San Bernardino County, the following policy exists:

Exterior: Residential construction shall not be permitted in areas where the aircraft noise exposure exceeds an Ldn of 65 dB within the exterior living spaces.

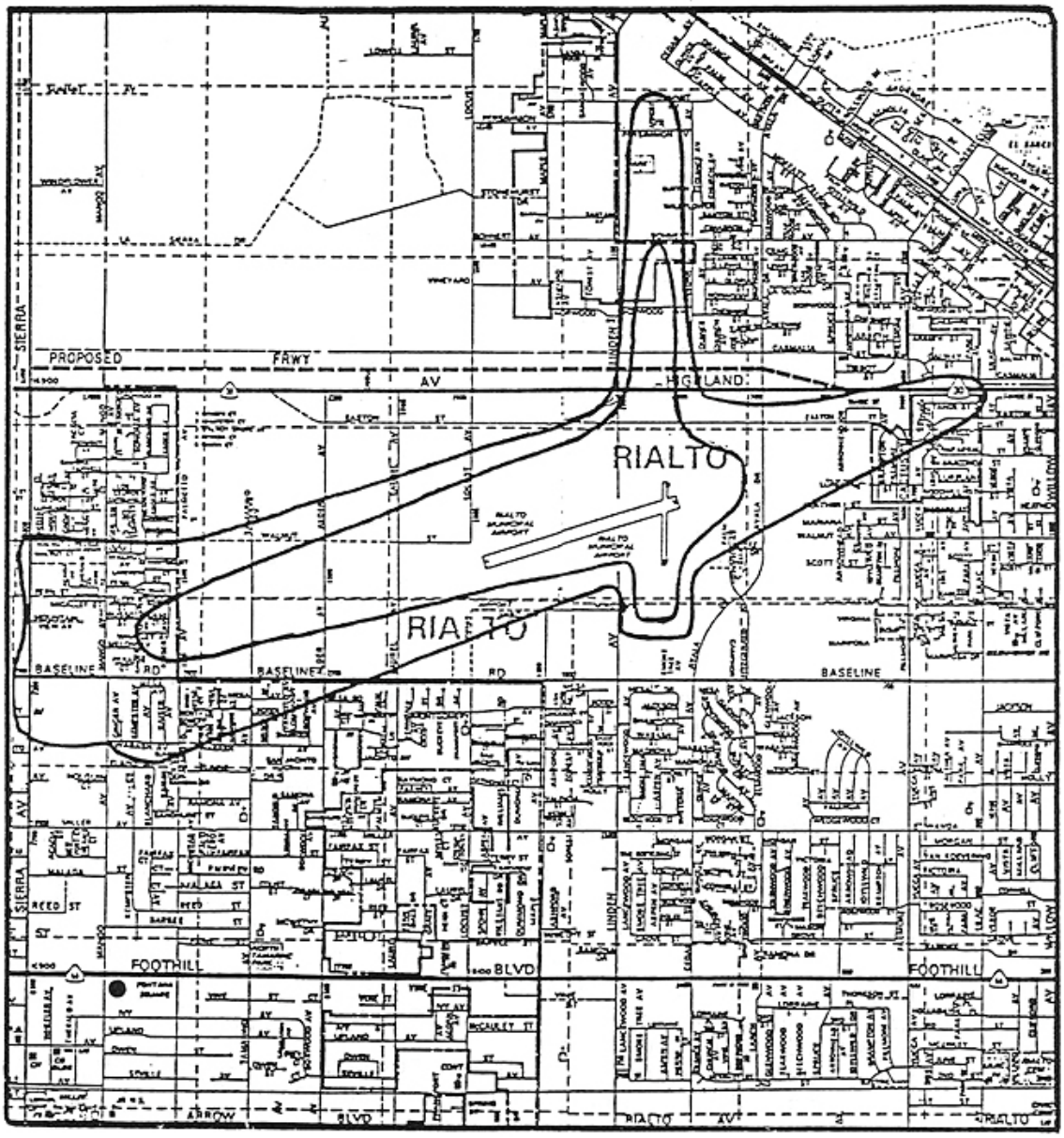
Interior: Building construction shall mitigate the aircraft noise exposure to an Ldn of 45 dB or less within the interior living space of all new residential units.

In terms of building construction, all residences within the 60 to 65 dB Ldn range will require forced air ventilation with openable windows in a closed position.

Title 24 of the State Noise Insulation Standards (California Administrative Code) requires that an acoustical analysis be prepared for all new developments of multi-family dwellings, condominiums, hotels and motels proposed for areas within the 60 dB Ldn (or CNEL) contour of a major noise source for the purpose of documenting that an acceptable interior noise level of 45 dB Ldn (or CNEL) or below will be achieved with the windows and doors closed. Chapter 35 of the UBC (Uniform Building Code) requires that common wall and floor/ceiling assemblies within multi-family dwellings comply with minimum standards for the transmission of airborne sound and structure-borne impact noise.

This plan identifies the 65 CNEL impact area (Figure II-3), which was plotted by consolidating the variety of noise contours presented in the Rialto Municipal Airport Master Plan. Note that these contours ranged from present day usage up to the your 2008's projections.

Figure II-3

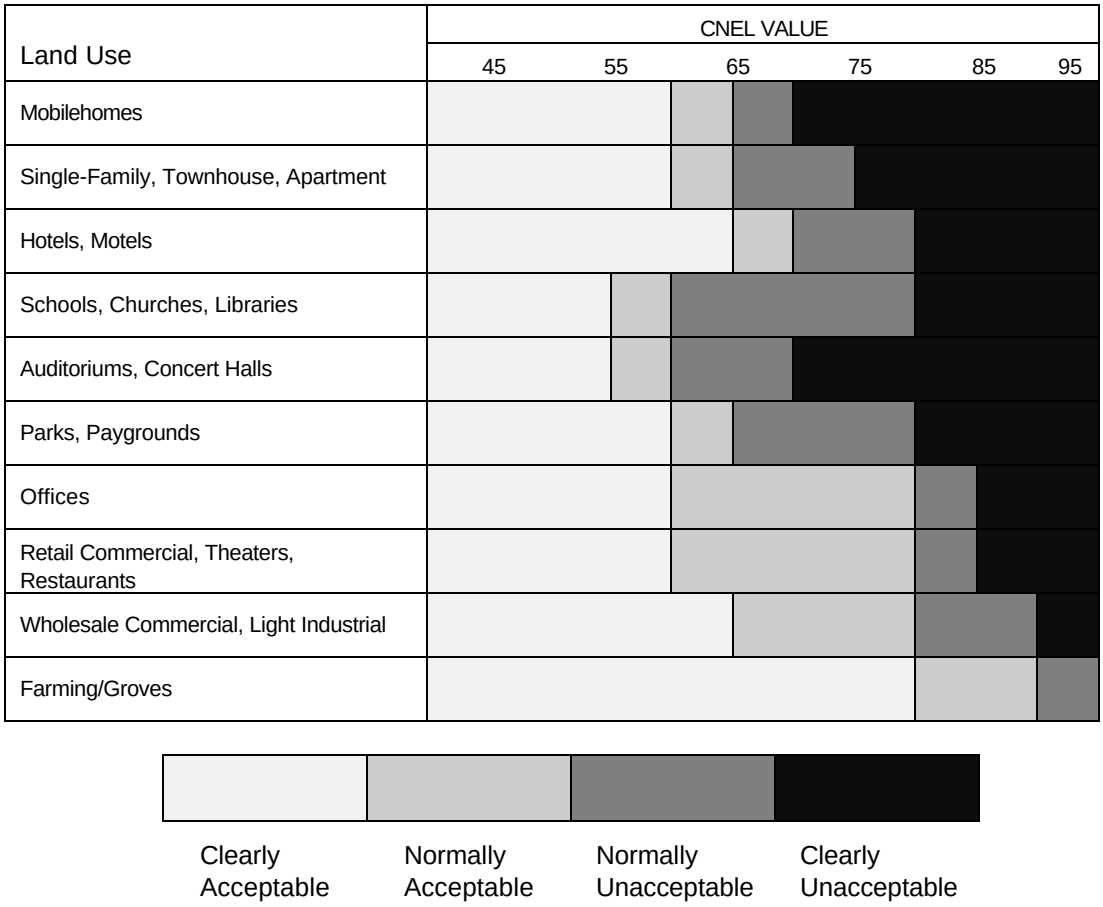


65 CNEL (inner) and 60 CNEL (outer) Noise Contours

The City of Rialto has established specific guidelines for land use compatibility with community noise environments. This matrix (Table II-4) was taken from the City of Rialto, March 1985 – General Plan Update.

Figure II-4

Land Use Compatibility For Community Noise Equivlaent Levels (CNEL)



Clearly Acceptable: The noise exposure is such that the activities associated with the land use may be carried out with essentially no interference from aircraft noise. (Residential areas: both indoor and outdoor noise environments are pleasant.)

Normally Acceptable: The noise exposure is great enough to be of some concern, but common building constructions will make the indoor environment acceptable, even for sleeping quarters. (Residential areas: the outdoor environments will be reasonably pleasant for recreation and play.)

Normally Unacceptable: The noise exposure is is significantly more severe, so that unusual and costly building constructions are necessary to ensure adequate performance of activities. (Residential areas: barriers must be erected between the site and prominent noise sources to make the outdoor environment tolerable.)

Clearly Unacceptable: The noise exposure is at the site is so severe that construction costs to make the indoor environment acceptable for performance of activiites would be prohibitive. (Residential areas: the outdoor environment would be intoerable for normal residential use.)

Source: HUD Noise Assessment Guidelines, August, 1971.

The building uses identified in the last paragraph on page 2-3 are the subject of both State and San Bernardino County standards. Note that these standards clearly do not apply to single family dwellings. Figure II-5 provides an example of the criteria adopted in several ALUC plans. Figure II-6 was taken from the San Bernardino County General Plan - Noise Element.

Figure II-5

Recommended Maximum Interior Noise Level
Criteria for Intermittent Noise

Generalized Land Use (Occupancy)	Maximum Int. Intermittent Noise - dBA	Basis for Criteria*
A. RESIDENTIAL - SINGLE AND TWO FAMILY DWELLINGS		
1. Living Areas		
a. Daytime	60	Conversation - 5 ft. - normal voice
b. Nighttime	55	Conversation - 10 ft. - normal voice
2. Sleeping Areas	40*	Sleeping
B. RESIDENTIAL		
Multiple Family Apartments	Same as A.	Same as A.
C. EDUCATIONAL FACILITIES. ETC.		
1. Concert Hall	25	Intrusion of noise may spoil artistic effect
2. Legitimate Theater	30	Intrusion of noise may spoil artistic effect
3. School Auditorium	35	Minimize intrusion into artistic performance
4. School Classroom	55	Speech communication - 20 ft. - raised voice
5. School Laboratory	60	Speech communication - 6 ft. - normal voice
6. Church Sanctuaries	45	Speech communication - 50 ft. - raised voice
7. Library	65	Speech communication - 3 ft. - normal voice
D. RECREATIONAL FACILITIES		
1. Motion Picture Theater	45	Minimize intrusion into artistic performance
2. Sports Arena	75	Conversation - 2 ft. - raised voice
3. Bowling Alley	75	Conversation - 2 ft. - raised voice
E. COMMERCIAL, MISCELLANEOUS		
1. Hotel, Motel Sleeping	40	Sleeping
2. Hospital Sleeping	40	Sleeping
3. Executive Offices, Conf. Rooms	55	Speech communication - 12 ft. - normal voice
4. Staff Offices	60	Speech communication - 6 ft. - normal voice
5. Sales, Secretarial	65	Satisfactory telephone use
6. Restaurants	65	Conversation - 4 ft. - normal voice
7. Markets, Retail Stores	65	Conversation - 4 ft. - normal voice
F. LIGHT INDUSTRIAL		
1. Office Areas	See E-3, 4, 5	See E-3, 4, 5
2. Laboratory	60	Speech Communication - 6 ft. - normal voice
3. Machine Shop	75	Speech Communication - 3 ft. - raised voice
4. Assembly, Construction	75	Speech Communication - 2 ft. - raised voice
G. HEAVY INDUSTRIAL		
1. Office Areas	See E-3, 4, 5	See E-3, 4, 5
2. Machine Shop	75	Speech Communication - 3 ft. - raised voice
3. Assembly Construction	75	Speech Communication - 2 ft. - raised voice

* Some ALUCs have used 50 dBA for sleeping areas

Figure II-6

Interior/Exterior Noise Level Standards
Mobile Noise Sources

Land Uses		Ldn (or CNEL), dB	
Categories	Uses	Interior[1]	Exterior[2]
Residential	Single & multi-family, duplex	45	60[3]
	Mobilehome	45	60[3]
Commercial	Hotel, motel, transient lodging	45	60[3]
	Commercial retail, bank, restaurant	50	-
	Office building, research & development, professional offices	45	65
	Amphitheater, concert ball, auditorium, movie theater	45	-
Institutional/ Public	Hospital, nursing home, school, classroom, church, library	45	65
Open Space	Park	-	65

1. Interior living environment excluding bathroom, kitchens, toilets, closets corridors.

2. Outdoor environment limited to:
   - Private yard of single family dwellings
   - Multi-family private patios or balconies
   - Mobilehome parks
   - Hospital/office building patios
   - Park picnic areas
   - School playgrounds
   - Hotel and motel recreation areas

3. An exterior noise level of up to 65 dB Ldn (or CNEL) will be allowed provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dB Ldn (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level win necessitate the use of air conditioning or mechanical ventilation.

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SAFETY IMPACT

and

REFERRAL AREAS

SAFETY

The overriding objective of California's airport land use planning law is to protect the public's health, safety and welfare. Two critical elements must be addressed when assessing safety issues and attempting to determine measures that would effectively minimize potential injury and/or loss of life that could result from any incident related to an aircraft. These are safety elements on the ground and safety elements in the air.

In proportion to overall air operations, the actual incidence of aviation accidents is extremely minute. Additionally, it is normally not feasible to plan in advance (at other than major air carrier airports), measures that would minimize loss of life on the ground, should an accident, such as a 747 crash into a heavily populated urban area, occur. As such, the potential for such a disaster is not explored within this plan. On the hand, this plan does attempt to ensure that every effort is made to minimize any potential impact, should an aircraft crash of any type occur, within the City of Rialto or within the surrounding region, by an aircraft that has taken off or intends to land at Rialto Airport.

No clear cut guidelines exist in respect to appropriate land use and/or population densities around airports verses the potential for injury or property damage should an accident occur. An assessment of National Transportation Safety Board (NTSB) statistic reveals that while an overwhelming majority of general aviation accidents occur on the airport, the potential for an accident to take place near the airport is still substantial, and in the majority of cases, more serious in nature. Further that accidents near airports tend to be evenly divided between takeoff and landing. Note that due to a revisions of NTSB reporting formats, the most recent statistics showing the actual location of GA accidents in relationship to airports, were published for the period 1974-1979 (Table III-1).

Table III-2 shows more recent NTSB statistics; however, on-airport accidents during landing and takeoff were not broken out of the broader classifications. Irrespective of these considerations, little difference within the percentages between the categories is apparent with the more recent figures, and thus the percentages of accident locations derived from the 1974-1979 statistics remains constant.

Figure III-1

Major General Aviation Accidents (1974-1979)

Landing or Takeoff	Location	Detailed Phase of Operation	Number of Accidents	%
Takeoff	On-Airport	Run	1,251	
		Aborted Takeoff	384	
	Near Airport	Initial Climb	3,182	100%
	Other		236	
	Total		5,053	
Landing	On-Airport	Level Off-Touchdown	3,909	
		Roll	3,336	
	Near Airport	Traffic Pattern-Circling	542	16.7%
		Final Approach - VFR	1,706	52.6
		Initial Approach	61	1.9
		Final Approach - IFR	228	7.0
		Go Around - VFR	653	20.2
		Missed Approach - IFR	51	1.6
Near Airport Sub-Total			3,241	100.0%
Other			497	
Total			10,983	

Note: Major accidents are accidents in which the aircraft was destroyed or substantially damaged.

Figure III-2

MOST PREVALENT FIRST OCCURRENCES
ALL ACCIDENTS
1987 AND 1982 - 1986

Type of Occurrence	1987 No.	1987 Percent	1982 - 1986 Mean	1982 - 1986 Percent
Loss of control - in flight	326	13.1	369.6	12.5
Loss of engine power (total) non-mechanical	259	10.4	335.0	11.3
Loss of control - on ground	322	13.0	317.6	10.7
In flight collision with object	186	7.5	236.2	8.0
In flight encounter with weather	150	6.0	203.2	6.9
In flight collision with terrain/water	109	4.4	192.8	6.5
Loss of engine power	171	6.9	184.8	6.2
Hard landing	132	5.3	155.2	5.2
Airframe/component/system failure/malfunction	132	5.3	147.2	5.0
Loss of engine power (total) - mech failure/malf	113	4.5	132.4	4.5
Overrun	77	3.1	98.2	3.3
On ground collision with object	65	2.6	84.8	2.9
Loss of engine power (partial) - mech failure/malf	51	2.1	71.4	2.4
Undershoot	41	1.6	56.0	1.9
Loss of engine power(partial) - non-mechanical	53	2.1	49.6	1.7
On ground collision with terrain/water	39	1.6	46.6	1.6
Midair collision	41	1.6	44.0	1.5
Nose over	25	1.0	38.6	1.3
(All other types)	194	7.8	198.2	6.7
Number of Aircraft	2486	100.0	2961.4	100.0

The obvious solution to minimizing injury or loss of life on the ground, should an aircraft accident occur near the airport, is to ensure that, no structures are, or, no activities involving the public take place, in areas extending outwards from the runway centerline. This area is referred to as a safety zone.

Located within this safety zone, is a critical impact area known as the Runway Protection Zone (RPZ) . This area was formally known as the runway clear zone. FAA Advisory Circular 150/5300-13 defines the RPZ as trapezoidal in shape and centered about the extended runway centerline. It begins 200 feet beyond the end of the area usable for takeoff and landing. Displacing the threshold does not change the beginning point of the RPZ. The RPZ dimensions are functions of the design aircraft, type of operation, and visibility minimums (Figure III-3).

The dimensions of the RPZ's for each runway at Rialto Airport are listed in Table III-4. Note that all distances are measured in feet and are calculated, based upon a visual approach, for all runways except 6R (Future) which is based on a nonprecision instrument approach with visibility minimums of more than ¾ of a statute mile.

Also located within the RPZ is a two dimensional ground area known as the runway Object Free Area (OFA). The runway OFA clearing standards preclude parked airplanes and objects, except objects whose location is fixed by function. The OFA extends for a distance of 1000 feet from the end of runway 6R (future) with a width of 800 feet. With all other runways (existing and future) the OFA distance from the end of the runway is 600 feet with a width of 500 feet.

Figure III-3

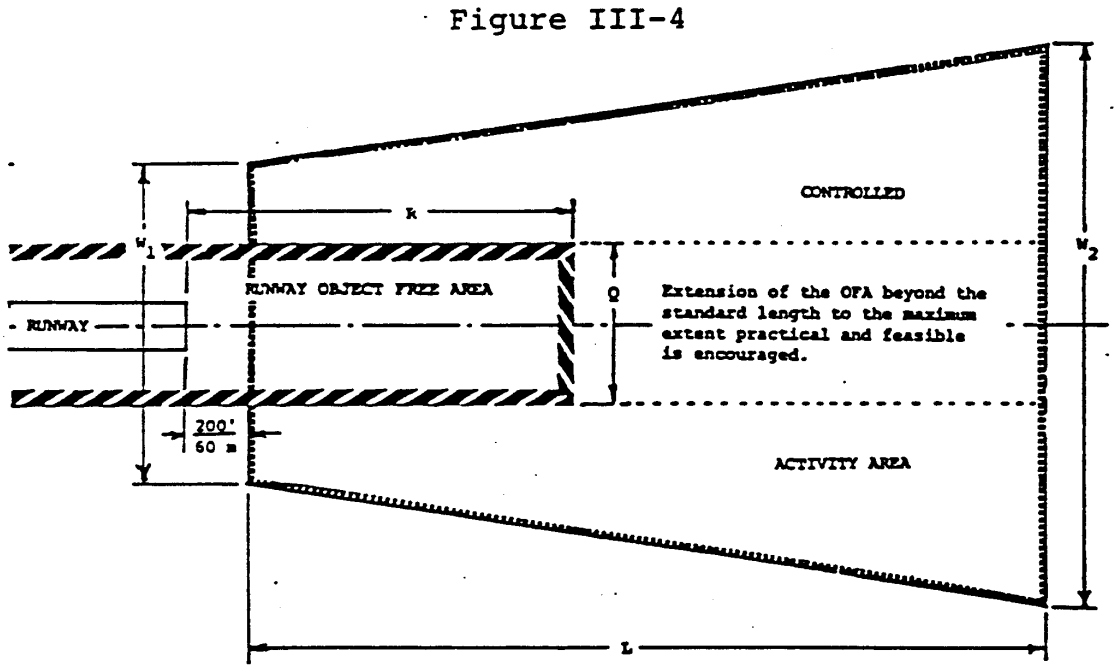
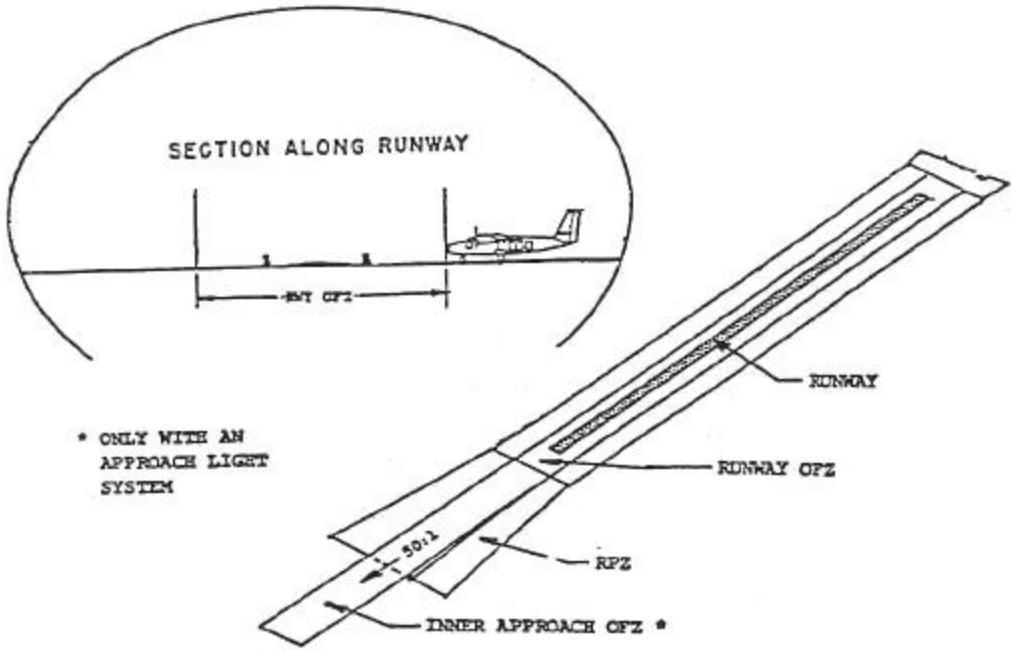


Table III-4

Runway End	Dimensions for Approach End RPZ			
	Length L	Inner Width W1	Outer Width W2	Area (acres)
6R (future)	1,700	500	1,010	29.465
24L (future)	1,000	500	700	13.770
All other existing and future	1,000	250	450	8.035

Supplementing the RPZ is an Obstacle Free Zone (OFZ). The OFZ (Figure III-5) is a three dimensional volume of airspace which supports the transition of ground to airborne aircraft operations (and vice versa). The OFZ clearing standard precludes taxiing and parked airplanes and object penetrations, except for frangible NAVAIDs whose location is fixed by function. The runway OFZ and the inner-approach OFZ comprise the overall OFZ of Rialto Municipal Airport.. The combined runway and inner-approach OFZ extends 200 feet beyond each end of the runway in a rectangular shape. The width of the OFZ is 400 feet for runway 6R/24L and 250 feet for all other existing and future runways.

Figure III-5



Within the Airspace Restriction section of this report, an area known as the "Approach Surface" is detailed. The ground area of this approach surface is divided into two portions for the purposes of this section:

a. The RPZ which is the smaller, innermost area, and

b. Safety Zone II, which is the balance (outer) area.

The overall dimensions of the approach surface at Rialto Airport are detailed in Table III-6. In some cases, Safety Zone II (also referred to as the Outer Safety Zone) may be rectangular in shape. Irrespective of the shape, the center of the zone runs along an imaginary projection of the runway centerline. For the primary departure runway, it is also suggested that this zone conforms with any major flight track in order to protect areas regularly overflown by departing aircraft.

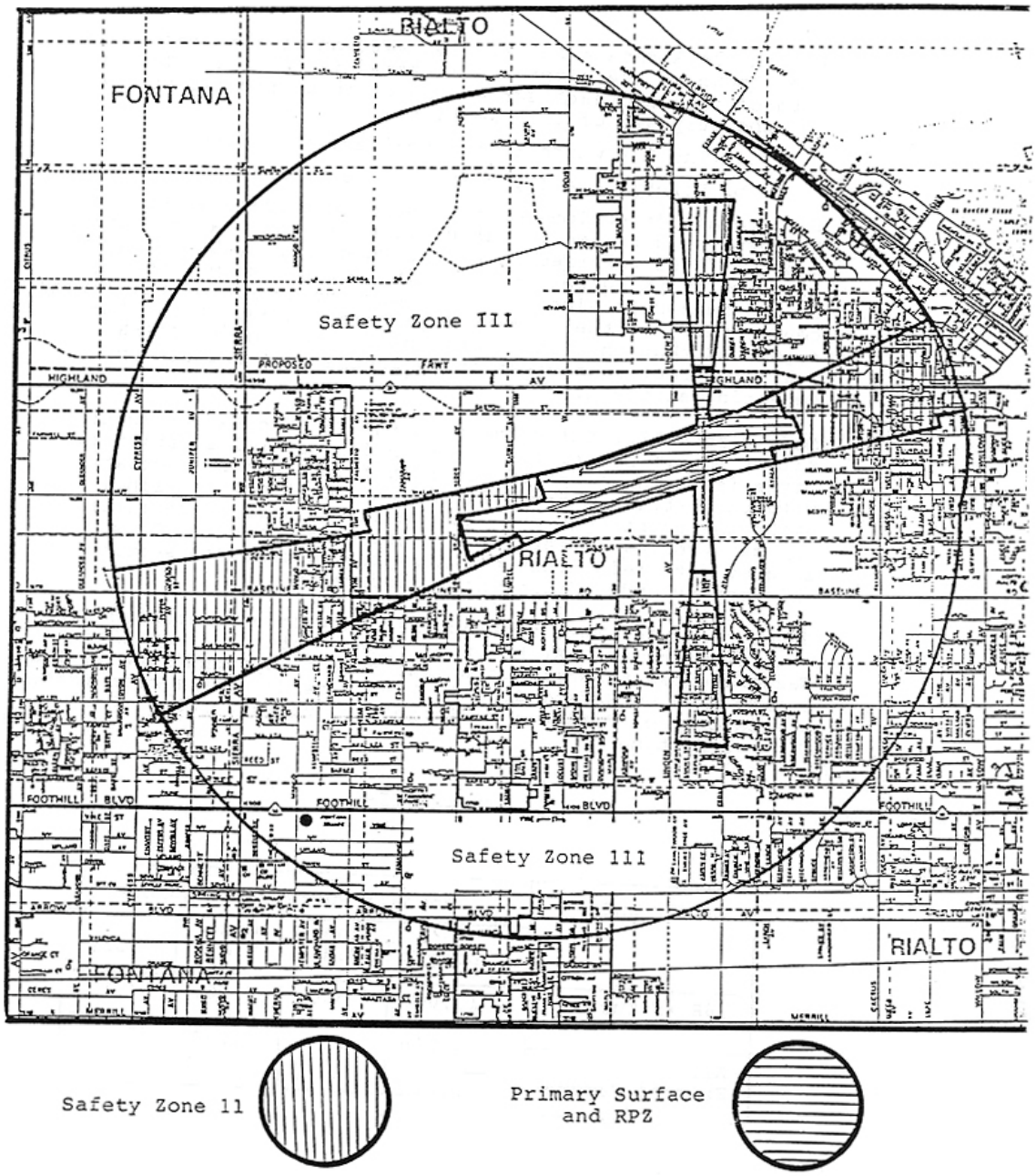
Safety Zone III. (Also know as the Traffic Pattern/Overflight Zone.) The traffic pattern for general aviation airports is the envelope of aircraft flight paths associated with the pattern entry point, downwind, base, and final legs, while the overflight area is the larger area where aircraft are maneuvering to enter the pattern for landing. This are is also detailed within the Airspace Restriction section of this report under "Horizontal Surface."

Safety Zone IV. This zone applies only to nonprecision and precision runways. At Rialto Airport, future runway 6R is designated as a nonprecision instrument approach runway. The entire area of Safety Zone IV lies outside of the boundaries of the City of Rialto and within the jurisdiction of the City of Fontana.

Table III-6

Runway End	Dimensions for Approach End RPZ			
	Length	Inner Width	Outer Width	Slope
6R (future)	10,000	500	3,500	34:1
24L (future)	5,000	500	1,500	20:1
All other existing and future	5,000	250	1,250	20:1

Figure III-7


RIALTO
FONTANA
Safety Zone III
HIGHLAND
PROPOSED
RIALTO
FOOTHILL BLVD
Safety Zone 111
RIALTO
FONTANA
Safety Zone 11
Primary Surface
and RPZ

Land Uses and Population Densities:

a) Runway Protection Zone:

FAA AC150/5300-13 identifies a controlled activity area **(**Figure III-3) as the portion of the RPZ beyond the sides of the OFA. Within the area under the control of the airport authority, the following recommendations are standards.

Recommendations:

The airport owner should acquire or control the RPZ to meet the clearing and land use standards.

i. Land use should be prohibited which might create glare and misleading lights or lead to the construction of residences, fuel handling and storage facilities, smoke generating activities, and places of assembly. Churches, schools, office buildings, shopping centers, and stadiums typify places of public assembly.

ii. While it is desirable to clear all objects from the RPZ, uses such as agricultural operations, provided they do not attract birds, and golf courses are normally acceptable outside of the OFA. Automobile parking, although discouraged, may be permitted provided it is located outside of the runway OFA extended and below the approach surface.

Note: The FAA studies existing and proposed objects and activities, both off and on airports, with respect to their effect upon the safe and efficient use of the airports and the safety of persons and property on the ground. These objects need not be obstructions to air navigation, as defined in FAR Part 77. As the result of a study, the FAA may issue an advisory recommendation in opposition to the presence of any off-airport object or activity in the vicinity of the airport that conflicts with an airport planning or design standard or recommendation. (AC150/5300-13 paragraph 212)

b) Safety Zone II:

Residential land use should be strongly discouraged and other land uses restricted. Density restrictions are needed to ensure that large concentrations of people are not located within this safety zone. Recommended density limits are as follows:

- uses in structures: no more than 25 persons per acre at any one time; no more than 15 people in any one building.
- uses not in structures: no more than 50 persons per acre at any one time.

The California State - Airport planning handbook, contains a table (Figure III-8) of land use guidelines for safety zones, that were compiled from a variety of ALUC plans.

Examples of Land Use Guidelines for Safety Zones. (Source: Various ALUC Plans)

	DENSITY	COVERAGE	LAND USE
Runway Protection Zone	No people No more than 10 persons per acre - "at any one time" - "on a regular basis" - "over long periods" No more than 25 persons per acre at any time	No structures	No residential No petroleum or explosives No above grade power lines
Safety Zone II	No more than 10 people "on an annual average" "per acre" No more than 25 persons "per acre" - "at any time" - "over long periods" - "over 24 hours" No more than 50 persons per acre - "for 2 hours" - "at any time" Residential: no more than - 1 du per 5 acres - 1 du per acre - 1 du per 3 acres - 2 s.f. du per acre - 2 du per 3 acres - 4 du per gross acre - 2 ½ acre lots, minimum No more than 100-150 people in a single building (AICUZ)	Maximum structural coverage must be less than: - 20% - 25% - 30% - 50% (AICUZ)	Low density residential No multi-family No hotels or motels No restaurants or bars No schools, hospitals or government services No concert halls or auditoriums No industries involved in flammable materials or processes Commercial and industrial generally OK if density and lot coverage restrictions applied
Safety Zone III	No more than 50 persons over long periods No more than 4 du per acre No more than 200-300 people in a single building (AICUZ)*	Maximum structural coverage must be less than: - 30% - 50% - 75% (AICUZ)	Generally same as above.
	No more than 3 du per acre (under Traffic Pattern)	Maximum structural coverage must be less than - 20% (Traffic Pattern)	No schools, sports arenas, auditoriums, or outdoor amphitheaters No industries involved with flammable materials or processes

Legend:

du-dwelling unit(s)

*most recent guidelines do not specify numbers of persons per building; however, intent is to avoid large concentrations of persons in a single structure

Figure III-8 shows that other ALUCs have criteria ranging from one dwelling per acre up to one dwelling per five acres. The specific type and number of operations at each airport, plays an important part when establishing limitations in Safety Zone II.

The San Bernardino County General Plan - Man-Made Hazards, contains suggested density criteria (Figure III-9) with air safety zone and land use suitability matrices, along with other recommendations and standards. A departmental review of all residential development that exceeds a density of two dwelling units per gross acre is also required.

c) Safety Zone III:

Generally, ALUCs place few restrictions on residential uses within this area. Strong emphasis is still placed on limiting large assemblies of people in uses such as:

Hospitals
Stadiums and arenas
Auditoriums and concert halls
Outdoor amphitheaters and music shells
Regional shopping centers
Jails and detention centers

Additionally, land use activities which may present visual, electronic, or physical hazards to aircraft in flight should be avoided in this and all other safety zones**.** Visual hazards include distracting lights (particularly lights which can be confused with airfield lights), glare, and sources of smoke. Electronic hazards include any uses which interfere with aircraft radio communications. The principal physical hazards, other than the height of structures, are bird strikes. Any land uses which can attract birds should be avoided. Particularly inappropriate uses are artificial attractors and sanitary landfills.

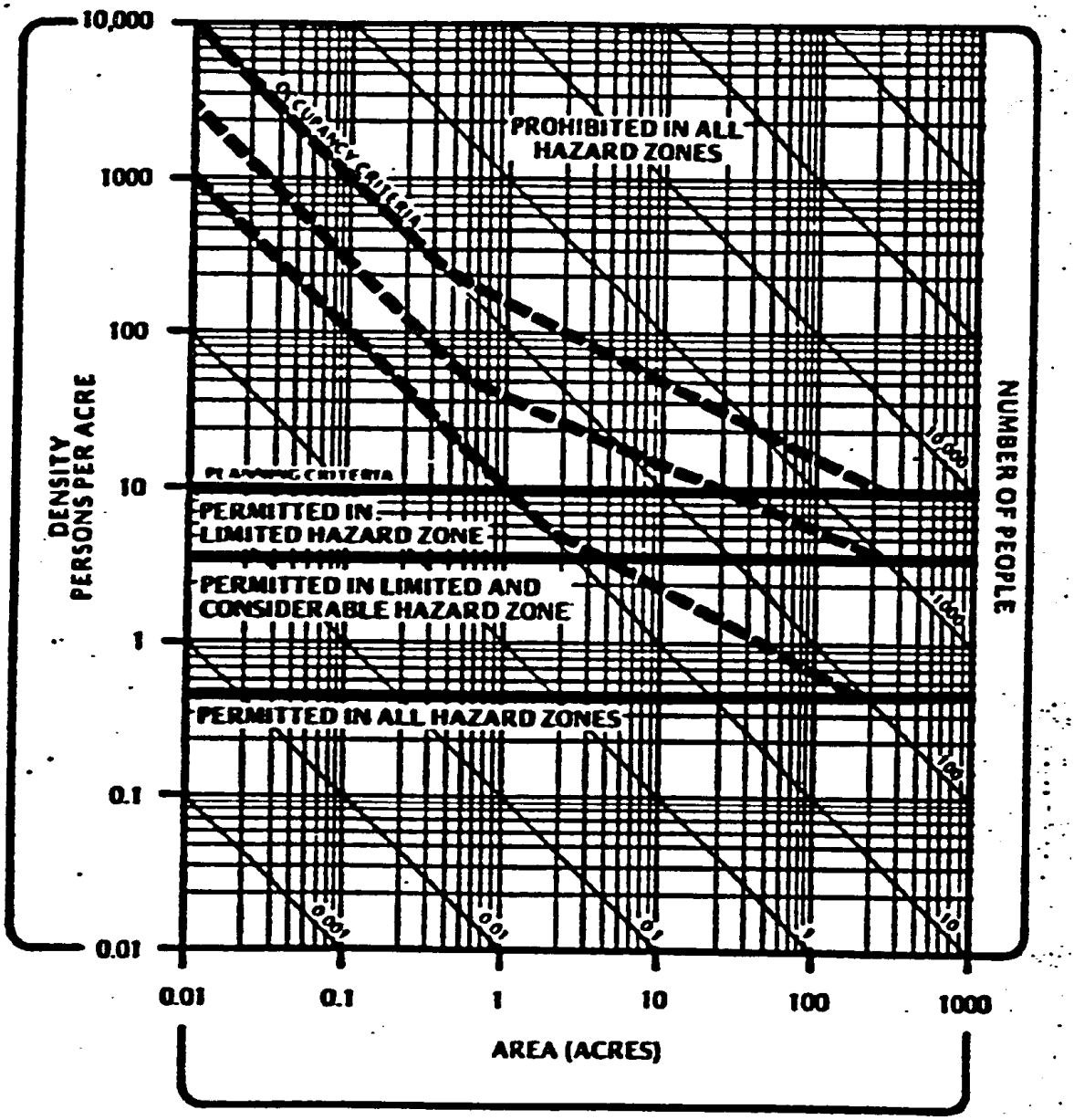
The Sacramento Area Council of Governments (SACOG) has studied density criteria and land use compatibility in safety zones at length. SACOG's guidelines (Table III-11) provide a frequently used model for ALUCs and could be adopted by the City of Rialto. Another good example of land use compatibility in safety areas is shown in Table III-10 (San Bernardino County General Plan).

Shielding

One effective method which could be considered to minimize the crash hazard result to people on the ground, is to shield them and structures from the potential direct impact of aircraft. This can be achieved by planting trees in front of structures or by locating new buildings behind trees, other natural or man made barriers or other existing buildings. Additionally, buildings could be constructed of brick or concrete in order to prevent light aircraft from penetrating through the structure.

Suggested Density Criteria

Figure III-9



SOURCE: Wilsey & Ham

Figure III-10

Land Use Compatibility in Aviation Safety Areas

	SAFETY AREA			
LAND USE	**1**	**2**	**3**	**4**
Residential single-family, duplex, multi-family, mobilehomes	Clearly Unacceptable	Clearly Unacceptable	Normally Acceptable*	Normally Acceptable*
Hotels, motels, transient lodging	Clearly Unacceptable	Clearly Unacceptable	Normally Acceptable	Clearly Unacceptable
Schools, nursing homes, libraries, churches, hospitals	Clearly Unacceptable	Clearly Unacceptable	Normally Acceptable	Clearly Unacceptable
Auditoriums, concert halls, amphitheaters	Clearly Unacceptable	Clearly Unacceptable	Normally Acceptable	Clearly Unacceptable
Sports arenas, outdoor spectator sports	Clearly Unacceptable	Clearly Unacceptable*	Normally Acceptable*	Clearly Unacceptable*
Playgrounds, neighborhood parks	Clearly Unacceptable	Normally Unacceptable	Normally Acceptable	Normally Acceptable
Golf courses, riding stables, water recreation, cemeteries	Normally Unacceptable	Normally Acceptable	Clearly Acceptable	Clearly Acceptable
Office buildings, personal, professional	Clearly Unacceptable*	Clearly Unacceptable*	Normally Acceptable*	Clearly Unacceptable*
Commercial – retail, movie theaters, restaurants	Clearly Unacceptable*	Clearly Unacceptable	Normally Acceptable	Clearly Unacceptable
Commercial – wholesale, some retail, industry, manufacturing, utilities	Clearly Unacceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
Livestock, farming, animal breeding	Normally Unacceptable*	Normally Acceptable*	Clearly Acceptable*	Clearly Acceptable*
Agriculture (except livestock), mining and fishing	Normally Acceptable	Clearly Acceptable	Clearly Acceptable	Clearly Acceptable
Extensive natural recreation	Normally Acceptable	Clearly Acceptable	Clearly Acceptable	Clearly Acceptable
Maximum gross density recommended (persons per acre)	.5	25	No Limit	10**
Maximum assembly recommended (persons)	10	100	No Limit	100**

Safety Review Area 1 –
Area at either end of a runway inside and outside of the airport boundaries, and labeled clear zone as defined by FAA or Military AICUZ studies.
Safety Review Area 2 –
Area outside the airport boundaries but within the 65 Ldn noise contour.
Safety Review Area 3 –
Varies with the airport but generally: a) For airports with a 65 Ldn noise contour, area outside the 65 Ldn noise contour; b) For airports without the 65 Ldn noise contour, area within one mile of the outer boundaries of the airport ownership.
Safety Review Area 4 –
Varies with the facility: China Lake and George – one mile outside the 65 Ldn contour. Norton – within a 5-mile radius of the base. Low Altitude Corridors – entire area beneath the corridors.

Clearly Acceptable – No restrictions.
Normally Acceptable – Restricted development undertaken only after detailed analysis and satisfactory mitigation measures are initiated.
Normally Unacceptable – No new development.
Clearly Unacceptable – New construction or development should generally not be undertaken. Existing uses should be relocated.

* Some specific uses in this group may meet density criteria and be more acceptable.

** Applies for low altitude flight corridor only. Unlimited occupancy in other Safety Area 4 locations.

Figure III-11

LAND USE COMPATIBILITY GUIDELINES FOR SAFETY[1]

LAND USE CATEGORY	COMPATIBILITY WITH RUNWAY PROTECTION ZONE	SAFETY ZONE II	SAFETY ZONE III
RESIDENTIAL			
Single-family detached	No	Yes[2]	Yes
Two-family dwelling	No	No	Yes
Multi-family dwelling	No	No	Yes
Group quarters	No	No	Yes
Mobilehome parks or courts	No	No	Yes
MANUFACTURING			
Food and kindred products	No	Yes[3]	Yes
Textiles and apparel	No	Yes[3]	Yes
Transportation equipment	No	Yes[3]	Yes
Lumber and wood products	No	Yes[3]	Yes
Furniture and fixtures	No	Yes[3]	Yes
Paper and allied products	No	Yes[3]	Yes
Printing and publishing	No	Yes[3]	Yes
Chemicals and allied products	No	No	No
Petroleum refining	No	No	No
Rubber and plastic	No	No	No
Stone, clay and glass	No	Yes[3]	Yes
Primary and fabricated metal	No	Yes[3]	Yes
Electrical and electronics	No	Yes[3]	Yes
Miscellaneous manufacturing	No	Yes[3]	Yes
TRANSPORTATION, COMMUNICATIONS, AND UTILITIES			
Passenger terminals	No	No	Yes
Streets, roads, highways and rail lines	Yes[4]	Yes[3]	Yes
Parking lots	No	Yes[3]	Yes
Radio & TV stations, telephone service	No	Yes[3]	Yes
Electric, gas, water, & sewer plants	No	No	Yes
Trucking and rail freight terminals	No	Yes[3]	Yes
Landfills	No	No	Yes[5]
Hazardous waste facilities	No	No	No
TRADE, BUSINESS, AND OFFICE SERVICES			
Wholesale trade and distribution	No	Yes[3]	Yes
Warehousing and storage	No	Yes[3]	Yes
Retail trade - general	No	Yes[3]	Yes
Service stations	No	No	Yes
Eating and drinking	No	Yes[3]	Yes
Hotels, motels, and campgrounds	No	No	Yes
Repair services	No	Yes[3]	Yes
Personal services	No	Yes[3]	Yes
Business services	No	Yes[3]	Yes
Banks and financial services	No	Yes[3]	Yes
Business parks	No	Yes[3]	Yes
Office buildings	No	Yes[3]	Yes
PUBLIC AND QUASI-PUBLIC SERVICES			
Government services	No	Yes[3]	Yes
Schools	No	No	Yes[6]
Hospitals	No	No	No
Medical clinics	No	No	Yes
Libraries, museums, and art galleries	No	No	Yes
Churches	No	No	Yes
Cemeteries	No	Yes[3]	Yes
Jails and detention centers	No	No	No
Child care centers (6 or more children)	No	No	Yes

LAND USE COMPATIBILITY GUIDELINES FOR SAFETY[1]

LAND USE CATEGORY	COMPATIBILITY WITH RUNWAY PROTECTION ZONE	SAFETY ZONE II	SAFETY ZONE III
SHOPPING DISTRICTS			
Neighborhood shopping center	No	No	Yes
Community shopping center	No	No	Yes
Regional shopping center	No	No	No
RECREATION			
Neighborhood parks	No	No	Yes
Community-wide regional park	No	No	Yes
Riding stables	No	Yes[3,7]	Yes
Golf courses	No	Yes[3,7]	Yes
Open space and natural areas	Yes[4,5]	Yes[5,7]	Yes
Water areas	Yes[4,5]	Yes[5,7]	Yes
Indoor recreation and amusements	No	No	Yes
PUBLIC ASSEMBLY			
Motion picture theater-single or double	No	No	Yes
Motion picture theater complex, 3 or more	No	No	No
Stadiums and arenas	No	No	No
Auditoriums, concert halls, amphitheaters	No	No	No
Fairgrounds	No	No	No
AGRICULTURE AND MINING			
Agriculture - row crops	Yes[4,5]	Yes[5]	Yes
Agriculture - tree crops	No	Yes[5]	Yes
Agriculture - intensive livestock	No	Yes[5]	Yes
Pasture and grazing	Yes[4,5]	Yes	Yes
Agricultural services	No	Yes[3]	Yes
Mining and quarrying	No	Yes[3,5]	Yes

FOOTNOTES:

1. These guidelines define only those land uses which are compatible within safety areas. Where proposed land uses fall within the established noise contours or may penetrate any of the height imaginary surfaces, additional restrictions apply as contained in the height and noise policy sections of this plan.

2. Single-family detached residential is a compatible land use only if the density is five acres or more per single family residence.

3. Uses compatible only if they do not result in a large concentration of people. A large concentration of people is defined as a gathering of individuals in an area that would result in an average density of greater than 25 people per acre per hour during a 24 hour period, or a single event that would result in a gathering of greater than 50 people per acre at any time. (See Appendix A).

4. No building, structures, aboveground transmission lines, or aboveground storage of flammable or explosive material, and no uses resulting in a gathering of more than 10 people per acre at any time.

5. Uses compatible only if they do not result in a possibility that a water area may cause ground fog or result in a bird hazard.

6. Uses compatible only if the requirements of California Education code, Sections 39005-7, 81036, and 81038 are fulfilled.

7. No high-intensity use or facilities, such as structured playgrounds, ballfields, or picnic pavilions.

AIR SPACE RESTRICTIONS:

Federal rule (14 CFR Part 77)* clearly establishes criteria for height restrictions in the vicinity of airports. In addition, it notices requirements for construction that could impact airspace anywhere within the nation. All ALUCs base height limitations on FAR Part 77 and San Bernardino County has adopted Part 77 standards into its General Plan**.

Height restrictions are necessary to protect navigable airspace required for safe air operations. California's airport land use planning laws further attempt to effectively mitigate the potential threat to the public's safety and welfare that could be caused by incidents in conflict with structures that impose into the states airspace.

Specifically impacting all decisions on airspace located above the City of Rialto, other areas located in the vicinity, is the fact that most operations at Rialto Airport are conducted on a Visual Flight Rule (VFR) basis. It is common for pilots flying VFR to navigate by using visual references such as freeways and railroad lines etc. The combination of these visual reference points and in some cases electronic navigational aids form a network of VRF "flyways." The safety of aircraft operations along these flyways is most effected by tall structures when weather is marginal. It is during these conditions that pilots must fly at low altitudes to remain in visual contact with the ground. The potential threat of tall structures to aviation is obviously compounded, during marginal weather, when an aircraft is operated under Instrument Flight Rules (IFR).

It is important to note that Part 77 obstruction standards, which are used by ALUCs as height limits, are used by the FAA in quite a different manner. These standards identify elevations above which air safety may be a problem subject to further review on a case by case basis. If a determination is made indicating a hazard to air navigation, the FAA's authority ceases at this point. It is then up to local zoning agencies to enforce the FAA recommendations and relieve the safety problem. The standards attempt to provide a reasonable and defensible balance between the needs of the airspace users and the rights of the property owners beneath the flight patterns.

* Appendix "C" - FAR Part 77.

** San Bernardino County - General Plan Update Background report, Man-made hazards - Airport Safety Issue.

The standards applicable, in FAR Part 77, as they relate to Rialto Municipal Airport and the surrounding region, are divided into two principal elements, notice requirements and obstruction standards.

1) Notice requirements: FAR Part 77.11 through 77.19.

This section requires that each person proposing any kind of construction or alteration, as described below, within the City of Rialto limits or within other areas within the vicinity, notify the FAA administrator of their intentions. This section also specifies the procedure for notification and details some exceptions.

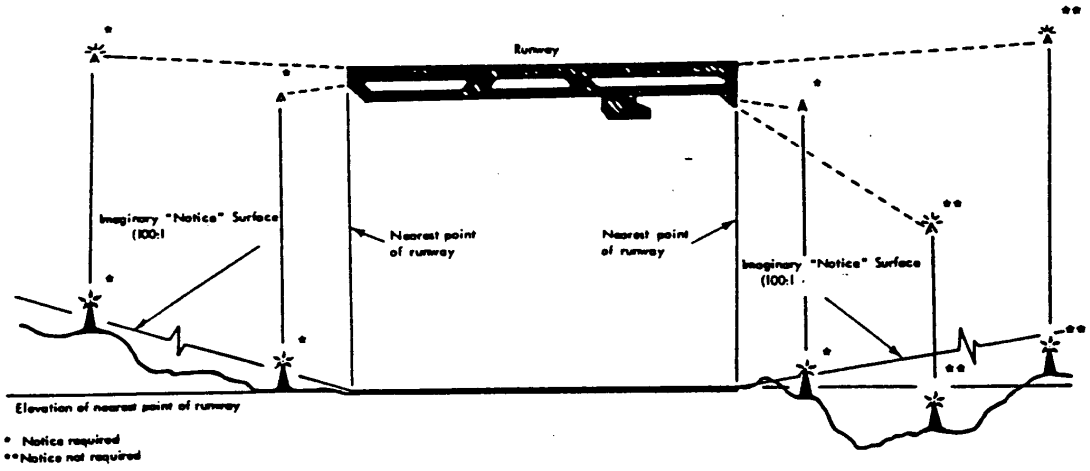
Minimum notice requirements:

Any construction or alteration of:

- more than 200 feet in height above the ground level at its site, and/or
- a greater height than an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway (see Figure III-12)

Figure III-l2

§ 77.13(a)(2) – NOTICE REQUIREMENT RELATED TO AIRPORTS



SUBPART 8 – NOTICE OF CONSTRUCTION OR ALTERATION

Note: Each airport must be available for public use and listed in the Airport Directory of the current Airman's Information Manual , or in either the Alaska or Pacific Airman's Guide and Chart Supplement; under construction and the subject of a notice or proposal on file with FAA, and except for Military airports, it is clearly indicated that that airport will be available for public use, or operated by an armed force of the United States. (Heliports and seaplane bases without specified boundaries are excluded.)

§77.13(a)(2) – A notice is required for any proposed construction or alteration that would be of greater height than an imaginary surface extending outward and upward at one of the following sloes –

(i) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport with at least one runway more than 3,200 feet in actual length.

(Note: §77.13(a)(5) requires notice of any proposed construction or alteration on each airport, including heliports.)

2) Obstruction standards: FAR Part 77.21 through 77.25.

This section establishes standards for determining obstructions to air navigation. It applies to existing and proposed manmade objects, objects of natural growth, and terrain. The standards apply to the use of navigable airspace by aircraft and to existing air navigation facilities, such as an air navigation aid, airport, Federal airway, instrument approach or departure procedure, or approved off-airway route. Additionally, they apply to a planned facility or use, or a change in an existing facility or use.

Obstruction planning criteria is established by the use of imaginary surfaces, formulated to conform with the size and use of any particular airport. The imaginary surfaces determined by FAR Part 77.25 and applicable to Rialto Municipal Airport are as follows:

a) Primary Surface: A surface longitudinally centered along the runway, extending 200 feet beyond each end of the paved runway and having a total width of 250 feet for all existing and future runways except for runway 6R/24L (future) which will have a width of 500 feet. Note that the elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.

b) Horizontal Surface: A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging an arc 5,000 feet out from the center of each end of the primary surface of each runway (except 6R) and connecting the adjacent arcs of lines tangent to these arcs. The distance of the arc for runway 6R in 10,000 feet.

c) Approach Surface: A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. The approach surface dimensions are shown in Table III-6.

d) Transitional Surface: These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surface. Transitional surfaces for those portions of the precision approach surface which project through and beyond the limits of the conical surface, extended a distance of 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

c) Conical Surface: A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

Figure III-13 provides an Isometric View of the imaginary surfaces determined by Part 77.15. Figure III-14 shows the actual height restriction planning boundaries plotted for the Rialto Airport by the master plan consultant (Foresite West).

Figure III-13

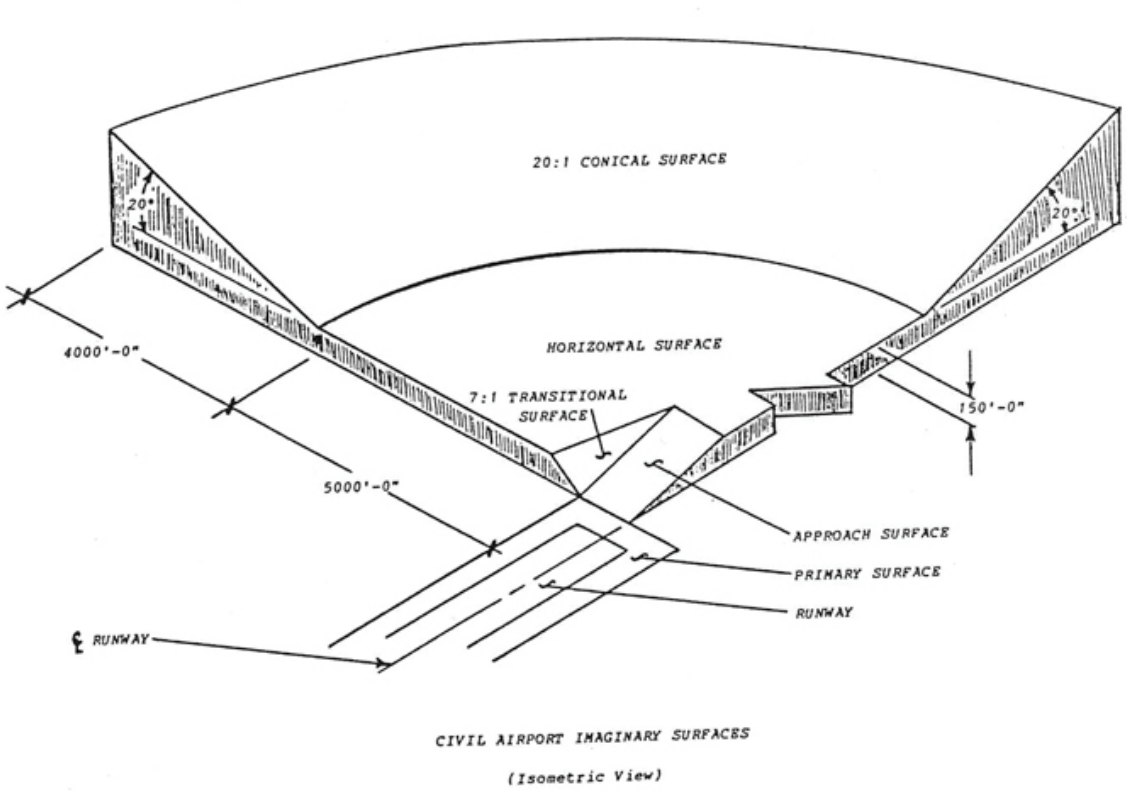


Figure III-14
Master Plan Figure 24
(Legal size)

Figure III-14
Master Plan Figure 24
(11” x 17”)

OTHER IMPACTS

and

ENVIRONMENTAL REVIEW

OTHER IMPACTS

A number of potential environmental and other impacts were identified within the proposed master plan. For the purpose of this plan, specifically within the scope of the airport land use planning law, not other impacts, apart from those identified herein, were found to impact the areas surrounding the Rialto Municipal Airport.

No ground access problems at the airport could be anticipated, provided that the future uses of the airport, remained within the context of the existing draft master plan.

ENVIRONMENTAL REPORT

The City of Rialto conducted an environmental review of this plan in accordance with the California Environmental Quality Act (CEQA). A determination resulting in a Negative Declaration (see page 4-2) was made.

NEGATIVE DECLARATION

PROJECT NAME/DESCRIPTION E.A.R. CRP#91-03: Comprehensive Land Use Plan (CLUP) for Rialto Municipal Airport and environs.

PROJECT LOCATION Rialto Municipal Airport and environs (see attached map of affected area)

APPLICANT City of Rialto Municipal Airport

ADDRESS 1700 West Miro Way
Rialto, CA 92376

TELEPHONE (714) 820-2622

The Environmental Assessment Committee has reviewed the above described project at its meeting of January 24, 1991 and has determined that the project would have no significant effect on the environment for the following reasons:

1. The proposed project is consistent with the existing zoning and the adopted General Plan.

2. The Initial Environmental Review indicates that the proposed project will not have a significant impact on the environment. This determination has been made pursuant to the quidelines for the implementation of the California Environmental Quality Act of 1970.

Any person having questions or comments regarding this project is urged to contact the Planning Department, located at the Rialto Civic Center at 150 South Palm Avenue, Rialto, California (Phone No. 820-2534).

Environmental Assessment Committee

APPENDICES