7 AIR TRAFFIC OVER-FLIGHT

Heavily used flight corridors to and from metropolitan areas can generate noise complaints from communities near airports as well as many miles beyond any defined noise contour. Commonly, when overflight impacts are discussed in a community, the focus is on the modification of flight routes, or the buyer awareness measure, which, rather than applying direct restrictions on the types of land uses, seeks to inform the public of potential annoyances associated with overflight.

The California Land Use Planning Handbook provides the following additional details about disclosure requirements:

> The Business and Professions Code Sections 11010(a) and (b)(13) require that, any person who intends to offer subdivided lands for sale or lease shall file with the Department of Real Estate an application for a public report consisting of a notice of intention and a completed questionnaire on a form prepared by the department. The notice of intention shall contain the location of all existing airports, and of all proposed airports shown on the general plan of any city or county, located within two statute miles of the subdivision.
>
> California real estate law also requires that sellers of real property disclose 'any fact materially affecting the value and desirability of the property' (Civil Code, Section 1102.1(a)). Section 731a of the Code of Civil Procedure specifies: 'Whenever any city, city and county, or county shall have established zones or districts under authority of law wherein certain manufacturing or commercial or airport uses are expressly permitted, except in an action to abate a public nuisance brought in the name of the people of the State of California, no person or persons, firm or corporation shall be enjoined or restrained by the injunctive process from reasonable and necessary operation in any such industrial or commercial zone or airport of any use expressly permitted therein, nor shall such use be deemed a nuisance without evidence of the employment of unnecessary and injurious methods of operation….'
>
> It is interpreted that these sections of law establish a requirement for disclosure of information regarding the effects of airports on nearby property provided that the seller has "actual knowledge" of such effects.

The most useful tool for determining the location of overflight boundaries are flight tracks. Flight track data depicts not only where aircraft typically operate, but also at what altitudes. If flight track data is not available, understanding the standard operating procedures of the airport will establish overflight boundaries. Common instrument flight rules (IFR) arrival and departure routes can also identify overflight areas of concern.

The California Airport Land Use Planning Handbook addresses overflight concerns through the development of Safety Zone 6. As per the Handbook, residential development is allowed in this zone, however, noise and overflight impacts should be considered where ambient noise levels are low, and prospective property owners should be made aware of potential noise impacts from overflying aircraft through buyer awareness measures such as recorded deed notices and real estate disclosure statements. Table 4D from the Handbook is shown in this Report as *Table 7-1* and "summarizes the concepts and issues involved with establishing overflight compatibility criteria…and sample policies."

Table 7-1 – Handbook Overflight Compatibility Summary

TABLE 4D: OVERFLIGHT COMPATIBILITY SUMMARY

Objective:	Notify people near airports of the presence of overflights in order to minimize or avoid annoyance associated with these conditions.
Measurement:	Recorded flight tracks; information on standard operations and traffic patterns of the airport (see Chapter 3, pg.3-12).
Strategies:	Buyer awareness measures.
Basis:	Experience and information from airport proprietors and ALUCs on the noise concerns of the community; state law.
Sample Policies:	Policy 1: California state statutes require that, as part of many residential real estate transactions, information be disclosed regarding whether the property is situated within an AIA. When disclosure is required, state law dictates that the following statement be provided: NOTICE OF AIRPORT IN VICINITY: This property is presently located in the vicinity of an airport, within what is known as the airport influence area. For that reason, the property may be subject to some of the annoyances or inconveniences associated with proximity to airport operations (for example: noise, vibration, or odors). Individual sensitivities to those annoyances can vary from person to person. You may wish to consider what airport annoyances, if any, are associated with the property before you complete your purchase and determine whether they are acceptable to you. Policy 2: As a condition for agency approval of residential land use development, an overflight notification shall be recorded. a. The notification shall contain language as dictated by state law with regard to real estate transfer disclosure (see Policy 1). b. The notification shall be evident to prospective buyers or renters of a property. c. A separate recorded overflight notification is not required where an avigation easement is required. d. An overflight notification is not required for nonresidential development.

Departure and arrival flight tracks, for use during noise modeling, were developed for the SBP EA/EIR completed in 2006. As per the EA/EIR, these flight tracks were developed through discussions with the FCT Air Traffic Manager at SBP and San Luis Obispo County staff, and through field observations. It was acknowledged in the EA/EIR that these generalized flight tracks did not indicate all areas where aircraft overflights could possibly occur.

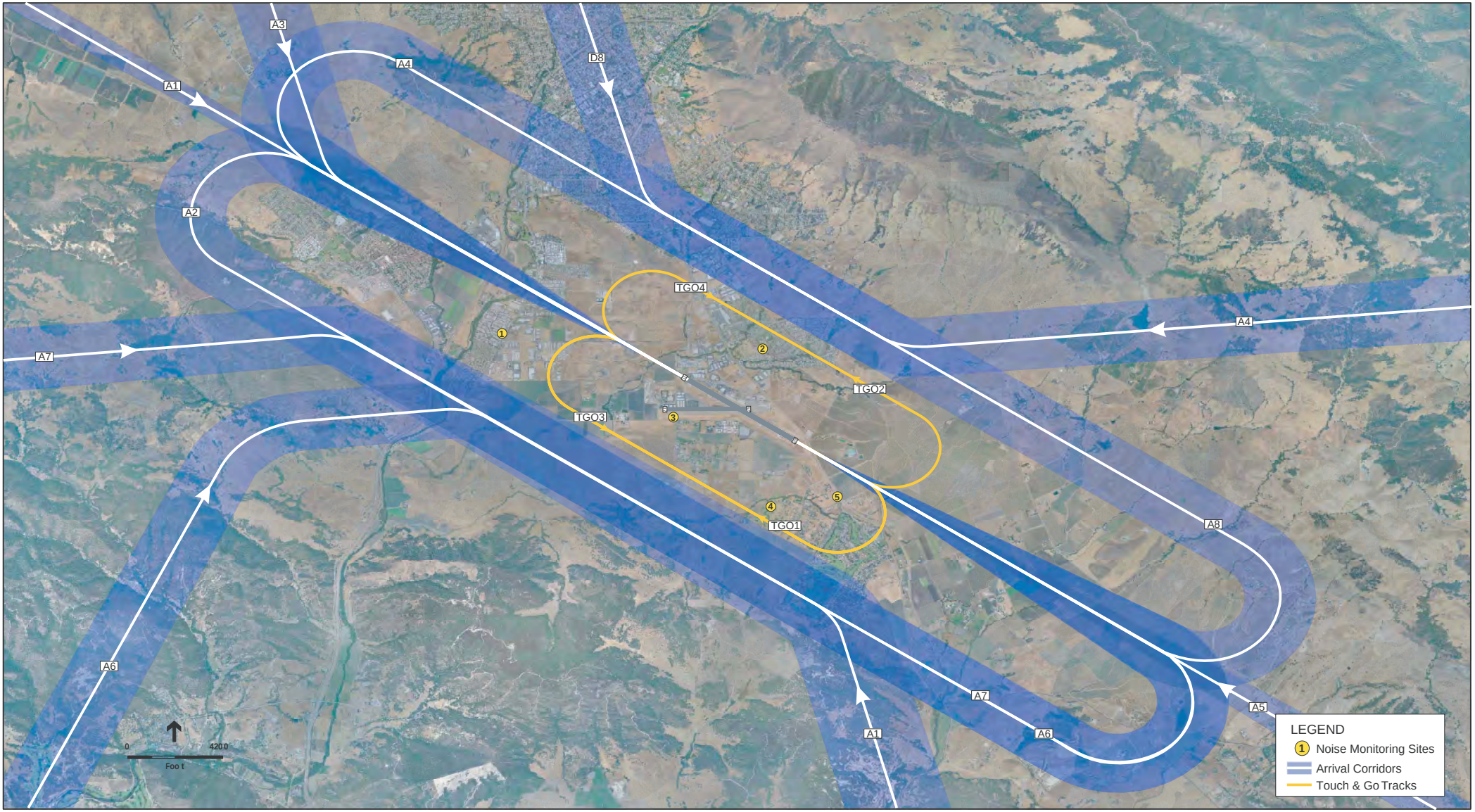
Figure 7-1 shows the generalized departures tracks, and *Figure 7-2*shows the generalized arrival and local pattern flight tracks that were used for noise modeling. Since noise modeling is confined to an area that is within the immediate Airport vicinity, the locations of assumed aircraft flight tracks at greater distances from the Airport were not analyzed or depicted.

Figure 7-1 - SBP Departure Tracks used for EA/EIR Noise Modeling

AERIAL SOURCE: Airphoto USA, 8-01-03

SOURCE: ESA Airports, 2005

Figure 7-2 - SBP Arrival Tracks used for EA/EIR Noise Modeling



AERIAL SOURCE: Airphoto USA, 8-01-03

SOURCE: ESA Airports, 2005

8 ZONING AND LAND USE

8.1 Existing City Zoning and Land Use

The Airport and land immediately surrounding the Airport are under County jurisdiction. However, much of the approach and departure paths, safety zones, and obstruction surfaces for the Airport are within the City of San Luis Obispo. The Airport and surrounding area are also within the San Luis Obispo Airport Area Specific Plan (AASP) and the City plans to annex much of this area.

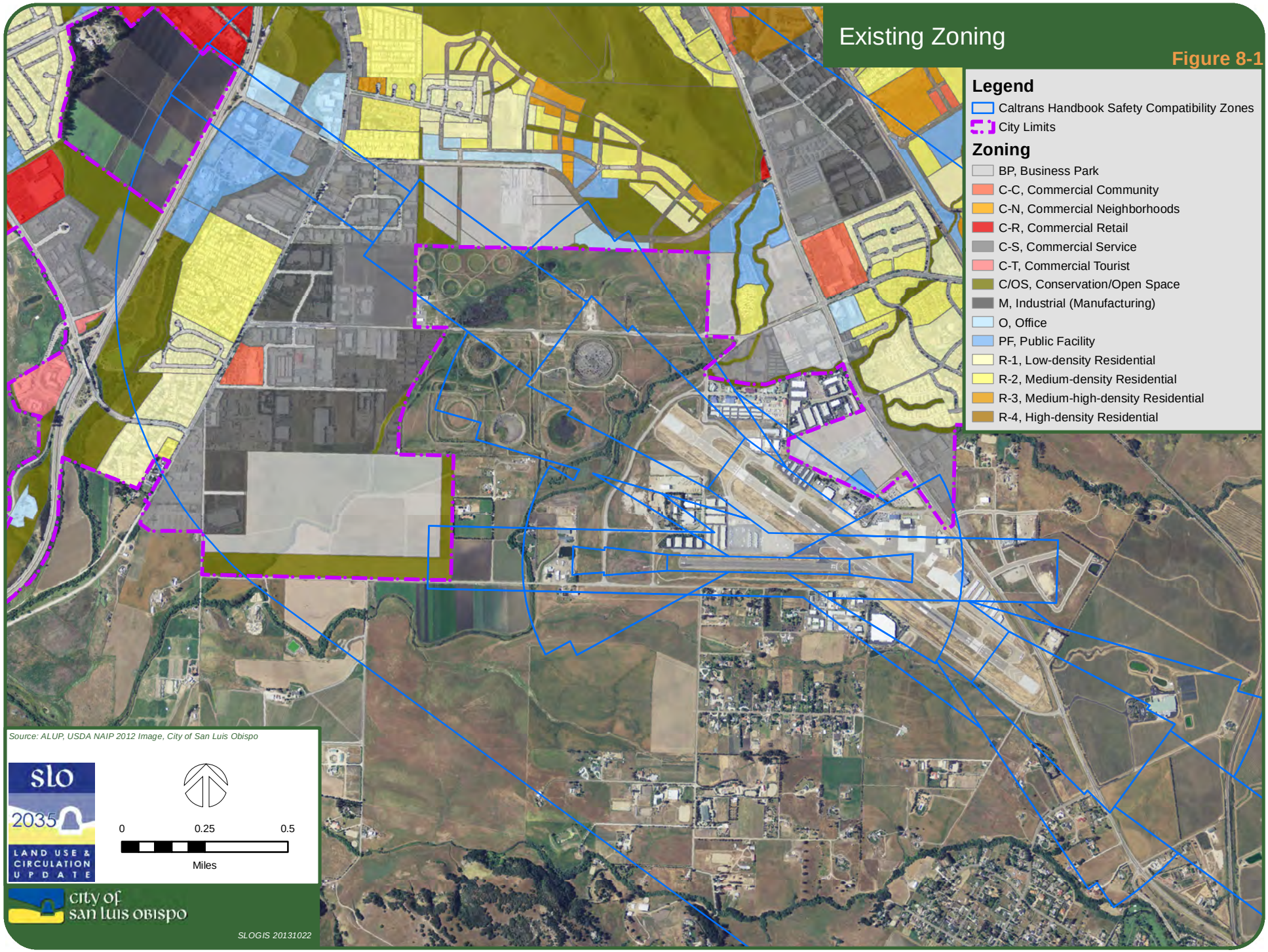
The San Luis Obispo County Regional Airport Master Plan Update Final EA/EIR, completed July 2006, describes existing land use as follows:

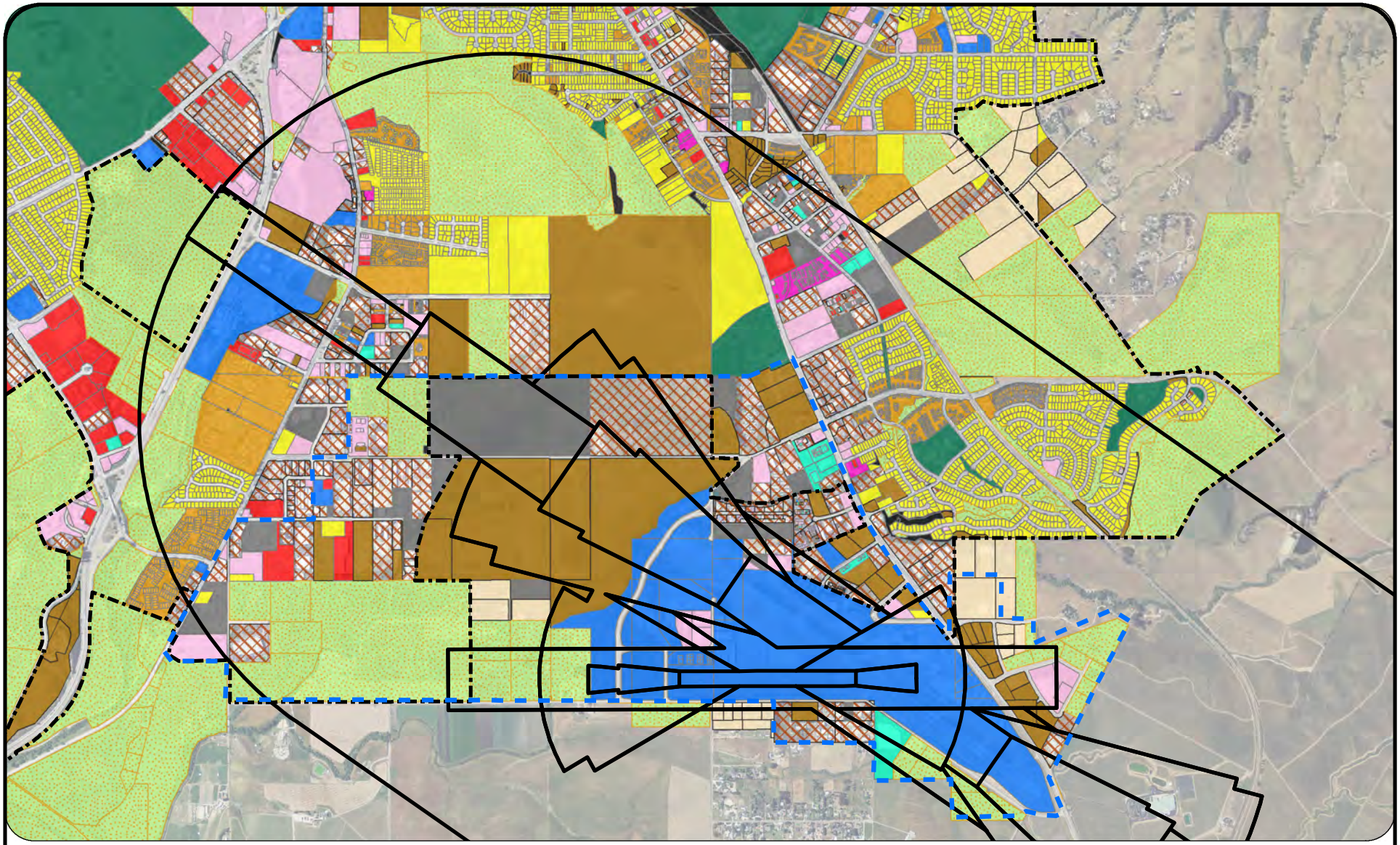
> The County designates land immediately adjacent to the Airport as either Commercial Service or Industrial. One parcel at the intersection of SR 227 and Aero Drive is designated Commercial Retail and land to the northwest is designated Recreation.
>
> Existing land use is generally consistent with the land use designations. Development directly north of the Airport, on either side of Tank Farm Road, is light industrial, commercial, and residential, including a mobile home park. Development east of the Airport along SR 227 includes commercial/light industrial businesses, as well as a winery and vineyard, single family residences, a church, and a driving range. Much of the land to the south is undeveloped, but is being farmed; developed areas include industrial and commercial uses south of Buckley Road, with single-family residences extending from Thread Lane to Davenport Creek Road. Agricultural activities such as row crops and light agricultural businesses also occur along Buckley Road. Development to the west includes light industrial activities, commercial businesses, as well as some farming along Santa Fe Road.
>
> Although SBP is currently under the County's jurisdiction, the Airport vicinity lies within the City of San Luis Obispo Urban Reserve Area. The City has identified this area for future urban expansion as described in the AASP.
>
> Besides designating the Airport and County-owned properties as Public, the AASP designates land immediately to the southeast and southwest as Services and Manufacturing, and a small parcel to the southeast as Open Space. Land to the northeast is designated Services and Manufacturing Business Park. The Chevron Tank Farm property is designated Open Space and a small amount of property to the northwest is designated Agriculture. The AASP does not designate any additional land for development. The City's next step will be to rezone the land within its jurisdiction and pre-zone unincorporated properties.

Figure 8-1 depicts the existing zoning around SBP, and *Figure 8-2* depicts existing land use. *Table 8-1* summarizes the City's general land use policies around SBP.

Existing Zoning

Figure 8-1





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city of san luis obispo

Figure 8-2

Existing Land Uses

Table 8-1 - City of San Luis Obispo - Airport Zoning and Land Use Policy

Airport Site:	**Land Use Jurisdictions:**
340 acres of land	County of San Luis Obispo
3.5 miles south of City of San Luis Obispo	City of San Luis Obispo
Terrain:	**Community Plans:**
The County is bisected by the Santa Lucia Mountain Range. The Airport is located on a relatively flat alluvial plain with few visually significant natural features. The area provides sweeping views of the rural and agricultural open space and distinctive peaks and ridgelines. Local climate is mild year-round with a dense fog along the coast and more dramatic temperature variations inland.	Economic Benefits Analysis (2003) Economic Development Strategic Plan (2012) San Luis Obispo General Plan (2010) Airport Area Specific Plan (AASP) (2005) Margarita Area Specific Plan (MASP) (Amended 2012) Orcutt Area Specific Plan (OASP) (2010)
Existing Airport Area Land Uses & Zoning: Commercial Service & Retail; Industrial; Recreation; Residential; Agriculture; Vineyards; Church; Open Space C/OS - Conservation/Open Space R-1 - Low-density Residential R-2 - Medium-density Residential BP - Business Park C-S - Service Commercial M - Industrial (Manufacturing) PF - Public Facility C-C - Community Commercial	**Planned Airport Area Land Uses:** AASP - 23% Open Space; 32% Service & Manufacturing; 24% Government; 15% Business Park; 1% Residential MASP - 44% Open Space; 17% Residential; 17% Business Park; 3% Neighborhood Commercial and Parks OASP - 48% Residential; 33% Open Space; 1% Community Commercial/Mixed-Use

Airport Compatibility Measures:

Land use and development should be consistent with approved Airport Master Plan.

Land use and development should be consistent with SBP Airport Land Use Plan.

City intends to actively pursue annexation of airport area; County urban development shall be consistent with City development.

Annexation of airport area shall be consistent with maintaining areas outside urban reserve line in rural, predominantly open space uses.

Areas designated for urban uses, should include open areas, protect resources, and preserve wildlife corridors.

Areas designated for eventual urban development may be developed during the interim with rural residential or rural commercial uses.

Transit service linking development sites with citywide bus system should be concurrent with urban development in airport area.

Business parks may be developed in designated areas to accommodate research and development and light manufacturing. Building location and intensity standards will be provided in specific plans for each business park. The ratio of building floor area to site area shall not exceed 1.0.

Sources: SBP EA/EIR; SLO General Plan

8.2 Existing Land Use within ALUP Safety Zones

The Airport Land Use Commission (ALUC), as per the Airport Land Use Plan (ALUP) for SBP (amended 2005), designated the safety areas described in the paragraphs below for the purposes of land use planning around SBP. These zones are graphically depicted in *Figure 8-3.* The densities allowed in these zones as well as the most stringent allowed and prohibited land uses in these zones are summarized in *Table 8-2*.

Runway Protection Zones– Areas immediately adjacent to the ends of each active runway, within which the level of aviation safety risk is very high and in which, consequently, structures are prohibited and human activities are restricted to those which require only very low levels of occupancy. The size and configuration of the Runway Protection Zones are specified by Federal Aviation Regulations. The Runway Protection Zones are also referred to as the "clear zones" for each runway.

Safety Area S-1– The area, as designated in *Figure 8-3*, within the vicinity of which aircraft operate frequently or in conditions of reduced visibility at altitudes of 500 feet above ground level (AGL).

Safety Area S-2– The area, as designated in *Figure 8-3*, within the vicinity of which aircraft operate frequently or in conditions of reduced visibility at altitudes between 501 and 1000 feet AGL. Aviation safety hazards to be considered in this area include mechanical failures, fuel exhaustion, loss of control during turns from downwind to base legs or from base to final legs of the traffic pattern, stall/spin incidents during engine-out maneuvers in twin engine aircraft, and midair collisions. Operational factors of concern include circle-to land instrument approaches south of Runway 11-29, extensive 'pattern work' by student pilots in fixed-wing aircraft (predominantly, but not exclusively to the south and west of the airport), and extensive practice flight by students in rotary-wing aircraft to the north of the airport. Nonetheless, because aircraft in Area S-2 are at greater altitude and are less densely concentrated than in other portions of the Airport Planning Area, the overall level of aviation safety risk is considered to be lower than that in Area S-1 or the Runway Protection Zones.

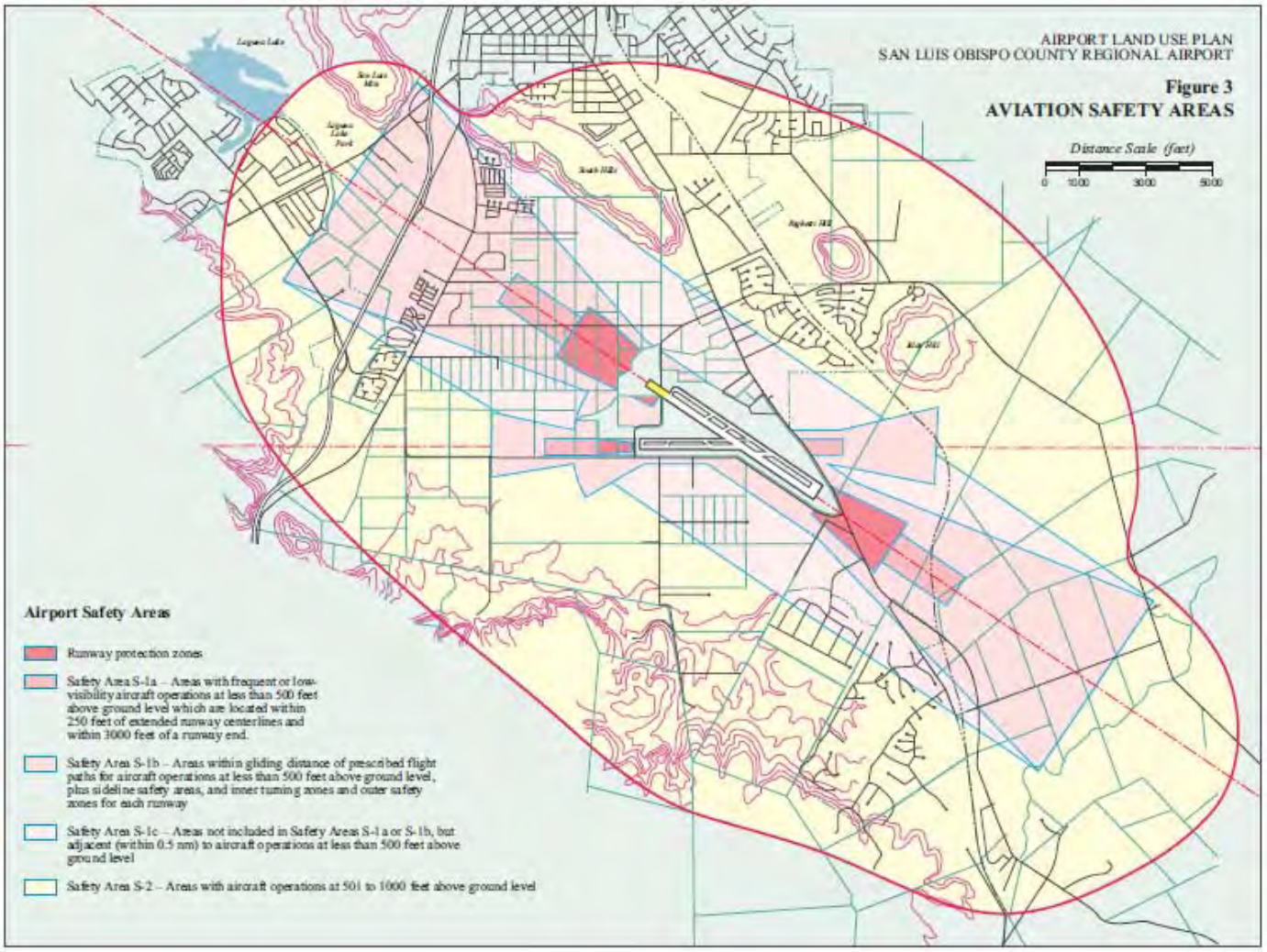
Safety Area S-1a– Those portions of Safety Area S-1 which are located within 500 feet of the extended runway centerline of Runway 11-29 and within 5,000 feet of an existing or planned runway end or which are within 250 feet of the extended runway centerline of Runway 7-25 and within 3,000 feet of the runway end.

Safety Area S-1b– Those portions of Safety Area S-1 which are not included in Safety Area S-1a, but are within probable gliding distance for aircraft on expected approach or departure courses; also includes State-defined sideline safety areas, inner turning zones and outer safety zones for both Runway 11-29 and Runway 7-25 and portions of existing Airport Land Use Zone 3. Aviation safety hazards to be particularly considered in this area include mechanical failures, fuel exhaustion, deviation from glideslope or MDA during IFR operations (due to pilot error or equipment malfunction), loss of control during short approach procedures, stall/spin incidents during engine-out maneuvers in multi-engine aircraft, loss of control during "go around" or missed approach procedures, and midair collisions.

Safety Area S-1c– Those portions of Safety Area S-1 which are not included in Safety Areas S-1a or S-1b, but are adjacent to (within 0.5 nm) frequent or low-visibility aircraft operations at less than 500 feet above ground level. Aviation safety hazards to be considered in this area include mechanical failures, deviation from localizer or VOR during IFR operations (due to pilot error or

equipment malfunction), stall/spin incidents during engine-out maneuvers in multi-engine aircraft, loss of control during 'go around' or missed approach procedures, and loss of visual references by aircraft performing circle-to-land procedures.

Figure 8-3 – Existing ALUP Safety Zones



Source: SBP Airport Land Use Plan

Table 8-2 - Existing ALUP Safety Zone Density Criteria

Zone	Maximum Densities: Non-residential (persons/acre)[1]	Maximum Densities: Residential (dwelling units/acre)[1]	Prohibited Uses	Allowed Development
Runway Protection Zone	0-5 compatible	0 compatible	**All uses prohibited** except: animal raising and keeping, crop production (except staked crops), grazing, outdoor sports and recreation, rural recreation and picnicking (no camping), above-ground pipelines (non-flammable liquids).	Animal raising and keeping. Crop production (except staked crops), grazing. Outdoor sports and recreation, rural recreation and picnicking (no camping). Above-ground pipelines (non-flammable liquids).
S-1 - Frequent ops or ops in reduced visibility (500 ft AGL).				
S-1a - Within 500 ft of extended runway centerline and 5,000 ft of runway end for Runway 11-29; 300ft and 3,000 ft respectively for RWY 7-25.	0-30 compatible; 40< incompatible	0-0.2 compatible; 0.2< incompatible	Vineyards and staked crops. Amusement parks, fairgrounds. Daycare facilities for children or adults. Convention/exhibit centers, auditoriums. Schools (pre-school to high school). Sports stadiums, racetracks, temporary events. Hazardous corrosive, or flammable chemicals, electrical generating plants, petroleum refining or bulk storage. Nursing, residential and personal care facilities. Petroleum extraction. Retail sales (fuels, lubricants, propane, etc.). Hospitals (acute or convalescent). Airfields, landing strips, heliports, helipads. High voltage transmission lines, above-ground pipelines (flammable liquids).	Animal raising and keeping. Crop production (except staked crops), grazing. Antennas, repeater stations. Cemeteries, mausoleums, columbariums. Outdoor sports and recreation, rural recreation and picnicking (no camping). Above-ground pipelines (non-flammable liquids) [2]
S-1b - Within gliding distance of app/dep aircraft, safety areas, inner turning zones, and outer safety zones.	0-40 compatible; 50< incompatible	0-0.2 compatible; 0.2< incompatible	Amusement parks, fairgrounds. Daycare facilities for children or adults. Convention/exhibit centers, auditoriums. Schools (pre-school to high school). Sports stadiums, racetracks, temporary events. Hazardous corrosive, or flammable chemicals, electrical generating plants, petroleum refining or bulk storage. Nursing, residential and personal care facilities. Petroleum extraction. Retail sales (fuels, lubricants, propane, etc.). Hospitals (acute or convalescent). Airfields, landing strips, heliports, helipads. High voltage transmission lines, above-ground pipelines (flammable liquids).	Animal raising and keeping. Crop production, vineyards and other staked crops. Antennas, repeater stations. Cemeteries, mausoleums, columbariums. Outdoor sports and recreation, rural recreation and picnicking (no camping). Above-ground pipelines (non-flammable liquids). [2]
S-1c - Within 0.5nm or frequent or low-visibility aircraft ops at less than 500 ft AGL.	0-50 compatible; 120< incompatible	0-0.2 compatible; 0.2< incompatible	Uses prohibited in Zone S-1b	Uses allowed in Zone S-1b
S-2 - Frequent ops or ops in reduced visibility (501-1,000 ft AGL).	0-150 compatible	0-6 compatible	Amusement parks, fairgrounds.	Uses allowed in Zone S-1b

[1/]Other densities (between compatible and incompatible thresholds) may be allowed if certain requirements are met as per the SBP ALUP.

[2/]Other uses may be allowed if certain requirements are met as per the ABP ALUP.

Source: SBP ALUP

Since the completion of the SBP Master Plan Update (adopted 2005) the ALUC released a draft document titled: Dimensional Detail of Airport Safety Zones (2013) to reflect changes in safety zones based on proposed changes to the runways at SBP as specified in the Master Plan Update (*Table 8-3*). *Table 8-4* compares the revisions made to the ALUP safety zones with the safety zones recommended by the California Airport Land Use Planning Handbook. Revisions made to the ALUP safety zones do not affect allowed densities or land uses as described in *Table 8-2*.

Table 8-3 – Modifications to Runways at SBP

	Completed Modifications	Planned (Potential) Modifications
Runway 11	• Pavement length has been extended 800 feet to the northwest • Runway threshold has been displaced 800 feet from end of runway	• ILS glideslope to be relocated 600 feet to the northwest • Runway threshold to be relocated 800 feet to the northwest (to end of pavement)
Runway 29	• Pavement length has been extended 500 feet to the southeast • Runway threshold has been displaced 500 feet from end of runway	
Runway 7		• Runway length to be extended 500 feet to the east • Runway width to be narrowed from 100 feet to 60 feet
Runway 25	• Runway length has been reduced by 760 feet • Runway threshold has been moved 760 feet to the east (to current end of pavement)	• Runway width to be narrowed from 100 feet to 60 feet

Source: Draft Dimensional Detail of Airport Safety Zones (January, 2013)

Table 8-4 – Comparison of Revised ALUP Safety Zones to Caltrans Recommended Safety Zones

SLO ALUP Zones (Draft Dimensional Document, Jan. 2013)		Caltrans Handbook Zones	
Designation	**Size**	**Designation**	**Size**
Runway Protection Zone	FAA standard dimensions	Zone 1 – Runway Protection Zone	FAA standard dimensions
S-1a	1,000' wide and 5,800' beyond RWY 11 end	Zone 2 – Inner approach/departure	1,500' wide and 6,000' beyond runway end
S-1b Inner turning	6,000' at 20° arc from runway centerline	Zone 3 – Inner turning	6,000' at 20° arc from runway centerline
S-1b Outer app/dep (references Handbook)	500' wide either side of runway centerline extended and 4,000' beyond Zone 2	Zone 4 – Outer approach/departure	500' wide either side of runway centerline extended and 4,000' beyond Zone 2
S-1b Maneuvering Area	**See Table 8-5** – wide trapezoidal area around outer app/dep area	No equivalent	No equivalent
S-1b Sideline Zones (references Handbook)	1,000' either side of runway centerline	Zone 5 – Sideline	1,000' either side of runway centerline
S-1c	3,038.1' (1/2 nautical mile) either side of runway and 22,382' long	No equivalent	No equivalent
S-2	10,000' either side of runway and 10,000' arc beyond runway end	Zone 6 – Traffic pattern	6,000' either side of runway and 10,000' arc beyond runway end

Table 8-5 – ALUP Generalized Configuration of Maneuvering Zones

	Runway 11		Runway 29		Runway 7		Runway 25	
	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2	Option 1	Option 2
Constants								
A_{gs}	3.0±0.7°	3.0±0.7°	≥3.0°	≥3.0°	3.0±0.7°	3.0±0.7°	3.0±0.7°	3.0±0.7°
W_{gs}	n/a	3.0°	n/a	5.0°	n/a	5.0°	n/a	5.0°
A_{ms}	16.32879514°	19.32879514°	21.52175368°	26.52175368°	16.32879514°	21.32879514°	16.32879514°	21.32879514°
D_a	800 ft.		500 ft.		500 ft.		500 ft.	
D_b	10370 ft.	8661 ft.	7704 ft.	6088 ft.	6076 ft.	6076 ft.	6076 ft.	6076 ft.
D_c	12449 ft.		9541 ft.		6576 ft.		6576 ft.	
D_d	600 ft.		500 ft.		500 ft.[1]		0 ft.	
W_{max}	3038 ft.		3038 ft.		1780.1 ft.	2372.5 ft.	1780.1 ft.	2372.5 ft.
Calculated values								
h	0.040164149d^2		0.052407779d^2		0.040164149d^2		0.040164149d^2	
W	0.292966*d*	0.350759*d*	0.394349*d*	0.499056*d*	0.292966*d*	0.390462*d*	0.292966*d*	0.390462*d*
2W	0.585932*d*	0.701518*d*	0.788698*d*	0.998112*d*	0.585932*d*	0.780924*d*	0.585932*d*	0.780924*d*

[1] The shape of the area to be added is not rectangular. See specific comments regarding Rwy 7
[2] *d* = Distance from touchdown zone (in feet) along extended runway centerline

Source: Draft Dimensional Detail of Airport Safety Zones (January, 2013)

To better understand the safety zones proposed in the Draft Dimensional Detail of Airport Safety Zones document and their impacts to land use around the Airport, the City's GIS department first mapped the existing 2005 ALUP Safety Zones. *Figure 8-4* depicts the GIS-mapped ALUC safety zones, as well as the safety zones recommended by the California Department of Transportation in the California Airport Land Use Planning Handbook.

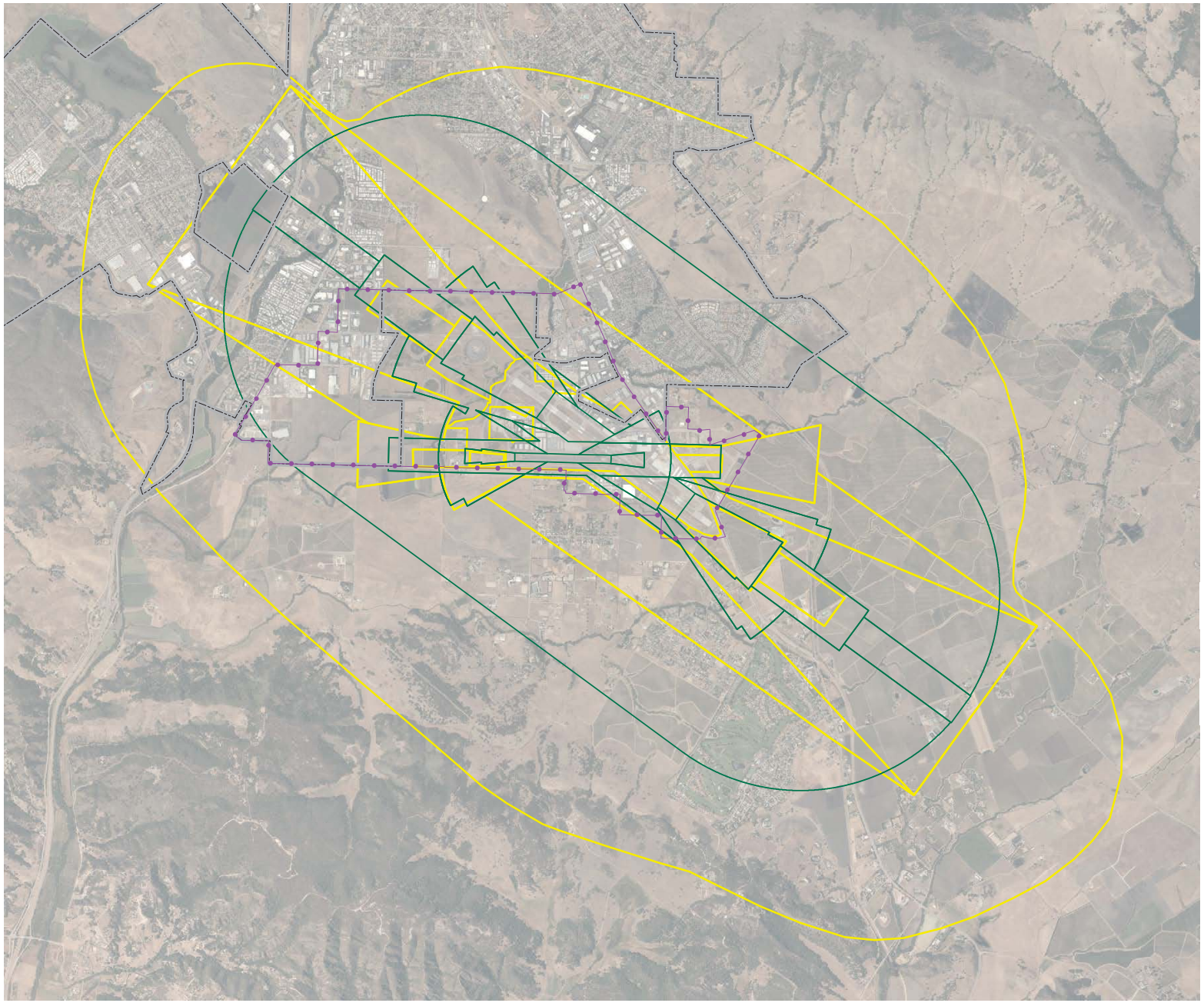
There is substantial agreement between the City and the ALUC as to significant portions of the GIS-mapped ALUC safety zones as defined and depicted in the Draft Dimensional Document (January 2013), including the size, configuration and land use criteria for the following:

1. Runway Protection Zones (ultimate planned locations based on the FAA-Approved Airport Layout Plan).
2. S-1a Inner Approach/Departure Zones.
3. S-1b Inner Turning Zones.
4. S-1b Outer Approach/Departure Zones.
5. S-1b Sideline Zones.

The following safety zones created by the ALUC are more restrictive than California Airport Land Use Planning Handbook guidelines and criteria, however, appropriate justification has not been provided by the ALUC or within the ALUP to warrant such safety zones or the restrictions placed within them:

1. Maneuvering Zone S-1b size and land use criteria.
2. Sideline Zone S-1c size and land use criteria.
3. Zone S-2 size and land use criteria.

Figure 8-4 - GIS-Mapped ALUN Safety Zones Compared to Handbook Safety Zones



Comparison of Airport Safety Areas

Handbook Zones (HBZ) were created using dimensions on CA Airport Land Use Palnning Handbook.

Dimensional Document Zones (DDZ) were created using dimensions on Dimensional Details of Airport Safety Areas by Dr. Tefft.

Existing ALUP Zones (EAZ) were created by georeferencing the Figure 3 in the current Airport Land Use Plan.

Noise levels for 2023 and 2004 are 75 dB (most inner), 70 dB, 65 dB, and 60 dB.

Legend

- Noise Level-2023
- Noise Level-2004
- Noise Level-ALUP
- AASP Boundary
- City Limit
- DDZ exceeding HBZ
- Maneuvering Zones not in HBZ
- Handbook Zones
- Dimensional Document Zones
- Existing ALUP Zones

General Plan Zones

- Agriculture
- Airport Property
- Business Park
- Commercial
- Industrial/Manufacturing
- Office
- Open Space
- Public Facilities
- Recreation
- Residential
- Rural Lands
- Rural Residential
- Suburban Residential

N W E S

0 5,000 10,000 Feet

SLOGIS 20130207

9 RECOMMENDATIONS

This section provides recommendations for the City of San Luis Obispo to consider during its deliberations with the San Luis Obispo County ALUC regarding the airport land use guidelines to include in the City's LUCE of its General Plan Amendment. The recommendations are based on the facts and substantial information that has been reviewed and assembled within this report.

Generally, there is agreement between the City and the ALUC as to significant portions of the GIS-mapped ALUP safety zones as depicted and described in the Draft Dimensional Document (January 2013) provided by the ALUC. All ALUC safety zone references in these recommendations refer to those safety zones depicted and described by the ALUC in the Draft Dimensional Document (January 2013). The City also supports the long term development of SBP airport facilities as depicted in the FAA-approved ALP dated November 4, 2010. However, there are a few discrepancies in the ALUP that must be resolved as they have a direct impact on the City's ability to set reasonable land use planning guidelines for land within the City's jurisdiction.

RECOMMENDATIONS

Recommendation 1: The City should continue to entertain discussions with the County to annex the Airport Area Specific Plan (AASP) area.

Recommendation 2: The City should use the SBP Master Plan forecasts of aviation activity as a reasonably foreseeable projection of ultimate aviation activity sufficient for long-term land use planning purposes, without regard for the date of 2023 because it is uncertain when the forecast levels of activity will be reached and to be consistent with the capital improvement plan for the Airport.

Recommendation 3: The City should use the aircraft noise analysis prepared for the SBP EA/EIR as an accurate mapping of the long term noise impact of the Airport's aviation activity that is tied to the ultimate facilities development depicted in the FAA-approved ALP and the operational characteristics studied in the EA/EIR.

Recommendation 4: The City should continue working with the ALUC to resolve differences between specific ALUP safety zone configurations, sizes and land use criteria including the following specific recommendations for areas within the City limits:

1. Adopt the GIS-mapped versions of the ALUP Runway Protection Zones (ultimate planned locations based on the FAA-Approved ALP).
2. Adopt the GIS-mapped versions of the ALUP S-1a Inner Approach/Departure Zones.
3. Adopt the GIS-mapped versions of the ALUP S-1b Inner Turning Zones.
4. Adopt the GIS-mapped versions of the ALUP S-1b Outer Approach/Departure Zones.
5. Adopt the GIS-mapped versions of the ALUP S-1b Sideline Zones.
6. Eliminate ALUP Maneuvering Zone S-1b due to the fact that its size, configuration and land use criteria are inconsistent with California Airport Land Use Planning Handbook guidelines and criteria, i.e. there is no such equivalent zone in the Handbook. This zone is also unsubstantiated by the airport's activity forecasts as used for noise planning purposes, historical accident data at SBP, or safety zone adjustment factors as described in Table 3A of the Handbook.
7. Eliminate ALUP Sideline Zone S-1c due to the fact that its size, configuration and land use criteria are more restrictive than California Airport Land Use Planning Handbook guidelines and criteria,

i.e. there is no such equivalent zone in the Handbook. This zone is also unsubstantiated by the airport's activity forecasts as used for noise planning purposes, historical accident data at SBP, or safety zone adjustment factors as described in Table 3A of the Handbook. .

8. Revise ALUP Zone S-2 size, configuration and land use criteria to be consistent with Zone 6 – Traffic Pattern of the California Airport Land Use Planning Handbook guidelines and criteria.
9. Adopt Title 14 Code of Federal Regulations Part 77 surfaces for the safe, efficient use and preservation of navigable airspace as applied to the ultimate ALP for SBP.

Recommendation 5: Land use density and intensity surrounding SBP should be simplified and consistent with Caltrans Airport Land use Planning Handbook guidelines. Recommended safety zone density criteria for SBP are provided in *Table 9-1*.

Recommendation 6: The City should preserve and maintain as a plausible alternative its constitutional land use authority to overrule the ALUC with regard to adopting an amendment to its General Plan LUCE that is consistent with the Handbook, State Aeronautics Act and State Law, but only if agreement cannot be reached with the ALUC.

Table 9-1 - Recommended Density and Land Use Surrounding SBP

	Maximum Densities/Intensities (Urban)					
Zone	Non-residential (persons/acre)[1]	Residential (dwelling units/acre)[1]	Maximum Single Acre (persons/acre)	Required Open Land	Prohibited Uses	Normally Allow
1 - RPZ and ROFA adjacent to rnwy (Equivalent to RPZ in ALUP)	0[1]	0	0	All undeveloped land clear of objects.	All new structures and residential land uses.	None
2 - Inner app/dep zone (Equivalent to S-1a Zone in ALUP)	60-80[3]	0	120-160[3]	30%	Theatres, meeting halls and other assembly uses. Office buildings greater than 3 stories. Labor-intensive industrial uses. Children's schools, large dacare centers, hospitals, nursing homes. Stadiums, group recreational uses. Hazardous uses (e.g. aboveground bulk fuel storage).	Agriculture (non-group recreational uses). Low-hazard naterials storage, warehouses. Low-intensity light industrial uses (auto, aircraft marine repair services).[2]
3 - Inner turning zone (Equivalent to S-1b Inner Turning Zone in ALUP)	100-150[3]	Allow infill at up to average density/intensity of surrounding residential area.[3]	300-450[3]	20%	Major shopping centers, theaters, metting halls, and other assembly facilities. Children's schools, large daycare centers, hospitals, nursing homes. Stadiums, group recreational uses.	Uses allowed in Zone 2. Greenhouses, low-hazard materials storage, mini-storage, warehouses. Light industrial, vehicle repair services. [2]
4 - Outer app/dep zone (Equivalent to S-1b Outer Approach and Departure Zone in ALUP)	150-200[3]	Allow infill up to average density/intensity of surrounding uses.[3]	450-600[3]	20%	Children's schools, large daycare centers, hospitals, nursing homes. Stadiums, group recreational uses.	Uses allowed in Zone 3. Restaurants, retail, industrial. [2]
5 - Sideline zone (Equivalent to S-1b - Sideline Zone in ALUP)	100-150[3]	Allow infill at up to average density/intensity of surrounding residential area.[3]	300-450[3]	30%	Stadiums, group recreational uses. Children't schools, large daycare centers, hospitals, nursing homes.	Uses allowed in Zone 4 (subject to height limitations for airspace protection). All common aviation-related activities provided FAA height-limit criteria are met. [2]
6 - Traffic pattern zone (Equivalent to S-2 Zone in ALUP)	No limit.[4]	No limit.[5]	No limit. [4]	10%	None	Residential uses (however, noise and overflight impacts should be considered where ambient noise levels are low). [2]

[1/]Exceptions can be permitted for agricultural activities, roads, and automobile parking provided that FAA criteria are satisfied.

[2/]Other limited uses may be allowed.

[3/] In Dense Urban allow infill at up to average density/intensity of comparable surrounding uses.

[4/] Large stadiums and similar uses should be avoided.

[5/] Noise and overflight should be considered.

Source: California Airport Land Use Planning Handbook

Appendix A, *Handbook Safety Zone Adjustment Factors*

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TABLE 3A: SAFETY ZONE ADJUSTMENT FACTORS (AIRPORT OPERATIONAL VARIABLES)

The generic sets of compatibility zones shown in Figures 3A and 3B may need to be adjusted to take into account various operational characteristics of a particular airport runway. Among these characteristics are the following:

- Instrument Approach Procedure s—At least within the final two to three miles, which are of greatest interest for compatibility planning, the flight paths associated with precision instrument approach procedures are highly standardized. Other types of instrument approach procedures are less uniform, however. If such procedures are available at an airport, ALUCs should identify the flight paths associated with them and the extent to which they are used. Procedures that are regularly used should be taken into account in the configuration of safety zones (and in setting height limits for airspace protection). Types of procedures which may warrant special consideration include:
  - o Circling Approaches: Most instrument approach procedures allow aircraft to circle to land at a different runway rather than continue straight-in to a landing on the runway for which the approach is primarily designed. When airports have straight-in approaches to multiple runway ends, circling approaches are seldom necessary. However, when only one straight-in approach procedure is available and the wind direction precludes landings on that runway, aircraft may be forced to circle to land on at another runway end. Pilots must maintain sight of the runway while circling, thus turns are typically tight. Also, the minimum circling altitude is often less than the traffic pattern altitude. At airports where circling approaches are common, giving consideration to the associated risks when setting safety zone boundaries is appropriate.
  - o Non-Precision Approaches At Low Altitudes: Non-precision instrument approach procedures often involve aircraft descending to a lower altitude farther from the runway than occurs on either precision instrument or visual approaches. An altitude of 300 to 400 feet as much as two to three miles from the runway is not unusual. The safety (and noise) implications of such procedures need to be addressed at airports where they are in common use. (A need for corresponding restrictions on the heights of objects also exists along these routes.)
  - o Non-Precision Approaches Not Aligned With The Runway: Some types of non-precision approaches bring aircraft toward the runway along a path that is not aligned with the runway. In many cases, these procedures merely enable the aircraft to reach the airport vicinity at which point they then proceed to land under visual conditions. In other instances, however, transition to the runway alignment occurs close to the runway and at a low altitude.
- Other Special Flight Procedures Or Limitations—Single-sided traffic patterns represent only one type of special flight procedure or limitation that may be established at some airports. Factors such as nearby airports, high terrain, or noise- sensitive land uses may affect the size of the airport traffic pattern or otherwise dictate where and at what altitude aircraft fly when using the airport. These procedures may need to be taken into account in the design of safety compatibility zones.
- Runway Use By Special-Purpose Aircraft—In addition to special flight procedures, certain special-purpose types of aircraft often have their own particular flight procedures. Most common among these aircraft are fire attack, agricultural, and military airplanes. Helicopters also typically have their own special flight routes. The existence of these procedures needs to be investigated and, where warranted by the levels of usage, may need to be considered in the shaping of safety zones.
- Small Aircraft Using Long Runways—When small airplanes take off from long runways (especially runways in excess of 8,000 feet length), it is common practice for them to turn toward their intended direction of flight before passing over the far end of the runway. When mishaps occur, the resulting pattern of accident sites will likely be more dispersed around the runway end than is the case with shorter runways. With short runways, accident sites tend to be more tightly clustered around the runway end and along the extended runway centerline because aircraft are still following the runway heading as they begin their climb.
- Runways Used Predominantly In One Direction—Most runways are used sometimes in one direction and, at other times, in the opposite direction depending upon the direction of the wind. Even when used predominantly in one direction, a busy runway may experience a significant number of operations in the opposite direction (for example, a runway with 100,000 total annual operations, 90% of which are in one direction, will still have 10,000 annual operations in the opposite direction). Thus, in most situations, the generic safety zones—which take into account both takeoffs and landings at a runway end—are applicable. However, when the number of either takeoffs or landings at a runway end is less than approximately 2,000 per year, adjustment of the safety compatibility zones to reflect those circumstances may be warranted.
- Displaced Landing Thresholds—A displaced threshold moves the landing location of aircraft down the runway from where they would land in the absence of the displacement. The distribution pattern of landing accident sites as shown in Appendix F would thus shift a corresponding amount. The pattern of accident locations for aircraft taking off toward that end of the runway does not necessarily shift, however. Whether the runway length behind the displaced threshold is usable for takeoffs toward that end of the runway is a key factor in this regard. The appropriateness of making adjustments to safety zone locations in response to the existence of a displaced threshold needs to be examined on a case-by-case basis. The numbers of landings at and takeoffs toward the runway end in question should be considered in making this determination.

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Appendix B, *California Land Use Planning Handbook Safety Zone Criteria*

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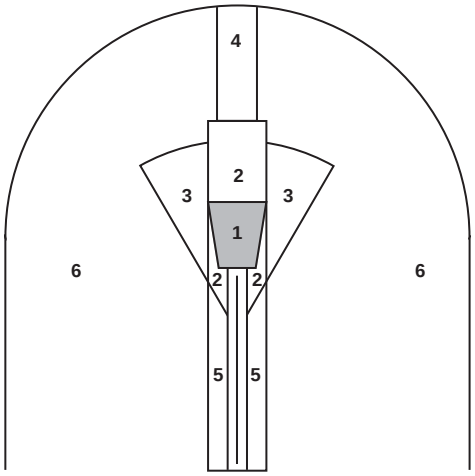
Nature of Risk

- Normal Maneuvers:
  - Aircraft on very close final approach or departure – very high risk
- Altitude
  - Less than 200 feet above runway
- Common Accident Types
  - Arrival: Downdrafts and wind gusts. Low glide paths
  - Departure: Runway overruns, aborted takeoffs and engine failures
- Risk Level
  - Very high
- Percentage of near-runway accidents in this zone: 20% - 21%

SHORT FINAL

Basic Compatibility Policies

- Normally Allow
  - None
- Limit
  - None
- Avoid
  - Nonresidential uses except if very low intensity in character and confined to the outer sides
  - Parking lots, streets, roads
- Prohibit
  - All new structures and residential land uses
- Other Factors
  - Airport ownership of property encouraged
  - Uses on airport property subject to FAA standards



Refer to Chapter 3 for dimensions.

	Maximum Residential Densities	Maximum Nonresidential Intensities	Maximum Single Acre
	Average number of dwelling units per gross acre	Average number of people per gross acre	2x the Average number of people per gross acre
Rural	0	0 – See Note A	0
Suburban	0	0 – See Note A	0
Urban	0	0 – See Note A	0
Dense Urban	0	0 – See Note A	0

Note A: Exceptions can be permitted for agricultural activities, roads, and automobile parking provided that FAA criteria are satisfied.

FIGURE 4B

Safety Zone 1 – Runway Protection Zone

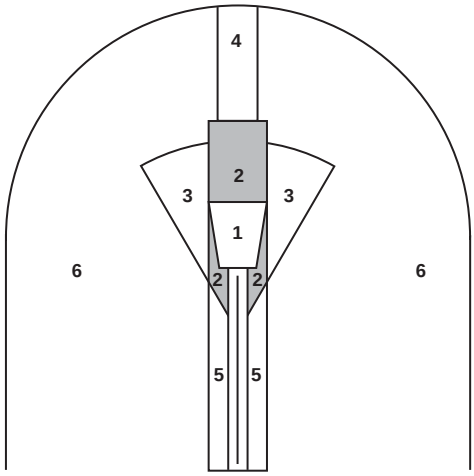
Nature of Risk

- Normal Maneuvers
  - Aircraft overflying at low altitudes on final approach and straight-out departures
- Altitude
  - Between 200 and 400 feet above runway
- Common Accident Types
  - Arrival: Similar to Zone 1, aircraft under-shooting approaches, forced short landings
  - Departure: Similar to Zone 1, emergency landing on straight-out departure
- Risk Level
  - High
  - Percentage of near-runway accidents in this zone: 8% - 22%

FINAL APPROACH

Basic Compatibility Policies

- Normally Allow
  - Agriculture; non-group recreational uses
  - Low-hazard materials storage, warehouses
  - Low-intensity light industrial uses; auto, aircraft, marine repair services
- Limit
  - Single-story office buildings
  - Nonresidential uses to activities that attract few people
- Avoid
  - All residential uses except as infill in developed areas
  - Multi-story uses; uses with high density or intensity
  - Shopping centers, most eating establishments
- Prohibit
  - Theaters, meeting halls and other assembly uses
  - Office buildings greater than 3 stories
  - Labor-intensive industrial uses
  - Children's schools, large daycare centers, hospitals, nursing homes
  - Stadiums, group recreational uses
  - Hazardous uses (e.g. aboveground bulk fuel storage)



Refer to Chapter 3 for dimensions.

	Maximum Residential Densities	Maximum Nonresidential Intensities	Maximum Single Acre
	Average number of dwelling units per gross acre	Average number of people per gross acre	2x the Average number of people per gross acre
Rural	See Note A	10 – 40	50 – 80
Suburban	1 per 10 - 20 ac.	40 – 60	80 – 120
Urban	0	60 – 80	120 – 160
Dense Urban	0	See Note B	See Note B

Note A: Maintain current zoning if less than density criteria for suburban setting.
Note B: Allow infill at up to average intensity of comparable surrounding uses.

FIGURE 4C

Safety Zone 2 – Inner Approach/Departure Zone

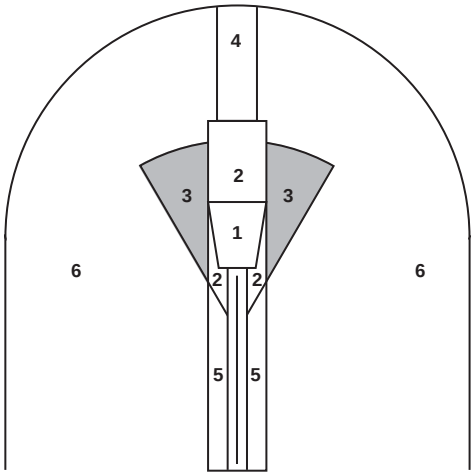
Nature of Risk

- Normal Maneuvers
  - Aircraft—especially smaller, piston-powered aircraft— turning base to final on landing approach or initiating turn to en route direction on departure
- Altitude
  - Less than 500 feet above runway, particularly on landing
- Common Accident Types
  - Arrival: Pilot overshoots turn to final and inappropriately cross controls the airplane rudder and ailerons while attempting to return to the runway alignment causing stall, spin, and uncontrolled crash
  - Departure: Mechanical failure on takeoff; low altitude gives pilot few options on emergency landing site; or, pilot attempts to return to airport and loses control during tight turn
- Risk Level
  - Moderate to high
  - Percentage of near-runway accidents in this zone: 4% - 8%

TURNING TO FINAL

Basic Compatibility Policies

- Normally Allow
  - Uses allowed in Zone 2
  - Greenhouses, low-hazard materials storage, mini-storage, warehouses
  - Light industrial, vehicle repair services
- Limit
  - Residential uses to very low densities
  - Office and other commercial uses to low intensities
- Avoid
  - Commercial and other nonresidential uses having higher usage intensities
  - Building with more than 3 aboveground habitable floors
  - Hazardous uses (e.g., aboveground bulk fuel storage)
- Prohibit
  - Major shopping centers, theaters, meeting halls and other assembly facilities
  - Children's schools, large daycare centers, hospitals, nursing homes
  - Stadiums, group recreational uses



Refer to Chapter 3 for dimensions.

	Maximum Residential Densities	Maximum Nonresidential Intensities	Maximum Single Acre
	Average number of dwelling units per gross acre	Average number of people per gross acre	3x the Average number of people per gross acre
Rural	See Note A	50 – 70	150 – 210
Suburban	1 per 2 - 5 ac.	70 – 100	210 – 300
Urban	See Note B	100 – 150	300 – 450
Dense Urban	See Note B	See Note B	See Note B

Note A: Maintain current zoning if less than density criteria for suburban setting.
Note B: Allow infill at up the average of surrounding residential area.

FIGURE 4D

Safety Zone 3 – Inner Turning Zone

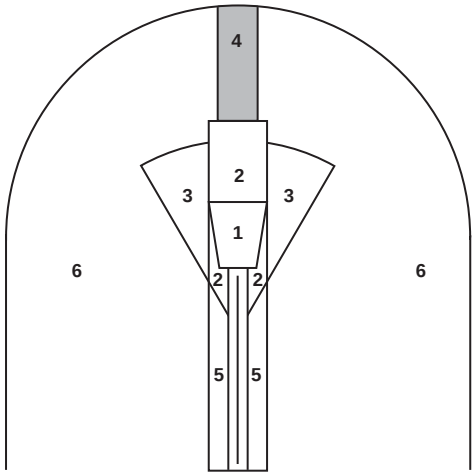
Nature of Risk

- Normal Maneuvers
  - Approaching aircraft usually at less than traffic pattern altitude. Particularly applicable for busy general aviation runways (because of elongated traffic pattern), runways with straight-in instrument approach procedures, and other runways where straight-in or straight-out flight paths are common
- Altitude
  - Less than 1,000 feet above runway
- Common Accident Types
  - Arrival: Pilot undershoots runway during an instrument approach, aircraft loses engine on approach, forced landing
  - Departure: Mechanical failure on takeoff
- Risk Level
  - Moderate
  - Percentage of near-runway accidents in this zone: 2% - 6%

LONG FINAL

Basic Compatibility Policies

- Normally Allow
  - Uses allowed in Zone 3
  - Restaurants, retail, industrial
- Limit
  - Residential uses to low density
- Avoid
  - High-intensity retail or office buildings
- Prohibit
  - Children's schools, large daycare centers, hospitals, nursing homes
  - Stadiums, group recreational uses
- Other Factors
  - Most low to moderate intensity uses are acceptable. Restrict assemblages of people
  - Consider potential airspace protection hazards of certain energy/industrial projects



Refer to Chapter 3 for dimensions.

	Maximum Residential Densities	Maximum Nonresidential Intensities	Maximum Single Acre
	Average number of dwelling units per gross acre	Average number of people per gross acre	3x the Average number of people per gross acre
Rural	See Note A	70 – 100	210 – 300
Suburban	1 per 2 - 5 ac.	100 – 150	300 – 450
Urban	See Note B	150 – 200	450 – 600
Dense Urban	See Note B	See Note B	See Note B

Note A: Maintain current zoning if less than density criteria for suburban setting.
Note B: Allow infill at up average density/intensity of comparable surrounding users.

FIGURE 4E

Safety Zone 4 – Outer Approach/Departure Zone

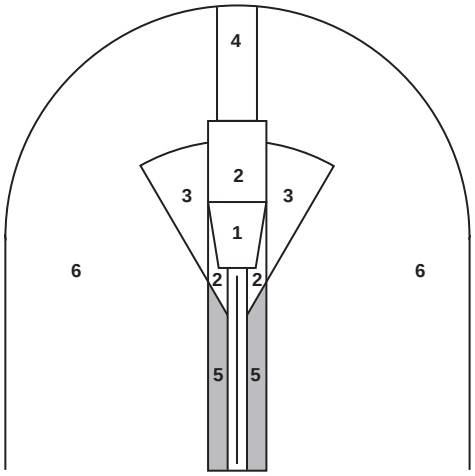
Nature of Risk

- Normal Maneuvers
  - Area not normally overflown; primary risk is with aircraft (especially twins) losing directional control on takeoff, excessive crosswind gusts or engine torque
- Altitude
  - Runway elevation
- Common accident types
  - Arrival and Departure: Aircraft losing directional control and veering off the side of the runway
- Risk Level
  - Low to moderate
  - Percentage of near-runway accidents in this zone: 3% - 5%

INITIAL LIFT-OFF OR LANDING TOUCHDOWN

Basic Compatibility Policies

- Normally Allow
  - Uses allowed in Zone 4 (subject to height limitations for airspace protection)
  - All common aviation-related activities provided that FAA height-limit criteria are met
- Limit
  - Nonresidential uses similarly to Zone 3
- Avoid
  - Residential uses unless airport related (noise usually also a factor)
  - High-intensity nonresidential uses
- Prohibit
  - Stadiums, group recreational uses
  - Children's schools, large daycare centers, hospitals, nursing homes



Refer to Chapter 3 for dimensions.

	Maximum Residential Densities	Maximum Nonresidential Intensities	Maximum Single Acre
	Average number of dwelling units per gross acre	Average number of people per gross acre	3x the Average number of people per gross acre
Rural	See Note A	50 – 70	150 – 210
Suburban	1 per 1 - 2 ac.	70 – 100	210 – 300
Urban	See Note B	100 – 150	300 – 450
Dense Urban	See Note B	See Note B	See Note B

Note A: Maintain current zoning if less than density criteria for suburban setting.
Note B: Allow infill at up the average of surrounding residential area.

FIGURE 4F

Safety Zone 5 – Sideline Zone

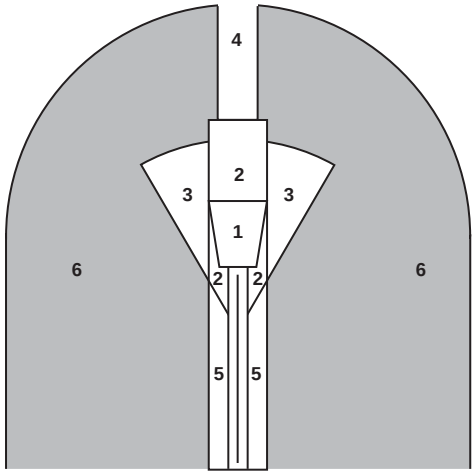
Nature of Risk

- Normal Maneuvers
  - Aircraft within a regular traffic pattern and pattern entry routes
- Altitude
  - Ranging from 1,000 to 1,500 feet above runway
- Common Accident Types
  - Arrival: Pattern accidents in proximity of airport
  - Departure: Emergency landings
- Risk Level
  - Low
  - Percentage of near-runway accidents in this zone: 18% - 29% (percentage is high because of large area encompassed)

IN TRAFFIC PATTERN

Basic Compatibility Policies

- Normally Allow
  - Residential uses (however, noise and overflight impacts should be considered where ambient noise levels are low)
- Limit
  - Children's schools, large day care centers, hospitals, and nursing homes
  - Processing and storage of bulk quantities of highly hazardous materials
- Avoid
  - Outdoor stadiums and similar uses with very high intensities
- Prohibit
  - None



Refer to Chapter 3 for dimensions.

	Maximum Residential Densities	Maximum Nonresidential Intensities	Maximum Single Acre
	Average number of dwelling units per gross acre	Average number of people per gross acre	4x the Average number of people per gross acre
Rural	No Limit – See Note A	150 – 200	600 – 800
Suburban	No Limit – See Note A	200 – 300	800 – 1,200
Urban	No Limit – See Note A	No Limit – See Note B	No Limit – See Note B
Dense Urban	No Limit – See Note A	No Limit – See Note B	No Limit – See Note B

Note A: Noise and overflight should be considered.
Note B: Large stadiums and similar uses should be avoided.

FIGURE 4G

Safety Zone 6 – Traffic Pattern Zone

Appendix C, *Instrument Approach Procedures (IAPs) and Standard Instrument Departures (SIDs) at SBP*

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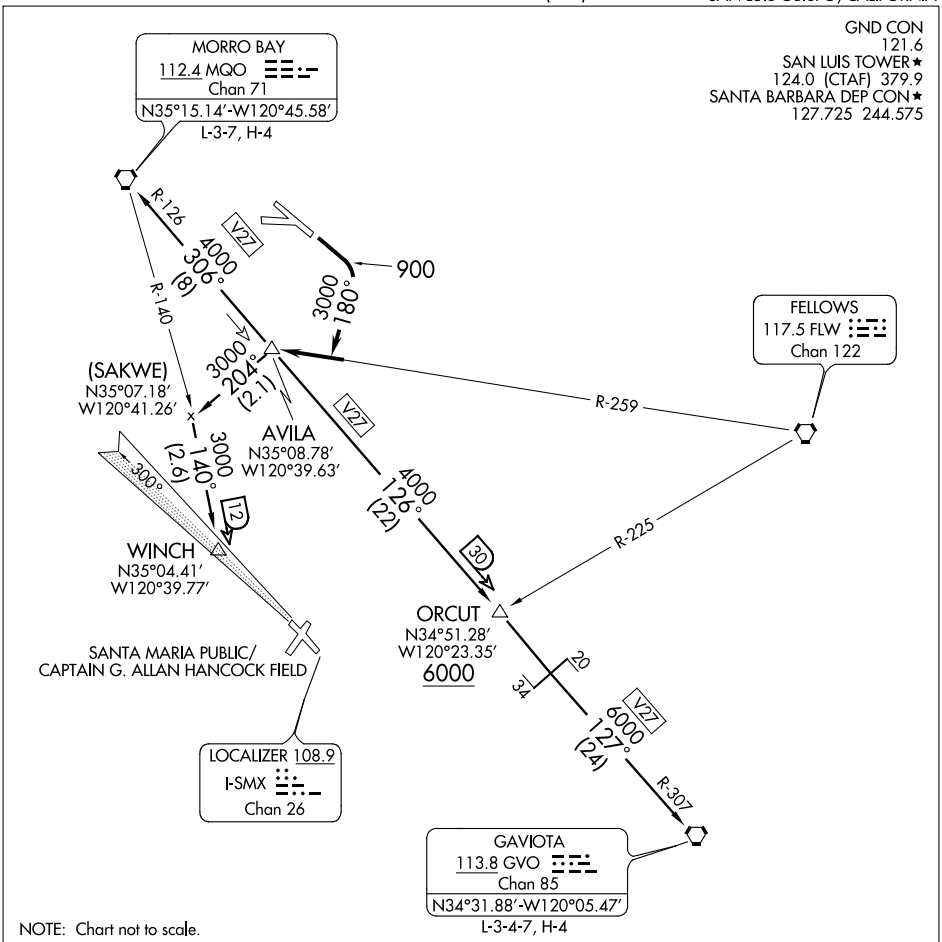
AVILA THREE DEPARTURE

SL-989 (FAA)

SAN LUIS COUNTY RGNL (SBP)
SAN LUIS OBISPO, CALIFORNIA



DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 11: Maintain runway heading to 900', then climbing right turn to 3000' or assigned altitude, heading 180° to intercept FLW R-259 to AVILA INT, then via (transition) or (assigned route).

GAVIOTA TRANSITION (AVILA3.GVO): From over AVILA INT via V27 to GVO VORTAC.

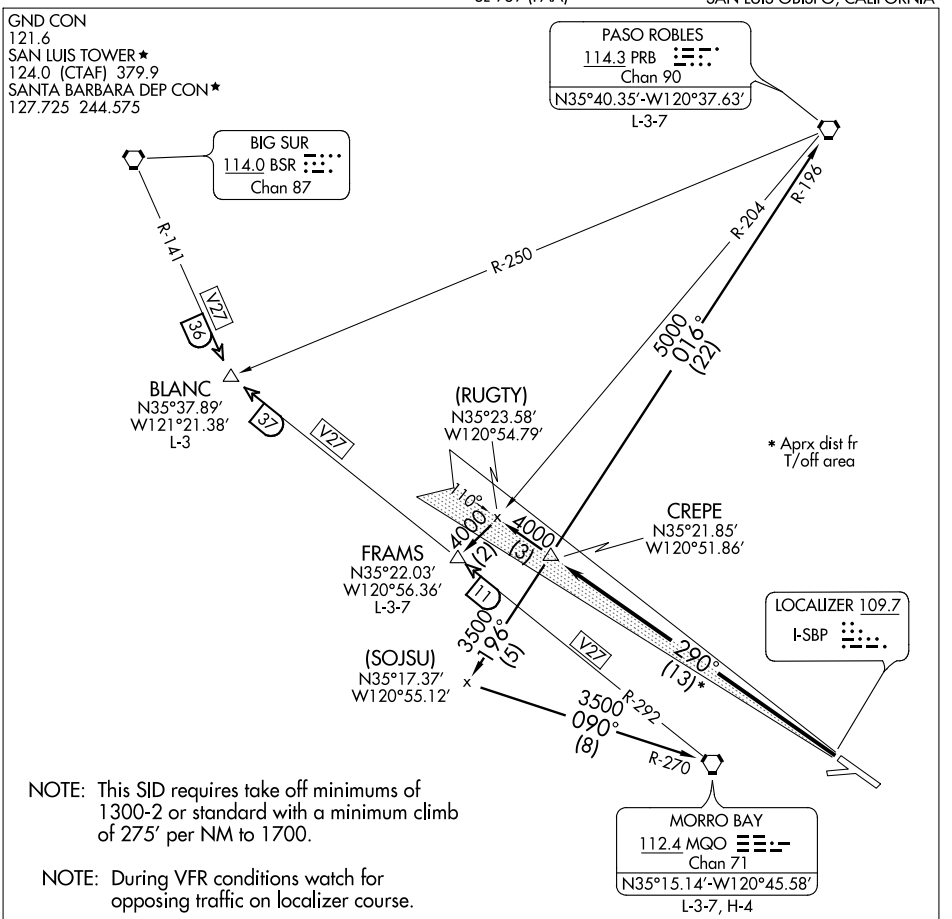
MORRO BAY TRANSITION (AVILA3.MQO): From over AVILA INT via V27 to MQO VORTAC.

WINCH TRANSITION (AVILA3.WINCH): From over AVILA INT via heading 204° 2.1 NM, to intercept MQO R-140 to WINCH INT 2.6 NM.

CREPE THREE DEPARTURE

SL-989 (FAA)

SAN LUIS COUNTY RGNL (SBP)
SAN LUIS OBISPO, CALIFORNIA



NOTE: This SID requires take off minimums of 1300-2 or standard with a minimum climb of 275' per NM to 1700.

NOTE: During VFR conditions watch for opposing traffic on localizer course.

NOTE: This procedure applicable to Runway 29 departures only.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 29: Climb via San Luis Obispo localizer I-SBP west course to CREPE INT; thence via (transition) or (assigned route).

FRAMS TRANSITION (CREPE3.FRAMS): From over CREPE INT via I-SBP LOC west course and PRB R-204 to FRAMS INT.

MORRO BAY TRANSITION (CREPE3.MQO): From over CREPE INT via PRB R-196 and MQO R-270 to MQO VORTAC.

PASO ROBLES TRANSITION (CREPE3.PRB): From over CREPE INT via PRB R-196 to PRB VORTAC.

SW-3, 04 APR 2013 to 02 MAY 2013

LOC I-SBP	APP CRS	Rwy Idg	5300
109.7	110°	THRE	168
		Apt Elev	212

LOC RWY 11

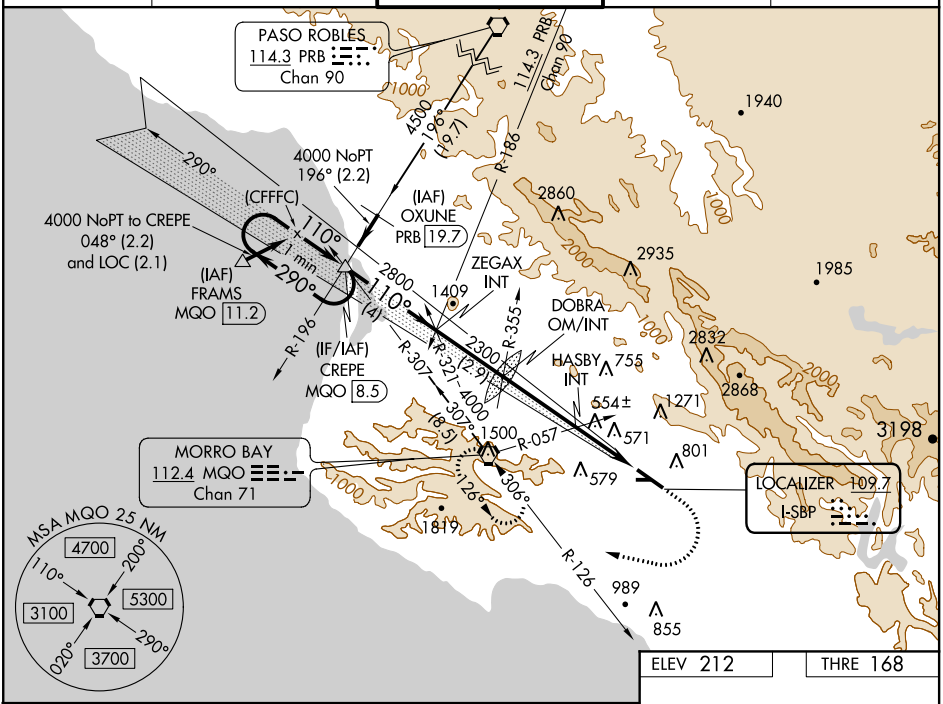
SAN LUIS COUNTY RGNL (SBP)

Circling NA north of Rwy 11-29.

MALSR

MISSED APPROACH: Climb to 1200 then climbing right turn to 3300 on heading 267° and on MQO VORTAC R-126 to MQO VORTAC and hold.

ATIS	SANTA BARBARA APP CON★	SAN LUIS TOWER★	GND CON	UNICOM
120.6	127.725 244.575	124.0 (CTAF) 379.9	121.6	122.95

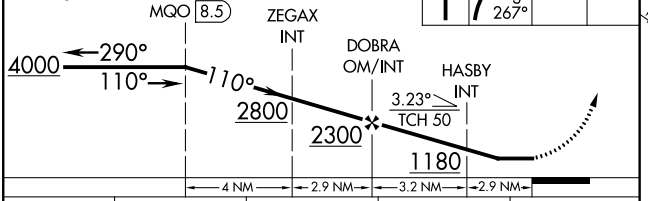


ELEV 212 THRE 168

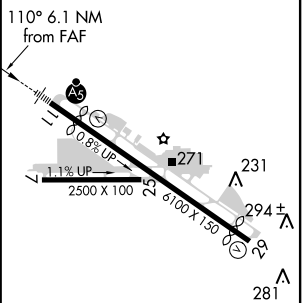
VGSI and descent angles not coincident (VGSI Angle 3.00/TCH 50).

1200	3300	MQO	MQO
	hdg 267°	R-126	

One Minute Holding Pattern



CATEGORY	A	B	C	D
S-11	1180-¾ 1012 (1000-¾)	1180-1 1012 (1000-1)	1180-2½ 1012 (1000-2½)	
CIRCLING	1180-1¼ 968 (1000-1¼)	1180-1½ 968 (1000-1½)	1180-3 968 (1000-3)	1240-3 1028 (1100-3)
HASBY INT MINIMUMS (DUAL VOR RECEIVERS REQUIRED)				
S-11	760-½ 592 (600-½)		760-1¼ 592 (600-1¼)	
CIRCLING	840-1 628 (700-1)	960-1 748 (800-1)	1160-2¾ 948 (1000-2¾)	1240-3 1028 (1100-3)



REIL Rwy 29
HIRL Rwy 11-29

FAF to MAP 6.1 NM					
Knots	60	90	120	150	180
Min:Sec	6:06	4:04	3:03	2:26	2:02

SW-3, 04 APR 2013 to 02 MAY 2013
SW-3, 04 APR 2013 to 02 MAY 2013

WAAS	APP CRS	Rwy Idg	5300
CH 50328	110°	THRE	168
W11A		Apt Elev	212

RNAV (GPS) RWY 11

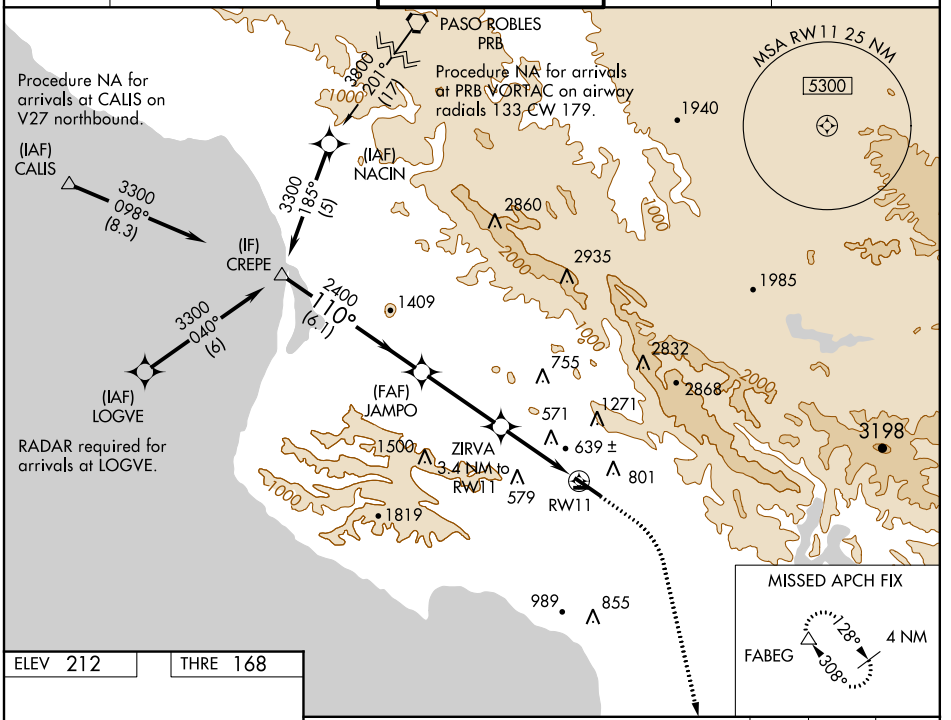
SAN LUIS COUNTY RGNL (SBP)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -15°C (5°F) or above 42°C (107°F). Circling NA north of Rwy 11-29. DME/DME RNP-0.3 NA.

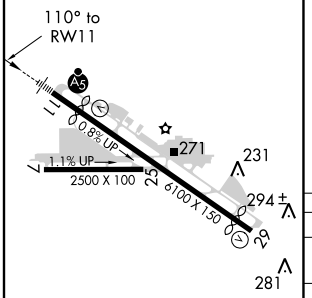
MALSR

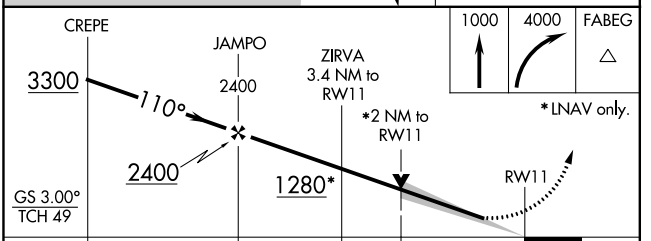
MISSED APPROACH: Climb to 1000 then climbing right turn to 4000 direct FABEG and hold.

ATIS	SANTA BARBARA APP CON★	SAN LUIS TOWER★	GND CON	UNICOM
120.6	127.725 244.575	124.0 (CTAF) 379.9	121.6	122.95



ELEV 212 | THRE 168





CATEGORY	A	B	C	D
LPV DA	368-½ 200 (200-½)			
LNAV/VNAV DA	958-2¼ 790 (800-2¼)			
LNAV MDA	860-½ 692 (700-½)		860-1½ 692 (700-1½)	
CIRCLING	860-1 648 (700-1)	960-1 748 (800-1)	1160-2¾ 948 (1000-2¾)	1240-3 1028 (1100-3)

HIRL Rwy 11-29
REIL Rwy 29

SW-3, 04 APR 2013 to 02 MAY 2013
SW-3, 04 APR 2013 to 02 MAY 2013

SAN LUIS OBISPO, CALIFORNIA

APP CRS	Rwy Idg	5600
290°	TDZE	209
	Apt Elev	209

AL-989 (FAA)

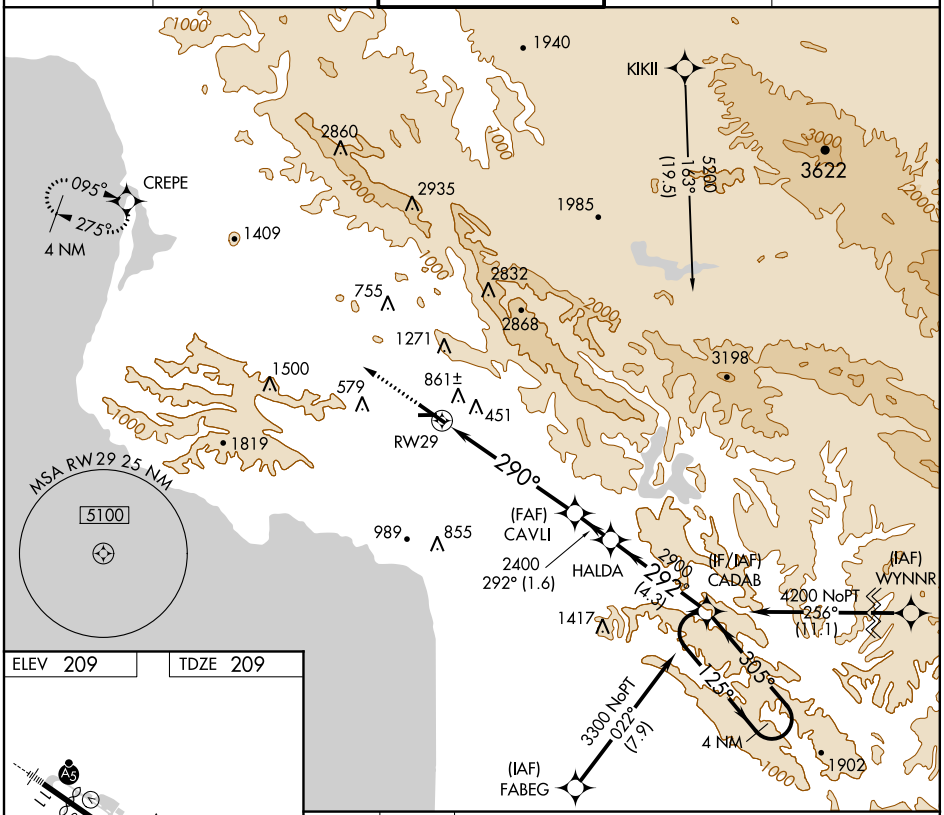
RNAV (GPS) RWY 29

SAN LUIS COUNTY RGNL (SBP)

NA — GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA. Circling NA north of Rwy 11-29.

MISSED APPROACH: Climb to 4000 via 290° course to CREPE WP and hold.

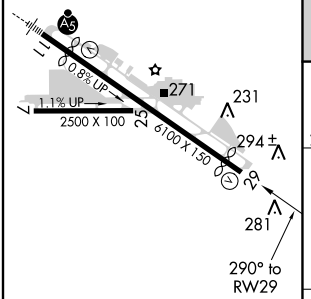
ATIS	SANTA BARBARA APP CON★	SAN LUIS TOWER★	GND CON	UNICOM
120.6	127.725 244.575	124.0 (CTAF) 379.9	121.6	122.95



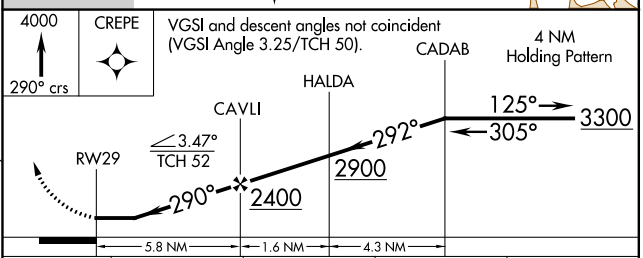
SW-3, 04 APR 2013 to 02 MAY 2013

SW-3, 04 APR 2013 to 02 MAY 2013

ELEV 209 | TDZE 209



HIRL Rwy 11-29
REIL Rwy 29



CATEGORY	A	B	C	D
LNAV MDA	1040-1 831 (900-1)	1040-1¼ 831 (900-1¼)	1040-2½ 831 (900-2½)	1040-2¾ 831 (900-2¾)
CIRCLING	1180-1¼ 971 (1000-1¼)	1180-1½ 971 (1000-1½)	1180-3 971 (1000-3)	1220-3 1011 (1100-3)

SAN LUIS OBISPO, CALIFORNIA

Orig 12152

35°14'N-120°39'W

SAN LUIS COUNTY RGNL (SBP)

RNAV (GPS) RWY 29

VORTAC MQO 112.4 Chan 71	APP CRS 084°	Rwy Idg N/A TDZE N/A Apt Elev 209

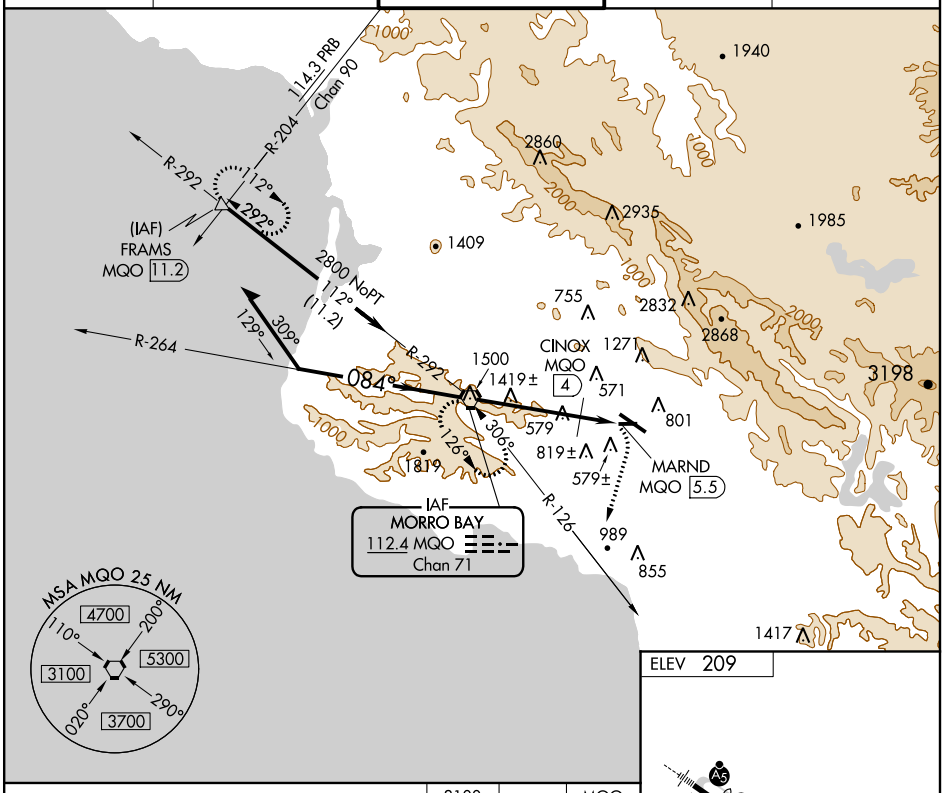
VOR or TACAN-A

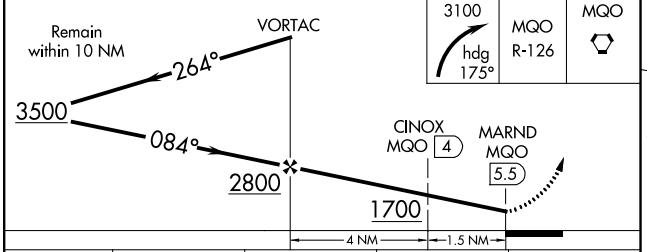
SAN LUIS COUNTY RGNL (SBP)

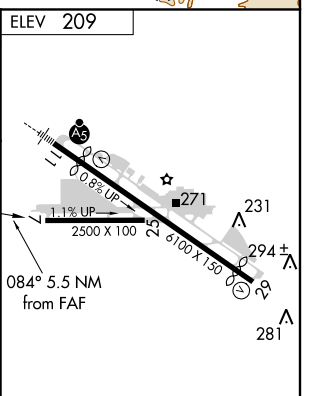
T A Circling NA north of Rwy 11-29.

MISSED APPROACH: Climbing right turn to 3100 via heading 175° and MQO R-126 to MQO VORTAC and hold. (TACAN Aircraft continue climb to 4000 via MQO R-292 to FRAMS 11.2 DME and hold east, right turns, 292° inbound.)

ATIS	SANTA BARBARA APP CON ★	SAN LUIS TOWER ★	GND CON	UNICOM
120.6	127.725 244.575	124.0 (CTAF) L 379.9	121.6	122.95







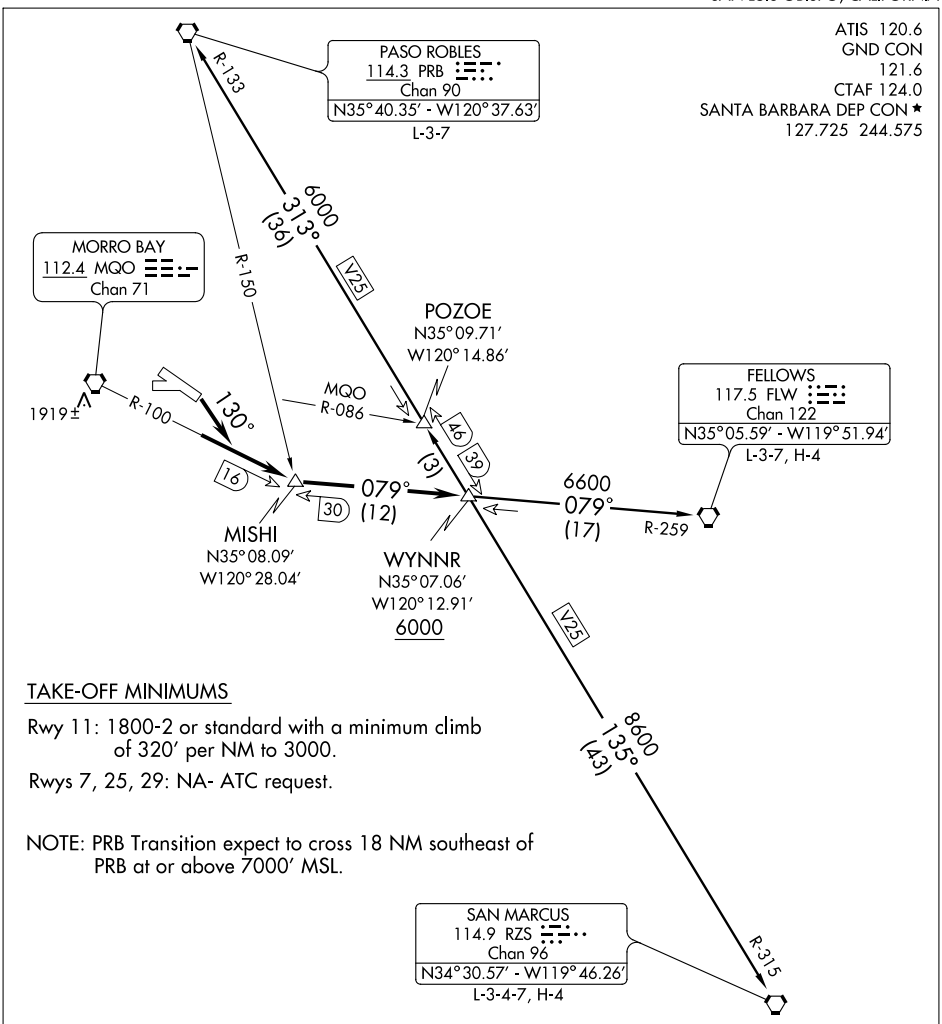
CATEGORY	A	B	C	D
CIRCLING	1700-1¼ 1491 (1500-1¼)	1700-1½ 1491 (1500-1½)	1700-3 1491 (1500-3)	
TACAN OR DME MINIMA				
CIRCLING	1120-1¼ 911 (1000-1¼)		1160-2¾ 951 (1000-2¾)	1280-3 1071 (1100-3)

HIRL Rwy 11-29
REIL Rwy 29

FAF to MAP 5.5 NM

Knots	60	90	120	150	180
Min:Sec	5:30	3:40	2:45	2:12	1:50

SW-3, 04 APR 2013 to 02 MAY 2013
SW-3, 04 APR 2013 to 02 MAY 2013



TAKE-OFF MINIMUMS

Rwy 11: 1800-2 or standard with a minimum climb of 320' per NM to 3000.

Rwys 7, 25, 29: NA- ATC request.

NOTE: PRB Transition expect to cross 18 NM southeast of PRB at or above 7000' MSL.

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 11: Turn right heading 130° to intercept and proceed via MQO R-100 to MISHI INT, then via FLW R-259 to WYNNR INT. Thence via (transition) or assigned route.

FELLOWS TRANSITION (WYNNR2.FLW): From over WYNNR INT via FLW R-259 to FLW VORTAC.

PASO ROBLES TRANSITION (WYNNR2.PRB): From over WYNNR INT via PRB R-133 to PRB VORTAC.

SAN MARCUS TRANSITION (WYNNR2.RZS): From over WYNNR INT via RZS R-315 to RZS VORTAC.

SW-3, 04 APR 2013 to 02 MAY 2013
SW-3, 04 APR 2013 to 02 MAY 2013

LOC I-SBP	APP CRS	Rwy Idg	5300
109.7	110°	THRE	168
		Apt Elev	212

ILS RWY 11

SAN LUIS COUNTY RGNL (SBP)

MALSR

MISSED APPROACH: Climb to 900 then climbing right turn to 3300 on heading 175° and on MQO VORTAC R-126 to MQO VORTAC and hold, continue climb-in-hold to 3300.

ATIS	SANTA BARBARA APP CON★	SAN LUIS TOWER★	GND CON	UNICOM
120.6	127.725 244.575	124.0 (CTAF) 379.9	121.6	122.95

PASO ROBLES
114.3 PRB
Chan 90

4000 NoPT
196° (2.2)
(IAF)
OXUNE
PRB 19.7

4000 NoPT to CREPE
048° (2.2)
and LOC (2.1)

(CFFFC)
110°
1 min
290°

(IAF)
FRAMS
MQO 11.2

2400
to
GS INTCP
110°
(6.1)

(IF/IAF)
CREPE
MQO 8.5

DOBRA
OM

MORRO BAY
112.4 MQO
Chan 71

LOCALIZER 109.7
I-SBP

MSA MQO 25 NM
4700
5300
3100
3700
110°
200°
020°
290°

When GS not used, use LOC RWY 11 procedure.

ELEV 212 | THRE 168

110° 6.1 NM
from OM

0.8% UP
1.1% UP
2500 X 100
6100 X 150

One Minute
Holding Pattern

CREPE INT
MQO 8.5

900	3300	MQO	MQO
	hdg 175°	R-126	

4000
290°
110°
110°
2400
DOBRA
OM
2186

GS 3.00°
TCH 49

6.9 NM
6.1 NM

CATEGORY	A	B	C	D
S-ILS 11	368-½	200 (200-½)		

REIL Rwy 29
HIRL Rwy 11-29

SW-3, 04 APR 2013 to 02 MAY 2013

SW-3, 04 APR 2013 to 02 MAY 2013

Appendix D, *California Airport Land Use Planning Handbook Accident Study*

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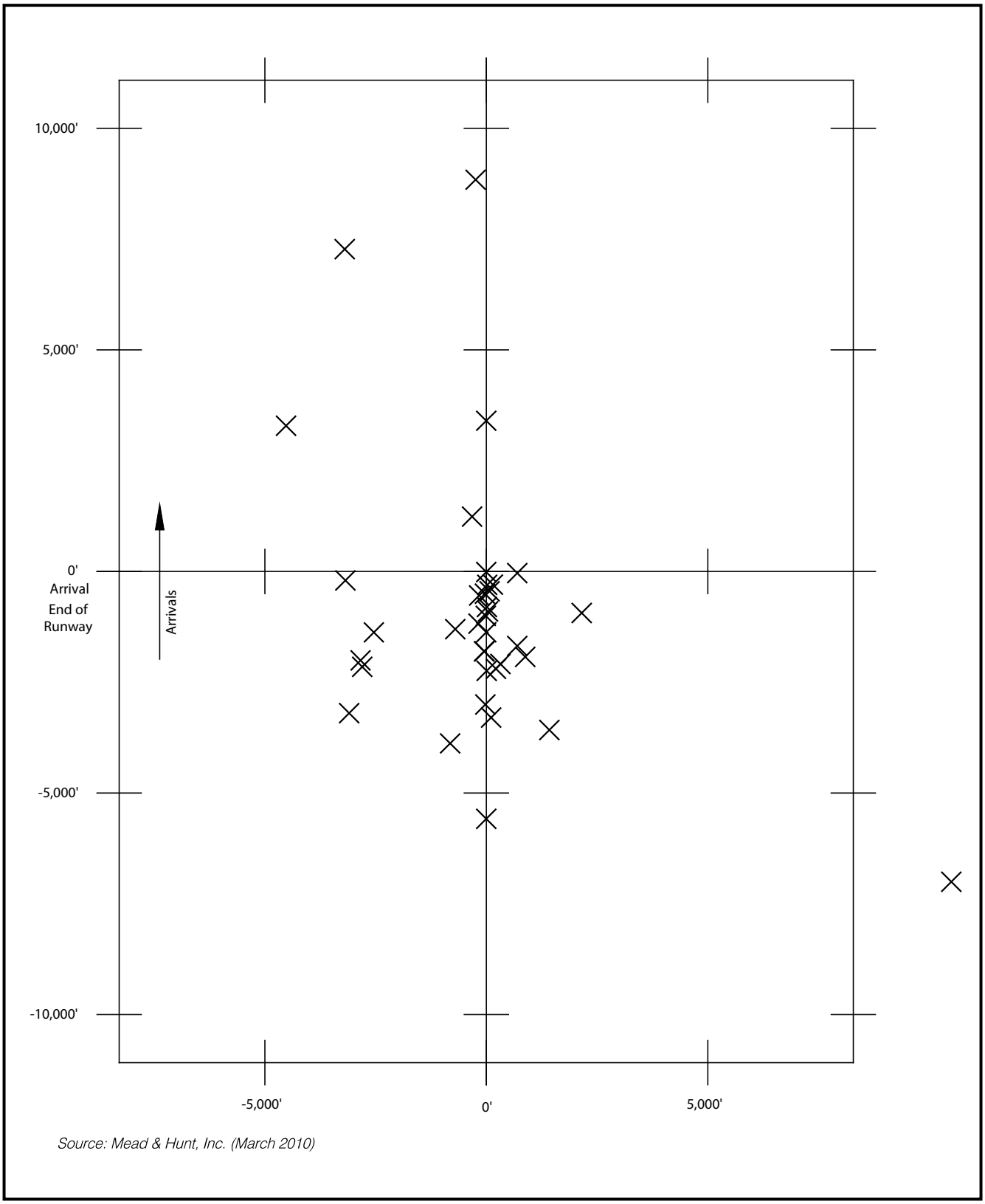

Source: Mead & Hunt, Inc. (March 2010)

FIGURE E1

All Categories – Arrival Accidents (2002 Handbook Data)

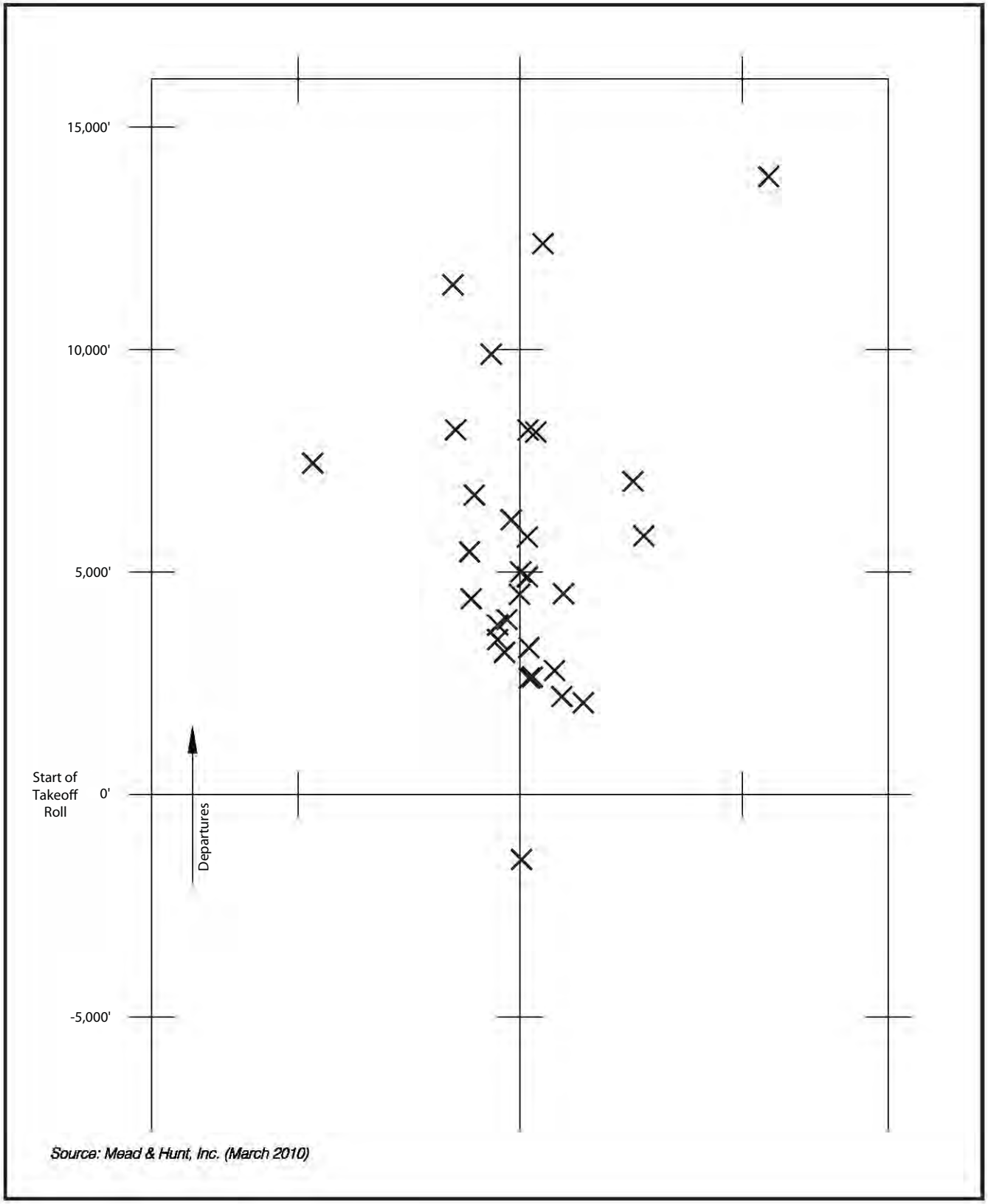

FIGURE E2

All Categories – Departure Accidents (2002 Handbook Data)

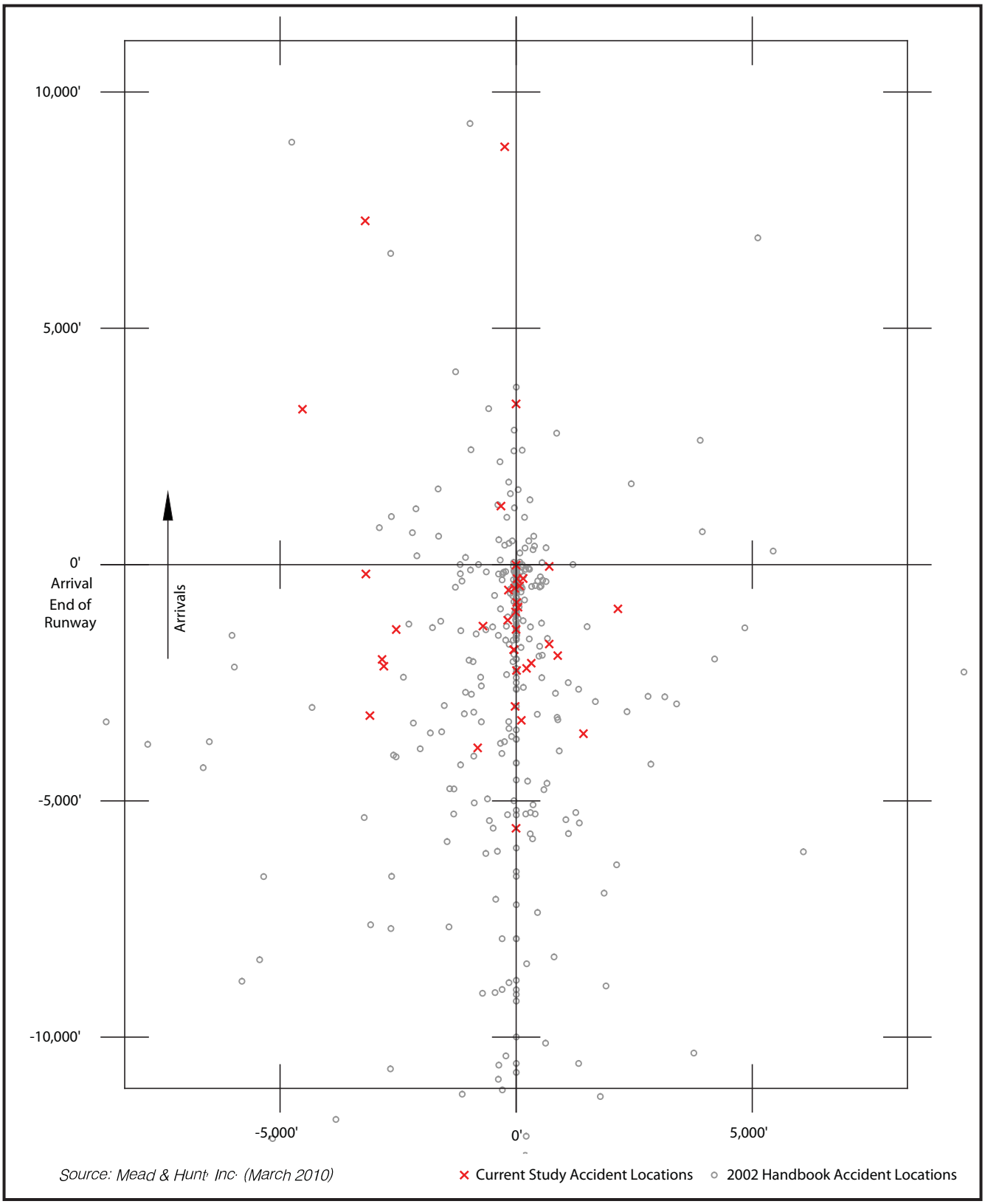

EXHIBIT E1

All Categories – Arrival Accidents

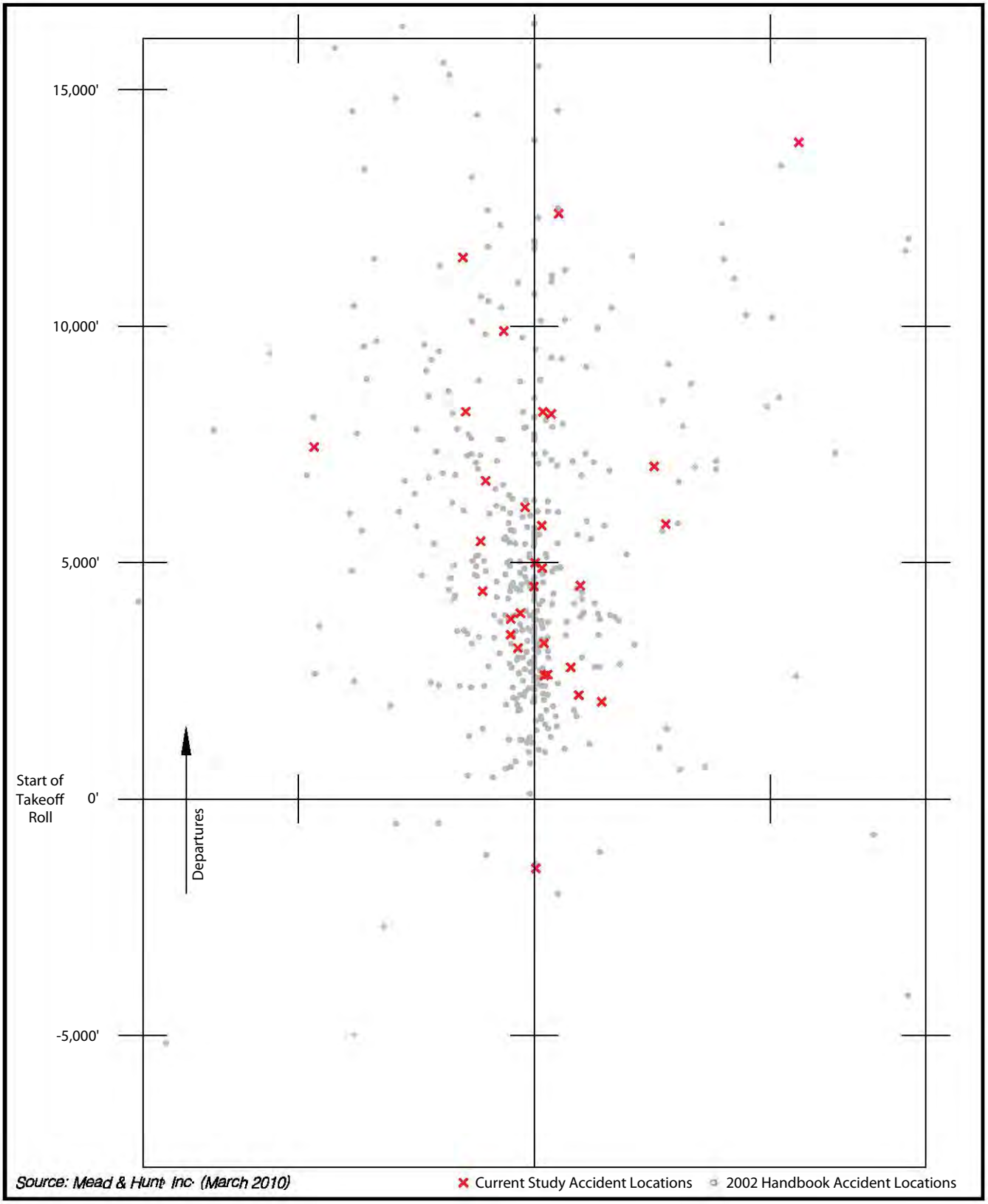

EXHIBIT E2

All Categories – Departure Accidents

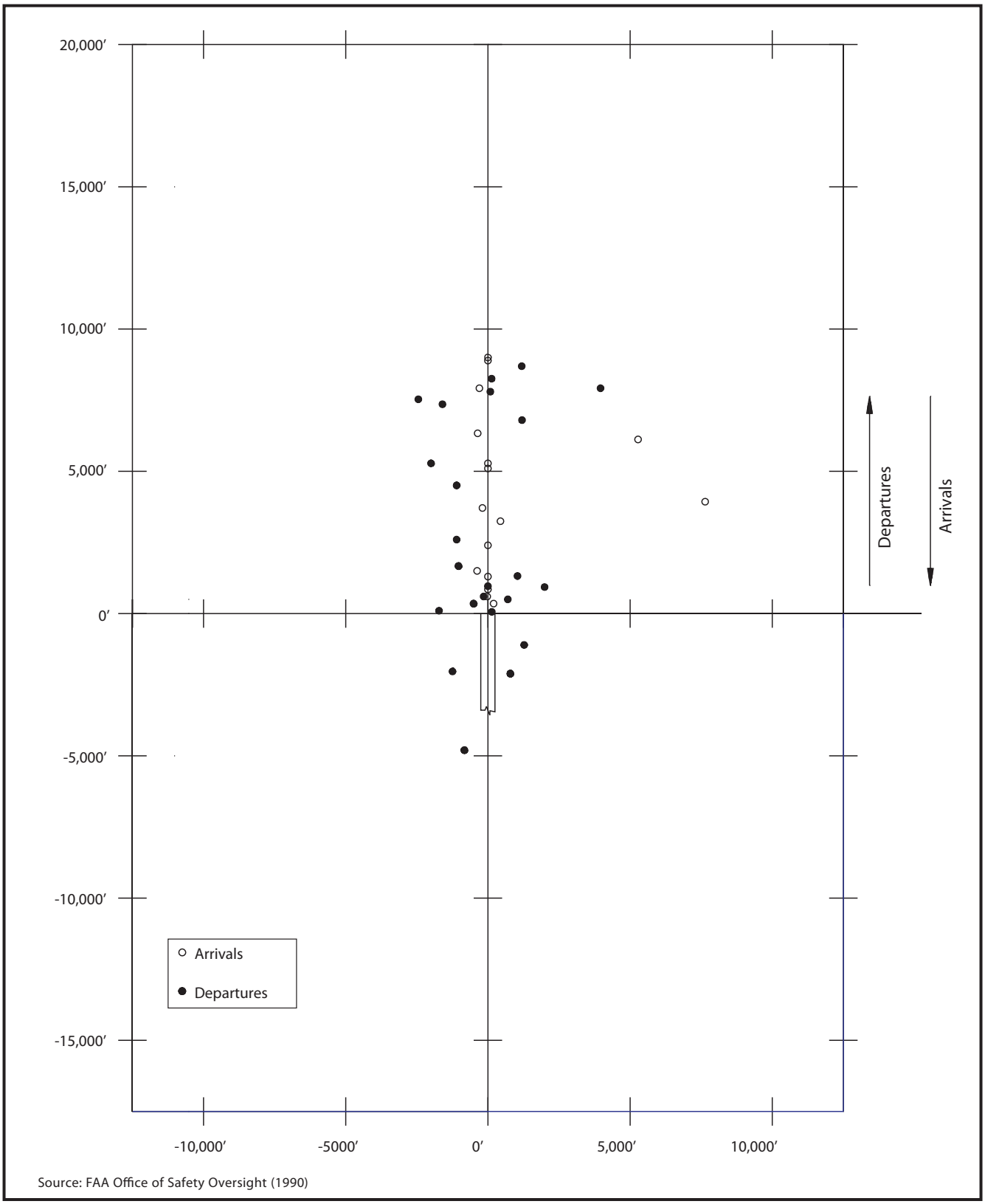

FIGURE E6

Commercial Aircraft Accident Location Pattern

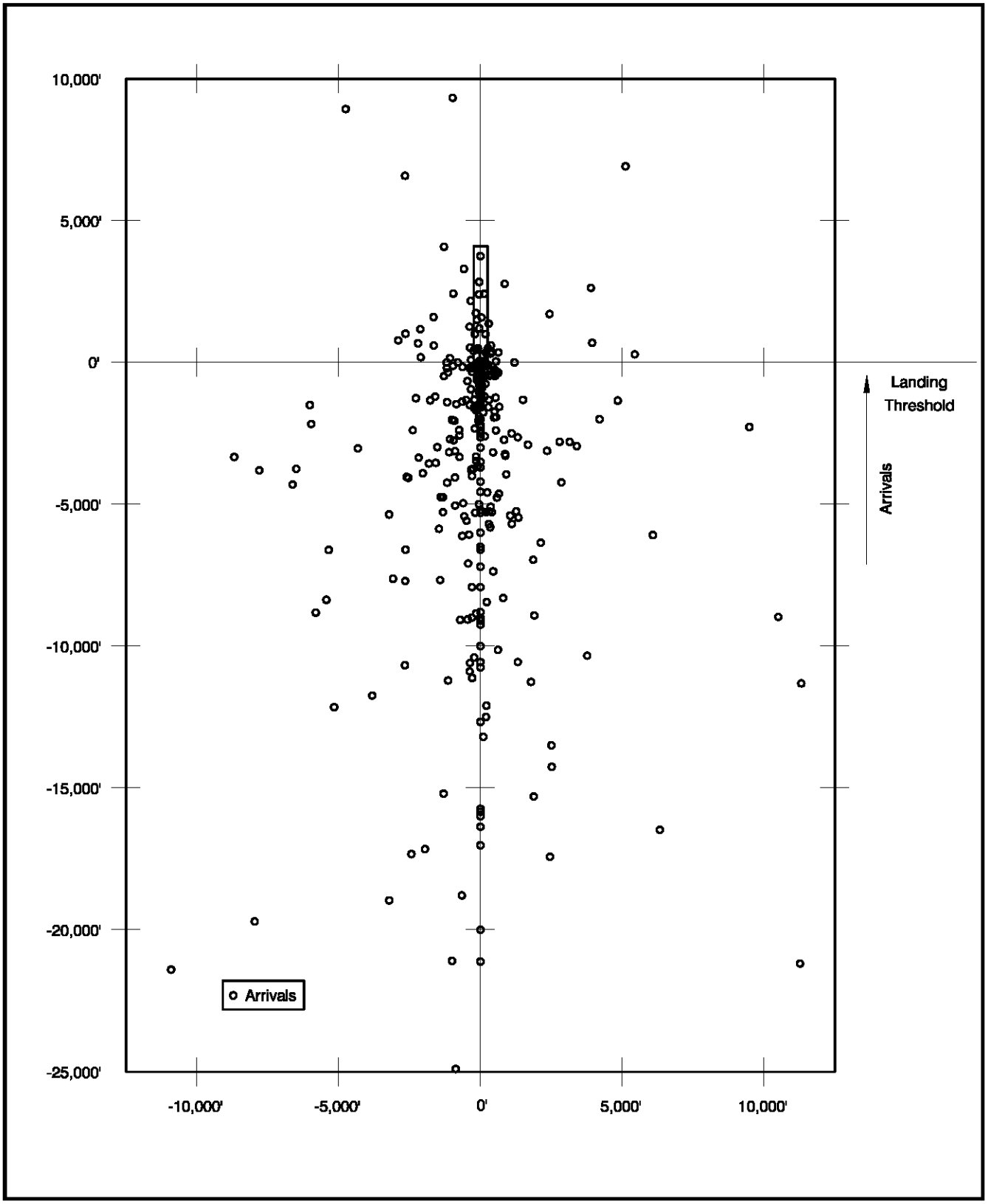

FIGURE E7

Arrival Accidents

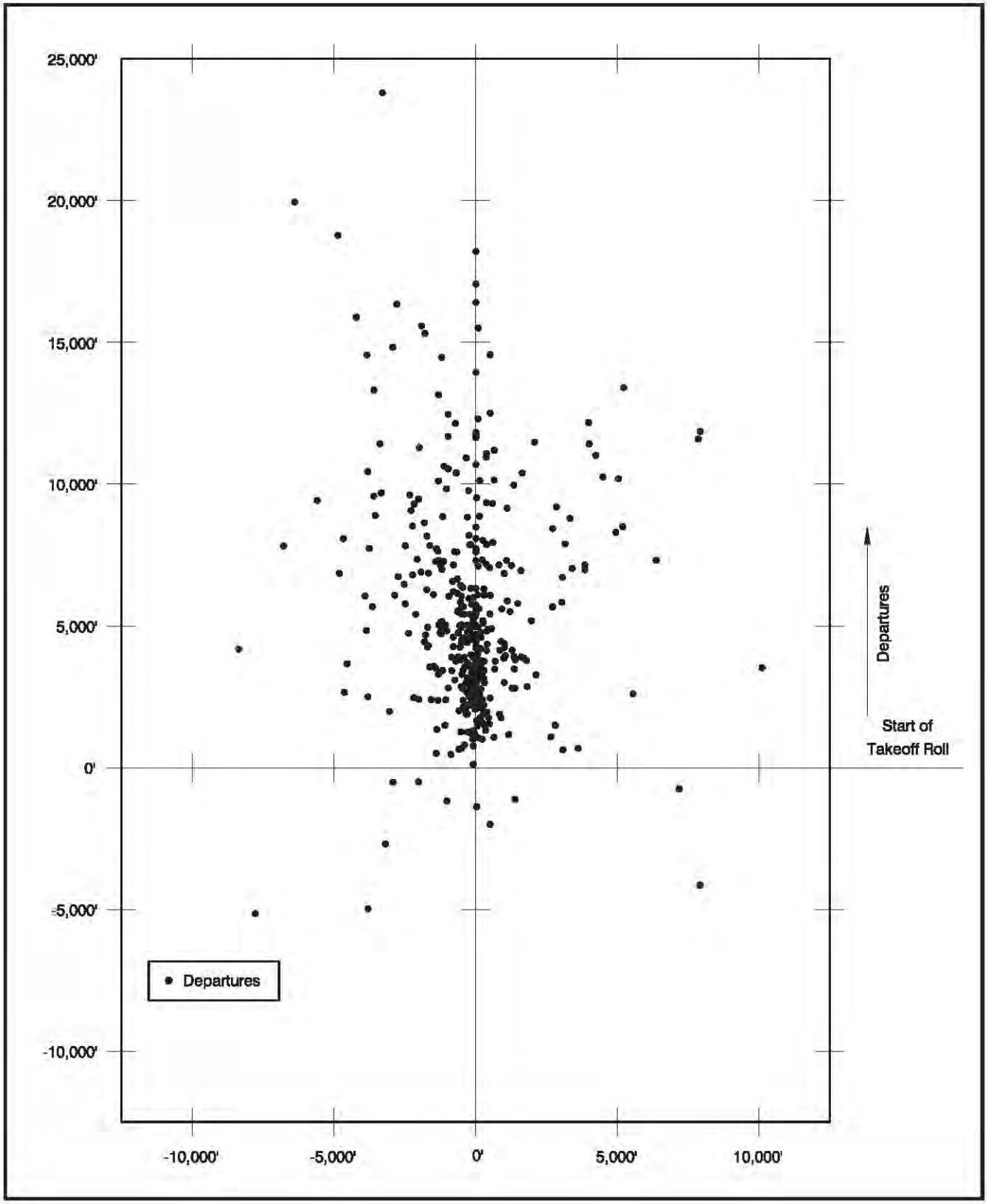

FIGURE E8

Departure Accidents

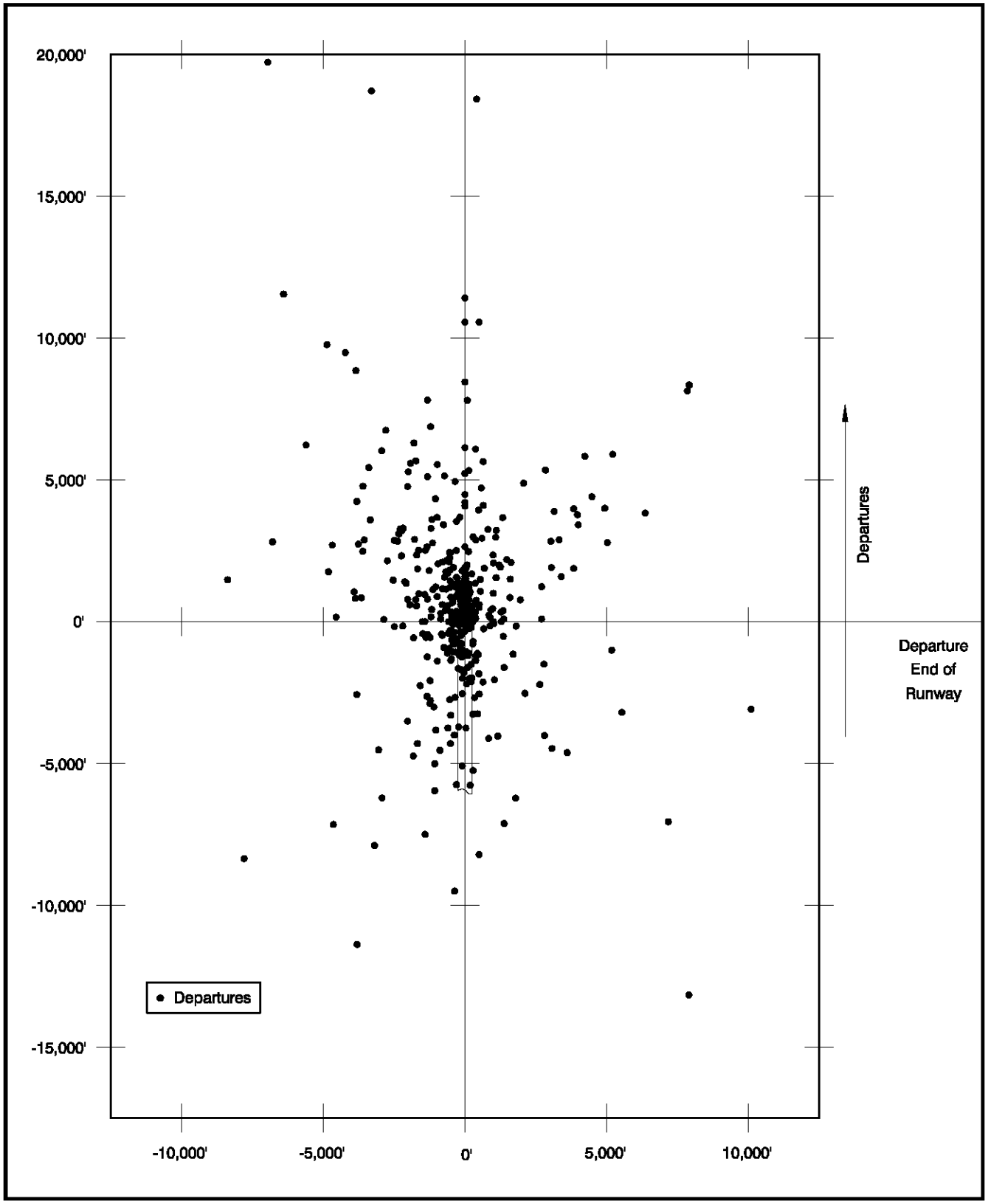

FIGURE E9

Departure Accidents – Normalized

Appendix E, *NTSB Records of Probable Cause for Accidents at SBP*

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NTSB Identification: DCA84AA034A.
The docket is stored on NTSB microfiche number 25365.
Scheduled 14 CFR
Accident occurred Friday, August 24, 1984 in SAN LUIS OBISPO, CA
Aircraft: BEECH C-99, registration: N6399U
Injuries: 17 Fatal.

AT ABOUT 1118, A BEECH C-99 (WINGS WEST FLT 628), N6399U, & A ROCKWELL 112TC, N112SM, COLLIDED IN MIDAIR ABOUT 8 MI WEST-NORTHWEST OF THE SAN LOUI OBISPO COUNTY ARPT. THE ROCKWELL 112TC HAD DEPARTED PASO ROBLES, CA & WAS DESCENDING TOWARD THE SAN LOUI OBISPO COUNTY ARPT. THE BEECH C-99 HAD DEPARTED SAN LOUI OBISPO & WAS CLIMBING ON A FLT TO SAN FRANCISCO. THEY COLLIDED HEAD-ON AT ABOUT 3400 FT MSL IN CLEAR WX. THE C-99 CREW HAD JUST CONTACTED LOS ANGELES ARTCC. AT THAT TIME, THE AIRCREWS OF BOTH ACFT WERE GOVERNED BY THE 'SEE-AND-AVOID' CONCEPT WITH REGARD TO EACH OTHER. AN INVESTIGATION REVEALED THAT THE STANDARD DEPARTURE & INSTRUMENT APCH PROCEDURES SHARED A COMMON TRACK. THE C-99 WAS DEPARTING ALONG THE DEPARTURE TRACK. JUST PRIOR TO THE COLLISION, THE 112TC CREW HAD CONTACTED UNICOM & REPORTED AT THE DOBRA INTERSECTION WHICH WAS ON THE ILS APCH COURSE. AFTER COLLIDING, BOTH ACFT CRASHED ON OPEN TERRAIN & BURNED. THE CONTROLLER HAD ONLY SECONDS TO APPRAISE RADAR DATA & ISSUE A SAFETY ADVISORY. WINGS WEST REQD 1 RADIO ON COMPANY FREQ.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

ARTCC SERVICE..DELAYED..PILOT IN COMMAND

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

RADAR ASSISTANCE TO VFR AIRCRAFT..NOT USED..PILOT OF OTHER AIRCRAFT

Contributing Factors

INSUFF STANDARDS/REQUIREMENTS,OPERATION/OPERATOR..COMPANY/OPERATOR MGMT

Contributing Factors

VISUAL LOOKOUT..INADEQUATE..PILOT IN COMMAND

Contributing Factors

VISUAL LOOKOUT..INADEQUATE..PILOT OF OTHER AIRCRAFT

Index for Aug1984 | Index of months

NTSB Identification: DCA84AA034B.
The docket is stored on NTSB microfiche number 25365.
Accident occurred Friday, August 24, 1984 in SAN LUIS OBISPO, CA
Aircraft: Rockwell 112TC, registration: N112SM
Injuries: 17 Fatal.

AT ABOUT 1118, A BEECH C-99 (WINGS WEST FLT 628), N6399U, & A ROCKWELL 112TC, N112SM, COLLIDED IN MIDAIR APRX 8 MI WEST-NORTHWEST OF THE SAN LOUI OBISPO COUNTY ARPT. THE ROCKWELL 112TC HAD DEPARTED PASO ROBLES, CA & WAS DESCENDING TOWARD THE SAN LOUI OBISPO COUNTY ARPT. THE BEECH C-99 HAD DEPARTED SAN LOUI OBISPO & WAS CLIMBING ON A FLT TO SAN FRANCISCO. THEY COLLIDED HEAD-ON AT ABOUT 3400 FT MSL IN CLEAR WX. THE C-99 CREW HAD JUST CONTACTED LOS ANGELES ARTCC. AT THAT TIME, THE AIRCREWS OF BOTH ACFT WERE GOVERNED BY THE 'SEE-AND-AVOID' CONCEPT WITH REGARD TO EACH OTHER. AN INVESTIGATIONREVEALED THAT THE STANDARD DEPARTURE & INSTRUMENT APCH PROCEDURES SHARED A COMMON TRACK. THE C-99 WAS DEPARTING ALONG THE DEPARTURE TRACK. JUST PRIOR TO THE COLLISION, THE 112TC CREW HAD CONTACTED UNICOM & REPORTED AT THE DOBRA INTER- SECTION WHICH WAS ON THE ILS APCH COURSE. AFTER COLLIDING, BOTH ACFT CRASHED ON OPEN TERRAIN & BURNED. THE CONTROLLER HAD ONLY SECONDS TO APPRAISE RADAR DATA & ISSUE A SAFETY ADVISORY. WINGS WEST REQD 1 RADIO TO BE TUNED TO COMPANY FREQ.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

RADAR ASSISTANCE TO VFR AIRCRAFT..NOT USED..PILOT IN COMMAND

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

ARTCC SERVICE..DELAYED..PILOT OF OTHER AIRCRAFT

Contributing Factors

VISUAL LOOKOUT..INADEQUATE..PILOT IN COMMAND

Contributing Factors

VISUAL LOOKOUT..INADEQUATE..PILOT OF OTHER AIRCRAFT

Index for Aug1984 | Index of months

Contributing Factors

PROCEDURE INADEQUATE..COMPANY/OPERATOR MANAGEMENT

Contributing Factors

INSUFF STANDARDS/REQUIREMENTS,OPERATION/OPERATOR..FAA(ORGANIZATION)

Index for Dec1987 | Index of months

NTSB Identification: LAX00LA270.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Tuesday, July 18, 2000 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 11/01/2001
Aircraft: Piper PA-38-112, registration: N2400P
Injuries: 1 Uninjured.

NTSB investigators may have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The pilot was taxiing from the ramp to the runway. Prior to releasing the parking brake to move out of the parking spot, he visually verified that there were no people or vehicles in the area. While conducting the brake check he looked down into the cockpit to verify that he had a standby option on his radio. He noted that he did not have a standby option and returned his attention to the outside of the airplane and started the airplane moving in a forward direction. When he looked up from inside the cockpit he saw a refueling truck had positioned itself outside of the yellow parking space line. He attempted to avoid the vehicle by engaging full left rudder and left brake; however, the right wingtip collided with the vehicle.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's inadequate visual lookout while taxiing to the runway, which resulted in his failure to see and avoid the fuel truck.

Full narrative available

Index for Jul2000 | Index of months

NTSB Identification: LAX01FA070.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Saturday, January 06, 2001 in San Luis Obispo, CA
Probable Cause Approval Date: 07/15/2002
Aircraft: Cessna 172F, registration: N383CA
Injuries: 2 Fatal.

NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report.

During the instrument flight rules initial climb after takeoff, in fog, to visual conditions on top, the airplane collided with the ground about 1 mile from the departure runway. Prior to departure on runway 11, the pilot contacted the control tower to request the instrument departure to on-top and was advised to standby. During the course of communication the pilot was advised the "tops" were 300 feet above ground level, and was issued a clearance to taxi to the runway. The tower advised the pilot that they were closing and to contact ARTCC for release. The pilot obtained the IFR clearance and was released to on-top. The pilot's release included a standard instrument departure that required a right turn to 130 degrees after departure. There was no further communication with the pilot and radar contact was never established. The airplane subsequently collided with the ground, south of the runway, in a steep right wing down attitude on a magnetic heading of 180 degrees. Examination of the airplane wreckage did not reveal any system anomalies. The vacuum pump drive shear-shaft was found intact and there was rotational scoring of the attitude indictor gyroscope rotor.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to maintain a proper climb rate to VFR conditions on-top.

Full narrative available

Index for Jan2001 | Index of months

NTSB Identification: LAX01LA075A
Accident occurred Monday, January 15, 2001 in San Luis Obispo, CA
Probable Cause Approval Date: 01/02/2002
Aircraft: Cessna T210L, registration: N2508S
Injuries: 3 Uninjured.

NTSB investigators may have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The pilot of the taxing Cessna T210L reported that the morning sun was shining directly down the taxiway and made it very difficult to see. He continued taxiing and his left wing struck the right propeller of a Cessna 310 in the run-up area. The resulting collision caused damage to the right engine, propeller, and tip tank of the 310, and severed 5 feet from the T210L's left wing.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to ensure adequate taxi clearance between aircraft. A factor in the accident was glare from the morning sun.

Full narrative available

Index for Jan2001 | Index of months

NTSB Identification: LAX01LA075B
Accident occurred Monday, January 15, 2001 in San Luis Obispo, CA
Probable Cause Approval Date: 01/02/2002
Aircraft: Cessna 310, registration: N890GR
Injuries: 3 Uninjured.

NTSB investigators may have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The pilot reported that he was in the run-up area for runway 29 and had just completed cycling the props when he noticed movement to the right side of the aircraft. He looked over and saw a Cessna T210L approaching from his right and slightly behind. The T210L's left wing struck the right tip tank then passed through the propeller arc of the right engine and was severed approximately 5 feet inboard. Both aircraft were shutdown and there were no injuries. The pilot of the taxing T210L reported the morning sun restricted his vision, but he continued to taxi.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The failure of the other pilot to ensure adequate taxi clearance between aircraft.

Full narrative available

Index for Jan2001 | Index of months

NTSB Identification: LAX01LA260.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Wednesday, July 25, 2001 in San Luis Obispo, CA
Probable Cause Approval Date: 02/25/2003
Aircraft: Cessna 140, registration: N2903N
Injuries: 1 Uninjured.

NTSB investigators may have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The pilot made an uneventful three-point touchdown. Thereafter, the airplane veered left, and the pilot applied rudder pressure and engine power to correct for the yawing moment. The pilot reported that the swerve happened so fast he was unable to take effective corrective action. Airplane control was lost and it nosed over.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to maintain directional control during landing that resulted in dragging the wing and nosing over.

Full narrative available

Index for Jul2001 | Index of months

NTSB Identification: LAX03LA007.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Sunday, October 13, 2002 in San Luis Obispo, CA
Probable Cause Approval Date: 10/28/2004
Aircraft: Piper PA-28-151, registration: N75164
Injuries: 1 Uninjured.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The airplane collided with an airport sign while taxiing from the runway to parking. The student pilot landed and received an air traffic control instruction to taxi to parking via a specified route. The student departed the runway while attempting to follow the instruction and taxied into a runway remaining distance sign, which she had failed to observe.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to maintain obstacle clearance due to her inadequate visual lookout.

Full narrative available

Index for Oct2002 | Index of months

NTSB Identification: LAX04LA169.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Sunday, March 21, 2004 in San Luis Obispo, CA
Probable Cause Approval Date: 06/08/2005
Aircraft: Stanley Glasair SH-2, registration: N309TS
Injuries: 1 Minor.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The airplane experienced a loss of engine power and impacted a ditch during the pilot's forced landing in a field. While approaching the proximity of the destination airport, the pilot observed the engine gauges indicating rising oil temperature. About 5 miles from the airport, the engine emitted a loud noise and he declared an emergency due to an engine failure. Realizing that he would be unable to make it to the runway, the pilot executed a forced landing in a field; during the landing roll, the airplane impacted a ditch and tumbled. Post-accident external visual examination by a Federal Aviation Administration (FAA) inspector revealed that the engine sustained a catastrophic failure, with a hole knocked in the upper case spine above the rear cylinders. Looking through the hole, the inspector observed that the right rear piston had seized in the No. 3 cylinder and its respective connecting rod was broken just above crankshaft rod end flare. The inspector could not identify the rod end cap or the bearing shells. The No. 3 piston skirt was visibly scorched in the direction of piston travel. A visual examination of the engine, disclosed that all of the cylinders were worn and scored. After the accident, the owner took the engine to a maintenance facility that examined the engine and reported that rod bearing in the No. 3 cylinder failed. The facility declined to provide detailed observations on the internal condition of the engine, the rod fracture, and condition of the bearing. The FAA inspector said the pilot told him that prior to the accident, the engine was experiencing excessive oil consumption. In response, the pilot removed the No. 3 cylinder from the engine and employed an engine shop to change the piston in an effort to alleviate the excessive oil consumption problems. After the maintenance was preformed, the pilot reinstalled the cylinder. The inspector added that sometime prior to the accident the pilot had also modified the engine by installing larger pistons.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The loss of engine power due to the failure of the #3 cylinder piston and connecting rod for undetermined reasons.

Full narrative available

Index for Mar2004 | Index of months

NTSB Identification: LAX05FA255.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Monday, August 01, 2005 in San Luis Obispo, CA
Probable Cause Approval Date: 02/26/2007
Aircraft: Piper PA-28-151, registration: N4401X
Injuries: 1 Fatal.

NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report.

While on the crosswind leg during initial climb, the pilot cruised into upsloping terrain about 0.9 miles from the runway. The pilot's day began when he departed his residence about 0700. Thereafter, he commuted to work, which involved flying a borrowed airplane to a neighboring city. Upon completing work, the pilot was dropped off at the airport. The pilot intended either to fly home or to the location where his next day's work was to be performed. He was due to report to work the following morning at 0730. It was a dark night, and an overcast ceiling existed at 800 feet above the ground. No moon or stars were visible from the airport. A hill was located about 1 mile northeast of the airport. The pilot departed using runway 11, made a left crosswind turn, and impacted the hill while climbing in controlled flight. Fire department personnel responding to the accident site said that the clouds were nearly at ground level and that the forward (horizontal) visibility was between 1/4- and 1/2-mile. The pilot had received his private pilot certificate the preceding month, at a total flight time of 69.6 hours, including 3.5 hours at night.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's continued flight into instrument meteorological conditions, and his failure to maintain clearance from the rising hilly terrain. Contributing factors were the pilot's inexperience regarding flying during the dark, nighttime condition, and the low ceiling.

Full narrative available

Index for Aug2005 | Index of months

NTSB Identification: LAX05LA158.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Saturday, May 07, 2005 in San Luis Obispo, CA
Probable Cause Approval Date: 04/25/2006
Aircraft: Champion 7ECA, registration: N42LC
Injuries: 1 Minor.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The pilot landed the airplane in a soccer field and impacted a power pole. The pilot could not remember the circumstances of the accident. Witnesses indicated that the airplane was circling the soccer field with a sputtering engine, prior to the landing. During the landing ground roll, the airplane skidded into a power pole. There was a strong odor of fuel at the accident site and an observed post accident fuel leak from the left wing. Investigators examined the airplane after the accident and the engine was successfully test run. No airframe or engine anomalies were identified. The closest weather observation station was within 10 miles of the accident site and was reporting a temperature and dew point of 8 and 7 degrees Celsius, respectively. Review of a carburetor icing probability chart disclosed that the temperature and dew point was in the center of the area for serious icing at any power setting.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

a loss of engine power due to carburetor icing and the pilot's failure to use carburetor heat.

Full narrative available

Index for May2005 | Index of months

NTSB Identification: LAX07CA228.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Wednesday, July 18, 2007 in San Luis Obispo, CA
Probable Cause Approval Date: 10/31/2007
Aircraft: DTA Sari Combo FC 912, registration: N599CA
Injuries: 2 Uninjured.

NTSB investigators used data provided by various entities, including, but not limited to, the Federal Aviation Administration and/or the operator and did not travel in support of this investigation to prepare this aircraft accident report.

The airplane collided with the runway while practicing a touch-and-go landing. The flight instructor stated that just as the airplane was rounding out in the flare the airplane made a quick pitch down, which the instructor thought was due to a sudden power reduction by the student. The airplane nose gear impacted the runway and collapsed. The instructor stated that he felt the accident could have been avoided by maintaining steady partial power, maintaining a slight nose-up pitch attitude, and landing farther down the runway. The instructor and student pilot reported no preimpact mechanical malfunctions with the aircraft.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The student pilot's improper flare, which resulted in a hard landing. Also causal was the instructor's inadequate supervision.

Full narrative available

Index for Jul2007 | Index of months

NTSB Identification: LAX08CA124
14 CFR Part 91: General Aviation
Accident occurred Monday, April 07, 2008 in San Luis Obispo, CA
Probable Cause Approval Date: 06/30/2008
Aircraft: Cessna 172S, registration: N65630
Injuries: 1 Uninjured.

NTSB investigators used data provided by various entities, including, but not limited to, the Federal Aviation Administration and/or the operator and did not travel in support of this investigation to prepare this aircraft accident report.

The airplane's descent was uneventful. The wind was reported as 300 degrees at 19 knots gusting to 25 knots. After touchdown, the airplane porpoised. The pilot then taxied the airplane to the hangar. Although the landing was very rough, the pilot was unaware that the airplane was damaged. Post-flight examination revealed that the propeller blades were slightly bent to the rear, and the firewall was dented.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's inadequate landing flare, resulting in a hard landing. Contributing to the accident was the gusty wind condition.

Full narrative available

Index for Apr2008 | Index of months

NTSB Identification: LAX82DA076
14 CFR Part 91: General Aviation
Accident occurred Wednesday, February 17, 1982 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 02/17/1983
Aircraft: CESSNA 172M, registration: N6585H
Injuries: 2 Uninjured.

DURING LANDING, THE AIRCRAFT BOUNCED TWICE. ON THE THIRD TOUCHDOWN, THE NOSEWHEEL FAILED, THE NOSEWHEEL TIRE BLEW OUT AND THE FIREWALL WAS BENT. THE PILOT REPORTED THAT THE WIND WAS GUSTING TO 15 KNOTS.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

LEVEL OFF..IMPROPER..PILOT IN COMMAND

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

RECOVERY FROM BOUNCED LANDING..IMPROPER..PILOT IN COMMAND

Contributing Factors

WEATHER CONDITION..GUSTS

Index for Feb1982 | Index of months

NTSB Identification: LAX83LA178.
The docket is stored on NTSB microfiche number 22351.
Accident occurred Tuesday, April 05, 1983 in SAN LUIS OBISPO, CA
Aircraft: PIPER PA 32-300, registration: N15278
Injuries: 1 Minor.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

THE ACFT DEPARTED RWY 29, & AT ABOUT 200 FT AGL THE ENG WAS HEARD TO SPUTTER & SURGE. THE ACFT WAS THEN OBSERVED IN A STEEP LEFT BANK TOWARD RWY 7. THE WINGS LEVELED JUST PRIOR TO IMPACT ABOUT 100 FT SHORT OF RWY 7. ARPT POLICE PERSONNEL INSPECTED THE ACFT IMMEDIATELY AFTER THE ACCIDENT & FOUND THE FUEL SELECTOR POSITIONED TO THE LEFT TIP TANK. THE LEFT TIP TANK WAS EMPTY & BOTH MAINS WERE FULL. THE PLT STATED HE HAD SWITCHED THE FUEL TANK TO LEFT MAIN PRIOR TO TAKEOFF.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

FLUID,FUEL..STARVATION

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

FUEL TANK SELECTOR POSITION..NOT IDENTIFIED..PILOT IN COMMAND

Index for Apr1983 | Index of months

NTSB Identification: LAX86LA133.
The docket is stored on NTSB microfiche number 30169.
Accident occurred Tuesday, March 04, 1986 in SAN LUIS OBISPO, CA
Aircraft: CESSNA 152, registration: N49429
Injuries: 1 Uninjured.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

ON MARCH 4, 1986 A CESSNA 152 COLLIDED WITH THE RUNWAY SURFACE AFTER THE NOSE WHEEL COLLAPSED. THE STUDENT PILOT WAS ON HIS THIRD CONSECUTIVE SOLO FLIGHT SINCE HIS SOLO ENDORSEMENT. ON HIS THIRD APPROACH THE AIRCRAFT BOUNCED ON LANDING AND BECAME AIRBORNE WITH A NOSE HIGH ATTITUDE. HE APPLIED FORWARD PRESSURE ON THE YOKE TO LEVEL THE NOSE AND THE AIRCRAFT LANDED ON THE NOSE WHEEL AND BEGAN TO PORPOISE. ON THE THIRD OSCILLATION THE NOSE WHEEL COLLAPSED AND THE AIRCRAFT CAME TO AN ABRUPT STOP. THE INSTRUCTOR PILOT WAS A NEW CFII WITH LESS THAN 1000 HOURS FLIGHT EXPERIENCE WHO HAD JUST RECEIVED HIS RATING THREE MONTHS AGO. HE HAD CHECKED THE WEATHER AND BRIEFED THE STUDENT PILOT PRIOR TO THE FLIGHT.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

PREFLIGHT PLANNING/PREPARATION..POOR..FLIGHT INSTRUCTOR(ON GROUND)

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

FLARE..ATTEMPTED..PILOT IN COMMAND

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

RECOVERY FROM BOUNCED LANDING..POOR..PILOT IN COMMAND

Contributing Factors

WEATHER CONDITION..UNFAVORABLE WIND

Contributing Factors

LACK OF TOTAL EXPERIENCE..FLIGHT INSTRUCTOR(ON GROUND)

Contributing Factors

INADEQUATE SURVEILLANCE OF OPERATION..COMPANY/OPERATOR MGMT

Contributing Factors

LACK OF TOTAL EXPERIENCE..PILOT IN COMMAND

Index for Mar1986 | Index of months

NTSB Identification: LAX87LA163.
The docket is stored on NTSB microfiche number 33203.
Accident occurred Friday, March 27, 1987 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 05/02/1988
Aircraft: PIPER PA-28-235, registration: N9306W
Injuries: 2 Uninjured.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

AFTER TAKE-OFF, THE PILOT WAS FLYING A DOWNWIND DEPARTURE WHEN THE ENGINE QUIT. THE PILOT WAS UNABLE TO RETURN TO THE RUNWAY AND COLLIDED WITH THE TERRAIN A HALF MILE FROM THE AIRPORT. INSPECTION OF THE ENGINE AT THE TIME OF THE ACCIDENT FOUND THAT THE MAIN FUEL LINE TO THE CARBURETOR CONTAINED NO FUEL. THE LEFT TIP TANK WAS FOUND TO CONTAIN A QUARTER OF A TANK OF FUEL, THE LEFT MAIN WAS THREE QUARTERS FULL, THE RIGHT MAIN WAS FULL AND THE RIGHT TIP WAS EMPTY. THE PILOT STATED HE WAS FLYING ON THE LEFT MAIN. THERE WAS NO OTHER DISCREPANCIES NOTED AT THAT TIME. THE ENGINE WAS THEN RUN FOR SEVERAL MINUTES AT DIFFERENT POWER SETTINGS, THERE WERE NO MECHANICAL FAILURES OR MALFUNCTIONS NOTED.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

REASON FOR OCCURRENCE UNDETERMINED

Contributing Factors

TERRAIN CONDITION..ROUGH/UNEVEN

Contributing Factors

FLUID,FUEL..STARVATION

Index for Mar1987 | Index of months

NTSB Identification: LAX88FA314.
The docket is stored on NTSB microfiche number 39097.
Accident occurred Wednesday, September 07, 1988 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 07/09/1990
Aircraft: CESSNA 177RG, registration: N33283
Injuries: 1 Fatal.

NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report.

WHILE ENROUTE IFR TO SANTA BARBARA THE WX CONDITIONS WENT BELOW MINIMUMS. THE PLT FIRST ASKED ABOUT SANTA MARIA (SMX) AS AN ALTERNATE BUT THE WX WAS BELOW MINIMUMS AS WELL. THE PLT THEN SELECTED SAN LUIS OBISPO (SBP) FOR HIS ALTERNATE DEST. RADAR DATA SHOWED THE ACFT WAS HIGH DURING THE LOCALIZER APPROACH TO SBP AND PASSED OVER THE AIRPORT AT 2,600 FT MSL (2,300 AGL). THE CONTROLLER ISSUED A CLIMB TO 5,000 FT AND TOLD THE PLT TO EXECUTE THE MISSED APPROACH AS PUBLISHED. THERE WAS CONFUSION ABOUT THE INSTRUCTION. THE PLT STATED 'MISSED APPROACH AS PUBLISHED,' TO WHICH THE CONTROLLER RESPONDED 'AFFIRMATIVE'. RADAR DATA SHOWED THE ACFT DESCENDED TO 2,200 FT, WHERE RADAR CONTACT WAS LOST. ON SITE EXAM REVEALED THE ACFT HIT THE TOP OF A HILL IN A LEVEL STD RATE TURN TO THE LEFT. TWO APPROACH PLATES WERE ON THE PLTS CLIPBOARD, THE SMX ILS & THE SBP LOCALIZER. THE SMX MISSED APPROACH SPECIFIES A CLIMBING LEFT TURN TO 2,000 BACK TO THE VOR. BOTH APPROACH PLATES LOOK SIMILIAR.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

PILOTS ERRONEOUS INTERPRETATION OF HIS MISSED APPROACH CLEARANCE, AND, HIS PERFORMANCE OF THE PUBLISHED MISSED APPROACH PROCEDURE FOR THE SANTA MARIA ILS INSTEAD OF THE SAN LUIS OBISPO LOCALIZER.

Index for Sep1988 | Index of months

NTSB Identification: LAX88LA039.
The docket is stored on NTSB microfiche number 34883.
Accident occurred Wednesday, November 11, 1987 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 04/24/1989
Aircraft: CESSNA 210A, registration: N9505X
Injuries: 2 Uninjured.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

WHILE APPROACHING THE ARPT THE PLT STATED THAT HE SLIPPED THE ACFT FROM 1800 FEET TO 1400 FEET, LEVELED THE WINGS, STILL DESCENDING, AND ENTERED THE PATTERN AT 1200 FEET. WHILE ON FINAL APPROACH THE ENGINE QUIT. UNABLE TO LAND ON THE RWY, THE PLT LANDED IN A SOFT FIELD WHERE THE ACFT NOSED OVER. INVESTIGATION REVEALED NO PREIMPACT MECHANICAL MALFUNCTIONS OR FAILURES.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

POWERPLANT..UNDETERMINED

Contributing Factors

PROPER GLIDEPATH..NOT ATTAINED..PILOT IN COMMAND

Contributing Factors

TERRAIN CONDITION..SOFT

Index for Nov1987 | Index of months

NTSB Identification: LAX90FA332.
The docket is stored on NTSB microfiche number 45517.
Accident occurred Monday, September 24, 1990 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 05/28/1993
Aircraft: CESSNA 500, registration: N79DD
Injuries: 4 Fatal.

NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report.

THE FLT WAS CLRD FOR A LOC RWY 11 APCH. ABOUT 3 MIN LATER, THE 2ND-IN-COMMAND (SIC) RPRTD ' . . . WE DON'T GET THE LOCALIZER CAN YOU SEE IF WE'RE ON COURSE.' THE LAX ARTCC R-15 CTLR CONFIRMED THE FLT WAS RGT OF COURSE & BELOW THE RQRD ALT. THE ACFT'S MODE C INDCD AN ALT OF 1400 FT; THE CTLR ADZD THE FLT CREW TO MAINT AT LEAST 2300 FT UNTIL PAST THE FINAL APPROACH FIX (FAF). THE CREW THEN REPLIED THAT THEY WERE IN VMC. RADAR SVC WAS TERMINATED & A FREQ CHANGE TO TOWER WAS APPROVED. SHORTLY THEREAFTER, THE ACFT HIT A EUCALYPTUS TREE AT ABT 90 FT AGL, 2.05 MI FM THE APCH END OF THE RWY & ABT 195 FT RGT OF THE LOC. ELEV OF THE CRASH SITE WAS 101 FT; MIN DSCNT ALT (MDA) FOR THE APCH WAS 640 FT. THE 0645 PDT WX WAS, IN PART: INDEFINITE CEILING, 100 FT OBSCURED, VIS 1/8 MI WITH FOG, WIND FROM 220 DEG AT 4 KTS. NO PREIMPACT PART FAILURE OR MALFUNCTION OF THE ACFT WAS FOUND.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

THE PILOT'S IMPROPER IFR (INSTRUMENT) PROCEDURE, AND HIS FAILURE TO MAINTAIN THE MINIMUM DESCENT ALTITUDE (MDA) FOR THE APPROACH. THE ADVERSE WEATHER WAS A RELATED FACTOR.

Index for Sep1990 | Index of months

NTSB Identification: LAX91LA283.
The docket is stored on NTSB microfiche number 43667.
Accident occurred Sunday, June 30, 1991 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 01/25/1993
Aircraft: BOEING E75, registration: N68809
Injuries: 1 Uninjured.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

THE PILOT HAD MADE ONE LANDING AND TAKEOFF ON THE 4800 FT LONG AND 100 FT WIDE RUNWAY. WHEN ON THE DOWNWIND LEG THE SURFACE WINDS SHIFTED TO A QUARTERING TAILWIND. THE LOCAL CONTROLLER DID NOT ADVISE THE PILOT OF THE WIND CHANGE AND CLEARED THE FLIGHT TO LAND. UPON TOUCH DOWN THE AIRPLANE GROUND LOOPED AND NOSED OVER. THE PILOT IMPROPERLY USED THE FLIGHT CONTROLS AND BRAKES TO ARREST THE GROUND LOOP. EXAMINATION OF THE BRAKES AND TAILWHEEL ASSEMBLY DISCLOSED NO EVIDENCE OF ANY MALFUNCTIONS OR FAILURES.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

THAT THE PILOT FAILED TO PROPERLY COMPENSATE OF THE EXISTING QUARTERING TAILWIND, IMPROPERLY USING THE FLIGHT CONTROLS AND BRAKES.

Index for Jun1991 | Index of months

NTSB Identification: LAX92LA038.
The docket is stored on NTSB microfiche number 45867.
Accident occurred Saturday, November 02, 1991 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 04/27/1993
Aircraft: QUESTAIRE VENTURE, registration: N71T
Injuries: 1 Uninjured.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

ON THE LANDING ROLL OUT, THE AIRCRAFT BEGAN A GRADUAL RIGHT TURN WHICH THE PILOT WAS UNABLE TO CORRECT DUE TO A FAILURE OF THE LEFT BRAKE AND NOSE WHEEL STEERING SYSTEMS. THE AIRCRAFT EXITED THE RIGHT SIDE OF THE RUNWAY AND THE NOSE GEAR FORK FAILED. THE AIRCRAFT NOSED OVER. THE AIRCRAFT WAS EXAMINED BY AN FAA AIRWORTHINESS INSPECTOR. THE INSPECTOR NOTED THAT THE HYDRAULIC BRAKE AND NOSE WHEEL STEERING SYSTEMS WERE INTERCONNECTED. THE 'O' RING SEALS IN THE BRAKE SYSTEM WERE FOUND TO BE BADLY DETERIORATED AND HE REPORTED THAT THE HYDRAULIC FLUID HAD LEAKED OUT. THE KIT MANUFACTURER RECOMMENDS USING AN AUTOMOTIVE TYPE FLUID IN THE SYSTEM. THE INSPECTOR STATED HIS OPINION THAT THE AUTOMOTIVE BRAKE FLUID WAS INCOMPATIBLE WITH THE 'O' RING MATERIAL.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

THE PILOT'S INABILITY TO CONTROL THE AIRCRAFT DURING THE LANDING ROLL DUE TO A FAILURE OF THE LEFT BRAKE AND NOSE WHEEL STEERING SYSTEMS. THE FAILURE OF THE BRAKE AND STEERING SYSTEMS WAS DUE TO A DETERIORATION OF THE 'O' RING SEALS CAUSED BY THE USE OF HYDRAULIC FLUID INCOMPATIBLE WITH THE RUBBER MATERIAL IN THE SEALS. A FACTOR IN THE ACCIDENT WAS THE INADEQUATE SYSTEM DESIGN BY THE KIT MANUFACTURER.

Index for Nov1991 | Index of months

NTSB Identification: LAX93LA265.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Monday, June 21, 1993 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 06/30/1994
Aircraft: CULVER LCA, registration: N29396
Injuries: 1 Uninjured.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

THE PILOT SAID HE WAS PICKING UP THE AIRCRAFT, WHICH HIS FATHER IN LAW HAD JUST PURCHASED, AND WAS GOING TO FLY IT TO WASHINGTON STATE. THE PILOT NOTED THAT HE INTENDED TO STAY IN THE TRAFFIC PATTERN TO DO SEVERAL TAKEOFFS AND LANDINGS PRIOR TO PROCEEDING ON THE DELIVERY FLIGHT. THE RESPONDING FAA INSPECTOR REPORTED THAT THE PILOT'S LAST TAIL WHEEL AIRCRAFT EXPERIENCE WAS IN 1985, AND, AT THAT TIME, HIS TOTAL TAIL WHEEL EXPERIENCE WAS 250 HOURS. GROUND WITNESSES TO THE ACCIDENT REPORTED THAT THE AIRCRAFT BECAME AIRBORNE AFTER A GROUND ROLL OF ABOUT 600 FEET AND IMMEDIATELY YAWED AND ROLLED TO THE LEFT. THE AIRCRAFT COLLIDED WITH THE GROUND ADJACENT TO THE RUNWAY. THE PILOT REPORTED THAT DURING THE TAKEOFF GROUND ROLL ON RUNWAY 29 HE LOOKED DOWN AT THE AIRSPEED INDICATOR, AND, WHEN HE LOOKED UP AGAIN, THE AIRCRAFT HAD LIFTED OFF AND WAS ROLLING TO THE LEFT. THE PILOT STATED THAT HE COULD NOT CORRECT THE ROLL IN TIME TO PREVENT A NOSE DOWN COLLISION WITH THE GROUND. THE WINDS AT THE TIME WERE REPORTED BY THE CONTROL TOWER AT 300 DEGREES AT 18 KTS.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

THE PILOT'S FAILURE TO MAINTAIN CONTROL OF THE AIRCRAFT DURING TAKEOFF. A FACTOR IN THE ACCIDENT WAS THE PILOT'S LACK OF RECENT FLIGHT EXPERIENCE IN TAIL WHEEL AIRCRAFT.

Full narrative available

Index for Jun1993 | Index of months

NTSB Identification: LAX94FA308.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Sunday, August 07, 1994 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 05/16/1995
Aircraft: PIPER PA-28R-200, registration: N6959J
Injuries: 4 Fatal.

NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report.

A FEW MINUTES AFTER TAKEOFF, WITNESSES REPORTED SEEING THE AIRCRAFT IN THE NIGHT SKY FLYING BETWEEN 50 AND 100 FEET AGL, WESTBOUND, APPROXIMATELY 3 1/2 MILES FROM THE AIRPORT. THE AIRCRAFT WAS NEXT OBSERVED IN A LEFT DESCENDING TURN OVER THE FREEWAY WITH THE ENGINE MAKING LOUD AND UNUSUAL NOISES. THE AIRCRAFT SUBSEQUENTLY STRUCK A SECTION OF OVERHEAD HIGH-TENSION ELECTRICAL LINES THAT SPANNED THE FREEWAY. THE DRIVER OF A NORTHBOUND VEHICLE REPORTED THAT HIS VEHICLE COLLIDED WITH THE AIRCRAFT AS IT SLID ACROSS THE NORTHBOUND LANES OF TRAFFIC. THE AIRCRAFT CAME TO REST IN THE NORTHBOUND EMERGENCY LANE. AT THE TIME OF THE CRASH, THE ONLY OUTSIDE ILLUMINATION WAS FROM GROUND LIGHTS IN THE CITY. UPON INITIAL INSPECTION, IT WAS NOTED THAT THE ENGINE CASE WAS FRACTURED IN THE AREA OF THE NO. 4 CYLINDER. A FURTHER EXAMINATION OF THE INTERNAL COMPONENTS REVEALED THAT THE NO. 4 ROD AND END CAP HAD SEPARATED FROM THE CRANKSHAFT. METALLURGICAL EXAMINATION OF THE FAILED COMPONENTS TO DETERMINE THE FAILURE MODE WAS UNSUCCESSFUL DUE TO DAMAGE SUSTAINED ON THE FRACTURE FACES.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

the failure of the No. 4 cylinder connecting rod for undetermined reasons. The dark night lighting conditions, which hampered the ability of the pilots to detect the power lines, was a factor in this accident.

Full narrative available

Index for Aug1994 | Index of months

NTSB Identification: LAX95LA324.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Monday, September 04, 1995 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 03/21/1996
Aircraft: WELLES KITFOX SPEEDSTER, registration: N912JW
Injuries: 1 Uninjured.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

THE PILOT SAID THE AIRCRAFT WAS ABOUT 300 FEET INTO THE TAKEOFF GROUND ROLL ON RUNWAY 29 WHEN HE LOST DIRECTIONAL CONTROL. THE AIRCRAFT VEERED LEFT OFF THE RUNWAY AND GROUND LOOPED IN THE DIRT, DAMAGING A WING.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

the pilot's failure to maintain directional control.

Full narrative available

Index for Sep1995 | Index of months

NTSB Identification: LAX96FA228.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Thursday, June 06, 1996 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 03/31/1998
Aircraft: British Aerospace BA-3100/3201, registration: N926AE
Injuries: 2 Uninjured.

NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report.

The first officer, who was 6 months past due for a proficiency check in the aircraft, was in the left seat for the ferry flight and applied power on takeoff. At 40 knots he transitioned from tiller to rudder steering while the captain was setting takeoff power. Moments later the crew felt the aircraft jerk to the left. The captain took the controls and brought both power levers back to flight idle and then into reverse. The captain attempted to control the aircraft but did not have access to the tiller from his position in the aircraft. Full application of rudder and differential braking could not bring the aircraft under control as it veered off the left side of the runway, then back to the right edge. Following the accident, the nose wheel steering, brakes, and propellers were functionally tested in accordance with the aircraft maintenance manuals, with no discrepancies noted. The FDR showed that the airspeed peaked at 58 knots. The rudder effectiveness increases incrementally from 40 knots IAS to full authority at 70 knots. A CVR tape sound spectrum analysis revealed that the left engine was in the start lock position during the takeoff. Normal procedure after engine start is to bring the props into reverse momentarily to bring them out of the start locks. There is no cockpit indicator for the position of the propellers relative to the start locks.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The flight crew's loss of directional control resulting from an attempted takeoff with the left propeller on the start lock. Factors in the accident were: the lack of cockpit caution/warning system/lights available to verify that the propellers are out of the start locks; and the captain's location in the right seat without access to the nosewheel steering tiller.

Full narrative available

Index for Jun1996 | Index of months

NTSB Identification: LAX96LA309.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Monday, August 19, 1996 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 05/30/1997
Aircraft: Cessna 195A, registration: N4478C
Injuries: 2 Uninjured.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The pilot stated that during the landing roll, the aircraft began to swerve to the right. When he applied corrective action, the airplane ground looped, and the left wing contacted the ground. The pilot, a certificated aircraft mechanic, said that the airplane did not experience any preimpact malfunction or failure.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

the pilot's failure to maintain directional control, which resulted in a ground loop/swerve.

Full narrative available

Index for Aug1996 | Index of months

NTSB Identification: LAX98LA115.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Saturday, March 14, 1998 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 02/15/2001
Aircraft: Robinson R22 BETA, registration: N4079M
Injuries: 2 Uninjured.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The flight instructor reported that he and the dual student were doing traffic pattern operations to a grass area parallel to runway 29. The CFI stated that while they were on the downwind leg of the first pattern about 500 feet agl, the student was on the controls and was preparing for the approach with the prelanding checklist. The student reached down to apply carburetor heat, but instead pulled the mixture to idle. The engine stopped and the instructor then took over the controls and performed an autorotation to the grass field. The helicopter continued forward on the ground after the touchdown and the front portion of the skids became imbedded in the ground and the helicopter then nosed over. The blades hit the ground and the helicopter rolled over and came to rest on its right side.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The student pilot's inadvertent pulling of the mixture, instead of the carburetor heat, while preparing for the approach, and the flight instructor's inadequate supervision.

Full narrative available

Index for Mar1998 | Index of months

NTSB Identification: LAX98LA170.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Thursday, May 21, 1998 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 02/11/2000
Aircraft: Robinson R22B, registration: N2312N
Injuries: 2 Uninjured.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The flight instructor asked the student to demonstrate an autorotation from a hover approximately 2 to 3 feet high. The CFI stayed on the controls throughout the maneuver. After they closed the throttle, the helicopter moved backwards and to the left. As the helicopter touched the ground, the rear portion of the left skid became imbedded in the runway surface and the aircraft rolled over onto its left side. The aircraft came to rest approximately 180 degrees from its original heading. The winds at the time were reported to be from a direction of 310 degrees at a velocity of 18 knots gusting to 22 knots. The CFI reported that they conducted all their maneuvers into the wind.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The flight instructor's inadequate compensation for wind conditions, and his failure to maintain aircraft control. Contributing was wind gusts.

Full narrative available

Index for May1998 | Index of months

NTSB Identification: LAX99LA248.
The docket is stored in the Docket Management System (DMS). Please contact Records Management Division
Accident occurred Saturday, July 10, 1999 in SAN LUIS OBISPO, CA
Probable Cause Approval Date: 08/14/2001
Aircraft: Piper PA-24-180, registration: N6597P
Injuries: 2 Uninjured.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The instructor said that the power came up smoothly on the takeoff roll, but that the engine suddenly quit at 600 feet agl. The flight instructor took the controls, lined up on a major interstate highway, and touched down in the northbound lanes. The right wing struck a bush, which spun the airplane off the highway and down the embankment next to the highway. An engine teardown disclosed that the crankshaft idler gear (left magneto) was detached from the mounting pad at the back of the crankcase. The crankshaft gear was not secured to the crankshaft, and the locating dowel pin was fractured and separated. Further examination of the idler gear shaft and attaching parts revealed severe wear signatures on the attachment bolts and locking plate, and the bolts displayed signatures consistent with prolonged contact with the rotating idler gear. The bore at the idler gear shaft-mounting pad was also severely worn and elongated. The crankshaft counterbore and corresponding gear revealed fretting and corrosion signatures at the mating surfaces, and the dowel pin was separated in line with the parting surfaces of the gear and counterbore. The dowel pin fracture surface displayed fatigue. A propeller overhaul was completed 20 hours prior to the accident. The Hartzell propeller manual prohibits balance weights in excess of 0.9 ounces (25.51 grams) in any one location on the spinner. Weights totaling 36 grams were found on one location on the airplane spinner.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The failure/separation of the crankshaft idler gear and the fatigue failure and subsequent separation of the crankshaft dowel pin due to the improper static and dynamic balance of the propeller by maintenance personnel.

Full narrative available

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NTSB Identification: WPR09CA157
14 CFR Part 91: General Aviation
Accident occurred Tuesday, March 17, 2009 in San Luis Obispo, CA
Probable Cause Approval Date: 06/11/2009
Aircraft: PIPER PA-24-250, registration: N8215P
Injuries: 1 Uninjured.

NTSB investigators used data provided by various entities, including, but not limited to, the Federal Aviation Administration and/or the operator and did not travel in support of this investigation to prepare this aircraft accident report.

The pilot reported that during touchdown he felt a change in the right crosswind component and his downwind (left) landing gear contacted the ground first. Subsequent right rudder corrections were insufficient and the airplane veered off of the left side of the runway, down an embankment, and impacted an airport perimeter fence. The right wing received an 18-inch-deep by 8-inch-wide indentation approximately 4 feet outboard of the wing root and impact damage to the right wing tip fuel tank.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's inadequate compensation for the crosswinds during touchdown.

Full narrative available

Index for Mar2009 | Index of months

NTSB Identification: WPR11LA102
14 CFR Part 91: General Aviation
Accident occurred Thursday, January 20, 2011 in San Luis Obispo, CA
Probable Cause Approval Date: 01/17/2012
Aircraft: PIPER PA-28-235, registration: N8608W
Injuries: 1 Uninjured.

NTSB investigators may not have traveled in support of this investigation and used data provided by various sources to prepare this aircraft accident report.

The pilot reported that, while on approach to the runway, the vacuum pump failed, then the engine lost power. The pilot initiated a forced landing to a field, and the airplane impacted multiple metal poles. Postaccident examination of the engine revealed that the left magneto drive gear and the left idler gear shaft were separated from their mount. Both of the attachment bolts for the left idler gear shaft were separated from the crankcase, and their respective bolt bores were elongated. One of the attachment bolts for the left idler gear shaft was fractured, and metallurgical examination revealed that the fracture surface was consistent with fatigue. Metallurgical analysis determined that the fatigue was due to a lack of sufficient preload on the bolts. Maintenance records showed that the last logged maintenance activity in which the bolts could have been manipulated was performed about 20 years before the accident. The engine had accumulated about 1,400 operating hours since that time.

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The loss of engine power due to the fatigue fracture of one attachment bolt for the left idler gear shaft, which resulted from an insufficient preload on both attachment bolts.

Full narrative available

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NTSB Identification: WPR13FA289
14 CFR Part 91: General Aviation
Accident occurred Monday, June 24, 2013 in San Luis Obispo, CA
Aircraft: CESSNA P337H, registration: N337LJ
Injuries: 1 Fatal.

This is preliminary information, subject to change, and may contain errors. Any errors in this report will be corrected when the final report has been completed. NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report.

On June 24, 2013, at 1255 Pacific daylight time, a Cessna P337H, N337LJ, collided with power distribution lines, a building, and a delivery truck following takeoff from San Luis Obispo County Regional Airport, San Luis Obispo, California. The airplane was registered to CSC Solutions LLC, and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91. The private pilot sustained fatal injuries; the airplane was destroyed by impact forces and post impact fire. The cross-country personal flight departed San Luis Obispo at 1254, with a planned destination of Palo Alto Airport of Santa Clara County, Palo Alto, California. Visual meteorological conditions prevailed, and no flight plan had been filed.

The NTSB investigator traveled in support of this investigation.

According to air traffic control personnel located in San Luis Obispo Control Tower, the pilot reported that he intended to perform a high speed taxi, followed by a circuit in the traffic pattern, a touch-and-go landing, and then finally a departure. A series of security cameras located at a Fixed Base Operator (FBO) adjacent to the midfield of runway 29 recorded various segments of the flight sequences. The recordings revealed that during the final departure, following the touch-and-go, the airplane appeared to utilize almost the full runway length for the ground roll, then climbed to an altitude of about 150 feet above ground level (agl). A short time later, the pilot transmitted, “Mayday Mayday” over the tower frequency; the tower controller responded, and a broken transmission of, “uh” was then received.

A security camera located at a tire service center, about 1 mile west-northwest of the departure end of runway 29 recorded the airplane's departure path. The camera was facing northeast, and recorded the airplane flying on a northwest track at an altitude of between 100 and 200 feet agl. The airplane remained level as it passed from the right side of the camera's view to the center. It then began to descend out of view, and 4 seconds later, power to the camera was lost. About 20 seconds later power was restored, and the camera recorded a plume of smoke in the vicinity of the airplane’s descent path.

Multiple witnesses located at various locations within the airport perimeter recounted observations corroborating the camera recordings. They all recalled that their attention was initially drawn to the airplane because it was producing an unusual sound during the departure roll. A tower controller reported that she heard the sound of a bang, and looked over towards the airplane as it passed the tower at midfield. Another witness described the airplane as producing a “popping” sound, with another stating the sound was similar to a radial engine. A witness located at an FBO at midfield, reported that he looked up when he heard the sound of “propellers out of sync” and when he did so, he observed the airplane traveling northwest along the runway.

According to friends of the pilot, the airplane had been experiencing a problem with the rear engine during the month leading up to the accident. He left the airplane with a maintenance facility at San Luis Obispo Airport about 1 week prior, where a series of troubleshooting steps were performed. Work orders indicated that the engine was, "stuttering at 2,000 rpm." Maintenance personnel were unable to resolve the discrepancy, and the pilot requested that they discontinue the work. The airplane remained on the ramp, and was not flown again until the day of the accident. Another mechanic at a maintenance facility located at Palo Alto Airport reported that the airplane was brought to him about 2 weeks prior, and that he had attempted to diagnose the same problem. He briefed the pilot on the most likely cause, and was subsequently approached again by the pilot, who agreed to fly the airplane back to his facility on the day of the accident for further diagnostic evaluation.

WRECKAGE AND IMPACT INFORMATION

The main wreckage came to rest adjacent to a cement-block building in a business park, 1 mile beyond, and directly in line with, the departure end of runway 29. The initial point of impact was characterized by damage to a series of three power distribution lines located on the border of the street, which separated the building from a strawberry field. Two of the lines had become separated from their insulator supports on top of the 35-foot-tall wooden power pole. Two pine trees adjacent to the distribution lines were topped at the 35-foot level. A second tree, 50 feet to the northwest, exhibited a 40-feet-wide swath of cut branches at an angle 45 degrees relative to the ground. The debris field, consisting of tree branches and limbs, continued another 25 feet to the building. The building's east-facing wall was about 30 feet tall, and constructed of cement blocks. The right wing was located on the roof of the building, just above a series of diagonal white, blue, and black paint transfer marks on the face of the wall. Additionally, the debris field, consisting of the rear engine's turbocharger inlet wheel and shroud, as well as cowling fragments, continued to the main wreckage, which had come to rest impinged against the front of a delivery truck. The entire cabin area was consumed by fire, and the odor of fuel was present at the site.

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