

LAND USE AND ENVIRONMENTAL ISSUES

OVERVIEW

Existing land uses in the vicinity of Orland Haigh Field are highly compatible with the current type and intensity of airport activity (Figure 8). Problems can occur in the future, however, unless they are anticipated and avoided by timely action.

This chapter examines the nature and extent of present and future impacts generated by Orland Haigh Field and then briefly reviews established compatibility preservation measures. Following these sections is a discussion of specific compatibility concerns and proposals for additional actions to be taken. A final section highlights the environmental impacts associated with implementation of the Master Plan.

CURRENT AND PROJECTED AIRPORT IMPACTS

The principal impacts and compatibility considerations associated with the operation of a small general aviation airport fall into four categories:

- **Noise** – Usually perceived as the most significant adverse impact of airport activity because of its routine, everyday occurrence; measured by standardized composite noise descriptors.
- **Safety on the Ground** – The risk of damage or injury to persons or property on the ground due to an aircraft accident; difficult to address because of the low probabilities involved.
- **Hazards to Flight** – Including physical obstructions to the navigable airspace (tall objects or birds attracted by certain activities) and other land use characteristics that could affect flight safety (e.g. distracting lights, radio interference, etc.).
- **Overflights** – An often overlooked and largely subjective impact having elements of both noise and safety impacts; typically apparent in the annoyance expressed by some people living near the Airport.



FIGURE
8

AIRPORT VICINITY LAND USES



The extent of the impacts generated by Orland Haigh Field are determined by the configuration of the airfield and its flight patterns and by the type and volume of its air traffic.

Noise and Overflight Impacts

The current and projected noise impacts generated by Orland Haigh Field are depicted in Figure 9. The future impact area reflects the activity levels projected at the end of the 20-year master planning time frame with some minor changes in the activity distribution as noted in Chapter 5. Table 10 summarizes the data used to calculate the noise contours for each year.

The Airport's overflight impacts are concentrated along the typical or median traffic pattern flight tracks. It is important to recognize, however, that overflight impacts can be expected to occur in any part of the airport vicinity where aircraft fly at or below the 1,000-foot AGL traffic pattern altitude while approaching or departing the runway. Essentially all such operations take place within a mile of the Airport.

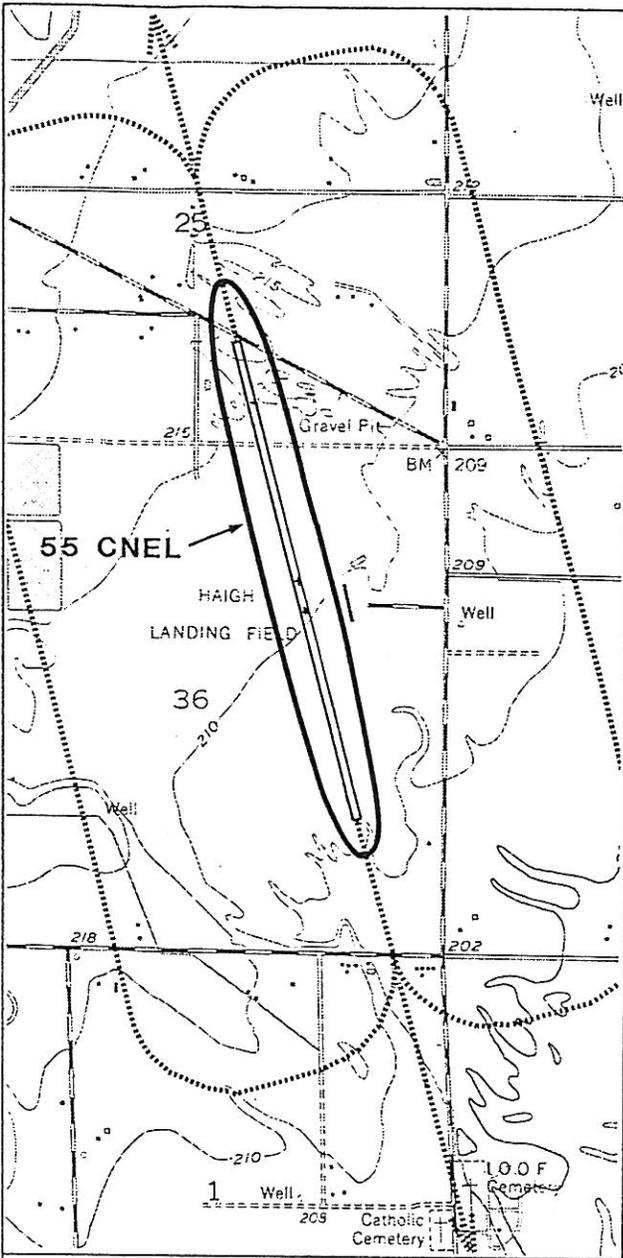
Safety Factors

The limitations on the heights of structures and other objects necessary to protect the navigable airspace around Orland Haigh Field are reflected in the Approach and Clear Zone Plan (Figure 3 in Chapter 3). The depicted limits are set in accordance with Part 77 of the Federal Aviation Regulations. Deviation from these standards does not necessarily connote a safety hazard. It does mean, though, that offending objects must be evaluated by the FAA and that mitigative actions such as marking or lighting be taken if appropriate. The most critical locations with regard to the height of objects are those within the runway approach zones.

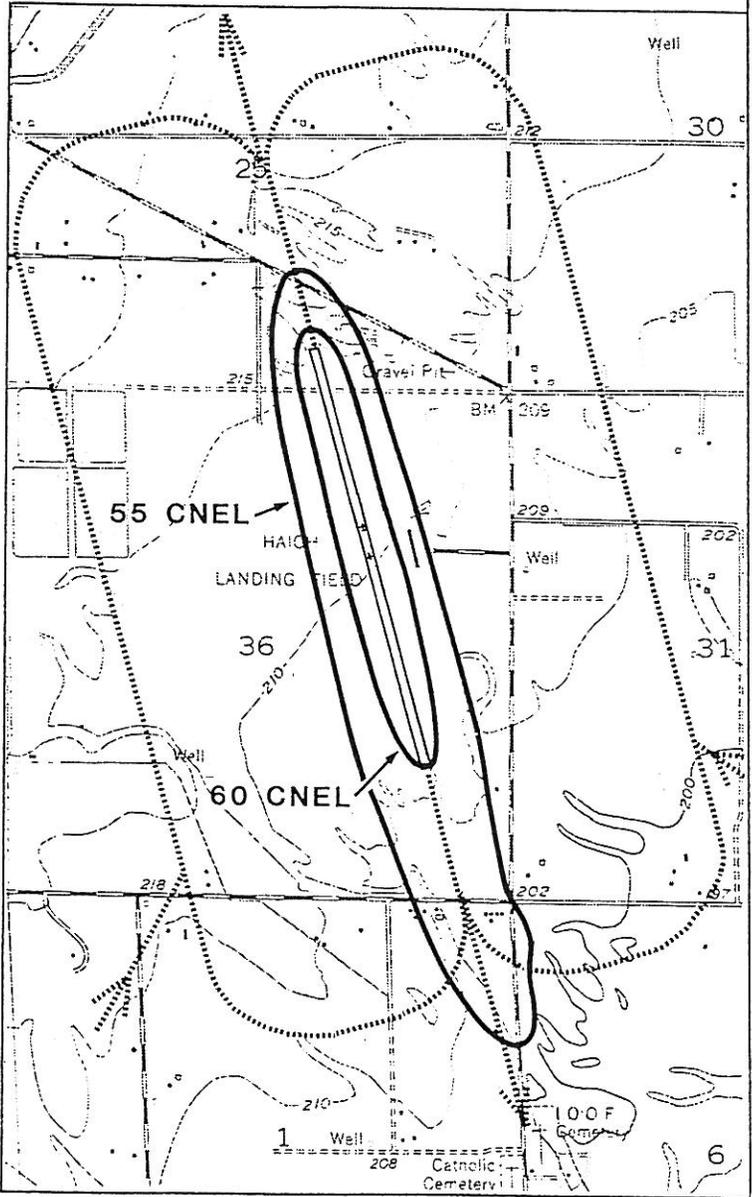
The approach zones are also the most critical areas in terms of the risks to people and structures on the ground. The low altitude at which aircraft must overfly these lands reduces a pilot's choice of where to make an emergency landing if one becomes unavoidable. Other areas with above average risks are along the most common flight tracks for aircraft landing at and departing from the Airport.

ESTABLISHED LAND USE COMPATIBILITY MEASURES

Local land use plans, as well as ordinances and policies, are the principal means used to protect most small airports from incompatible surrounding development. The City of Orland and the County of Glenn each have adopted land use plans, ordinances, and/or policies which regulate development of property in the vicinity of Orland Haigh Field. A review of these documents provides an indication of the potential for future incompatibility problems around the Airport.



EXISTING - 1988



PROJECTED - 2008

..... Typical Flight Tracks



FIGURE
9

NOISE IMPACT AREAS



Table 10
NOISE MODEL CALCULATION DATA

AIRCRAFT MIX

	Annual	Day	Percentage
<i>1988 Estimate</i>			
Single-Engine	22,500	61.6	97.8%
Twin-Engine	480	1.3	2.1%
Business Jet	20	0.1	0.1%
TOTAL	23,000	63.0	100.0%
<i>2008 Projection</i>			
Single-Engine	33,800	92.6	90.0%
Twin-Engine	4,000	11.0	10.5%
Business Jet	200	0.5	0.5%
TOTAL	38,000	104.1	100.0%

TIME OF DAY

	Day 7:00 a.m. 7:00 p.m.	Evening 7:00 p.m. 10:00 p.m.	Night 10:00 p.m. 7:00 a.m.
<i>1988 Estimate</i>			
Single-Engine	95.0%	4.5%	0.5%
Twin-Engine	98.0%	2.0%	0.0%
Business Jet	100.0%	0.0%	0.0%
<i>2008 Projection</i>			
Single-Engine	92.5%	6.0%	1.5%
Twin-Engine	96.0%	3.5%	0.5%
Business Jet	98.5%	1.5%	0.0%

RUNWAY UTILIZATION

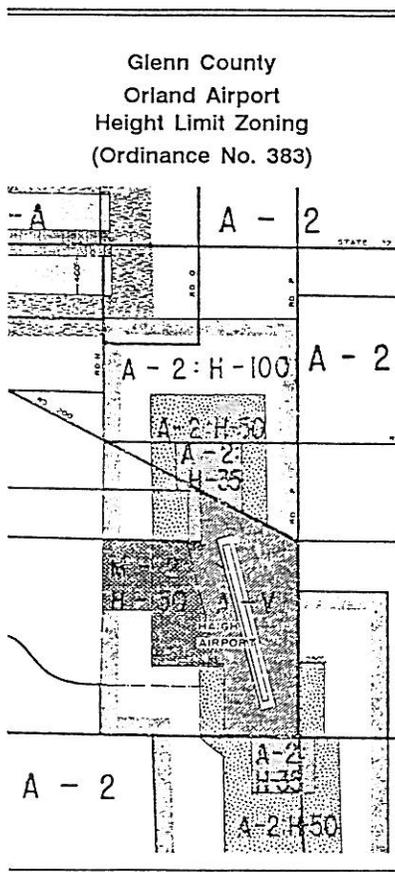
	Percentage of All Operations	
	Runway 15	Runway 33
<i>1988 Estimate and 2008 Projection</i>		
All Aircraft Types	65.0%	35.0%

City of Orland

Orland Haigh Field lies outside both the current city limits and the established planning area boundary of the City of Orland. At the closest point to the Airport, both of these lines fall along the Tehama-Colusa Canal, approximately 0.6 miles from the airport boundary. The Airport consequently has little land use impact on property within the city's jurisdiction. The 1985 Land Use and Circulation Element of the Orland General Plan makes only passing reference to the Airport – noting that it has "sufficient land area for expanding service and facilities to meet the City's needs and also those of the region."

County of Glenn

Except toward the northwest, all of the land surrounding the Airport is within the County's jurisdiction. County planning documents consequently are essential to the protection of the Airport from incompatible development.



The Land Use Element of the 1985 General Plan states that it is a county goal to "protect and maintain agricultural lands." The plan maps show almost all of the land around the Airport for Intensive Agricultural use (40-acre minimum parcels). To the northwest between County Roads 200 and 20, is an area designated for residential uses, including some with parcel sizes of 1.0 acre or less. Much of this development already exists. The plan does not include any policies specifically addressing the need for airport/land use compatibility, although the subject is generally covered by a policy statement that "land use activities shall be discouraged that are inconsistent with functional uses of transportation facilities ..."

A 1960 County Ordinance (no. 383) establishes limits on the height of buildings in the area east of Orland, including the airport surroundings. Adjacent to the Airport, the limits increase in a stair-step fashion from 35 to 50 to 100 feet. (Note: the illustrated runway location does not coincide with that proposed herein).

LAND USE COMPATIBILITY CONCERNS

Despite the existing high degree of compatibility between Orland Haigh Field and its surroundings, several concerns must be addressed. Most important is the need for protection of the runway clear zones and approach corridors.

Runway Clear Zone and Approach Protection

With approximately 390 acres of land, Orland Haigh Field is significantly larger than most general aviation airports found in rural communities. The Airport is nonetheless lacking property in places critical to aviation needs – the runway clear zones and approaches. Acquisition of additional property in these areas is recommended. Such acquisition should be based upon the proposed location of the runway ends and clear zones and take into account the established parcel lines and land uses in the areas affected.

Runway 15 Approach and Clear Zones

Even with the proposed relocation of the approach end of Runway 15, some 3.8 acres of the clear zone will remain on the north side of County Road 200. The property involved is along the western edge of a single 120-acre, agricultural parcel. The adjoining parcels west and north of the clear zone vary in size from 3 to 40 acres. To the west are more small parcels in primarily residential use. A dwelling and several farm buildings are situated on most of these parcels, but no structures are in the clear zone.

Conservation easements should be obtained on a total of approximately 40 acres in the Runway 15 clear zone encompassing the western 660 feet of the 120-acre parcel plus portions of three additional parcels. The purpose of the conservation easements is to assure that the land remains in compatible agricultural use and that no new residential or other incompatible structures are built. In essence, the County would be buying the development rights to this property. In addition, the conservation easements should contain the provisions of a standard aviation easement:

- A right-of-way for free and unobstructed passage of aircraft through the airspace over the property at any altitude above a surface specified in the easement (set in accordance with Federal Aviation Regulations Part 77 and/or criteria for terminal instrument approaches).
- A right to subject the property to noise, vibration, fumes, dust, and fuel particle emissions associated with normal airport activity.
- A right to prohibit the erection or growth of any structure, tree or other object that would enter the acquired airspace.
- A right-of-entry onto the property, with appropriate advance notice, for the purpose of removing, marking or lighting any structure or other object that enters the acquired airspace.
- A right to prohibit electrical interference, glare, misleading light, visual impairments, and other hazards to aircraft from being created on the property.

Runway 33 Approach and Clear Zones

The Runway 33 clear zone sits in the middle of two 20-acre parcels situated between the airport property line and County Road 24. The parcels are inactive agricultural lands with no structures on them. Fee simple acquisition of this contiguous property is recommended as the most practical and surest form of approach protection. Most of the land can be leased for continued agricultural uses.

Additional property acquisition for approach protection south of County Road 24 is not regarded as necessary in the foreseeable future. The land is designated for intensive agricultural use with 40-acre minimum parcel size. The situation should nevertheless be monitored to be certain that circumstances do not arise which would permit incompatible development in the area.

Other Concerns

Three other specific concerns are worthy of note:

- **Spread of Rural Residential Development** – If subdivision of agricultural lands into 1 to 2 acre parcels spreads into areas more directly beneath the traffic pattern northwest of the Airport, compatibility problems likely will arise. In portions of this area, such subdivision is allowable under the County's East Orland Area Land Use Map. To preserve a high level of compatibility, the areas within 1.0 mile, and especially those within 0.5 mile, of the runway end should be kept in large-lot agricultural use wherever possible.
- **Height Limit Ordinance** – The height limits established by County Ordinance No. 383 provide greater protection than required by Federal Aviation Regulations Part 77 in all but the area immediately north of the Airport. The aviation rights associated with the proposed conservation easement acquisition would assure adequate height restrictions in this location. A change to the current ordinance therefore is not essential. However, any modifications or requested exceptions, including antennas, poles, or other such objects, should be reviewed against the Approach and Clear Zone Plan presented in this report. Tree heights also should be held to the ordinance limits unless they are determined to be consistent with the Approach and Clear Zone Plan.
- **County Airport Land Use Commission Status** – An Airport Land Use Commission for Glenn County was established by the Board of Supervisors in April 1985. The commission, though, has never been active. No airport/land use compatibility criteria or other policies by which to review land use plans or proposed development have been adopted. Despite the apparent lack of significant issues to address, the commission should have the necessary policies in place so that it can properly review any matters which may arise. If there is insufficient work to justify a separate Airport Land Use Commission, then consideration might be given to delegating the commission's duties to the County Planning Commission. The latter arrangement is common in many counties.

ENVIRONMENTAL IMPACTS OF AIRPORT DEVELOPMENT

An Initial Study of the environmental impacts associated with implementation of the Airport Master Plan was prepared as part of the planning effort. It is included here as Appendix D.

Both the temporary and permanent impacts of the proposed construction and the long-term effects of the increased airport use are considered. No significant impacts resulting from the proposed aviation-related physical improvements have been identified. At such time as specific proposals are advanced for non-aviation development of designated portions of the Airport, separate analyses will be

required to assess the potential impacts. The proposed T-hangar construction will not have any direct impacts of significance, but will contribute to the overall increase in airport activity. Over the duration of the 20-year master planning period, increased use of the Airport will mean more overflights of surrounding areas and the resulting noise will cause annoyance for some people. Provided that these areas remain predominantly agricultural, as currently planned, these impacts will be minor. No other significant impacts are expected to result from the Airport's increased activity.