5

Finance and Implementation

IMPLEMENTATION

The previous chapters have presented a plan for development of the airfield and building area at Hanford Municipal Airport. This chapter addresses how this plan might be implemented. The first section of this chapter presents and summarizes the assumptions that underlie the recommendations contained in this plan. Next, the Capital Improvement Program is presented and funding sources available for its implementation are presented. In the latter part of this chapter, environmental concerns, particularly noise, will be addressed.

PLAN ASSUMPTIONS

There are a number of explicit and implicit assumptions that shaped the forecasts and designs presented in this plan. Future interpretation of this plan should consider these assumptions. If future conditions do not match these assumptions, the plan's recommendations should be reexamined. The key plan assumptions are listed in the sections that follow.

Community Context

- Agriculture will continue to dominate the local economy, but diversification will continue.
- Closure of area airports will not occur.
- Appropriate land acquisition and land use decisions will be made to enable all airport operations to continue.

Airfield

- No further security mandates will be required from the Transportation Security Agency that will necessitate significant physical changes.
- Leaseholds will be available to support demand for aircraft storage hangars and fixed base operators.

Transient Aircraft Use

- Transient operations by turboprops and jets will increase due to local economic factors and airport improvements (e.g., improved approach minimums and box hangar sites).
- Use by helicopters will continue to be limited.

Implementation

- Funding from the FAA will continue through the planning period.
- Airport development will be shaped by environmental constraints, but will be implemented as scheduled.

CAPITAL IMPROVEMENT PROGRAM

The proposed 20-year Capital Improvement Program for Hanford Municipal Airport is set forth in Table 5A. The listed projects include both proposed improvements, as described in previous chapters, and recommended major maintenance work for the airfield and building area pavement. The total investment over the next 20 years would be approximately $11.2 Million. Required matching funds would total about $560,000. If full state participation occurs, City of Hanford's contribution would be close to $280,000. It is possible that the federal grant program

will change the required matching funds from 5% back to 10%. This would double the required match.

The project costs listed in the Capital Improvement Program represent order-of-magnitude estimates in 2006-dollar values and include design engineering and other related costs and contingencies. The estimates are intended only for preliminary planning and programming purposes. More detailed engineering design and, in some cases, market analyses should be performed before proceeding with the projects. Additionally, as costs for environmental mitigation are not known, they are not included in this CIP. Costs for hangars are not included. It is assumed that they are either developed by private parties or through a self-financing mechanism (e.g., conventional loan repaid through hangar rents).

CAPITAL FUNDING SOURCES

There are a variety of resources from which funding and financing for general aviation airport facilities and improvements can be obtained. These resources include federal grants, bonds, airport sponsor self-funding, and private investment.

Federal Aviation Grants

Currently, the most common source of federal aid for airport facilities is the Airport Improvement Program (AIP) administered by the FAA. Reauthorized in 2004, the current AIP is the latest evolution of a funding program originally authorized by Congress in 1946 as the Federal Aid to Airports Program (FAAP). The current authorization will expire at the end of the 2007 fiscal year. There are no clear indications on whether the grant program will be modified in any way.

The AIP is based upon a user trust fund concept, allocating aviation-generated tax revenues for specified airport facilities on a local matching share basis. The program currently provides for 95% federal participation and 5% local participation on eligible airport projects in California.

		Estimated Costs (in 2006 dollars)		
		Total	**Federal**	**City / State***
Short-Range Projects (within 5 years)				
1	Underground utility poles at Runway 32 end	$670,000	$636,500	$33,500
2	Environmental Assessment (acquisition of 45 acres of land)	$160,000	$152,000	$8,000
3	Land acquisition of 45 acres and 8 residential properties	$2,800,000	$2,660,000	$140,000
4	Appraisal of land and properties	$40,000	$38,000	$2,000
5	ALP Update	$25,000	$23,750	$1,250
6	Install MALSR approach light system	$400,000	$380,000	$20,000
7	Environmental Assessment (acquisition of 108 acres of farmland)	$160,000	$152,000	$8,000
8	Land acquisition of 108 acres, including 3 residential properties	$1,650,000	$1,567,500	$82,500
9	Appraisal for purchase of farmland	$15,000	$14,250	$750
10	FBO site infrastructure	$450,000	$427,500	$22,500
11	Rehabilitate runway, rejuviseal aprons and hangar taxilanes	$750,000	$712,500	$37,500
	Subtotal	***$7,120,000***	***$6,764,000.00***	***$356,000.00***
Mid-Range Projects (approximately 6 to 10 years)				
12	Phase I - Box Hangar Area (39,000 square feet of new pavement)	$420,000	$399,000	$21,000
13	Overlay runway and taxiway, rejuvaseal apron and hangar area	$1,825,000	$1,733,750	$91,250
	Subtotal	***$2,245,000***	***$2,132,750***	***$112,250***
Long-Range Projects (approximately 11 to 20 years)				
14	Phase II - Box Hangar Area (38,000 square feet of new pavement)	$325,000	$308,750	$16,250
15	Slurry seal runway and taxiways, overlay apron	$1,460,000	$1,387,000	$73,000
	Subtotal	***$1,785,000***	***$1,695,750***	***$89,250***
	TOTAL	***$11,150,000***	***$10,592,500***	***$557,500***

Note: Projects within each phase are not ordered chronologically

* State grant on some projects could apply

Source: Mead & Hunt, Inc. (June 2006)

Table 5A

Capital Improvement Program

Hanford Municipal Airport

Under the AIP, there are both *entitlement* and *discretionary* grants. There are two types of entitlement grants in the current program. General aviation airports can qualify for up to $150,000 annual entitlement. Commercial service airports in the "Primary" category qualify for large entitlement grants based upon the volume of passengers enplaned at the airport in the prior year. Discretionary grants are awarded on a competitive basis, based upon need. As a general aviation airport, Hanford Municipal Airport qualifies for the $150,000 annual entitlement and discretionary funding.

State Aviation Grants

The State of California operates a grant program similar in concept to the Federal AIP program. All grants are awarded on a competitive basis. Grants are judged using a numerical weighting scheme. Priority is given to providing matching funds for federal grand and projects that enhance safety.

State Annual Grant

Most general aviation airports in California are eligible to receive a $10,000 annual grant from the State. These funds can be used for airfield maintenance and construction projects, as well as airfield and land use compatibility planning. Airports designated as *relievers* by the FAA are not eligible for this grant. Hanford Municipal Airport is not a designated reliever airport and is, therefore, eligible to receive this grant.

State Loan Program

The Caltrans Division of Aeronautics also administers a revolving loan program. Loans are available to provide funds to match AIP grants or develop revenue-producing facilities (e.g., aircraft storage hangars).

Other Grant Programs

Airport projects can also sometimes qualify for grant funding from nonaviation sources. Although not commonly available, airports have received grants from a variety of federal and state programs, including: economic development, community development, and rural infrastructure.

Bonds

Bond funds are a potential source of revenue to support development of larger projects. Given the high underwriting costs and relatively small size of most of Hanford Municipal Airport's projects, it is not anticipated that bonds would be used. However, it is may be possible to participate in bonds being issued by City of Hanford or a regional agency. It is more likely that bond funds would be used to construct revenue-producing facilities, such as hangars.

Airport Sponsor Self-Funding

At general aviation airports the size and character of Hanford Municipal, airport sponsor self-funding is principally provided by a combination of airport-generated income and airport owner (municipal) funds. These funds are often used to finance airport improvements that are not grant eligible, and the local matching share for grants-in-aid. Use of this source is the simplest, and often most economical method, because direct interest costs are eliminated.

Private Investment

Private sector investment is an important source of funding for some types of airport improvements. At Hanford Municipal Airport, private funding is most likely to be used to construct larger aircraft storage hangars and fixed base operator facilities.

The most common sources of funding for private sector development are commercial lending institutions and insurance companies. In the case of private development on public lands, these types of financing may be difficult and expensive to obtain because the borrower can encumber only the improvements as loan collateral. It is essential that agreements be reached with the tenants that provide for adequate airport revenues and facility development, while encouraging private investment and satisfying tenants' borrowing requirements. Specifically, the lease term should be sufficient to allow reasonable investment amortization over the period of the agreement.

Those capital expenditures that are most appropriately constructed with private funds have been excluded from the list of proposed capital projects identified in the *Master Plan* (see Table 5A).

ENVIRONMENTAL CONSTRAINTS

Development projects for Hanford Municipal Airport will occur within the regulatory structure of the State of California and the United States government. Both levels of government have environmental regulations that must be considered. This section is intended to identify potential constraints to implementation of the project identified in this plan. Only those factors that might potentially limit proposed development are presented.

Implementation of this master plan will result in development projects in three areas. Most development will occur within or adjacent to the existing building area. Unpaved land within the existing building area has been graded and is seasonally mowed. Adjacent areas have been farmed continuously. Limited development will also occur in two locations in the approach to Runway 32. An approach lighting system is proposed to be installed. This will occur in an area that has been graded and is regularly mowed. Finally, utility poles in the approach will be placed underground and/or relocated. This will occur in graded utility corridors along the perimeter of local roads and farmland.

Biological

Potential biological constraints were analyzed based upon a review of published data and previously conducted field work. Based upon this research, the following conclusions can be drawn:

- **Wetlands and Other Waters of the U.S.** – While remnant creek channels exist in the general vicinity of the airport, no potential wetlands have been identified on airport property. Lakeside Ditch crosses airport property in the approach to Runway 32. This ditch may qualify as Other Waters of the U.S. under the Clean Water Act. However, no modification of the ditch is proposed as a part of this plan.

- **Sensitive Species** – Wildlife in the airport vicinity is dominated by species typically associated with agricultural regions in the San Joaquin Valley: scrub jay, song sparrow, house mouse, Botta's pocket gopher, as well as other small mammals and reptiles. A search of the California Natural Diversity Data Base was conducted to identify potentially sensitive habitat types, and plant and animal species in the airport area. No endangered, threatened, or special status species were recorded in the airport area. Three species

appeared under the category of Other Elements to Look For: California tiger salamander (Ambrystoma californiense), Fresno kangaroo rat (Dypodomys nitratoides), and Recurved larkspur (Dephinium recurvatum). A prior field survey did not identify any occurrences of these species or suitable habitat for them.

Based upon the available data, it does not appear that biological features will be a constraint to proposed projects.

Noise Effects

Noise is often described as unwanted or disruptive sound. Because of its routine, everyday occurrence, it is usually perceived as the most significant adverse impact of airport activity. This section will evaluate the noise effects of implementation of the master plan.

A pure sound is measured in terms of: its magnitude, (often thought of as loudness) as indicated on the decibel (dB) scale; its frequency, (or tonal quality) measured in cycles per second (hertz); and its duration or length of time over which it occurs. To measure the noise value of a sound or series of sounds, other factors must also be considered. Airport noise is particularly complex to measure because of the widely varying characteristics of the individual sound events and the intermittent nature of these events' occurrence.

In an attempt to provide a single measure of airport noise impacts, various cumulative noise level metrics have been devised. The metric most commonly used in California is the Community Noise Equivalent Level (CNEL). This measure is similar to the Day-Night Average Sound Level (DNL or L_{dn}) metric used elsewhere in the United States. The results of CNEL calculations are normally depicted by a series of contours representing points of equal noise exposure in 5 dB increments. Key factors involved in calculation CNEL contours are noted in the sidebar.

Integrated Noise Model Inputs

- The number of operations by aircraft type or group.
- The distribution of operations by time of day for each aircraft type.
- The average takeoff profile and standard approach slope used by each aircraft type.
- The amount of noise transmitted by each aircraft type, measured at various distances from the aircraft.
- The runway system configuration and runway lengths.
- Runway utilization distribution by aircraft type and time of day.
- The geometry of common aircraft flight tracks.
- The distribution of operations for each flight track.

Precision of noise contours: As with all modeling, there are inherent limitations to the precision of noise contours prepared using the Integrated Noise Model program. On average, the model is only accurate within about 3 decibels. The location of contour boundaries for lower noise levels are less precise than higher noise levels contours. To a large degree this is because variability in pilot and aircraft performance becomes more pronounced further from the runways.

Noise contours were prepared using the FAA's Integrated Noise Model (Version 6.1). Both current and forecast operational levels were modeled. Figure 5A presents the noise contours for the current activity level. Future noise contours for 2025 are presented in Figure 5B. These contours assume that there are no changes in length to either runway. Noise model inputs are presented in Appendix E.

Federal guidelines suggest that all land uses are acceptable outside of the 65 CNEL contour. However, this standard was established with major metropolitan areas in mind. With City of Hanford's lower ambient noise levels, it is appropriate to consider noise effects outside of the 65 CNEL contour. The *Comprehensive Airport Land Use Plan (1990)* adopted by the Kings County Land Use Commission sets a limit of 60 CNEL for most residential uses in the airport's environs.

Currently all of the 65 CNEL contour fall within airport property. The 60 CNEL contour lies within airport property, except where it extends about 75 feet onto a rural residential parcel east of the runway.

Noise contour inputs for 2025 include:

- Activity level increases (described in Chapter 2)
- Shift in fleet mix to larger aircraft (described in Chapter 2)

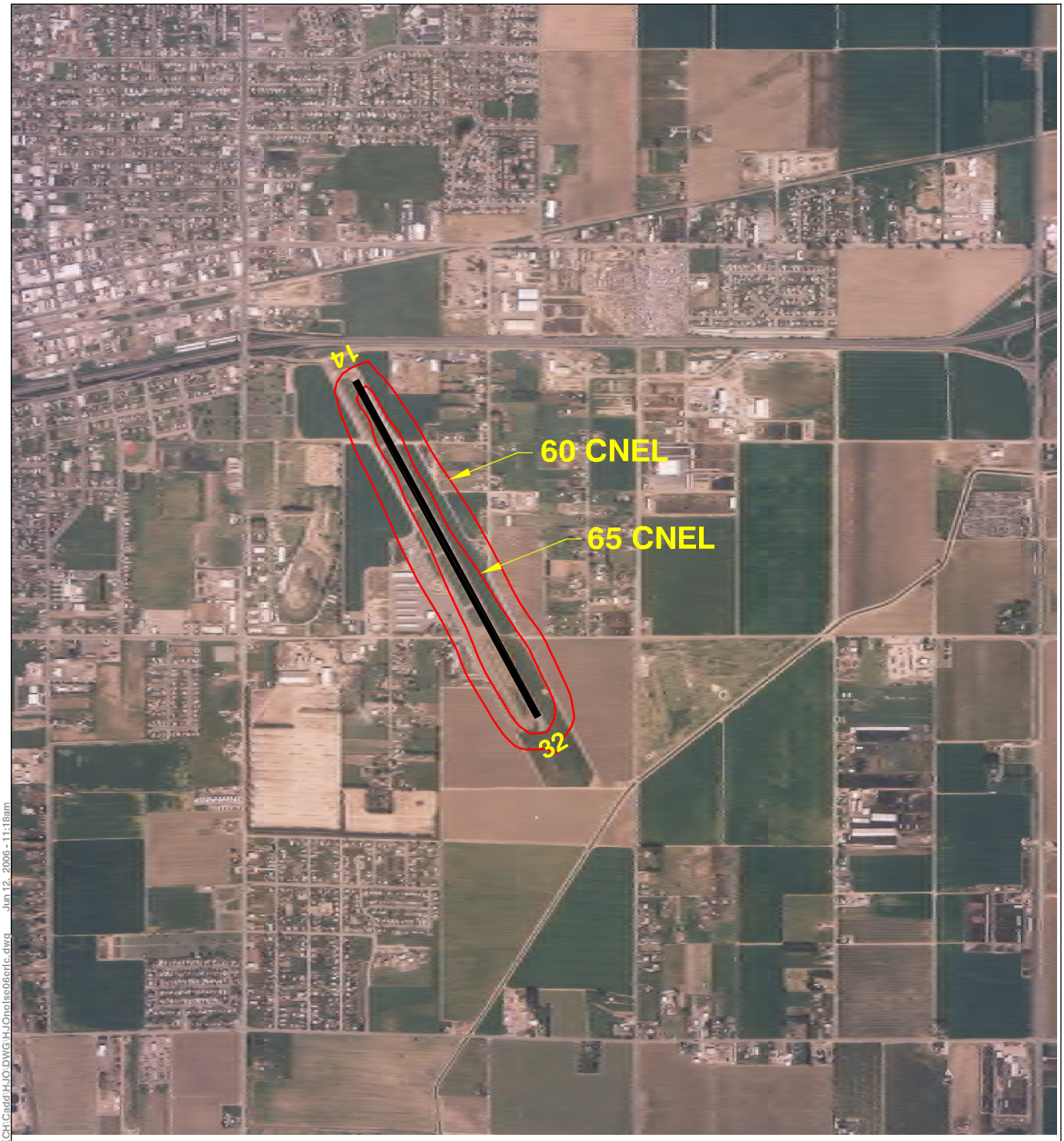
Under the forecast assumptions listed above, the 2025 noise contours have the same basic shape as current contours. However, the contours have been expanded by the forecast increase in operations. All of the 65 CNEL contour remains within airport property. The 60 CNEL contour extends beyond the airport to the northeast and east. The 60 contour encompasses two houses and extends onto two other rural residential parcels (but not their residences) and one commercial parcel.

The rural residential parcels that fall within the projected noise contours are proposed to be acquired in fee simple. This will remove all residential uses from within the 60 and 65 CNEL contours. Therefore, noise is not judged to be a constraint to implementation of this maser plan.

Figure 5A

Existing Noise Contours (2005)

Hanford Municipal Airport



Source: Mead & Hunt, Inc. (June 2006)

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Figure 5B

Future Noise Contours (2025)

Hanford Municipal Airport

Cultural Resources

A record search of the California Historical Resources Information System did not identify any historical or cultural resources within the areas in which development is proposed. Therefore, this factor is not anticipated to be a constraint to implementation of this master plan.

Air Quality

Kings County is currently designated as nonattainment for three pollutants: ozone (8-hour standard) and particulates (PM 10 and PM 2.5). The volume of aircraft use is forecast to increase over the 20-year planning period. Growth in aircraft use will result in a parallel growth in automobile use. Both of these will cause an incremental increase in air pollutants attributable to airport operations. Construction activities will also create short-term increases in air pollution. Modeling should be prepared to quantify air quality impacts of *Master Plan* projects. Given the scale of growth projected for the airport, it is anticipated that air quality impacts will be judged to be less than significant, except for particulates. Particulate impacts are expected to be able to be reduced to less than significance through standard dust control measures (e.g., watering, covering stock piles, etc.).

Traffic

Forecast growth in based and transient aircraft will result in an increase in automobile traffic. The increase in traffic is anticipated to be slight. Access to the airport is from Hanford Armona Road which ends at the airport. It is approximately 0.4 mile to the nearest intersection (10th Avenue). Land uses on this two-lane road are a mixture of residential, office and low intensity commercial. Traffic volumes are very low. The minor increase in airport-generated traffic is not expected to have a significant effect on traffic.

Hydrology

The entire airport lies outside the 500-year flood zone presented on the Federal Emergency Management Agency's Flood Insurance Rate Maps No. 060086-0005B and 060086-0075B. Therefore, special building or site designs will not be required.

Environmental Review

Environmental review under the provisions of the California Environmental Quality Act will be required before this plan can be adopted. Based upon the available information, it is anticipated that a mitigated negative declaration would be needed to adopt this airport master plan.

Acceptance of this airport master plan (including approval of the activity forecasts) and conditional approval of its airport layout plan does not require action under the requirements of the National Environmental Policy Act. All of the proposed projects shown on the airport layout plan may qualify for categorical exclusions unless extraordinary circumstances apply. None of the environmental factors identified in the constraints analysis presented above appear to meet the definitions of extraordinary circumstances identified in FAA Orders 5050.4B and 1050.1E.