

CHAPTER 7

AVIATION

I. OVERVIEW

General aviation aircraft and airports are essential to the viability and economy of communities and businesses in Kings County. Within Kings County, all public-use and private airports are utilized for General Aviation aircraft (i.e. smaller, recreational or business). There is no commercial airline passenger service within Kings County. Much of the flight activity in Kings County centers on the county's dominant farming economy where chemical application aircraft (crop dusters) make up a sizable portion of all business aircraft.

The majority of aircraft are based at the two largest Kings County facilities, Hanford Municipal Airport and Corcoran Airport, and at a number of privately owned airstrips. Whereas past trends in Kings County have reflected decreased levels of general aviation activity since the 1960's recreational flying "boom", the contribution by general aviation airports to regional growth is expected to increase. The Federal Aviation Administration (FAA) forecasts an average annual growth of 1.2 percent in General Aviation hours flown nationwide over the next 20 years, according to the *FAA Aerospace Forecast Fiscal Years 2016-2036*. The FAA predicts business usage to increase at a faster pace than that for personal and recreational use and increases in demand for agricultural use due to advancing turboprop aircraft in the industry. The forecast projects "light sport" aircraft (single propeller/two seater lightweight aircraft) used for recreation will impact the market with a 5.0 percent annual growth for 2016, primarily driven by growth in the fleet. A potential shift to transient corporate aircraft activities with future industrial and commercial uses and the economics of small plane manufacturers is anticipated to impact future growth in General Aviation activity within Kings County.

According to the FAA Registry for aircraft, there are 181 General Aviation aircraft based in Kings County. Accommodating these aircraft are approximately 40 Basic Utility Airports and landing strips. Except for the Lemoore Naval Air Station (LNAS), these facilities generally belong to one of three classes: 1) publicly-owned airports, open for public use; 2) privately-owned airports, open for public use; and 3) privately-owned airports for private use only. This chapter examines the role of airports in each category, giving special attention to the role of public airports and how they fit into the larger picture of regional and community development.

II. ASSUMPTIONS AND INVENTORIES

A. ASSUMPTIONS

1. The Hanford Municipal Airport will continue to satisfy the largest single portion of General Aviation demand in Kings County. Private airports and airstrips serving the remaining agri-business and recreational aviation demand will continue to support the regional economy, making sustainability of general aviation airports increasingly important. Figure 7-1 indicates airport facilities within Kings County and Figure 7-2 provides descriptive data about several airports and airstrips within the region.
2. The future of General Aviation activity in Kings County will be intricately linked to the expansion of the Hanford Municipal Airport as the principal public-use airport serving the County. Figure 7-3 shows the majority of based airplanes within Kings County at Hanford Municipal Airport.

3. The Hanford Municipal Airport is the only public aviation facility in Kings County and does not offer scheduled commercial flights. With the closure of the Visalia Municipal Airport to commercial flights in 2016, the Kings-Tulare County region will foreseeably need a new primary commercial service airport in the future.
4. Most commercial air passenger demand by Kings County residents will be satisfied by the Fresno Yosemite International (FYO) Airport served by seven major airlines as of December 2017. The greatest interaction between Hanford air traffic in Kings County is with the Visalia Municipal Airport, which currently serves only one personal charter flight service to various destinations. The level and dependability of air passenger service from Fresno and Visalia airports have fluctuated as regional airlines end or begin service based on economic changes in the passenger airline industry, and with the closure of the Visalia Municipal Airport's commercial flight services. As a result, a majority of people are forced to drive to farther cities of Los Angeles or San Francisco to obtain direct air service to both domestic and international major cities. Figure 7-4 shows the number of revenue enplaned passengers for Visalia Municipal Airport over the past 13 years. Over 3 years ago, the airport counted as many as 3,300 enplanements, but has recently declined substantially with a decrease in over 5,400 enplanements in 2016. This decrease was the result of the city's end to commercial airline service by mid-year.

Figure 7-5 shows enplanements for Fresno-Yosemite International Airport over the past 13 years and a more recent record-breaking growth trend positioning the airport to outperform prior record years. This upward trend is the result of strong bookings occurring on each of the seven major airline operators based at the airport. The airport was completely renovated in 2008 doubling the baggage claim area, terminal lobby remodel, and security screening checkpoint expansion. The Fresno Yosemite terminal remodel was updated with public art reflecting the State National Parks: Yosemite, Kings Canyon and Sequoia. In 2016, the rental car facility was remodeled and consolidated to provide convenient and direct access to vehicle pick up and drop off at the airport.

5. The LNAS will continue to play an important role in national defense. LNAS will continue to expand and remain the prominent military air base for the training of light attack aircraft and bomber pilots in the Western United States.
6. Kings County will generate relatively little demand for air cargo transportation.

B. AIRPORT INVENTORY

1. Public Airports: Public Use
 - a. Hanford Municipal Airport

The Hanford Municipal Airport is situated one mile southeast of the central business district of the city of Hanford. Serving the majority of aviation demand, the Hanford Municipal Airport is the only city-owned air facility in the County and will remain the most active public use, public airport for the foreseeable future. The airport is for general aviation and does not offer commercial flights. As of November 2017, there are 35 aircraft based at the airport and an average of 79 aircraft operations a day. About 50% of operations are transient general aviation and 50% are local general aviation aircraft for recreation and business. Several crop dusters are also based at the airport though these planes cannot land at the airport while carrying chemicals used for agricultural spraying due to environmental restrictions to chemical dumping.

Hanford Municipal Airport is located on 295 acres at 9½ Avenue and Hanford Armona Road. The City of Hanford acquired the site in 1950 by using Hanford general funds and a Federal Aviation Administration (FAA) grant to develop the airport. Today, the non-towered facility consists of one runway that is 5,180 feet in length with a 75-foot wide paved parallel taxiway, transient and based tiedown aprons, and medium-intensity runway lights. The runway is designed to accommodate aircraft with wingspans of up to 79 feet and speeds of up to 121 knots. The runway can accommodate larger aircraft on an occasional basis. The airport includes several conventional hangers and tee shelters, a jet fuel facility, aircraft parking areas, and aircraft washrack. As of 2016, the aircraft parking capacity totals 116 spaces and 37 hangar units, 30 shade hangar units, and 49 tiedowns.

The airport also serves as a base for the National Weather Service to provide current and forecasted weather conditions in the area. An Automated Surface Observation System (ASOS) may be reached 24-hours a day for up-to-the-minute weather information.

According to the Hanford Municipal Airport Master Plan (adopted 2010), the average daily aircraft operations projected in 2015 will be 28 with 59% by single-engine propeller aircraft. Approximately 70% of the annual aircraft operations will consist of itinerant operations. Annual operations are forecasted to reach 13,800 with 110 based aircraft by the year 2025.

2. Private Airports: Open to Public Use

a. Avenal Airport

Located adjacent to the City of Avenal off of State Route 33, the Avenal Airport is privately owned and operated by the Central Valley Soaring Club. Prior permission is required for public use of the facility. The Avenal airport encompasses 83 acres which includes one runway consisting of compacted earth with some stabilization in fair condition. Seven planes and gliders are based at the airport owned by members of the soaring club, which include a tow plane, training gliders and single seat gliders. Noise impacts are not considered a problem at Avenal Airport as daily aircraft operations are too infrequent to contribute significantly to any airport noise problems for residents in the area.

3. Private Airports: Private Use Only

There are approximately 21 other aircraft landing facilities in Kings County. The great majority of these smaller landing strips are used by crop dusters, although several are for the sole use of personal aircraft. These facilities range in size from 1,000-foot unnamed and unpaved landing strips, to somewhat larger airfields with asphalt and lighted runways. Among these, the Corcoran Airport is utilized for agricultural crop dusting by private companies. Other privately-owned airports include a few heliports utilized by private farms, local hospitals, and the County fire department for emergency response.

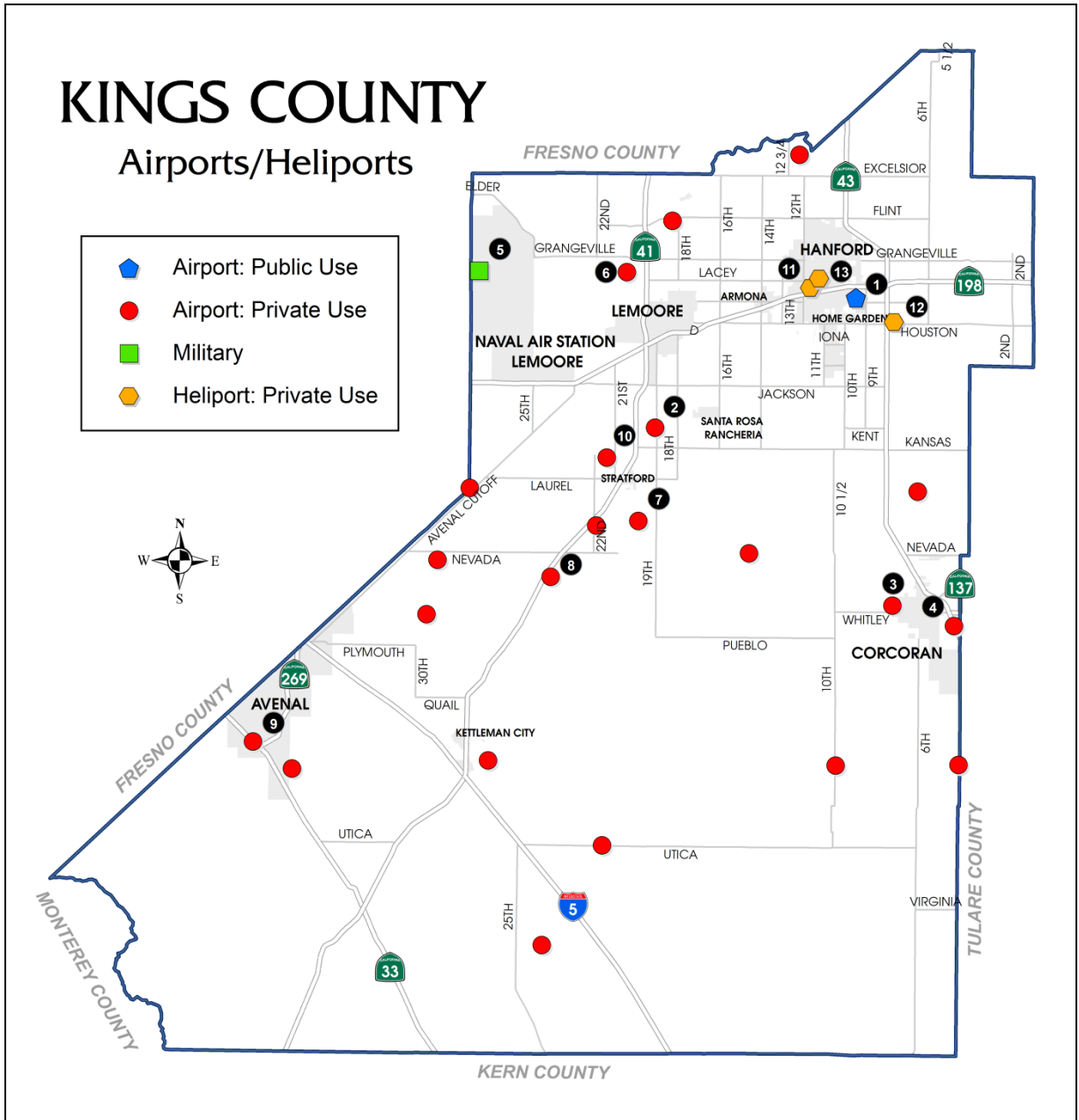
4. Military Air Facilities

a. Lemoore Naval Air Station

Commissioned in 1961, Lemoore Naval Air Station (LNAS) is the Navy's largest and only west coast Master Jet base. LNAS's mission is to support the US Navy fleet carrier strike fighter squadrons. The base hosts over 40 aviation tenants, including the Commander Strike Fighter Wing, US Pacific Fleet. Past aircraft inventories consisted of the A-1 Skyraider, the A-4 Skyhawk, and the A-7 Corsair II. Currently, the base hosts over 40 aviation tenants, including the Commander Strike Fighter Wing, US Pacific Fleet. LNAS hosts 16 F/A-18 operational Strike-Fighter squadrons, 2 Strike-Fighter Fleet replacement squadrons, and all four west coast Carrier Air Wing Commanders and their staffs. LNAS is home to 250 F/A-18 Hornet Strike Fighters and F/A-18E/F Super Hornets and conducts approximately 210,000 flight operations each year.

Since 2015, LNAS has commenced the development of its facilities to support new incoming F-35C aircraft in the Navy Pacific Fleet to replace aging aircraft. The F-35C Lightning II Joint Strike Fighter is a single-engine, technologically advanced, fifth-generation strike fighter designed to operate from conventional runways and nuclear-powered aircraft carriers. Seven F-35Cs are currently homebased, and by 2028 LNAS is planned to homebase up to 280 operational aircraft consisting of 10 Super Hornet squadrons and 7 Joint Strike Fighter squadrons.

FIGURE 7-1



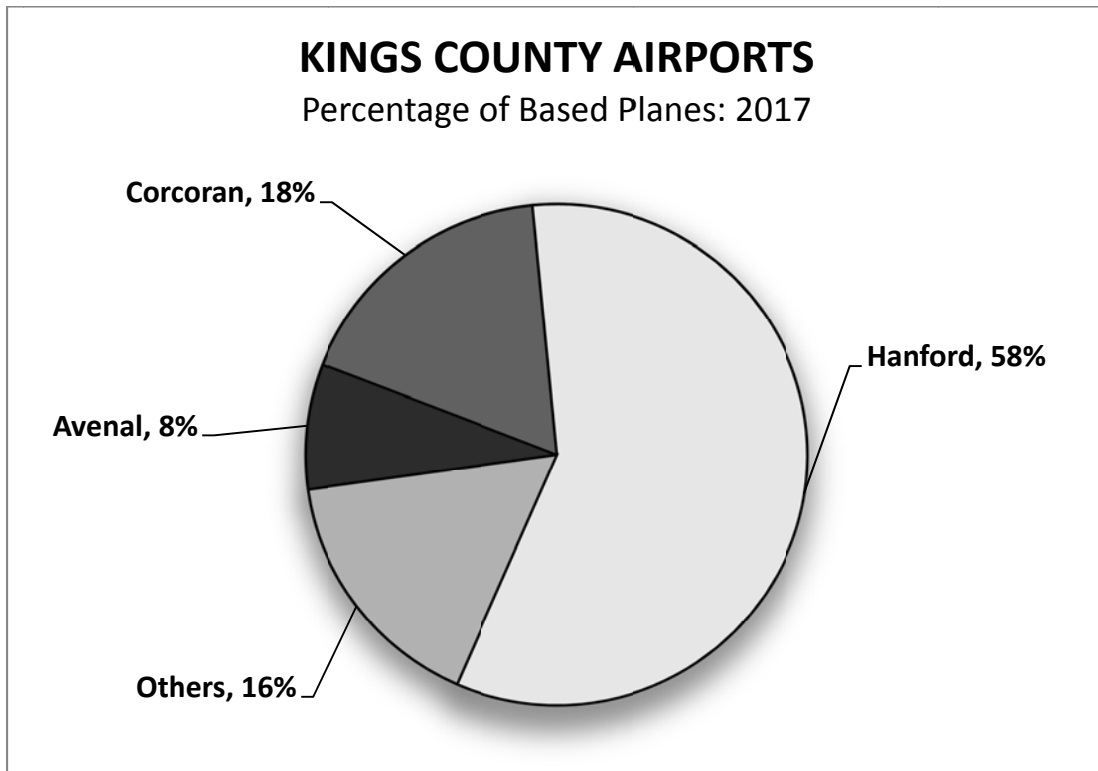
Source: KCAG, FAA: https://www.faa.gov/airports/airport_safety/airportdata_5010/

FIGURE 7-2**KINGS COUNTY AVIATION FACILITIES
2017**

AIRPORT/OWNER NAME	ASSOCIATED CITY	TYPE OF USE	OPEN TO PUBLIC	RUNWAY DESCRIPTION			BASED PLANES
				LENGTH	WIDTH	SURFACE	
1. Hanford Municipal	Hanford	Public	Yes	5,180	75	Asphalt	35
2. Blair Strip (Herbert Canady)	Hanford	Private	No	2150	45	Treated	3
3. Corcoran (H & G Farms / Lakeland Dusters)	Corcoran	Private	No	3,800	50	Asphalt	10
4. Salyer Farms (J.G. Boswell)	Corcoran	Private	No	6,815	75	Asphalt	3
5. LNAS Reeves Field (U.S. Navy)	Lemoore	Military	No	13,500	200	Concrete	n/a
6. Stone Airstrip (W.T. Stone)	Lemoore	Private	No	2,540	30	Asphalt	3
7. Machado Dusters	Lemoore	Private	No	2,600	60	Asphalt	5
8. Westlake Farms	Lemoore	Private	No	3,600	50	Asphalt	3
9. Avenal	Avenal	Private	Yes	2,880	100	Dirt	6
10. Jones Farms (L.W. Newton)	Lemoore	Private	No	1,900	50	Asphalt	1
11. Adventist Medical Center Hanford Heliport	Hanford	Private	No	48	48	Concrete	n/a
12. Kings County Houston Ave. Heliport	Hanford	Private	No	54	54	Concrete	1
13. Hanford Community Medical Center Helistop	Hanford	Private	No	55	55	Concrete	n/a
14. Others	---	---	---	---	---	---	4
TOTAL							74

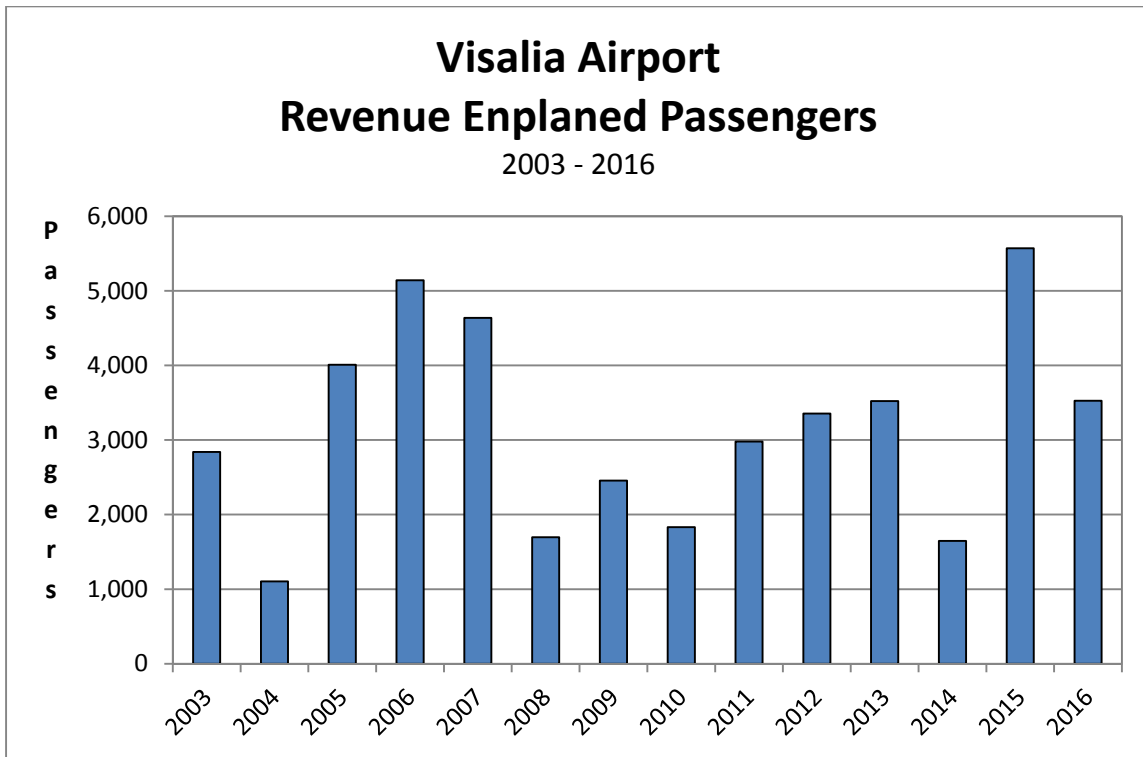
Source: FAA Aeronautical Information Services, Airport Facilities Directory (AFD), AirNav.com

FIGURE 7-3



Source: FAA Aeronautical Information Services, Airport Facilities Directory (AFD), AirNav.com

FIGURE 7-4



Source: FAA, DOT, ACAIS Database, City of Visalia Municipal Airport

FIGURE 7-5



Source: FAA, ACAIS Database

III. SUMMARY OF AVIATION ISSUES

A. PUBLIC AIRPORTS: PUBLIC USE

1. Hanford Municipal Airport

Regional Economic Importance. The Central California Aviation System Plan (CCASP) identifies airport system requirements based on forecasted operations and number of based planes, and presents an action plan to implement the system improvements (discussed below in Section IV, Action Element). The improvements to Hanford Municipal Airport facilities are tied to the airport's role as a beneficiary to Kings County's projected population and employment growth. Any improvements for Hanford Municipal Airport should be implemented for Kings County's economic benefit.

Area of Influence. It is the primary responsibility of County Airport Land Use Commissions (ALUCs) to ensure that proposed land uses in the vicinity of airports are compatible with airport operations. The three primary concerns for the ALUC are height restrictions to protect airspace around airports, reducing risk to the public from airport operation and accidents, and minimizing the effects of noise in the surrounding communities. Any project that falls within the boundaries of the airport's safety zone must be reviewed and approved by the Commission. The Federal Aviation Administration (FAA) makes determinations regarding potential height and safety violations, and the California Code Regulations (CCR's) contain noise standards governing airports and the operation of aircraft and aircraft engines. Planning airport improvement projects must comply with all regulations in addition to local zoning. With the changing of state law in 1993, county ALUCs were deemed optional, and Kings County decided that local zoning policies could adequately address airport/land use compatibility issues without an ALUC.

Both the City of Hanford and the County of Kings have utilized policies found in the Kings County Airport Land Use Compatibility Plan (KCALUCP) regarding land uses surrounding Hanford Municipal Airport. The KCALUCP provides airport zone designations for compatibility with land use development and establishes Compatibility Zones A, B1, B2, C and D to distinguish definitive zone dimensions and airfield criteria. Compatibility airport policies are used by the City of Hanford as the land use element of the Hanford Municipal Airport master plan to provide guidance for planning purposes. No new residential construction, including schools, churches, libraries, hospitals, or other facilities which accommodate large groups of people are to be developed in Clear Zone A (closest to the runway), no new structures may be built within 300 feet of the center line of the runway or 1,000 feet from the ends of the runway, and height limitations of structures shall be in conformance with federal regulations. Residential lot development is prohibited in Clear Zone B (adjacent and further out from Clear Zone A), however single family homes may be built on existing lots in Clear Zone B once an evaluation of hazard risk is completed.

Kings County and KCAG will continue to coordinate with the City of Hanford in order to promote further consistency in developing City and County land areas potentially affected by the Hanford Municipal Airport operations.

Hanford General Plan Update

The City of Hanford adopted its 2035 General Plan in April 2017, which added a new land use designation, Airport Protection, to promote the safe operation of Hanford Municipal Airport and protect its viability as a significant economic resource to the community by discouraging incompatible nearby land uses and densities, thereby reducing risk and nuisance to people and property. Allowable uses that are compatible with the noise, air quality, and traffic impacts associated with airports, such as aviation-oriented commercial and industrial uses, are encouraged near the airport whenever possible. Typical uses include agricultural and rural residential uses at very low densities. As of 2017, there are 638 acres of available land surrounding the Hanford Airport.

The Hanford General Plan requires the review of all new development in proximity to the Hanford Municipal Airport for compliance with Federal Aviation Administration (FAA) requirements and compatibility with the Hanford Airport Master Plan standards. The General Plan also requires the evaluation of compatibility of airport uses, activities, and operations with all new development in proximity to the airport prior to approval and to protect sensitive uses, such as residences, schools, and hospitals from over-flight areas.

B. PRIVATE AIRPORTS OPEN TO PUBLIC USE

1. Avenal Airport

There are no facility changes or improvements to Avenal Airport planned in the foreseeable future. The privately-owned airport is considered in the City of Avenal General Plan for aircraft noise and public safety. There are scattered residences in the airport sphere of influence, especially in the area immediately south of the runway. This area has been zoned agricultural and very low-density residential uses. However, there is presently no threat to these residences by aircraft operations with very light, infrequent air traffic and glider activities which produce very low noise impacts, if any. The City of Avenal and Kings County will continue to monitor any changes in land uses in the proximity of the airport.

C. PRIVATE AIRPORTS: PRIVATE USE ONLY

1. Corcoran Airport

Public Ownership. Previously under consideration for public ownership, there are no plans by either Lakeland Dusters Aviation Inc. or the City of Corcoran for the public purchase of the Corcoran Airport. Lakeland Dusters operates pistachio groves around the airport which at full growth would interfere with FAA regulations for public use, and Lakeland Dusters has no future plans to open to the public. Nearly all of Corcoran's airport activity is by agricultural aircraft, and there is no long range master plan that has been prepared regarding future use and development of Corcoran Airport.

Area of Influence. Adopted in November 2014, the Corcoran General Plan and establishes that residential development within the southeasterly approach zone is to be restricted within a horizontal distance extending approximately 3,000 to 4,000 feet southeast of the end of the runway. Per the City's Circulation Element, the City's Land Use Element and Zoning Ordinance restrict potentially hazardous land uses within Compatibility Zones A and B1/B2. Compatibility Zone A (area nearest the airport runway) prohibits new residential construction, new schools, churches or other large group facilities, restricts height of structures, and prohibits new

structures within 300 feet of the center line of the runway or 1,000 feet from the ends of the runway. The area immediately adjacent to Zone A is Compatibility Zone B1/B2 which prohibits new residential lots and where there may be unacceptable noise levels, limits new single family residential construction to a case-by-case basis after evaluation for potential hazards, and prohibits new schools, churches, or other large group facilities. The City's Circulation Element designates land uses around public and private airports compatible with the health, safety, environmental and economic concerns of the community and in conjunction with the KCALUP.

The City's Land Use Element requires residential areas adjacent to the airport to meet certain setbacks and special soundproofing to ensure that exterior noise levels at the closest building façade do not exceed 65 dB Ldn and interior noise exposure of 45 dB Ldn or below. In addition, mitigation measures such as compliance with performance standards of the Noise Element and the use of site design techniques for multi-family development are encouraged.

For aircraft overflight hazards, the Noise Element requires all projects within the impact area of the Corcoran Airport to the west of the community and the equivalent impact area around the Salyer Farms Airport to the east be evaluated for potential noise impacts from aircraft overflights based on the KCALUP standards. The City's Safety Element further requires building and land use restrictions of the KCALUP for the Corcoran Airport be applied, as specified by the Airport Environs Overlay Zone and to the extent feasible, to the Salyer Farms Airport.

2. Planning Considerations. Kings County's exceptionally high ratio of aircraft to population is due to the intensive use of aircraft in the agricultural industry for aerial spraying and for business accounts. The land use discussions herein are meant to support local planning efforts and not usurp the authority of local jurisdictions. Land use planning for agricultural airports must be concerned with a number of factors:
 - a. The need to prohibit new air facilities where there is a danger to neighboring land uses. In Kings County's agricultural zone districts, developers of new private airports must obtain Conditional Use Permits. Aircraft crash potential, night operations, and the use of toxic chemicals have constituted the principal issues of debate in county zoning cases.
 - b. Noise impacts from crop dusters cannot be measured accurately due to the seasonal and varying nature of chemical application spraying. Noise impacts are greatest in the vicinity of agricultural fields and not necessarily in the immediate area of airports. These impacts should be considered in local government's land use and public safety planning on a case-by-case basis.
 - c. Consideration of interference with other air facilities, especially Lemoore Naval Air Station military air operations.
 - d. The need to provide agricultural airstrips in close proximity to intensive farming areas, such as the Tulare Lake Basin.

D. MILITARY AIR FACILITIES

1. Lemoore Naval Air Station

Area of Influence:

The Lemoore Naval Air Station (LNAS) airfield is configured by the Navy into three zones with varying hazardous potential. Extending 3,000 feet immediately beyond the runway is the Clear Zone, which has the highest potential for accidents. The Clear Zone is required for all active runways and should remain undeveloped. The Navy's policy regarding the Clear Zone is to acquire sufficient real property interests in land within the Clear Zone to prohibit incompatible development with military aircraft operations. Outside of the Clear Zone lies the "accident potential zones" (APZs) and noise zones. The area for flight tracks that experience 5,000 or more annual operations for departures or approaches is designated APZ 1. The area extending 7,000 feet beyond APZ1 or the Clear Zone, with a width of 3,000 feet, is designated APZ 2. APZs extend from the end of the runway in the direction of each flight track if more than one flight track is used by aircraft. Zones APZ 1 and 2 prohibit both noise-sensitive land uses, such as homes and churches, and high occupancy-intensive uses, such as food stores or shopping centers.

Air Installations Compatible Use Zones Study:

To help ensure compatible development near its airfields, in 1978, LNAS prepared its Air Installations Compatible Use Zones Study (AICUZ). In 2010, LNAS updated its 1993 AICUZ Program to a 2020 Plan to support Federal, State, and local planning efforts seeking smart growth and land use compatibility initiatives, and to consider expected changes in mission, aircraft, operational levels, and other aspects within the ten year horizon. The AICUZ Program is important as it outlines current and foreseeable issues with land use compatibility with the Lemoore naval airfield operations with both Fresno and Kings Counties. The AICUZ offers recommended strategies for land use compatibility pertaining to noise levels, accident potential, and flight clearance requirements associated with military airfield operations. The 2010 update reflects changes in the ground-controlled approach flight track which was lengthened by approximately 1 mile to the south to avoid flights over the community of Stratford. Additionally, LNAS homebased the F/A-18 E/F Super Hornet in the late 1990's and has recently began the homebasing of the F-35C Lightning II Joint Strike Fighter.

The responsibility for land use and air base development decisions is shared between LNAS and local governments. Historically, military air facilities have attracted development to their surrounding areas, generally housing and service establishments for military personnel and their families, and for civilian employees. Without adequate land-use controls, such development is incompatible with the mission of the air base with living conditions subject to high noise levels and potential aircraft accidents. Within Kings County, specific current and potential land use compatibility concerns identified by the AICUZ are as follows:

- a. Development of West Hills Community College, located west of State Highway 41 and placed under the Ground Control Approach Box Pattern area for flight track 4LG1/2RGI;
- b. Large acreage dairy farms located north and northeast of NAS Lemoore within Noise Zone 3;

- c. A residential parcel located north of Runway 14L within Noise Zone 3 and APZ 2;
- d. The prevalence of "Resource Production and Extraction" land use in Noise Zones 2 and 3.

The Navy intends to continue to disseminate relevant material and educate the public, stakeholders, planning agencies, and other local government entities through community outreach and project planning reviews as development occurs, including intergovernmental agency reviews, about the AICUZ Program to help preserve the defense mission while improving the quality of life of those living around the installation.

Joint Land Use Study:

A Final Joint Land Use Study (JLUS), released August 2011, was completed by local government partners in Fresno County, Kings County, and City of Lemoore, including LNAS, KCAG, and other agencies and interested parties, for use by local governments as a planning document to promote compatible land use around the LNAS base. Similar to the AICUZ but civilian-based in scope and application, the JLUS identifies current and foreseeable encroachment issues and provides recommendations for consideration and implementation in each jurisdiction's general plan and the local planning process for land use development to promote compatibility between the civilian community and the military installation.

For Kings County, the JLUS identifies land use objectives in the 2035 Kings County General Plan, Open Space Element, and Health and Safety Element. Primarily, the goal is to maintain open space areas near LNAS and underlying low level military airspace corridors and ranges to prevent significant impacts to residents by mission activities. Potential impacts of noise, smoke, and dust generated by ground and air operations, and by aircraft crashes or other operational accidents at or near the airfield, exist and can negatively affect the quality of life for people living near an airfield. This goal is met with objectives and policies to maintain a restricted land use buffer around the naval air station to prevent encroachment of incompatible land uses and engage in coordinated efforts to plan for long term operations and safety. By designating, as Exclusive Agriculture, a 3-mile buffer surrounding the LNAS installation, applied as "Agriculture for Public Safety" territory, the potential risk to public safety is preserved over the long term and limits encroachment concerns and ensures compatible land uses near areas closest to flight operations. This zoning classification prohibits the creation of homesites on smaller (less than 40 acres) lots, agricultural production is protected, and the operational integrity of the strategic installation is preserved.

The City of Lemoore, located east of LNAS, has no areas within the 3-mile perimeter of the base installation. Currently, no land use compatibility issues associated with development near the boundary of LNAS exist. The City has both Agriculture and Light Industrial zones within the high aircraft noise contour, however both zone designations are compatible with conditions. The City of Lemoore created an Overlay Zone under the Navy's low-level flight path called the "Ground Control Approach Box", which limits structure heights and require noise mitigation building standards for future incompatible developments such as residential uses.

LNAS complies with stringent non-attainment air quality regulations administered by the San Joaquin Valley Air Pollution Control District. The compliance program

annually undergoes mandated federal, state, and local air district inspections in order for LNAS to continue operations.

LNAS Economic Impact

According to the JLUS, 751 military and contractor/civilian personnel were projected at LNAS, increasing Lemoore's population by approximately 2,320 persons by 2028. As of February 2017, LNAS employs approximately 8,500 military and civilian personnel and contributes an estimated \$749 million to the local economy, according to a 2015 LNAS Installation Master Plan. It is the largest employer in Kings County.

Additionally, the base generates about 13,500 jobs for the county, which includes military personnel, Department of Defense civilians and contractors, contracts, payroll employees, transient personnel, and retirees/veterans. The naval hospital on base serves over 17,249 active and retired military, military dependents and personnel in the county. The installation feeds about 2,000 students to local college campuses and 1,600 students to the area's Central Union School District.

With the recent growth of the base with the arrival of the F-35C Joint Strike Fighter jets, the base is the largest single economic driver in the region for construction jobs and big-ticket spending. On-going construction projects include housing for military families, a new building for squadron administration and maintenance, and a flight-simulator building. About 13 major projects are planned related to the F-35C, including weapons school training facilities, hangar upgrades, a new hangar and parking, according to the LNAS Master Plan. The retirement community associated with LNAS contributes \$253 million to the local economy, including Merced, Tulare and Fresno counties. Expenditures from 2010 to 2035 by LNAS are projected to exceed \$443 million to the surrounding counties.

E. HELIPORTS

There are five heliport-helipads located in Kings County for private use only, and include the following:

- landing pad at JG Boswell Company in Corcoran;
- helistop at the Hanford Community Hospital;
- heliport at the Adventist Health Medical Center in Hanford;
- landing pad at Westlake Farms airfield in Stratford; and
- heliport for Kings County Fire Department at Houston Avenue.

Hanford Municipal Airport does not have a separate helipad for helicopter operations. However, helicopters are used for chemical applications, air ambulance service, and for private use. The annual aircraft operations of helicopters utilizing Hanford Municipal Airport facilities is currently about 1,240 and projected to be 2,000 in 2025.

There are a limited number of search and rescue (SAR) helicopters based at LNAS. Four twin-engine HH-1N SARs are provided as a courtesy to the local parks and the San Joaquin Valley area by the Commanding Officer, covering anywhere from 100 to 150 miles radius from the Naval Air Station. On average, HH-1Ns are flown 32 SAR operations per year.

IV. ACTION ELEMENT

A. CENTRAL CALIFORNIA AVIATION SYSTEM PLAN

Kings County participated in a demonstration project to coordinate regional, state and federal aviation system planning with the development of the Central California Aviation System Plan (CCASP) in 2008. This was a departure from previous airport planning that was conducted primarily between the federal and state aviation authorities and local airports.

The CCASP was developed over a four year period and included several elements. Issues impacting the aviation community and how they impacted each airport were identified; aviation goals, objectives and policies were summarized; aviation funding resources and needs were described; airport profiles were developed to identify existing facilities and the role each airport had in the community or region; forecasts of based planes, flight operations, commercial service passengers and cargo were developed; needs were identified to accommodate the forecasts; and, an action plan was developed to meet those needs. Airport projects included in future Capital Improvement Programs will reflect a more focused and accurate view of the airport's role to the community it serves.

B. HANFORD MUNICIPAL AIRPORT

1. Recent Projects

The City of Hanford has secured federal grants over the last few years for several projects to install runway signs, airport beacons, fencing and gates; rehabilitate the runway, taxiway, and parking areas; and acquire land for runway expansion. The City of Hanford purchased 114 acres for expanding the runway approach protection zone in anticipation of future airport improvements. The runway was lengthened to its current 5,180 feet in 2004. Currently, there are 43 transient parking spaces near the FBO ramp and on the apron areas north and east of the airport manager's office.

2. Airport Master Plan

The Hanford Municipal Airport will continue to upgrade its facilities as outlined in the Airport Master Plan prepared in 1994. An update of the master plan was completed in early 2010. The primary objective of the plan was to provide upgraded aviation facilities in order to reasonably accommodate anticipated increases in aviation demand, improve the airport's operational efficiency, and enhance safety. The highlight of the 2010 plan was a proposal to maintain the extended existing runway. The runway extension was necessary to upgrade the airport's operational capacity, provide access to more diverse jet aircraft, and to provide greater aviation safety by allowing aircraft to more easily execute the right-turn upon departure from Runway 14-32 and to avoid lower flight occurrences over residential and commercial areas within the city and county.

Other improvements included in the plan that have recently been completed are the replacement of the Visual Approach Slope Indicator (VASI) with the Precision Approach Path Indicator (PAPI) to make landing safer, a new Runway End Identifier Light (REIL) placed at the end of the runway, and an Automated Surface Observing System (ASOS) that was installed and commissioned on February 18, 1998 to disseminate weather information. The City completed the first phase of rehabilitating the taxiway pavement in 2016, which includes slurry sealing or full reconstruction of the pavement surface from the taxiway and apron to the hangars.

It is recommended that the Master Plan and Layout Plan illustrate land use and surface transportation impacts and changes which may occur as a result. The following table lists the capital improvements proposed in the 2010 Airport Master Plan.

FIGURE 7-6

HANFORD MUNICIPAL AIRPORT MASTER PLAN PROGRAM

Short Range (within 5 years)
Underground utility poles at Runway 32 end Environmental Assessment (Acquisition 45 acres) Land Acquisition (45 Acres and 8 residential properties) Appraisal of land and property ALP Update Install MALSR approach light system Environmental Assessment (Acquisition of 108 acres) Land acquisition of 108 acres Appraisal for purchase of farmland FBO site infrastructure Rehabilitate runway, aprons and hangar taxilanes
Mid Range (within 6-10 years)
Box Hangar Area (39,000 square feet new pavement) Overlay runway and taxiway
Long Range (within 11-20 years)
Box Hangar Area (38,000 square feet new pavement) Slurry seal runway and taxiway, overlay apron

Source: 2010 Hanford Municipal Airport Master Plan

C. LEMOORE NAVAL AIR STATION

The Lemoore Naval Air Station’s principal mission is to support the Strike-Fighter Wing, U.S. Pacific Fleet and its mission to train, man and equip west coast Strike-Fighter squadrons. LNAS was commissioned on July 8, 1961, at a time when its location in California's Central Valley was considered remote. The location was close enough to Navy seaport facilities for logistical support, but far enough from population centers to allow for possible expansion. LNAS is the Navy's newest and largest Master Jet Base, with more than 40 tenants involved in aviation. The installation boasts two 13,500-foot offset parallel runways roughly one mile apart. Aircraft parking and maintenance hangars are aligned between these runways. Each runway has arresting gear designed to support tailhook equipped aircraft, arrested landings, and aborted takeoffs. LNAS aircraft operations are typically conducted year round, day and night. Separated from the hangars by underpasses beneath taxiways, the remainder of the air operations area is located directly southeast.

Straddling the County line between Kings and Fresno counties, LNAS covers nearly 19,000 acres, about 10,000 acres of which are leased for agricultural uses and which act as mitigation for the Bird/Animal Aircraft Strike Hazard Program. Additionally, the U.S. Navy holds restrictive use easements over 11,020 acres of privately owned property to its immediate west as well as 57 acres on the western side of the City of Lemoore under its low-level flight path known as the Ground Control Approach Box.

LNAS has three operational areas:

- Air Operations Area. Includes the airfield, weapons handling and storage facilities, fuels, aircraft maintenance and aviation storage;
- Administration Area. Contains LNAS administrative offices, training schools, public works facilities, emergency services and a water treatment plant; and
- Housing Area. Contains K-8 and K-5 grade schools, Youth Center, single and multi-family homes, several restaurants, Enlisted and Officers clubs, barracks, hospital, gymnasium, shopping mall, equestrian center and other community support facilities.

LNAS employs approximately 6,400 military personnel, 1,400 government civilian personnel, and 850 contractors. The installation contains 1,630 single and multi-family residential units of housing that house approximately 2,850 military dependents living on the installation. In support of its bachelor population, the installation has 20 barracks that can accommodate up to 2,000 personnel. The remaining population resides in the communities surrounding LNAS and contributes to the population of those communities. Central Union School District has two schools located on base teaching grades K-8 while accommodating up to 1,600 students. Military dependents attend high school within the surrounding communities.

LNAS now hosts the Navy's entire West Coast fighter/attack capability. LNAS was built "from the ground up" as a Master Jet Base, and has several operational advantages, and relatively few operational constraints, as a result of its rural location. The primary aircraft based at LNAS is the F/A-18E/F Super Hornet Strike Fighter, and as of October 2014, LNAS was chosen to homebase the F-35C Lightning II Joint Strike Fighter (F-35C). Lemoore will have nearly 60 percent of the Navy strike fighter airpower by 2028.

1. Recent Planning Activities

Aside from the adopted 2011 Joint Land Use Study (JLUS), Naval Air Station Lemoore, in cooperation with local community input, completed its Master Plan 2030 in 2014. The process included several community meetings and visioning sessions, with a focus on the need for a walkable base community and access to amenities to increase quality of life for active duty military and their dependents. To accommodate the needs of the Joint Strike Fighter, emphasis was placed on the specific facilities requirements of the asset including upgrades and modifications to hangars, additional infrastructure and utilities improvements, as well as a new simulator training facility.

Completed projects within the past several years include new housing units, air terminal, offices, veterinary clinic and a car wash, and the assignment of 92 new F/A-18E/F aircraft and 1,550 personnel and their families to LNAS, which necessitated additional operational, training, maintenance, storage, administrative, housing, community, and utility facilities. Because F/A-18s are currently stationed at LNAS, most of the facilities for the additional aircraft were available and required only renovation or adaptation.

New construction or large-scale expansion of some aircraft facilities and associated personnel buildings have commenced with the homebasing of the F-35C aircraft. Progressive transitioning to the new F-35C aircraft began in 2015, to be completely transitioned by 2028. LNAS has F-35C Fleet Replacement squadrons planned to meet the requirements for training Navy pilots and 100 F-35C aircraft by 2028 (increase of 100 F-35C aircraft and decrease of 70 F-18 aircraft). Homebasing the

F-35C at LNAS will result in an increase of approximately 68,400 operations and approximately 800 offsite operations at the Naval Air Facility El Centro in Imperial County. Additional facilities and infrastructure for training, operations and maintenance, and personnel support would be required at NAS Lemoore. Sixteen projects would be proposed to provide this, including two projects for interior hangar renovations and a Special Access Program Facility. LNAS has estimated homebasing the F-35C aircraft would cost approximately \$242 million.

D. CAPITAL IMPROVEMENT PROGRAMS

The California Aviation System Plan (CASP) is a multi-element plan prepared by the California Department of Transportation (Caltrans), Division of Aeronautics, to develop and preserve a system of airports responsive to the needs of the State. The Capital Improvement Program (CIP) is a ten-year capital improvement program that serves as a guide for future public-use airport development. The CIP is included as an element of the CASP as required by the State Aeronautics Act. The CIP is required to be based upon each airport’s Master Plan and is to be prepared in cooperation with the airport and the regional transportation planning agency for submittal to Caltrans every two years. Only projects included in the CIP are eligible for state aeronautics funds. Projects are selected by Caltrans based on a priority matrix. Projects included in the CIP are adopted by the California Transportation Commission (CTC) for the upcoming three-year fiscal Aeronautics Program every even year, while the CIP is published every odd year.

The following are projects included in the CIP for the Hanford Municipal Airport.

FIGURE 7-7

**CAPITAL IMPROVEMENT PROGRAM
HANFORD MUNICIPAL AIRPORT
2018-2024**

PROJECT	COST	STATE	FAA	LOCAL	YEAR
Rehabilitate Runway 14-32 Pavement Slurry Seal – design only	\$85,000	X	X	X	2018
Rehabilitate Runway 14-32 Pavement Slurry Seal – construction only	\$890,000	X	X	X	2019
Rehabilitate South Transient Runway Apron – design only	\$298,500	X	X	X	2020
Rehabilitate South Transient Runway Apron – construction Phase I	\$1,566,500	X	X	X	2021
Rehabilitate South Transient Runway Apron – construction Phase II	\$1,566,500	X	X	X	2022
Rehabilitate Taxiway A, Connector Taxiways & Large Aircraft Apron – design only	\$92,300	X	X	X	2023
Rehabilitate Taxiway A, Connector Twist & Large Aircraft Apron– construction only	\$730,000	X	X	X	2024
TOTAL	\$5,228,800				

Source: City of Hanford, Hanford Municipal Airport

V. FINANCIAL ELEMENT

A. FEDERAL SOURCES

General Aviation airport development grants, known as Airport Improvement Program (AIP) grants, are available through the Federal Aviation Administration (FAA). These grants are derived from aviation fuel taxes, aircraft fees, and air passenger fare surcharges. Congress must approve funding for the grants each year.

The FAA's AIP has a number of funding categories. Airports near major airports are normally designated "reliever airports" and are funded from the reliever airport funding category. Airports in Kings County are funded from the General Aviation category and do not compete with the larger, urban airports. From 1988 to 1993, primary airports made up the largest segment of those airports receiving AIP grants (54 percent), followed by General Aviation airports (42 percent), and reliever airports (4 percent).

Hanford Municipal Airport qualifies for \$150,000 per year in AIP funds that can be used for environmental studies; pavement rehabilitation; installation of signs, beacons, fencing; acquisition of land for the runway protection zone; and extension of the runway.

B. STATE SOURCES

The majority of the revenues for the Aeronautics Program are derived from an 18-cent per gallon tax on aviation gas and a 2-cent per gallon tax on jet fuel. The tax is levied on general aviation aircraft only. Revenues generated from aviation gasoline are expected to gradually decline as the industry moves to jet fuel-powered aircraft. As it stands, the request for funding by General Aviation airports in the CIP is some 30 times greater than funding availability in the California Aid to Airports Program (CAAP).

The California Aid to Airports Program (CAAP) encompasses four categories of state aeronautics funding.

1. Annual Grants

Annual grants of \$10,000 are awarded to public-use, publicly-operated airports which are neither Reliever nor Commercial Service Airports, as designated by the FAA. The funds can be accumulated for up to five years. The funds are to be used for airport development, operation, and maintenance and may also be used to match FAA money. No local match is required for an Annual Grant.

2. AIP Matching Program

This program involves state funds used specifically for local matching requirements of the federal AIP grant. The local match rate is currently 5 percent for an AIP grant. The project must be included in the Capital Improvement Program (CIP) to be eligible for match funding. These funds are subject to allocation by the California Transportation Commission.

3. Acquisition and Development (A&D) Grants

Acquisition and Development program grant funds are allocated by the California Transportation Commission (CTC). The CIP is used as the basis for programming these funds. With over 250 publicly operated airports in California desiring a portion of the available funds, competition is keen. The local match requirement can vary from 10 to 50 percent of the project's total cost as determined by the CTC. However, a 10 percent match percentage has been generally adhered to over the past 10 years of the program. Caltrans uses a rating and ranking system for grant applications which gives priority to those projects that:

- are requested by airports with high levels of air traffic;
- enhance the safe operation of the airport;
- confer environmental benefits;
- help maintain existing facilities;
- improve the efficient operation of the airport; and
- complement the California Aviation System Plan.

4. California Airport Loan Program

This local airport loan program provides financial assistance in the form of loans repayable over a period not to exceed 25 years. Interest rates are based on the latest state bonds issued prior to granting the loan. These loans can be used by general aviation airports for most facility improvements and land acquisitions. There are two types of airport loans available: 1) loans for matching FAA grants, and 2) revenue-generating loans for demonstrated project needs.

C. LOCAL SOURCES

Local funding has been an increasingly important source of revenues for General Aviation airports. Two categories of local funding are available for airports. One of the most important is lease income from hangar fees from operators of flight service facilities, or fixed-base operators (FBO's), and from other enterprises located at the airport. The Hanford Flight Center is an FBO providing fuel, aircraft maintenance, services and supplies, generating lease income for the Hanford Municipal Airport. Lease income also includes revenues generated from airport-owned land not relating to aircraft operations. At Hanford Municipal Airport, 60 acres are leased for agricultural production, which generates approximately \$2,400 per year. The Hanford City Council establishes charges for the use of specific airport facilities such as tie downs, shelters, and hangar space. Planned increases in hangar spaces will provide additional airport funds. Lease fees in 2013 were increased approximately 5% for aircraft tie-downs, hangar spaces, portable toilets, and ground leases to preserve the airport rate structure and avoid large increases in any single year. The anticipated revenue generated by the fee increases will be approximately \$3,500 per year.

The second source of revenues is funds collected in the City of Hanford's general fund. The general fund revenues are normally used to supply matching funds for CAAP grants.

FIGURE 7-8

**ANTICIPATED HANFORD MUNICIPAL AIRPORT REVENUES
2017-2022**

REVENUE CATEGORY	TOTAL \$
HANGAR RENT/TIEDOWNS	\$205,000
FUEL SALES	\$375,000
FARM & LAND LEASES	\$358,500
GENERAL FUND	\$300,000
OTHER AIRPORT REVENUES	\$50,000
FAA (Non-Primary Entitlement) Grant	\$1750,000
TOTAL	\$2,038,500

Source: City of Hanford

FIGURE 7-9

**ANTICIPATED HANFORD MUNICIPAL AIRPORT EXPENDITURES
2017-2022**

EXPENSE CATEGORY	TOTAL
OPERATIONS & MAINTENANCE	\$775,000
CAPITAL	\$1,263,500
TOTAL	\$2,038,500

Source: City of Hanford