



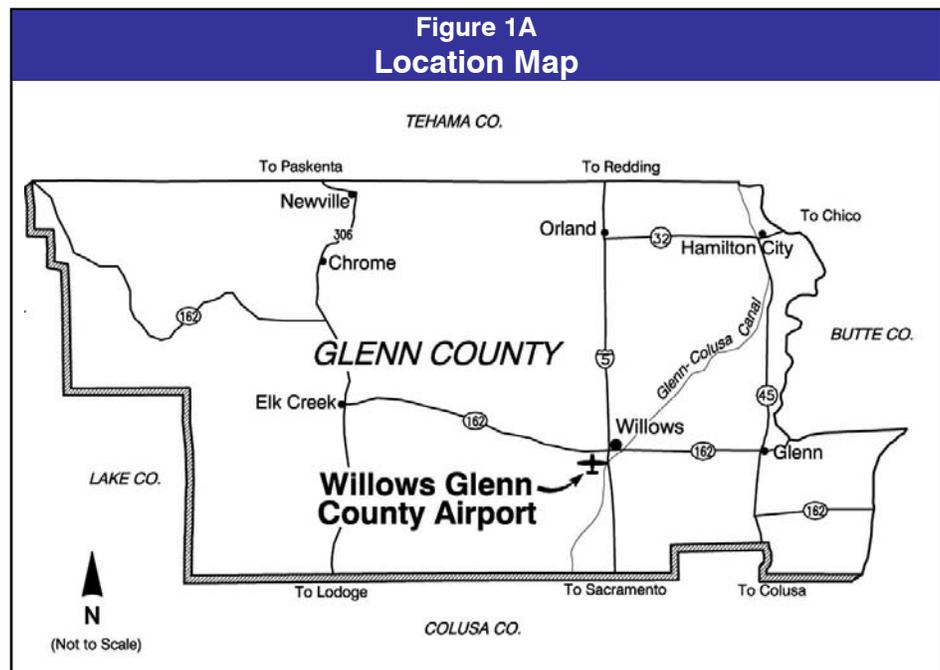
Willows-Glenn County Airport

Location and Environs

Willows-Glenn County Airport is located in Glenn County, California, approximately 86 miles northwest of Sacramento and 78 miles south of Redding. The airport lies on the Sacramento Valley floor at an elevation of 139 feet above mean sea level (MSL). The topography in the immediate airport environs is relatively flat. Terrain slowly rises to the west and east. The Mendocino National Forest and mountain range fringe the county to the west and the Sacramento River and the foothills of the Sierra Nevada Mountains lie to the east (Figure 1A).



The airport is located immediately west of Interstate 5, which is the main north/south highway in the central valley. The City of Willows, the county seat, is located directly east of Interstate-5, approximately 1 mile east of the airport. State Highway 162, which runs in an east/west direction, borders the airport to the north and provides direct access to the facility. The Glenn-Colusa canal, which runs in a northeast/southwest direction, lies along the eastern edge of the city and south of the airport.



Glenn County is an agricultural community with rich farm lands. The airport is bordered by crop fields and scattered rural residential uses to the northwest, west, and south.

Urban development, including a mix of commercial, industrial, and residential uses, exists east of Interstate-5 within the limits of the City of Willows. A Wal-Mart shopping center lies immediately northeast of the airport.

Airport Development and Facilities

History

The Willows-Glenn County Airport originated as a grassy field at the location where the current Glenn Medical Center stands. The present airport property, located west of Interstate-5, was a joint venture between the City of Willows and Glenn County.

In 1928, private parcels, most of which were owned by the Glenn-Colusa Irrigation District, were released to the City of Willows and Glenn County for use in developing the community airport. These government agencies turned the project over to a newly formed airport advisory committee made up of two local groups: Veterans of Foreign Wars and the Achaean Club.

The Northern California Air Show Association was formed in 1931 to generate money for the purchase of the airport property. Later, the United States government, through the Civil Aeronautics Administration, helped finance airport development and built runways, installed a beacon, and constructed a large siphon under the Glenn-Colusa Irrigation Canal to properly drain the airport.

In 1940, the City of Willows deeded its portion of the airport property to Glenn County. Two years later, the County leased the airport to the U.S. Government for \$1.00 per year on an annual renewable basis. Runway 13-31 was under construction at the time that Pearl Harbor was attacked and was completed during that winter. Shortly thereafter, Lt. Col. Jimmie Doolittle began final training at Willows-Glenn County Airport of his B-25 crews for the April 18, 1942 bombing raid on Japan.



First Air Tanker – 1955

The airport was also the first site for major use of aircraft for agricultural operations including the sowing of rice, application of fertilizer, and aerial pest control, and was the site for the birth of the U.S. Forest Service's aerial tanker program. A commemorative plaque on the Airport reads:

*“Birth of the Air Tanker Program Dedicated to the Pioneers
who started Aerial Firefighting”*

The first operational air tanker was developed in Willows by the Willows Flying Service in 1955, at the request of the Fire Control Officer of the Mendocino National Forest. The aircraft N75081, became the first registered free fall tanker in the history of aviation. The first “air drop” was made on the Mendenhall fire, August 12, 1955, in the Mendocino National Forest.

In 1956, seven agricultural aircraft were modified and formed the first operational air tanker squadron operated out of the Willows Airport fighting wildfires throughout California.

In 1959, heavy air tankers, capable of carrying 2,000 gallons of fire retardant were providing an effective tool in controlling wildfires. Aircraft having a retardant capacity of 3,000 gallons have contributed to successful wildfire control throughout the United States.

The following names appear on the plaque:

- Joe Ely, Fire Control Officer
- Lee Sherwood, Air Attack Pilot
- Harold Hendrickson
- Dale Nolta
- Floyd Nolta
- Vance Nolta
- Ray Varney
- Frank Prentice
- L.H. McCurley
- Warren Bullock



The U.S. Forest Service also used the airport as a base of operations for aerial forest fire fighting. These activities continue to be a significant part of the airport’s current role.

Today, the airport encompasses some 254 acres and has two runways in a V-shape configuration. The primary runway (Runway 16-34) is oriented in a north/south direction and the secondary runway (Runway 13-31) is aligned in a southeast/northwest direction. A full length parallel taxiway connects the primary runway to the airport’s building area located to the northeast. The building area includes a mix of small T-hangars, several large maintenance hangars, and other aviation and non-aviation related buildings. The airport has several fixed based operators providing agricultural application services to the local farming community. Additionally, a restaurant is located on the airport which is very popular with local residents, fly-in customers, and travelers on Interstate-5.

Facilities

Willows-Glenn County Airport is owned in fee by the County of Glenn. The airport is managed by County Public Works and Airports Department staff. The County also operates the Orland-Haigh Airport located approximately 13 miles north of Willows-Glenn County Airport. A summary of Willows-Glenn County Airport facilities is provided in Table 1A.



The primary runway (Runway 16-34) is 4,125 feet in length and 100 feet wide. Runway 34 has straight-in nonprecision instrument approach capabilities with visibility minimums as low as 1 statute mile and a minimum descent altitude of 444 feet above the airport elevation (580 feet MSL). All runways are approved for "circle-to-land" operations. The runway is asphalt paved with nonprecision markings. The surface is rated at 38,000 pounds for aircraft with single-wheel configuration landing gear, 53,000 pounds for dual-wheel, and 90,000 pounds for dual-tandem-wheel configuration. The runway has medium intensity runway edge lights which can be activated by the pilot with several clicks of the radio frequency (Unicom 122.8). To facilitate landing operations, a four-box Visual Approach Slope Indicator (VASI-4L) is located on the left side of Runway 34.

The secondary runway (Runway 13-31) is 3,788 feet in length and 60 feet wide. The secondary runway is a visual facility with upgraded nonprecision runway markings. The facility is not served with straight-in nonprecision approach capabilities. The runway surface is rated at 12,000 pounds for aircraft with landing gear in a single-wheel configuration.

A small concrete helipad (60' x 60') is located east of Runway 16, between the runway and the transient aircraft tiedown apron. The edge lights around the helipad are inoperative. Obstructions exist within the safety area on the north side of the pad.

Willows-Glenn County Airport's building area is located in the northeastern portion of the airport. At the center of the building area, there are 45 hangars of various sizes and condition.

**Table 1A
Airport Profile**

GENERAL INFORMATION

- ▶ *Airport Ownership*
 - › Glenn County
 - › County Public Works Department manages and operates facility
- ▶ *Jurisdiction*: Unincorporated portion of Glenn County
- ▶ *Property Size*: 254± acres owned in fee
- ▶ *Airport Classification*: General Aviation Airport
- ▶ *Airport Elevation*: 139 ft. MSL

RUNWAY/TAXIWAY DESIGN**Runway 16-34 (Primary Runway)**

- ▶ *Airport Reference Code*: B-II
- ▶ *Critical Aircraft*: General Aviation Jet
- ▶ *Dimensions*: 4,125 ft. long, 100 ft. wide
- ▶ *Pavement Strength (main landing gear configuration)*
 - › 38,000 lbs. (single wheel)
 - › 53,000 lbs. (dual wheel)
 - › 90,000 lbs. (dual-tandem wheel)
- ▶ *Average Gradient*: 0.12%
- ▶ *Runway Lighting*
 - › Pilot-controlled medium intensity runway edge lighting (MIRL)
- ▶ *Runway Marking*
 - › Non-precision instrument
- ▶ *Visual Approach Aids*
 - › Runway 34: VASI (3°, TCH 31') on left side
- ▶ *Primary Taxiways*
 - › Full-length parallel taxiway on east side

Runway 13-31

- ▶ *Airport Reference Code*: A-I
- ▶ *Critical Aircraft*: Single-Engine Piston
- ▶ *Dimensions*: 3,788 ft. long, 60 ft. wide
- ▶ *Pavement Strength (main landing gear configuration)*
 - › 12,000 lbs. (single wheel)
- ▶ *Average Gradient*: 0.17%
- ▶ *Runway Lighting*
 - › Pilot-controlled medium intensity runway edge lighting (MIRL)
- ▶ *Runway Marking*:
 - › Nonprecision Instrument

Helipad

- ▶ *Location*: East of Runway 16 next
- ▶ *Critical Aircraft*: CDF helicopter (Bell 412)
- ▶ *Dimensions*: 60 ft. long, 60 ft. wide
- ▶ *Surface Type*: Concrete
- ▶ *Lighting*: Perimeter lights are nonfunctional

AIR TRAFFIC PROCEDURES

- ▶ *Airplane Traffic Patterns*
 - › Runway 16 and 13: Right traffic
 - › Runway 34 and 31: Left traffic
- ▶ *Typical Pattern Altitude*
 - › 1,139 ft. MSL (1,000 ft. AGL)
- ▶ *Instrument Approaches (Runway 34)*
 - › VOR (Maxwell VOR @ 110.0 MHz): 2 mi. visibility, 800' MSL minimum descent altitude (664' AGL)
 - › VOR/DME (Maxwell VOR @ 110.0 MHz): 1 mi. visibility, 600' MSL minimum descent altitude (464' AGL)
 - › GPS: 1 mi. visibility, 580' MSL minimum descent altitude (444' AGL)
 - › "Circle to land" operation approved for all runways
- ▶ *Communications*: CTAF/UNICOM: 122.8

BUILDING AREA

- ▶ *Location*: Northeast of airfield
- ▶ *Aircraft Parking Location*
 - › East of Runway 16 and Runway 13
- ▶ *Aircraft Parking Capacity*
 - › T-Hangars: 31 spaces
 - › Based Tiedowns: 16 spaces
 - › Transient Tiedowns: 5 spaces
- ▶ *Fixed Based Operators*
 - › Agricultural applicators
 - › Restaurant
- ▶ *Services*
 - › County provides Fuel: 100LL

ENVIRONS

- ▶ *Access*: Primary access via Highway 162
- ▶ *Nearby Land Uses*
 - › City of Willows east of airport and Interstate-5
 - › Wal-Mart shopping center to northeast
 - › Agricultural lands to the northwest and south
 - › Horse ranch west of airfield
- ▶ *Topography*
 - › Generally flat in immediate airport vicinity
 - › Terrain rises to east (Sierra Nevada's) and west (Mendocino Coastal Range)

AIRPORT PLANNING DOCUMENTS

- ▶ *Airport Master Plan*
 - › Adopted by County Board of Supervisors November 1979
- ▶ *Airport Layout Plan Drawing*
 - › Approved by FAA January 2003; Revalidated August 2004

Two small aircraft tiedown aprons frame the complex on the west and provide parking for transient and based aircraft. A public-use aviation fuel storage/dispensing facility is located east of Runway 16 near the transient aircraft tiedown apron. The above ground fuel tank provides general aviation gas to the flying public.

Aeronautical Setting

Area Airports

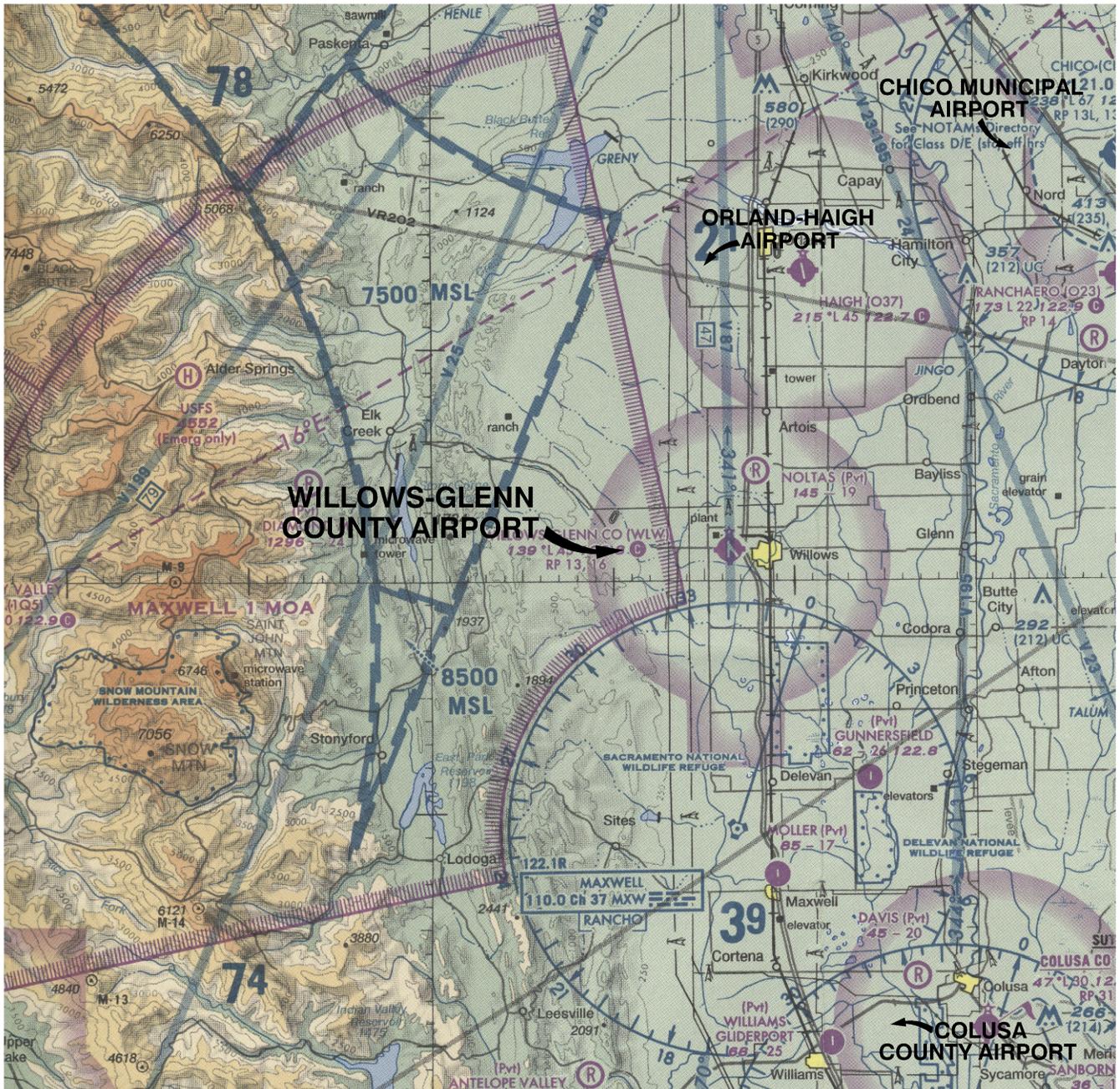
One private-use and three public-use airports are located within a 25 nautical mile radius of Willows-Glenn County Airport (Figure 1B). Of these airports, Chico Municipal Airport is the only commercial facility providing airline service and enhanced facilities. Other than Chico Airport, the County’s other airport, Orland-Haigh Field, has the highest number of based aircraft (70 based aircraft as of 2005). Table 1B provides other information on these airports.

**Table 1B
Area Airports**

Airport Name	Owner	LOCATION				FACILITIES				SERVICES						
		Community /County	Distance ¹ / Direction	Based Aircraft	Number of Runways	Longest Runway (ft)	Surface ²	Lighted-Intensity ³	Approach Visibility ⁴ / Category	Control Tower	Airline Service	AvGas	Jet Fuel	Maintenance	Automobile Rentals	Food
AREA AIRPORTS																
Willows-Glenn County	Glenn County	Willows/ Glenn	-	59	2	4,125	ASPH	M	1 NP	-	-	✓	-	-	-	✓
Orland-Haigh Field	Glenn County	Orland/ Glenn	15 N	70	1	4,500	ASPH	M	VIS	-	-	✓	-	✓	-	-
Colusa County	Colusa County	Colusa/ Colusa	26 SE	29	1	3,000	ASPH	M	1 NP	-	-	✓	-	✓	-	-
Chico Municipal	City of Chico	Chic/ Butte	27 NE	130	2	6,724	ASPH	H	1/2 PRE	✓	✓	✓	✓	✓	✓	✓

¹ Distance in statute miles from Willows-Glenn County Airport
² ASPH = Asphalt
³ L = Low; M = Medium; H = High
⁴ Statute mile

Figure 1B
Area Airspace



X:\07187-00\050001\TECH\Cadd\W\DW\WG\W\W\area-airspace.dwg Dec 16, 2008 - 10:22am

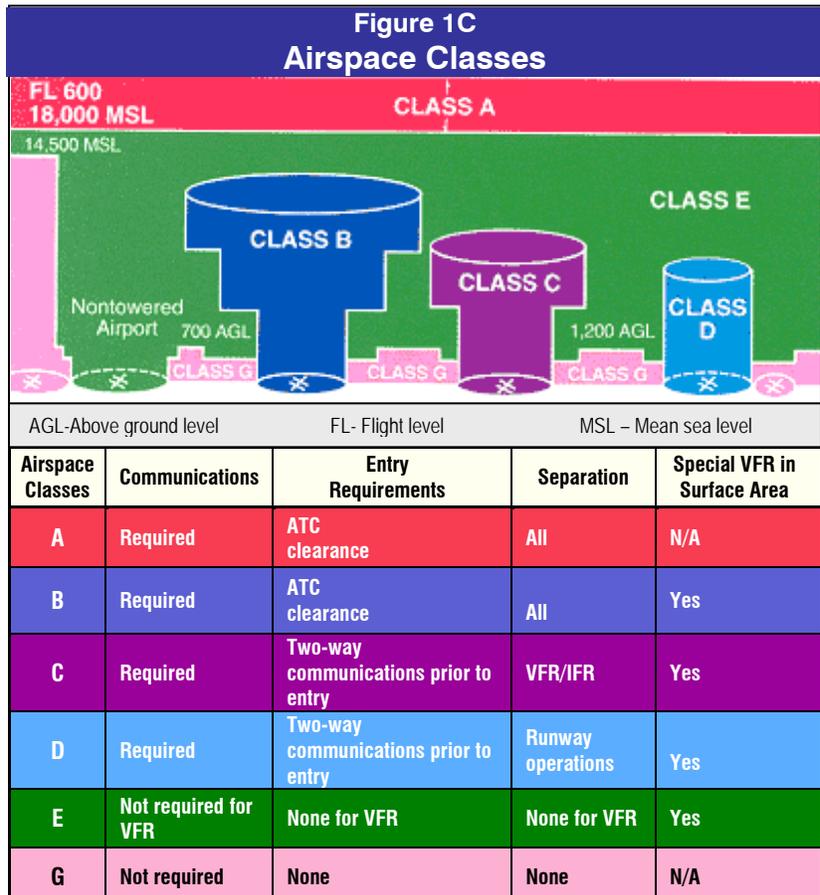
Source: Mead & Hunt, Inc. (July 2005)

Area Airspace

Visual flight rules (VFR) are a set of aviation regulations under which a pilot may operate an aircraft, if weather conditions are sufficient to allow the pilot to visually control the aircraft's attitude, navigate, and maintain separation with obstacles such as terrain and other aircraft.

Instrument flight rules (IFR) are a set of regulations and procedures for flying aircraft without the assumption that pilots will be able to see and avoid obstacles, terrain, and other air traffic; it is an alternative to visual flight rules (VFR), where the pilot is primarily or exclusively responsible for see-and-avoid.

Federal regulations establish various categories of airspace with distinct operating requirements for each type. The airspace in the vicinity of Willows-Glenn County Airport is relatively uncomplicated (Figure 1C). The airspace directly over the airport, extending from the surface upwards but not included to a height of 700 feet, is uncontrolled Class G airspace. Controlled airspace (Class E) begins at a height of 700 feet above the surface and extends up to 18,000 feet MSL. Pilots transitioning through into the Class E airspace must establish radio contact with an operating control tower before they enter the controlled airspace. The Maxwell 1 Military Operations Area (MOA) begins 2 nautical miles west of the airport. MOAs consist of airspace with defined vertical and lateral limits established for the purpose of separating certain military training activities from VFR and IFR traffic.



Low-altitude federal airways provide distinct routes that can be flown under both visual and instrument conditions. Victor Airway V-87 passes directly over Willows-Glenn County Airport and provides a direct route between two VOR navigation facilities, Maxwell and Red

Bluff. Minimum en route altitude on V-87 for all traffic is 3,000 feet MSL or 2,861 feet AGL. IFR traffic is handled by Oakland Center air route traffic control.

Community Profile

Glenn County is located in the northern portion of California's Central Valley at an elevation of 139 feet MSL. The Mendocino National Forest and mountain range border the county to the west and the Sacramento River borders the county to the east.

Glenn County was incorporated in March 1891. Over the past decade, the County experienced a population growth at a rate of 0.65% annually from 25,850 residents in 1999 to 27,750 residents in 2004. This pattern of slow population growth is typical of many rural Northern Californian counties. The County is expected to continue this rate of growth over the next eleven years and reach a population of approximately 30,000 residents by 2015.

The local economy has historically been supported by agricultural uses. Agriculture still remains one of the main economies for Glenn County. In 2000, agricultural activities ranked second in employment for Glenn County, behind state and local government jobs, employing over 1,520 people. In 1997, there were nearly 1,200 farms in operation in Glenn County. Farm land accounted for about 57% (482,600 acres) of the County's total land area. Major agricultural commodities include rice, dairy products, almonds, prunes, and livestock. Of these commodities, rice production was valued the highest at 102.5 million dollars in 2000.

The City of Willows is the county seat of Glenn County. The total population for the City of Willows is nearly 6,400 people, as of 2004. The City's population has increased by an average annual growth rate of 0.4% between 1991 and 2004. Assuming that this trend continues over the next 15 years, the City could reach a total population of some 6,700 residents by 2015.

The per capita income for the City of Willows in 1989 was \$9,644. Between 1989 and 1999, the City's per capita income increased at an annual rate of approximately 2.6% to \$12,523 by 1999 (not adjusted for inflation). The per capita income in Glenn County in 2002 was \$20,605. Per capita income is expected to rise by 3.3% annually to \$26,651 by 2010. Additional information is provided in Table 1C.



Glenn County environs

**Table 1C
Community Profile**

GEOGRAPHY

Location

- ▶ Glenn County is located in Northern California; 86 miles north of Sacramento and 78 miles south of Redding.
- ▶ Glenn County is 1,327 square miles and borders Tehama, Mendocino and Lake Counties to the north and west, and Butte and Colusa Counties to the south and east.

Topography

- ▶ Relatively flat with mountain ranges rising to the west and east.
- ▶ Northern Central Valley: flat, fertile valley.
- ▶ North Coast Mountain Range to the west: 7,000 feet in elevation.

CLIMATE

Temperatures

	Avg. High	Avg. Low
▶ Hottest month (July):	96°F	60°F
▶ Coldest month (December):	55°F	36°F

(Source: World Climate. www.worldclimate.com)

Precipitation

- ▶ Average annual rainfall in Glenn County: approx 18 inches

(Source: 1980/2000 Willows-Glenn County Airport)

Winds

- ▶ Prevailing winds are from the north-northwest.

POPULATION AND ECONOMY

Current/Historical Population

	1990	1995	2000
▶ Glenn County	24,798	26,150	26,718
▶ City of Willows	5,988	6,250	6,220

(Source: California Department of Finance)

Projected Population

	2005	2010	2020
▶ Glenn County	N/A	29,348	31,950
▶ City of Willows	N/A	N/A	N/A

(Source: California Department of Finance)

Basis of Economy

- ▶ Industry groups with greatest percentage of employment in Glenn County:
 - › State/local government 22%
 - › Agriculture 16%
 - › Trade 16%
 - › Manufacturing 9%

(Source: California Land Use Planning Information Network)

Basis of Economy

- ▶ Industry groups with greatest percentage of employment in Glenn County:
 - › State/local government 22%
 - › Agriculture 16%
 - › Trade 16%
 - › Manufacturing 9%

(Source: California Land Use Planning Information Network)

SURFACE TRANSPORTATION

Major Highways

- ▶ Main access into the City of Willows:
 - › Interstate Highway I-5 running north-south.
 - › California State Highway 162 extending west-east and intersects Interstate 5

Railroads

- ▶ Currently railroad service, such as Union Pacific and Amtrak, bypass Willows via Marysville and Tehama.

(Source: Union Pacific and Caltrans)

Public Transportation

- ▶ Bus Service:
 - › Greyhound (nearest service)
 - Chico 32 miles NE
 - Red Bluff 47 miles N
 - › Glenn Transit Service
 - Bus System
 - Subsidized Taxi

AIR TRANSPORTATION

Commercial Service Airport

- ▶ Chico Municipal Airport (27sm)
- ▶ Redding Municipal Airport (69sm)
- ▶ Sacramento International Airport (65sm)

General Aviation Airports

- ▶ Orland-Haigh Field Airport (15sm)
- ▶ Colusa County Airport (26sm)



Previous Airport Plans and Studies

The first master plan report for Willows-Glenn County Airport was adopted by the County Board of Supervisors in November 1979. The most recent airport layout plan was approved by the Federal Aviation Administration (FAA) in May 2000. In 1990, the Glenn County Airport Land Use Commission adopted the Willows Glenn County Comprehensive Airport Land Use Plan (CLUP) which establishes a set of policies to guide development around the airport. The City of Willows incorporated these policies into their general plan document.