

Appendix C4

Aviation

SACOG Regional Aviation System Plan

SACOG serves as the Airport Land Use Commission (ALUC) for Sacramento, Sutter, Yolo and Yuba Counties. Placer and El Dorado Counties serve as the ALUCs for their respective counties. The purposes of the State of California's Airport Land Use Commission Law are: (1) "to protect public health, safety and welfare through the adoption of land use standards that minimize the public's exposure to safety hazards and excessive levels of noise"; and (2) "to prevent the encroachment of incompatible land uses around public-use airports, thereby preserving the utility of these airports into the future."

As the ALUC for the four counties, SACOG is responsible for developing and maintaining comprehensive land use plans (CLUPs) that are intended to protect public health and safety and ensure compatible land uses in the areas around each airport.

The ALUC also works with cities and counties to ensure consistency between local land-use plans and comprehensive land use plans for airport areas. McClellan Field is the only airport currently updating its CLUP.

SACOG also updates the Regional Aviation System Plan, which provides a comprehensive look at the region's aviation system and analyzes the capability of the region's airports to meet future needs. The current Regional Aviation System Plan was updated in 1998. The next update of the Aviation System Plan has not yet been scheduled.

Sacramento International Airport is the primary air carrier serving the Sacramento region. The Sacramento County Airport System Planning and Development Department completed the *Master Plan for Sacramento International Airport* in February of 2004. The Plan lays out program for facility improvements including airfield, terminal and related passenger services, cargo, general aviation, airport support, and access. To view a copy of the plan or for instructions on how to order a hardcopy or CD-ROM of the document, visit www.sacairports.org.

Below is the Executive Summary of SACOG's current Regional Aviation System Plan. To order a copy of the plan in its entirety contact Greg Chew (GChew@sacog.org) or visit SACOG's website at www.sacog.org.

1. Background and Introduction Element

The Background and Introduction Element is comprised of four major sections: a Regional Setting; Aviation Issues; Inventory; and Goals, Objectives and Policies.

REGIONAL SETTING

The Regional Setting establishes the context for subsequent portions of the Plan by providing an overview of the geographic, physical and socioeconomic characteristics of the region in which the airports are located. Existing and projected population and employment characteristics of the region are discussed. This section also highlights regional land use characteristics and provides a broad overview of the regional transportation system.

AVIATION ISSUES

The Aviation Issues section looks at the significant issues affecting aviation at the federal, state and local level, and categorizes these issues under the following subsections:

Environmental: The discussion of environmental issues looks at airport noise problems and the federal, state and local programs which have been established to address them. The water quality and air quality impact of airports, and the programs established to address these issues, are also discussed.

Safety, Navigation and New Technology: The discussion of safety, navigation and new technology looks at the federal, state and local programs which regulate the safety of the aviation system. The use of airspace and the existing airspace control system are examined, as is the status of navigational aids used by the aviation industry. Current aviation research and development programs are also highlighted.

Air Access to the Region: The discussion of air access highlights commercial and general aviation service in the region, and examines the rapid growth in regional air cargo volumes. Issues related to helicopter use are looked at, as are federal, state and local programs to regulate helicopter use. The missions of the two Air Force bases located within the region, Beale Air Force Base and McClellan Air Force Base, are discussed, as is the decision to close McClellan Air Force Base and convert it to civilian use.

Aviation System Requirements: This subsection examines the capacity and expansion capabilities of airports located within the region, and also discusses the State Capital Improvement Program process as it relates to the airports.

Planning: The discussion of planning starts with an overview of the regional transportation planning process in general, and goes on to specifically highlight the aviation system planning process. This subsection also examines airport ground access issues and transportation system management measures established for Sacramento International Airport. The airport comprehensive land use planning process is discussed, as is SACOG's role as the designated Airport Land Use Commission for the region.

Economics: This subsection examines the considerable economic role airports play as a stimulus to both the State and local economies. Airport funding programs at the federal, state and local levels are explored, and the issue of financing ground access to airports is also discussed.

Partnerships: The partnerships discussion looks at the relationship of the varied local, regional, state and federal entities which participate in the aviation planning process. Also addressed are the opportunities for public participation in the planning process, existing aviation awareness and education programs, and programs in place to provide local assistance.

I N V E N T O R Y

This section provides information about each of the region's public use airports, military airports and heliports. Airport-specific information includes the facilities and services available at each airport, based aircraft and annual operation estimates, and landing and navigational aids. Information regarding the location of private heliports is included, as is the number of helicopters based at public use airports. The recent reclassification of the airspace system is discussed, along with how the region's airports fit into the new system. The rapid growth in air regional cargo volumes is highlighted, with air cargo tonnages presented for both Sacramento International and Mather Airports. The status of existing airport land use plans and airport planning documents is discussed, and the section ends with series of maps showing the adopted city and county general plan land use designations surrounding each public use airport.

G O A L S , O B J E C T I V E S A N D P O L I C I E S

The Element concludes with a series of goals, objectives and policies that are intended to guide SACOG in its ongoing aviation system planning process. These goals, objectives and policies are grouped into the following categories: aviation safety, aviation noise, aviation system planning, aviation facilities, airport access and mobility, air quality, military airport conversion, aviation funding, and public participation.

2. Financial Element

The Financial Element describes the history and current status of Federal and State funding programs, and identifies funding support from these programs that airports within the Region have received in the past. Also identified are future aviation projects submitted by the airports for inclusion in the State Capital Improvement Program.

The Financial Element examines the various local funding programs used to fund services and projects at the Region's airports. Some of the more innovative approaches to airport financing through private and nontraditional sources are also discussed. The Element ends with an analysis of future airport needs, as identified in the State Capital Improvement Program, compared to future Federal and State funding resources assumed to be available to meet these needs.

A major conclusion of the Element is that Federal and State funding programs do not have sufficient resources to meet the future funding needs of the Region's public-use airports. While federal AIP funding appropriations for aviation projects have increased over the past two years, after

experiencing a declining trend for the preceding five years, this increase will likely result in only marginal increases in the AIP funding levels which have gone to the region's airports in the past.

At the State level, expenditures for State aviation funding programs have averaged approximately \$6.2 million per year during the period between fiscal years 1990/91 and 1996/97. In recent years the State has been unable to balance the budget with existing revenues and the legislature has borrowed funds from non-General Fund sources such as the State Highway and Aeronautics accounts in order to make up the difference. Given the current nature of the State economy, it is unlikely that significant aviation funding level increases will occur.

Given the gap between Federal and State funding resources and the funding needs of airports, many airports will have to become increasingly self-sufficient in order to continue operating successfully. This could result in such actions as increasing airport user fees and lease fees, provided such increases do not put an individual airport at a disadvantage compared to fees charged at other airports within the local aviation market. Public-private partnership arrangements may also offer opportunities for providing funds for the development and operation of airport facilities. In addition, an increasing trend which some airports may want to investigate is the privatization of various functions at publicly-owned airports, in which public authorities and private contractors enter into agreements for the operation of airport services and concessions.

Airports will need to explore a broader range of innovative and nontraditional funding opportunities than in the past as traditional funding sources diminish. The next few years are likely to prove challenging for Federal and State aviation programs, airport operators, and aviation users alike in the effort to maintain airports as effective and efficient components of the nation's transportation network.

3. Forecast Element

The Forecast Element discusses aviation forecasts through the year 2020 for the region's public-use airports. Included are forecasts for based aircraft, aircraft operations, pilots, registered aircraft, and hours flown at general aviation airports. Passenger enplanement and operations forecasts are also presented for Sacramento International Airport, the region's air carrier airport. Forecasts of regional air cargo tonnage are also included.

The aviation forecasts contained in the Forecast Element were developed by the consulting firm of ICF Kaiser. The Caltrans Aeronautics Program contracted with ICF Kaiser to develop forecasts for all public-use airports within the State. Two reports were prepared as a result of the consultants' work: the Central California Aviation System Plan: Interim Forecasts, Caltrans Aeronautics Program, October 1996; and the California Aviation System Plan: Interim Statewide Forecasts, Caltrans Aeronautics Program, October 1996. The first report focuses on the CCASP area, and is the source of the data used in the Forecast Element.

The region, as a whole, is forecasted to experience a gradual increase in based aircraft, for a 31 percent increase between 1995 and the year 2020. Total annual operations within the region are also forecasted to increase between 1995 and the year 2020 by some 36 percent. While the number of operations at the county level is forecasted to increase during each five-year increment between 1995 and 2020, some fluctuations in this trend are forecasted for individual airports.

Forecasts for student and private pilots show that this group comprised the largest pilot segment in 1995, being nearly three times as large as the commercial pilot segment. This pilot group, however, shows very little growth over time. By the year 2020, student and private pilots are forecasted to increase by only 8 percent over 1995 levels.

The commercial pilot group, on the other hand, is forecasted to grow significantly, for a 156 percent increase by 2020. By 2020, commercial pilots will comprise 45 percent of total pilots, compared to only 25 percent in 1995. Much of this increase will likely be due to increased commercial operations at Sacramento International Airport, as well as increased air cargo and corporate operations at Mather Airport.

Annual air carrier passenger enplanements were forecasted for Sacramento International Airport. Both a low and a high enplanement forecast were developed, with the high forecast reflecting a significant hubbing operation at Sacramento International. The forecasts range from 3,250,000 enplanements in 1995 to 10,898,100 by the year 2020 under the low forecast and 15,908,100 under the high forecast. This amounts to a 235 and a 389 percent increase, respectively.

Subsequent to the preparation of the consultants' forecasts, Sacramento International Airport prepared an update to their own forecasts. The airports forecasts go only as far as the year 2005. The airports forecasts do, however, assume a much slower rate of growth than even the consultant's low forecast figures during the same period of time.

Commercial airline operations, consisting of both air carrier and commuter operations, were also forecasted for Sacramento International Airport. As with enplanements, both a low and a high operations forecast was developed. Starting with a 1995 level of 116,568 operations, the low forecast for 2020 is 306,268 annual operations, while the high forecast is for 447,080 operations. This represents an increase of 163 percent for the low forecast and 284 percent for the high forecast. Since the operations forecasts were based primarily upon the passenger enplanement forecasts, they may be on the high side in light of the airport's more recent enplanement forecasts.

Forecasts were also made for air cargo. In 1995, air cargo amounted to 57,600 tons. By the year 2020 cargo is forecasted to be at a level of 149,523 tons, representing a growth in air cargo of 160 percent during the forecast period. It should be noted that the forecasts assumed that all future air cargo operations would occur at Sacramento International Airport, and do not take into account the fact that a significant number of air cargo companies now operate out of Mather Airport.

4. Systems Requirements Element

The purpose of the Systems Requirements Element is to determine the capability of the region's public-use airports to accommodate the future forecast aviation demand identified in the Forecast Element. Included is an examination of existing aircraft operational capacity compared to future

operational levels forecast at each airport. Forecast based aircraft are also compared to the existing and planned aircraft parking capacity of each airport. The ability of the region's air cargo facilities to accommodate future forecast levels of air cargo is examined. Potential constraints impacting the future operational and aircraft parking capacities of airports are also discussed.

The analysis of the capability of airports to accommodate forecast aircraft operations was performed by comparing the current estimated annual operational capacity of each airport to the year 2020 operations forecasts. Where the existing operational capacity of an airport exceeded forecast operations levels at an airport, a capacity surplus was assumed. Conversely, where year 2020 operations forecasts exceeded existing airport operational capacities, a capacity shortfall was noted.

Based upon the level of operations forecast at the region's general aviation airports by the year 2020, it is not anticipated that the operational capacity limit of any airport will be reached. Moreover, the region's airports are expected to have significant excess capacity, as evidenced by the fact that the most any single airport's individual capacity used was 58 percent, with most airports expected to be operating at less than 40 percent of capacity. With respect to aircraft parking capacity, the majority of the airports are expected to be able to accommodate the forecasted levels of based aircraft.

While it was assumed that Sacramento International Airport would be operating at below capacity under the low operations forecast, under the high forecast scenario its existing capacity would be exceeded. Also, according to the consultants' passenger forecasts for Sacramento International, the airport's passenger capacity may be reached well before the year 2020. Fortunately, the airport has a much greater ability than do the general aviation airports to secure funding necessary for the construction of capacity enhancing facilities. The difficulty general aviation airports have in being able to secure the funding necessary to maintain existing facilities, and to construct additional facilities necessary to increase parking capacity, was the single most significant constraint identified. In addition, land use incompatibilities were also identified as having the potential to constrain airport capacity.

5. Action Plan

The intent of the Action Plan is to identify actions both SACOG and individual airports should undertake to both maintain and enhance the existing regional aviation system. The Action Plan is comprised of two sections. The first section consists of those actions which SACOG can undertake in fulfilling its role as both Airport Land Use Commission and Regional Transportation Planning Agency for the Counties of Sacramento, Sutter, Yolo and Yuba. These SACOG actions are derived from the goals, objectives and policies contained in the earlier Introduction and Background Element. The second section of the Action Plan is comprised of specific actions recommended for implementation by the region's public use airports.