
Aviation Facilities Plan

Executive Summary

Introduction

The *Santa Barbara Airport Master Plan*, originally conceived as one document, was separated into two components in 1995: the *Airport Industrial Area Specific Plan* and the *Aviation Facilities Plan*. The *Aviation Facilities Plan* focuses on aviation uses and covers 725 of the Airport's 950 acres. The *Airport Industrial/Commercial Specific Plan* focuses on industrial, commercial, and general aviation uses, and covers the remaining 225 acres. The *Specific Plan* was certified by the Coastal Commission in 1998 and implementation is underway. The two areas, shown in Exhibit 1, are managed together by the City of Santa Barbara Airport Department.

The *Aviation Facilities Plan* (AFP) is a comprehensive plan to guide commercial aviation activities and development through the year 2015. The major projects proposed in the AFP are based on forecasts of anticipated passenger use and aircraft operations. The Runway Safety Area project is the exception, as it is required under current Federal Aviation Administration (FAA) safety standards and will be undertaken as the first priority.

GOALS AND OBJECTIVES

In November 1990, the City Council adopted the Airport Planning Goals. These goals encompass the four major areas of consideration in Airport planning and operations: air transportation, the Goleta Slough, economic self-sufficiency, and regional coordination. These four factors have been considered in the development of this Plan. The AFP also meets the requirements of the FAA Advisory Circular titled *Airport Master Plans* (AC 150/5070-6A) published in 1985.

The specific objectives of the *Aviation Facilities Plan* are to:

- **Safety** – Increase the margin of safety for all aircraft operations by meeting FAA runway safety area requirements and minimizing the number of runway incursions;
- **Utility** – Provide a runway length that, at a minimum, retains the existing runway capacity and length for takeoffs and landings to the east and west; and
- **Efficiency and Comfort** – Provide facilities for airline passengers that are efficient, comfortable and aesthetically compatible with the Santa Barbara style of architecture.

ENVIRONMENTAL SETTING

The Airport is greatly affected by the proximity of the Pacific Ocean in terms of temperature, wind, cloud cover, visibility, and birds. There are three major creeks on Airport property: Tecolotito and Carneros Creeks on the west and San Pedro Creek on the east.

The Airport sits on a narrow coastal plain that is subject to seasonal flooding, periodically closing the Airport. The entire AFP area is either in the Floodway or Flood Plain, both of which require special treatment for future projects.

Historical and archaeological resources are present at the Airport and require special consideration in planning for the future. The 1942 Airline Terminal was designed by Edwards and Plunkett, architects of the Arlington

Exhibit 1
Master Plan Components

Theater and other prominent Spanish-Colonial revival buildings in Santa Barbara.

The areas to the east, west, and north of the Airport are developed, much of it residential, making noise an important planning consideration for the Airport. The University of California at Santa Barbara and Goleta Beach County Park to the south are also sensitive areas that must be carefully considered.

Automobile transportation to the Airport is generally via US 101, Ward Memorial Highway (SR 217), and Sandspit Road from the east. Passengers traveling from the west on Highway 101 exit at Fairview Avenue and continue south to James Fowler Road. Buses, taxis and shuttles also serve the Airport. Class 1 and 2 bike lanes exist in the vicinity of the Airport.

There are presently 1,140 long-term, short-term and employee parking spaces at the Airport, plus an off-site overflow parking lot with approximately 550 spaces that is used mostly on busy summer and holiday weekends. The overflow parking lot is also used periodically for overnight employee parking for airline flight crews.

RELEVANT LAWS AND REGULATIONS

FAA regulations and standards play an important role in the management of the Airport. The FAA conducts annual certification reviews that can result in identifying needed improvements. The FAA offers guidance through their regulations relating to safety, design, and operations. The FAA also administers the Airport Improvement Program making grant awards to the Airport for necessary improvements to better serve the traveling public.

Wildlife Services, part of the U.S. Department of Agriculture, advises the FAA on wildlife-related issues. The location of the Airport, adjacent to the Pacific Ocean and Goleta Slough, makes it attractive to birds. Birds and other animals can represent a hazard to aircraft

and must be carefully managed. The Airport has a program to manage wildlife consistent with applicable laws and regulations.

An important law relating to the Airport is the California Coastal Act. The entire AFP area is within the Coastal Zone and, as such, the policies of the City's Local Coastal Program apply. The airfield operations area is designated "Major Public and Institution" and the Goleta Slough is designated "Open Space." Some of the Goleta Slough is in the permanent jurisdiction of the California Coastal Commission.

Another important agency is the California Department of Fish and Game. The portion of the Slough located on Airport property is in the Goleta Slough Ecological Reserve. This reserve is managed by the Department of Fish and Game through a Memorandum of Understanding with the City. The U.S. Fish and Wildlife Service and Army Corps of Engineers also play important roles in regulating the natural resources found at the Airport.

The AFP has been found consistent with the City's Zoning, General Plan, and Local Coastal Program policies. The Santa Barbara City Council adopted the AFP and certified the EIR on December 11, 2001. The AFP County Airport Land Use Commission found the AFP consistent with the County Airport Land Use Plan on March 21, 2002. The California Coastal Commission found the AFP EIS/EIR federally consistent with the State Coastal Management Program on April 7, 2002.

THE AIRPORT TODAY

Existing Major Features

Santa Barbara Airport features a primary runway (Runway 7-25) of 6,052 feet and two parallel runways (Runway 15R-33L and 15L-33R), each about 4,180 feet in length. These and other important features of the Airport, including the Air Traffic Control Tower, Airline Terminal and General Aviation areas, are shown on Exhibit 2.

Existing Airline Terminal Area

The existing Terminal area is shown in Exhibit 3 and extends from Taxiway A on the north to Sandspit Road on the south. In 1942, the original 7,000 square foot Terminal was constructed by United Airlines. The building was altered in 1967 and 1976, expanding to approximately 20,000 square feet. Much of the 1967 and 1976 construction is deteriorating, and temporary improvements have been necessary to keep the building functioning safely and efficiently.

In 1976, when the Terminal was last expanded, there were about 398,000 passengers using the Airport each year. The number of passengers has almost doubled to 793,000 in 1999, yet the building is essentially the same size as it was 25 years ago. To accommodate the increase in passengers, exterior covered baggage claim areas were added as well as a portable building to house airline operations and offices. In order to provide larger passenger hold rooms in the Terminal, important airline functions that typically occur within a terminal have been relocated to nearby buildings. These offsite uses include rental car offices, airline and restaurant storage, employee lockers, and janitorial space. Other functions that commonly occur within an airline terminal, such as preparing passenger luggage for aircraft loading, are performed outside on the ramp due to a lack of covered space. In addition, at Santa Barbara, important terminal uses such as security, operations and administration are all located in outlying buildings. Thus, the effective size of the existing Airline Terminal, considering the relocated and displaced functions, is approximately 45,300 square feet as shown in Exhibit 4.

To measure the adequacy of the size of the Santa Barbara Terminal, ten airports throughout the country were contacted regarding their existing terminal size and total passengers (see Table 1). All but one of these airports has from 500,000 to 1.5 million annual passengers, similar to Santa Barbara's existing and projected passenger counts.

The ten terminals average 3.3 times larger than Santa Barbara's Terminal. Table 1 also includes terminal square footage per 1,000 passengers. The other airports surveyed average 3.0 times more space per 1,000 passengers than Santa Barbara. Santa Barbara Airport currently provides about 57 square feet per 1,000 passengers.

By 2015, assuming the maximum projected increase in passengers and terminal size at a 4% growth rate, Santa Barbara will provide 63 square feet per 1,000 passengers.

AVIATION FORECASTS

In November 2000, the *Aviation Forecasts Review* was prepared for the Airport by Shutt Moen Associates. This report reviewed historic trends in passengers and aircraft operations and projected the number of each through 2015. These forecasts are based on local population and economic data as well as regional, state and national aviation trends. The local data included the Santa Barbara County Association of Government's *2000 Regional Growth Forecast Update* and U.C. Santa Barbara's *2000 Santa Barbara County Economic Outlook*. Historic and projected passenger trends and forecasts are shown in Exhibit 5. Despite an immediate downswing in the aviation industry after the terrorist attacks of September 11, 2001, FAA has stated that the industry will make a full recovery by 2004.

Passenger Enplanements

The number of passengers using the Airport gradually increased during the 1950s and

**EXHIBIT 2
(SAIC MAP)**

EXHIBIT 3
TERMINAL AREA
(Aerial)

EXHIBIT 4
TERMINAL AREA
SQUARE FOOTAGES
(PMSM EXHIBIT)

Table 1

**Comparison of Santa Barbara Airline Terminal
Size and Annual Passengers
for Select U.S. Airports**

| Airport Name and Location | 1999 Pas- sengers ^a | 1999 Ter- minal Size in square feet | Square Feet per 1,000 Passen- gers | Comparison with SBA | |
|---|-----------------------------------|--|--|----------------------------|--|
| | | | | Overall Termi- nal Size | Square Feet per 1,000 Pas- sengers |
| Charleston South Carolina | 1,585,000 | 278,000 | 175 | 6.2 times larger | 3.1 times larger |
| Chattanooga Tennessee | 594,000 | 126,000 | 212 | 2.8 times larger | 3.7 times larger |
| Fresno Yosemite Fresno, CA | 1,040,000 | 102,000 | 98 | 2.3 times larger | 1.7 times larger |
| Monterey California | 508,500 | 61,000 | 120 | 1.4 times larger | 2.1 times larger |
| Palm Springs California | 1,274,000 | 160,000 | 126 | 3.6 times larger | 2.2 times larger |
| Pensacola Florida | 1,094,000 | 160,000 | 146 | 3.6 times larger | 2.6 times larger |
| Savannah Georgia | 1,580,000 | 270,000 | 171 | 6.0 times larger | 3.0 times larger |
| St. Petersburg Florida | 792,000 | 125,000 | 158 | 2.8 times larger | 2.8 times larger |
| Tallahassee Florida | 900,000 | 170,000 | 189 | 3.8 times larger | 3.3 times larger |
| Santa Maria California | 88,000 | 25,500 | 290 | 0.6 times smaller | 5.1 times larger |
| Santa Barbara - 1999 | 793,000 | 45,300 ^b | 57 | -- | -- |
| Santa Barbara - 2015 projected | 1,500,000 | 95,000 ^c | 63 | -- | -- |

a Enplanements x 2 except where total passengers are available.

b Interior and exterior space (typically in a terminal building) devoted to airline and Terminal uses – See Exhibit 4.

c Based on 4% growth projects, see Table 2 below for explanation.

EXHIBIT 5
HISTORICAL & PROJECTED
ENPLANED PASSENGERS
(Strong Graph)

1960s, then declined in 1978 after the passage of the Airline Deregulation Act.

The number of passengers increased dramatically in the 1980s as the nation's economy boomed and the number of commuter airlines proliferated.

The recession of the early 1990s saw a drop in passengers. The 1996 *Air Service Market Analysis* showed that 56% of passengers within the market area (Santa Barbara County) took surface transportation to Los Angeles airports each year, primarily due to significantly higher ticket prices at Santa Barbara Airport. In the two years following the release of that study and the reduction in ticket prices, the number of passengers increased by over 25% each year. A healthy economy also contributed to this increase.

Since 1970, Santa Barbara Airport has sustained an average of four percent (4%) annual growth rate in passengers, despite the peaks and valleys associated with the economy and the fluctuation of ticket prices.

In May of 2001, the FAA completed formal review of Santa Barbara Airport's aviation forecast and concluded that a 4% annual growth rate, based in part on the 30 year historic trend, is probably too optimistic over the next fifteen years. The FAA has stated that a lower annual growth rate of around 3% appears to be more reasonable. This lower growth rate would equate to approximately 650,000 enplanements in the year 2015 rather than the 750,000 enplanements that would result from a 4% annual growth rate.

Airport staff has calculated the implications of a 3% forecast on the proposed Airline Terminal requirements. The difference in square footage necessary to accommodate 650,000 annual enplanements rather than 750,000 is approximately 10,000 square feet. Specifically, the calculations indicate that the Airline Terminal building size requirements for a 650,000 enplanements volume is 85,000 square feet versus 95,000 square feet for 750,000 enplanements. The ratios between the two sets of numbers are not the same because the size requirements for certain components of the building (lobby area, restaurant, administration offices, mechanical equipment, etc.)

remain constant at either of these passenger volumes.

Originally, the Airport was in agreement with the FAA that a 3% growth rate is perhaps a more reasonable assumption, given the annual growth rate has averaged 2.7% over the last 10 years. Therefore, the Airport proposed to phase construction of the Airline Terminal to initially accommodate 650,000 annual enplaned passengers, with an allowance for ultimate expansion to accommodate 750,000 annual enplanements.

The September 11 terrorist attacks, and the resultant effects on the aviation industry have not changed the long-term planning approach at Santa Barbara Airport. The long view indicates that the economy will recover, the Los Angeles area airports and freeways will become more congested, the demand for improved air service will rebound, and the airlines and passengers will return to the market.

Therefore, the Airport is proposing to construct the first phase of the Airline Terminal Area Program, 67,000 square feet of Terminal Space, to meet current demand, combined with a modest 1% annual growth forecast through 2010. The second phase of the program will depend on the performance of passenger activity levels between the years 1999 and 2008, with a cap of not to exceed 4% per year through 2015. In other words, if passenger activity is flat, it is unlikely that Phase 2 would be needed. If passenger activity surpasses 4% per year growth or 1.5 million total passengers the maximum building size will be 95,000 square feet for the planning period. Most likely, the second phase will fall somewhere in between a one and four percent growth rate as shown in Table 2.

General Aviation Based Aircraft

The term general aviation or "GA" refers to all civil aircraft and operations that are not owned or operated by an airline or the military. The total number of GA aircraft based at the Airport peaked in the early to mid-1980s at over 300. By 1999, the number had declined to 165. Single-engine, piston powered airplanes continue to represent the majority of the based aircraft with about 80 percent of the total. A small number of helicopters are also based at the Airport. This number has declined in recent

years with the reduction of oil-related activity in the Santa Barbara Channel.

Factors that influence where an aircraft owner bases an aircraft include location of the airport, availability of hangars, aircraft parking space and fuel costs, quality of services, etc. With a projected annual

primarily due to the reduction in helicopter flights at the Airport. After 2005, the number of Air Carrier/Air Taxi operations is expected to increase slowly to about 14,500 in 2015.

The four airlines at Santa Barbara Airport fall into

**Table 2
Enplanements and Terminal Area Size**

| Year | Level of Enplanements ¹ | Terminal Area | Growth Rate |
|------|------------------------------------|-----------------------------|-------------|
| 1999 | 400,000 | 45,000 sq. ft. (existing) | n/a |
| 2010 | 445,000 | 67,000 sq. ft.(Phase I) | 1% |
| 2015 | 468,000 | 72,000 sq. ft. | 1% |
| 2015 | 548,000 | 78,000 sq. ft. | 2% |
| 2015 | 640,000 | 87,000 sq. ft. | 3% |
| 2015 | 750,000 | 95,000 sq. ft. ² | 4% |

¹ Passenger activity levels are typically measured by passenger “enplanements”, which is approximately half the total number of passengers that actually pass through a terminal, i.e. “deplanements” make-up the other half of the equation.

² Based on an average 4% annual growth rate over the 15-year planning horizon of the plan.

Source: PMSM/McClier Architects, 2001

growth rate of 1.6 percent, the number of based aircraft at Santa Barbara Airport is expected to reach 235 by 2015.

Aircraft Operations

In 1999, there were 168,500 aircraft operations (takeoffs and landings) at Santa Barbara Airport. Of those, about 73 percent were GA operations, 20 percent were scheduled airlines, and about 7 percent were air cargo, helicopter and fire attack aircraft operations. The number of general aviation operations is expected to increase from the 1999 level of 122,800 to about 161,000 in 2015. Military flights are expected to remain essentially constant at about

800 to 1,000 annual operations throughout the forecast period. The “Other Air Carrier/Air Taxi” category, which includes air carriers, air cargo, helicopter and fire attack flights, is expected to drop slightly in the next five years. This drop in operations is

craft with 60 or more seats) and air taxis (airlines using aircraft with less than 60 seats). In 1999, approximately 14 percent of the airline flights were on air carriers and 86 percent on air taxis.

In the airline industry, there is a trend away from the smaller 20 to 30 passenger propeller aircraft to “regional jets” that hold from 50 to 100 passengers and can fly greater distances. Therefore, while passenger levels may grow, there will not necessarily be a similar increase in the number of airline operations. In fact, due to a gradual shift from smaller capacity turboprops to regional jets at Santa Barbara, the number of airline aircraft operations is expected to decrease from 33,400 in 1999 to 29,000 in 2005. Between 2005 and 2015, the number of scheduled airline operations is expected to increase to about 38,500. As the shift to regional jets continues, the average number of passengers per flight will also increase.

Airfield Design

Critical Aircraft

Future planning for the airside of an airport addresses runways, taxiways, aircraft ramps, and safety requirements. For planning purposes, a “critical aircraft” is designated based primarily on aviation forecasts and airline input. The critical aircraft is the aircraft type that is most demanding of airport facilities and is used or will be used regularly at an airport. The critical aircraft is used to establish requirements for runway length, airfield design, and pavement strength requirements.

At Santa Barbara Airport, the critical aircraft for most design parameters is the Boeing 757, a narrow body short to medium range two-engine jet aircraft in excess of 200 seats. This aircraft has dual-tandem wheels and has a maximum gross takeoff weight of 255,000 pounds. For Runway 7-25, the FAA design standard category is C-IV. This designation dictates the various design requirements for the runway.

Larger, wide-body aircraft such as the DC-10 and Boeing 747 have visited the Airport. These aircraft have been brought in for maintenance purposes only and carry minimal amounts of fuel and no commercial passengers. Regularly scheduled passenger flights by aircraft of this size exceed the design capabilities of Runway 7-25. In addition, the Airport’s market area simply does not provide an adequate market for the airlines to justify the use of these larger aircraft.

Runway Length

Runway 7-25 - Studies have shown that the existing 6,052-foot operational length of the primary runway is satisfactory for current and most foreseeable future airline flights from Santa Barbara to maximum destinations or “stage lengths” such as Denver. A net runway length increase on the order of 700 to 800 feet would be necessary to enable generally unrestricted flights to destinations as far as Dallas/Fort Worth. A reduction in operational length of the runway would adversely affect existing performance capabilities of the most commonly used Boeing 737 and occasional use by MD-80 type aircraft. Studies have also shown that removal or relocation

of remaining obstacles off the ends of the runways – trees, power lines, roads, etc. – would produce significant operational benefits.

Runways 15R-33L and 15L-33R – Studies in the 1980s suggested that lengthening and widening Runway 15R-33L may provide another option for jet aircraft that now use the primary runway. If more jet aircraft were to takeoff over the ocean, it was suggested that noise levels east and west of the Airport may be reduced. A survey was done to determine if pilots of certain aircraft types would shift from the primary runway to the north-south runways if the runway length available for takeoff were greater. A noise analysis based on the survey results determined that the increase in noise south of the Airport (at Goleta Beach and the southern part of UCSB) would be noticeable and significant. However, detailed studies showed that the decrease in noise east and west of the Airport would not be discernible to the human ear. Therefore, the concept of extending this runway was dropped because it did not meet the City’s objective to reduce noise east and west of the Airport.

Airfield Safety

Runway Safety Areas - All runways are required to have Runway Safety Areas (RSAs) that meet current FAA standards. Runway safety areas are described as “a defined surface surrounding the runway prepared or suitable for reducing the risk or damage to airplanes in the event of an undershoot, overshoot or excursion from the runway” (FAA Advisory Circular 150/5300-13, Airport Design). The actual dimensions of an RSA are determined based on the types of aircraft that typically use the respective runway. Taxiways also have safety areas.

For Santa Barbara’s primary runway, 7-25, safety areas are required to be 500 feet wide and 1,000 feet long off each end of the runway. Runway safety areas are typically smooth, compacted areas that can sustain the weight of an aircraft in the event of an emergency. The existing safety areas off the ends of the primary runway are 320 feet on the west and 215 feet on the east (see Exhibit 2). The length of each of these safety areas needs to be increased to 1,000 feet to enhance the overall safety of existing and future aircraft operations at Santa Barbara Airport.

One challenge in providing the required RSAs is the proximity of the Goleta Slough Ecological Reserve, a coastal salt marsh estuary. The proposed expansion of the RSAs will result in wetland impacts due, in large part, to the relocation of a reach of Te-colotito Creek. A conceptual wetland mitigation program has been developed to compensate for these impacts, subject to the review and approval of numerous local, state and federal agencies. The wetland mitigation proposal will also need to carefully consider wildlife hazards, including bird strikes, to maximize safety at the Airport.

Runway Protection Zones - Airports are also required to have Runway Protection Zones (RPZs) off each end of a runway to enhance the protection of people and property on the ground. An RPZ is a trapezoid-shaped geometric plane that extends up from the end of the runway. At Santa Barbara, the RPZs extend over privately owned property to the west and east of Runway 7-25. To minimize possible land use conflicts, the FAA strongly encourages airports to have control over their RPZs. This may be done through acquisition of the RPZ in fee or through approach protection easements.

Runway Incursions – Runway incursions occur when an aircraft, vehicle, or person enters a runway without prior permission from the FAA Air Traffic Control Tower. Runway incursions are a serious safety concern, which could result in collisions. All measures that can be implemented to reduce the number of potential incursions are strongly encouraged by the FAA. Runway incursions typically occur simply as an oversight on the part of a pilot or driver unfamiliar with an airport's runway/taxiway layout or, occasionally, as an attempt to take a "shortcut" across a runway in order to avoid a longer and/or more circuitous route to their final destination.

Currently, an aircraft landing on Runway 15R is required to make four runway crossings in order to reach the northwest ramp area. The first is at Runway 15L, the second at Runway 7-25, the third at Runway 15L, and the fourth at Runway 15R. This is a common maneuver performed by general aviation aircraft seeking to access the northwest ramp area of the airfield. The FAA prefers that aircraft

have a direct taxi route to their destination to reduce the risk of runway incursions and improve operational safety.

Other Design Considerations

A primary design consideration is whether there is adequate operational capacity to accommodate the projected volume of aircraft operations. At Santa Barbara Airport, based on current projections, the peak hour capacity and the annual capacity of the three runways is expected to be adequate through 2015.

Runway length is an important consideration at the Airport, especially in light of an airline's destination (or stage length) that could be as far as Denver. Payload, or the total weight of passengers, cargo and fuel, is another important design consideration. Some aircraft currently take a "weight penalty" whereby they cannot takeoff fully loaded under certain warm weather conditions.

Wind direction, air temperature, wind speed, and obstacles off the end of the runways are all important airfield design factors as well. Wind conditions at the Airport follow distinct seasonal and daily patterns, greatly affected by the Santa Ynez Mountains to the north and the Pacific Ocean to the south. The orientation of the runways reflect the predominant wind patterns. Wind direction is particularly important as aircraft takeoff and land into the wind. Approximately 40 percent of all takeoffs and landings by air carriers and commuters are on Runway 7 (from west to east) with about 60 percent on Runway 25 (from east to west).

The FAA also requires several other design features be established including: obstacle free zones, object free areas, runway approach obstacle clearance standards, aircraft parking limits, and navigational aids. Development constraints that present limitations for the Airport include: geographic features like the Santa Ynez Mountains, the many water features that surround the Airport, public roads and adjacent sensitive land uses.

After the events of September 11, congress created the Transportation Security Administration as a responsible agency for transportation security including Airport security. Congress has mandated

100% screening of checked baggage and carry-on bags for explosive detection by December 31, 2002. These security measures are a top priority and need to be accommodated in the short-term in one fashion or another to meet the Federal deadline. However, in the longer term, these new security measures, as well as other security features will need to be integrated into the overall design of the terminal.

The equipment and passenger queuing area for checked baggage in the Terminal lobby will use from $\frac{1}{3}$ to $\frac{1}{2}$ of the lobby. The equipment and passenger queuing area in the passenger hold rooms will take about 600 square feet in each hold room.

Landside Design

The landside at Santa Barbara Airport is generally defined as all portions of Airport property not devoted to actual airfield operations. The landside area does not include the Goleta Slough that is maintained as an ecological reserve.

Airline Terminal

The original two-story Airline Terminal and three-story control tower were designed by local architects Edwards and Plunkett. Edwards and Plunkett were known for their design of the Arlington Theater and other Santa Barbara landmarks. The 7,000 square foot Terminal was built in 1942 by United Airlines under a 25-year lease with the City. When the lease expired in 1967, the building was turned over to the City. The original portion of the building has considerable historical and architectural significance. The style is predominantly Spanish Colonial Revival with elements of the style of the period, Art Moderne.

The building was expanded in 1967 and 1976 to its current 20,000 square feet. Architectural historians have determined that, if the 1967 and 1976 additions are removed, the original Terminal may be eligible for inclusion on both the California and National Registers of Historic Places.

The existing airline Terminal building is often crowded, lacking sufficient space for existing passengers and employees. Moreover, the infrastructure and utilities are antiquated and in need of mod-

ernization. If all airline Terminal functions currently spread between numerous outlying buildings were under one roof, the building would be approximately 45,300 square feet (see Exhibit 4). Based on a 4% growth rate, and the needs of the airlines and other tenants at the airline Terminal, the 2015 airline Terminal will need to be approximately 95,000 square feet. This effective doubling of the existing Terminal area will centralize all outlying uses under one roof, including security, operations, administration, car rental, and various other airline related and concession uses.

Recommended Plan

Passenger and aircraft operation forecasts are based on a variety of factors, including local employment and population projections, as well as airline industry standards and trends. The total number of passengers at Santa Barbara Airport is expected to double between 2000 and 2015. The number of aircraft operations is also expected to increase, though at a much slower rate. General aviation activity is projected to increase as well. These forecasts necessitate several changes to the Airport facilities and operations. These changes will be reflected or an updated airport layout plan will be submitted to the FAA for approval.

Airfield Safety Projects

The Runway Safety Area and Partial Parallel Taxiway M projects, as described below, comprise the Airfield Safety Projects. Although each project will provide a distinct type of airfield safety improvement, there is also a physical and design link between the two projects.

The Runway Safety Area project will shift Runway 7-25 800 feet to the west, which, in turn, will close Taxiway B as a runway exit because of its proximity to the relocated landing threshold. Thus, the relocated landing threshold location will require aircraft to continue to Taxiway F, some 3,500 feet from the new landing threshold, in order to exit. Construction of Taxiway M, immediately west of Runway 15R-33L, will provide a conveniently located exit 2,100 feet from the future Runway 25 threshold, minimizing aircraft presence on the runway.

Runway Safety Areas - The most important project in the *Aviation Facilities Plan* is the proposed extension of the Runway Safety Areas on both ends of Runway 7-25. Based on the design aircraft that utilizes this Category C-IV runway, the required dimensions for the RSA are 500 feet wide by 1,000 feet long. With or without additional passengers or aircraft operations, this is a necessary and required improvement in order to meet current FAA safety standards. Acquisition of approach protection easements corresponding to the Runway Protection Zones is also recommended.

It is important to note that the proposed plan will not result in an increase of the official published runway length for Runway 7-25 of 6,052 feet. The RSA on the east end of Runway 7-25 is currently about 200 feet in length. In order to meet the required 1,000-foot Runway Safety Area length on the east end of the runway, 800 feet of existing runway will be used as RSA.

This will allow for a 1,000 foot RSA consistent with current FAA standards. The 800 feet of runway that will be used as RSA will be replaced to the west of the existing runway, in order to maintain the 6,052 runway length.

The existing runway that is proposed to be converted to RSA will serve another purpose. It will also function as a lead-in taxiway that, by definition, extends directly off the end of a runway. A lead-in taxiway can only be actively used for aircraft taxi purposes and not for takeoffs or landings.

The existing RSA on the west end of Runway 7-25 is approximately 300 feet in length. To meet the 1,000-foot RSA requirement, the required RSA will be constructed to the west of the 800-foot relocation of the runway. The proposed RSA project is shown in Exhibit 6. The proposed runway relocation and RSA construction will have a potentially significant impact on the Goleta Slough that has been assessed in an Environmental Impact Statement/ Environmental Impact Report (EIS/EIR). The RSA project, as proposed, will necessitate the relocation of Tecolotito Creek almost 2,000 feet to the west to accommodate the 800 foot runway relocation, the 1,000 foot west end RSA, and a service road.

The associated wetland impacts are proposed to be mitigated on site on a 4:1 basis as part of the environmental regulatory approval process.

Taxiway M - The primary purpose of Taxiway M is to improve operational safety by providing a more direct taxi route to the northwest ramp area, which in turn will reduce the risk of runway incursions. The Taxiway M project is defined as a partial parallel taxiway as it will parallel Runway 15R-33L to the west, but will not extend the full length of that runway, terminating at Taxiway E.

Completion of Taxiway M will significantly reduce the number of runway crossings for aircraft landing on Runways 15R and 15L. For example, all aircraft landing on Runway 15R will only have to make one runway crossing at Runway 7-25, as opposed to four crossings as now configured to access the northwest ramp area.

The long range plan for the northwest ramp of the Air Operations Area is to accommodate all general aviation (GA) operations and, specifically, to relocate the Fixed Base Operator¹ now located to south of the Terminal, to the northwest ramp. Thus, given Runways 15R-33L and 15L-33R are used primarily for GA operations, the construction of Taxiway M will take on increasing importance as a operational safety improvement, in addition to its role as an exit for the proposed shifted runway, as noted above.

Terminal Expansion Project

A number of significant changes are proposed in the Airline Terminal area to address existing problems in the building and to meet forecasted passenger demand. The existing Terminal uses are located in just over 45,000 square feet and about twice this amount of space will be needed by 2015.

Two major design considerations for the Airline Terminal are the historic 1942 portion of the building and the potential for flooding. To address the historic issues, the additions done in 1967 and 1976 will be removed to restore and showcase the 1942 portion of the structure. In addition, the original

¹Fixed Base Operators service the needs of the General Aviation aircraft, providing fuel, repairs and other related services.

entryway will be exposed and the second floor observation deck and three-story control tower will be restored. To address the flooding issue, the historic portion and the proposed expansion will be raised approximately two feet to be above the 100-year flood level, consistent with Federal Emergency Management Administration requirements.

The adjacent loop road in front of the Airline Terminal will also be raised to accommodate the raised Airline Terminal. The loop road will be lengthened to provide adequate curb length for passenger loading and unloading. An island will be added to the loop road to accommodate increased use of shuttle buses, taxis and limousines. The expanded portions of the airline Terminal will be architecturally compatible with the historic building and maintain the existing pedestrian scale and ambience.

One of the five proposed gates will be for ground boarding of planes. In the southern portion of the expanded Airline Terminal, the larger aircraft will board passengers through loading bridges on the second floor. Airport security, operations and administration functions will also be located in the airline Terminal, as is typically the case at other airports.

The proposed Terminal program is shown in Exhibit 7. Conceptual elevations of the expanded Airline Terminal are shown in Exhibit 8.

Ground Transportation

A Ground Transportation Alternatives Plan for reducing traffic and decreasing the demand for parking spaces has been developed. This program includes increased use of buses and shuttles, and a peak period parking pricing structure to encourage use of all forms of transportation.

Improvements to automobile parking will be provided to address increased demand. Currently there are 1,690 spaces. The Phase I parking program will provide a total of 2,286 spaces, including a new long-term parking lot south of the airline Terminal.

Other Improvements

If there is sufficient demand, a new 650-space parking structure will be constructed south of the airline Terminal for additional long-term parking. A total

of 2,635 parking spaces can be provided once the parking structure is complete in Phase II of the parking program.

As shown on Exhibit 6, other proposed improvements include:

- **Runway Protection Zones** – The RPZ located to the west of Runway 7-25 may need to be acquired in fee or through an easement;
- **Taxiway B Improvements** – A portion of this taxiway, between Runway 15L-33R and the Airline Terminal ramp, is proposed to be widened to better accommodate the larger aircraft such as the Boeing-737.
- **Air Cargo** - A new 15,000 square foot air cargo facility to accommodate freight generated by the independent freight companies;
- **T-Hangars** - 75 additional T-hangars to meet current and projected demand for general aviation aircraft parking;
- **New Service Road** - A new service road within the Air Operation Area is proposed in the northwest quadrant near the new T-hangars.

Financial Plan

The Airport is an Enterprise Fund of the City of Santa Barbara whereby all monies generated from leases, concessions, and use of Airport facilities are used exclusively for Airport operation, maintenance and capital expenses. In fact, FAA regulations require that all Airport revenues must be expended on Airport activities and improvements.

An important aspect of the AFP is how the various improvements might be financed. The Airfield Safety Projects are expected to cost \$9 to \$14 million. The airline Terminal project, including site improvements, is expected to cost from \$42 to \$57 million and will be constructed in phases. All the projects recommended in the AFP are expected to cost about \$99 million. Funding sources available to the Airport for capital development include federal grants, passenger facility charges, long term financing, and private development. A financial

feasibility plan will be developed utilizing all funding sources.

One of the challenges of financing the Airfield Safety Projects, airline Terminal and other improvements is the timing of the construction of each. The first priorities are the Airfield Safety Projects followed closely by the Airline Terminal expansion project. The other projects will be initiated as the need arises and as funding becomes available.

IMPLEMENTATION

The implementation of the AFP necessitates several policy and ordinance amendments to the City's General Plan, Local Coastal Program (LCP), and Zoning Ordinance. Exhibit 9 shows the locations of the proposed land use designation changes, as required by the General Plan and LCP.

The RSA project is of utmost priority for both the Airport and the FAA and they have committed to financing the entire project.

The Airline Terminal expansion project will require more design and review, given the complexity of the operational, historical, architectural, and flooding issues. The timing of the remaining aviation improvements, including a parking structure for the Terminal, will coincide with the actual level of passenger enplanements and aircraft operations.

CONCLUSION

The *Aviation Facilities Plan* is a comprehensive look at Santa Barbara Airport including its passengers, tenants, employees, environment and regional setting. The AFP provides many benefits to the community and region including the following:

- Increased safety at the Airport due to the extended runway safety areas and Taxiway M;
- New stream channels and improved settling basins reducing flooding and trapping sediment more efficiently;
- Wetland restoration of a portion of the Slough;
- Restoration of the historic Airline Terminal building;
- Efficient and comfortable Airline Terminal;

- Improvements in on-time departures and connections and reductions in flight delays; caused by airport facilities constraints.
- Reduced number of people driving to Los Angeles area airports, thereby reducing vehicle trips, traffic congestion and air quality impacts; and
- Increased employment opportunities and economic benefit associated with new jobs.

The AFP will guide improvements, maintenance and management of this important public facility through 2015.

Exhibit 6
AFP Proposed Projects (SAIC Map)

EXHIBIT 7

Proposed Airline

**TERMINAL PROGRAM
(PMSM EXHIBIT)**

EXHIBIT 8
Terminal Elevations

EXHIBIT 9
General Plan