

**Chapter 1  
Introduction**

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# *Austin-Bergstrom International Airport Master Plan Update*

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## **PURPOSE AND SCOPE OF STUDY**

In May 1999, Austin-Bergstrom International Airport (ABIA) officially opened for passenger service. Prior to this, the City of Austin's air transportation needs were provided for by Robert Mueller Municipal Airport (RMMA). The City had long recognized the need for a new airport to replace Robert Mueller and when Bergstrom Air Force Base was announced to be closed in 1991, the City began actions to relocate the airport to Bergstrom.

In 1993, an Airport Master Plan was completed for the new airport at Bergstrom and provided the basis for converting the former Air Force Base into a new commercial airport. The proposed development in the 1993 master plan was heavily influenced by the forecast traffic, the existing conditions and the desire to reuse base facilities. However, during construction actual traffic levels began increasing at a much higher rate than forecast, causing the constructed plan to depart considerably from the original master plan. This high growth rate led to more passengers and cargo than forecast and expanded airline services. As a result, this Airport Master Plan Update was prepared to update the original Airport Master Plan prepared for the new airport in 1993 and to guide future airport development for the next 20 years.

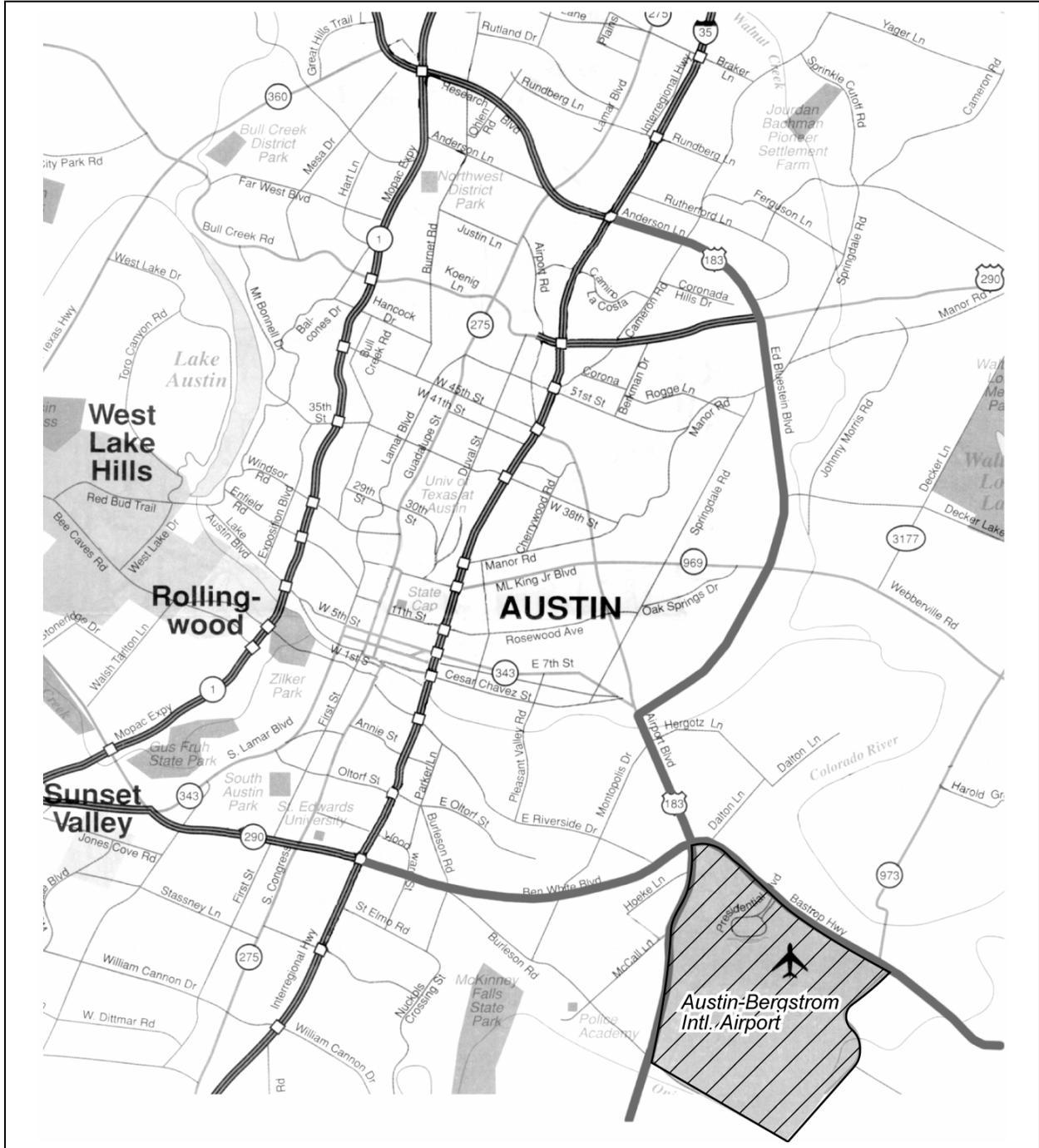
The scope of work for the Master Plan Update is organized into work tasks that are designed to: document the existing facility conditions; project future traffic levels and determine airport facility requirements; prepare and evaluate airport development alternatives, select a preferred development plan that will satisfy future needs; and prepare necessary plans. The Master Plan Update will also include development of terminal conceptual plans and a land use plan that will identify areas suitable to accommodate potential commercial and industrial development opportunities. The Master Plan Update was funded in part by the Federal Aviation Administration (FAA) and therefore complies with FAA requirements for the preparation of such documents.

This Final Report documents the overall Master Plan Update process and the work tasks described above. The remainder of this introductory chapter summarizes relevant socioeconomic and historical air traffic activity data, key issues, goals and objectives, the public involvement process and a peer review that was conducted as part of the Master Plan Update.

## **AIRPORT LOCATION AND ROLE**

Austin-Bergstrom International Airport is situated approximately eight miles southeast of the Austin Central Business District (CBD), as shown on Figure 1-1. The Airport is owned by the City of Austin and operated by the Department of Aviation (DOA). The Airport replaced Robert Mueller Municipal Airport (RMMA) as the City's commercial airport and commenced operations in May 1999. The Airport is within the Austin city limits and is surrounded by predominantly rural countryside to the south and east. The Airport lies between two major roads, State Highway (SH) 71 on the north and U.S. 183 on the west. Burlinson Road, an east-west county roadway, is south of the Airport between U.S. 183 and Farm to Market (FM) Road 973.

# Austin-Bergstrom International Airport Master Plan Update



**Figure 1-1  
Location Map**

# *Austin-Bergstrom International Airport Master Plan Update*

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FAA classifies commercial service airports depending on the percentage of total enplanements for the U.S. In this classification system, ABIA is classified as a “medium hub” airport, which enplane between 0.25% and 1% of the total U.S. enplanements (about 1.8 million to 7.1 million enplanements based on calendar year 2000 traffic data published by FAA). In 2000 (the base year established for this Master Plan Update), ABIA ranked 48<sup>th</sup> in number of enplanements of all commercial airports.

## *KEY ISSUES*

The following are key issues that were identified through a workshop process with the City of Austin Department of Aviation (DOA).

### *Airside Issues*

- The need for and timing of a possible third parallel runway
- The location of a possible third parallel runway
- The possible reconfiguration of the parallel taxiway system for the west runway if a third runway is located elsewhere than as shown on the current Airport Layout Plan
- The possible extension of airside facilities to the north across State Highway 71
- The need for another deicing area adjacent to a runway
- Upgrading ILS and NAVAIDS

### *Passenger Terminal Issues*

- An expansion program for the terminal building that accommodates immediate, mid-term and long-term needs
- The need to maximize the use of the existing terminal space
- The need to maximize passenger convenience by minimizing passenger walking distances
- The need for improvement in vertical circulation of passengers
- Lack of hold room space in the crescent shaped portion of the concourse and lack of dining seating areas in the concourse
- The provision for the integration of light rail in terminal development
- The potential for an airline hub operation

### *Airport Access and Parking Issues*

- The need to move rental car ready/returns and the potential for a consolidated rental car facility
- The feasibility of expanding the parking garage to accommodate more short-term parking
- The need for more long-term parking and the potential for a two-tier parking rate structure
- The need for additional crosswalks connecting the terminal to the garage
- The modification of parking shuttle circulation patterns
- Long walking distances and impediments to terminal access from surface parking lots
- The need to relieve congestion at the private auto curb on the lower level
- The feasibility of providing for valet parking
- The need for a permanent location for employee parking

# *Austin-Bergstrom International Airport Master Plan Update*

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- The need for a fly-over exit ramp for westbound traffic on State Highway (SH) 71 to relieve congestion on SH 71 at peak times
- The need for an automated vehicle identification (AVI) system for commercial vehicles
- The need for an additional or relocated variable message sign (VMS)
- The need for improved north-south access from the terminal area to the southern portion of the airfield
- The need for additional employee parking in the cargo area
- The potential for off-site parking facilities in the vicinity of the Airport
- Curbside utilization.

## *Air Cargo Issues*

- The immediate need for additional cargo facilities and the optimum location(s) to meet immediate and long-term needs
- The consideration of a cargo hub scenario, requirements for international cargo, and implications of a potential foreign trade zone
- The consideration of airside facilities beyond the present airport boundary to serve an expanded cargo area
- Maximization of the use of existing facilities

## *Airport Land Use Issues*

- How the Del Valle school site (encompassing approximately 105 acres) can best be redeveloped
- The potential for non-aviation revenue enhancing uses on golf course property to be vacated on the east-side of the Airport
- The potential acquisition of additional land (including land north of State Highway 71) for development of aviation related uses
- The best use for airport property not required to accommodate future aviation demand (including property along US 183 and Burleson Road)

## *Airport Support Issues*

- Appropriate locations to accommodate future field and building maintenance facilities
- The potential relocation of facilities that support airline and other airport operations such as ground service equipment, belly freight, fuel farm, and aircraft rescue and fire fighting
- The short, intermediate and long term requirements for general aviation facilities
- The connection and expansion of the Premis distribution system (including wireless infrastructure)

## **GOALS AND OBJECTIVES**

The first workshop with DOA staff also established goals and objectives to guide the planning process for the Master Plan Update. The goals address major aspects of airport development and operation such as safety, convenience and efficiency, enhanced capacity, accommodating users, economics, flexibility,

# *Austin-Bergstrom International Airport Master Plan Update*

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regional/City relationships, and environmental impacts. The goals and objectives also provided criteria against which alternative airport improvement concepts were evaluated.

**GOAL NO. 1** All users of the Airport shall be afforded safe, reliable and unconstrained access to the National Airport System and to principal domestic and international markets.

**Objectives:**

1. Meet FAA planning and design standards and comply with Federal Aviation Regulations.
2. Provide adequate infrastructure and systems to maintain reliable and continuous airport operations.
3. Provide properly sized facilities to meet future traffic demand and enhance air service.
4. Meet the needs of all airport users and accommodate all classes of commercial, cargo, general aviation, and military operations.

**GOAL NO. 2** The comfort and convenience of air transportation users shall be assured, and the overall customer service improved.

**Objectives:**

1. Provide the opportunity for enhanced air service.
2. Maximize passenger level of service as measured by factors including, but not limited to, ease of passenger drop-off and pick-up, convenient parking, minimum walking distances, adequacy of passenger services (i.e., concessions, rest rooms, rest areas, etc.), ease of way-finding, convenience of baggage check-in and claim processes, etc.
3. Protect passengers from elements.
4. Minimize congestion and delays.
5. Provide efficient interface with ground transportation.
6. Provide adequate directional signing and lighting for all airport users.

**GOAL NO. 3** The capacity of airport elements and facilities shall be enhanced.

**Objectives:**

1. Maximize airside operational efficiencies.
2. Maximize terminal development potential.
3. Enhance landside capacity.
4. Maximize air cargo capacity and opportunities.
5. Enhance vehicular parking, circulation and access.
6. Increase and improve airport support facilities.

# *Austin-Bergstrom International Airport Master Plan Update*

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**GOAL NO. 4** The economic feasibility and financial self-sustenance shall be assured.

**Objectives:**

1. Plan capital investment consistent with the ability to pay.
2. Maximize the use of existing facilities and land to increase non-airline revenues.
3. Optimize site development opportunities.
4. Amortize investment from available grants, PFC, and surplus operating revenues.
5. Create a development program that is cost effective and enhances revenue generating opportunities.

**GOAL NO. 5** Create a flexible development program that is linked to activity levels and phased development to avoid interference with on-going traffic.

**Objectives:**

1. Create a development program that maximizes compatibility with existing facilities and infrastructure.
2. Maintain traffic during all construction operations.
3. Utilize modular design to facilitate expansion.
4. Provide flexibility to facilitate changes such as enhanced air service.
5. Utilize sound engineering/architecture concepts.
6. Provide expansion capability beyond forecast period.

**GOAL NO. 6** Compatibility with Austin ground transportation, industrial and commercial development programs shall be assured.

**Objectives:**

1. Use aesthetically attractive design that expresses local values and character.
2. Plan for full air cargo services to support economic development needs.
3. Provide for compatible interface with Austin highway and transit systems.
4. Plan adequate provisions for all public transportation services.

**GOAL NO. 7** Promote compatibility between the Airport and Austin community and minimize adverse impacts on the environment, on residents of communities adjacent to the Airport and on community land use plans and policies.

**Objectives:**

1. Provide noise abatement procedures capability.
2. Develop optimum airfield and airport facilities configuration to minimize impacts.
3. Control land that is unavoidably subjected to severe impacts.
4. Minimize air pollution during construction.

# *Austin-Bergstrom International Airport Master Plan Update*

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5. Minimize drainage impacts on adjacent land.
6. Provide off-airport land use plan and control mechanisms to assure compatibility with operations.

## ***THE PLANNING PROCESS***

An airport master planning study, such as this, is accomplished by following some fundamental, sequential steps that are briefly stated as an overview of the work that was accomplished. The initial step involves taking inventories of existing facilities and systems, documenting existing conditions, and coordinating activities with other agencies. Next, air traffic demand forecasts are prepared that represent the future traffic for which facilities must be planned. These include forecasts of enplaned passengers and cargo, aircraft operations, based aircraft and surface transportation activity through the year 2020. Once the forecasts are prepared they are then translated into a listing of required facilities for the various airport elements – airside, passenger terminal, cargo, support facilities, ground access and parking facilities. Upon determination of the facility requirements, it is possible to compare requirements with existing facilities to identify deficiencies. Alternative development concepts that satisfy the deficiencies are then developed and evaluated so that a recommended concept is identified. Once identified, the preferred alternative is then detailed and examined in terms of a staged development plan, capital cost estimates, and environmental consequences. This report documents the basic steps outlined above that have been accomplished in updating the master plan.

It should be noted that three forecasts – baseline, high and low growth scenarios were prepared in the Master Plan Update, with the high growth forecast being adopted for planning purposes. Based on this, the DOA took a proactive approach in planning future facilities to ensure that the plan will meet the probable range of future demand. The implementation of the master plan will depend on the attainment of certain traffic levels. It was believed to be easier to scale back recommended development should traffic not materialize as forecast, rather than accelerating development if traffic forecasts proved to be low.

The evaluation of alternative passenger terminal concepts also considered land use plans for all supporting airport functions. Using this ‘macro’ approach the relationship and functions of all airport elements were considered. This served to identify various issues related to the passenger terminal and support facilities early in the planning process.

## ***STUDY DOCUMENTATION***

A number of reports were produced in the Master Plan Update, as works in progress, to document the preliminary analyses, methodologies, findings, conclusions, and recommendations of the study.

Technical Reports and Workbooks were prepared at specific milestones in the study as follows:

- Technical Report No. 1, *Data Collection and Existing Conditions*
- Technical Report No. 2, *Aviation Demand Forecasts*
- Technical Report No. 3, *Demand/ Capacity and Facility Requirements*

# *Austin-Bergstrom International Airport Master Plan Update*

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- Passenger Terminal Complex Development Alternatives Evaluation Workbook
- Passenger Terminal Complex Development Alternatives Evaluation Workbook 2

These reports allowed important findings to be released immediately following the completion of the work to permit review and feedback of major elements of the study as it progressed. This approach proved to be beneficial to the City of Austin and other reviewing agencies as well as to the Consultant staff conducting the study. It should be noted that certain data in the technical reports may be superseded by this Final Report, but the technical reports provide additional detail not found in this report and serve as reference for the master plan process.

This *Final Master Plan Report* is a comprehensive description of the essential findings, conclusions and recommendations of the Master Plan Update. In addition, a separate *Master Plan Executive Summary Report* will be prepared for public distribution. A set of nine large-scale drawings (including the Airport Layout Plan), which delineates the recommended plan elements, supplements the final reports.

## ***PUBLIC INVOLVEMENT***

The public involvement and information process for the Master Plan Update consisted of a series of meetings with a Technical Advisory Committee (TAC), Aviation Advisory Committee (AAC) and an Airline Technical Committee. Public Open Houses were also hosted by the Department of Aviation at various points of the planning process.

A Technical Advisory Committee was established for the Master Plan and was comprised of various City, Federal and State representatives, airlines, airport operators and other airport users/tenants. The TAC received copies of study documentation, and meetings were held with the group to receive input on technical matters. In addition, meetings with an Aviation Advisory Committee were conducted. This group was comprised of various representatives of the business and greater Austin community. A meeting was also held with the Airline Technical Committee to discuss the Master Plan in the context of airline operations and issues. Meetings were held at various points in the study to brief committees on the planning process. A series of meetings were held in December 2001 with the Technical Advisory Committee, Aviation Advisory Committee and Airline Technical Committee. At these meetings the alternatives were presented and consensus reached by all committees on the preferred development strategy. Final meetings were held with the TAC and AAC to present the Draft Final Report.

A Public Open House was hosted by DOA to inform the public of the findings of the Master Plan Update and to solicit their concerns, opinions and comments. The Public Open House provided a forum, informal in setting, but conducive to the dissemination of information on the planning process, findings and recommendations. The first Public Open House was held in March 2001 and information presented included key issues, planning process, and aviation demand forecasts. A second Public Open House was held in November 2002 and presented the findings and conclusions of the Master Plan Update.

# *Austin-Bergstrom International Airport Master Plan Update*

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## *DOA WORKSHOPS*

The Master Plan Update included a series of workshop meetings with DOA staff. Airport staff representing Finance and Administration, Business Development, Marketing and Community Relations, Planning and Engineering, Airside Operations, Landside Operations, Field Maintenance, Building Maintenance, and Network Services participated. These workshops are summarized herein.

- DOA Workshop 1. Held in November 2000, near the beginning of the master plan study, while this was not a part of the alternatives process the first workshop served to identify important issues to be addressed in the master plan and goals and objectives.
- DOA Workshop 2. Held in February 2001, this workshop addressed a review of facility requirements and presented initial terminal concepts developed by the terminal planner for consideration in the master plan. Initial guidance on defining evaluation criteria was also included. An important outcome of the workshop was the decision to base the evaluation of future concepts on the High Growth forecast.
- DOA Workshop 3. This workshop was held in March 2001 and involved presentation of refined terminal concepts reflecting accommodation of the High Growth forecast and review of alternative evaluation criteria.
- DOA Workshop 4. This workshop was held in July 2001 and the purpose was to screen alternatives. The conclusion of this workshop was the identification of Concepts A-06 and A-07 as the final alternatives to be subject to further evaluation.
- DOA Workshop 5. Held in December 2001, the purpose of this workshop was to review the evaluation of the two final alternatives and obtain DOA input on the preferred alternative. A consensus was reached that Concept A-07A best reflected the long-term development strategy for the airport.
- DOA Presentation. A presentation was made to DOA staff in November 2002 at which the findings, conclusions and recommendations of the Master Plan Update were presented.

## *PEER REVIEW*

The Department of Aviation also hosted a three day Peer Review of the Master Plan in December 2001. The Peer Review panel consisted of representatives from other U.S. and Canadian air carrier airports, and consultants. The purpose of the peer review process was to provide feedback on the Master Plan approach and findings, especially with respect to the conclusions of the alternatives evaluation. The Peer Review concurred with the findings of the Master Plan team that Alternative Concept A-07 reflected the best long-term plan for development of ABIA.

# *Austin-Bergstrom International Airport Master Plan Update*

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## *POPULATION AND AREA ECONOMY*

### *Population*

The Austin Standard Metropolitan Statistical Area (SMSA) including Travis, Williamson, and Hays Counties, contains a land area of 2,804 square miles, of which 989 square miles belongs to Travis County. The City of Austin states that land area in the city equaled 256.96 square miles as of January 2, 1999. According to the U.S. Bureau of the Census, the population of the SMSA was 1,159,836 persons in 2000; the population of Travis County was 812,280 persons in 2000; and the population of Austin was 656,562 persons in 2000. The area is expected to grow steadily, with projections for 2020 showing a population of almost 1,700,000 persons in the SMSA.

### *Area economy*

This population growth can be attributed in part to Austin's rapidly growing high-tech industry. Table 1-1 lists the top 40 major employers in the Austin area, including seven major high-tech firms. In the 1990s Austin's economy expanded to include a variety of employers such as small businesses and entrepreneurs, in addition to the historical economic base provided by the University of Texas system and the State Capitol and numerous federal and state government agencies. Table 1-2 shows employment in the SMSA by sector, as of 2000.

Per Capita Personal Income (PCPI, in constant 1996 dollars<sup>1</sup>) in the Austin area increased from \$17,902 in 1981 to \$29,198 in 2000, an average annual increase of 2.6 percent. PCPI growth in the 1980s averaged 1.7 percent per annum, increasing to 3.4 percent in the 1990s. According to forecasts prepared by NPA Data Services, PCPI in the region is anticipated to increase by an average 2.0 percent annually through the year 2020, when PCPI is expected to reach \$43,346.

Average per capita income in the Austin area is higher than the State of Texas and United States. Per capita income in the area in 2000 was 11.5 percent higher than the average for the State of Texas and 4.0 percent higher than the U.S. average. This relationship is expected to continue into the future.

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<sup>1</sup> Constant dollars are used to remove the effects of inflation and provide an indication of the real value of increases in income.

# *Austin-Bergstrom International Airport Master Plan Update*

**Table 1-1  
MAJOR EMPLOYERS IN THE AUSTIN AREA**

<b>Employer</b>	<b>No. of Employees</b>
University of Texas	18,000
Motorola	10,000
City of Austin	10,000
Dell Computer Corporation	9,000
Austin Independent School District	8,920
IBM Corporation	7,000
IRS at Austin Service Center	5,700
Texas Department of Health	5,634
Advanced Micro Devices	4,000
Texas Department of Public Safety	4,000
Texas Department of Transportation	3,317
Applied Materials	3,200
Seton Health Care Network/Medical	3,073
US Postal Service	3,000
Travis County	2,500
Texas Comptroller of Public Accounts	2,801
Columbia-St. David's Medical	2,433
Southwest Texas State University	2,174
Texas Natural Resource Conservation Commission	2,166
Texas Department of Human Services	2,117
Capital Administrative Services	1,900
Girling Health Care, Inc.	1,800
3M	1,800
Austaco, Inc.	1,800
Southwestern Bell	1,700
HEB Grocery Company	1,500
MCI Services	1,500
Haljohn, Inc. dba McDonalds	1,400
Texas Workforce Commission	1,400
Texas Rehabilitation Commission	1,375
Abbott Laboratories	1,300
Austin State School	1,233
Austin State Hospital	1,200
Farmers Insurance Group	1,147
PCC Flow Tech, Inc.	1,100
Commemorative Brands, Inc.	1,019
Lower Colorado River Authority	1,000
Solectron Texas	1,000
State Farm Insurance Companies	1,000
Texas Attorney General's Office	1,000

Source: FAR Part 150 Noise Study Update, Noise Exposure Maps (NEM), March 1999.

# *Austin-Bergstrom International Airport Master Plan Update*

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**Table 1-2  
AUSTIN SMSA EMPLOYMENT BY SECTOR IN 2000**

<b>Sector</b>	<b>Percentage of Total Employment</b>
Services	33.8%
Government	17.1%
Trade	20.5%
Manufacturing	10.4%
Finance-Insurance-Real Estate	8.0%
Construction	6.5%
Transportation/Utilities	3.0%
Mining	0.6%

Source: FAR Part 150 Noise Study Update, Noise Exposure Maps (NEM), March 1999.

## ***HISTORICAL AVIATION ACTIVITY***

### ***Air Passenger Activity***

Air passenger traffic in the Air Service Area (ASA) identified for the Airport increased from 982,600 enplanements in 1981 to 3.7 million enplanements in 2000 (the base year for data used in the Master Plan), or 7.3 percent per annum over the period (see Table 1-3). Between 1981 and 1990, enplanements increased at 9.0 percent annually, decreasing to 4.5 percent per annum between 1990 and 1995, and increasing to 7.0 percent between 1995 and 2000. Limited direct international service to North American destinations has been initiated at ABIA in the past several years. In 1999, 12,495 passengers enplaned to international destinations, increasing to 19,300 in 2000.

Twenty-four airlines provided commercial passenger service at ABIA in 2000. Air carrier airlines (including charter service) accounted for 99 percent of passenger enplanements. Regional/commuter airlines provided the remaining one percent. The small share of service provided by regional/commuter airlines is consistent with historic trends. Further, the largest regional/commuter airline, American Eagle, discontinued service at the Airport in April 2000, and Austin Express discontinued service in January 2001. Atlantic Southeast Airlines operates at ABIA as a Delta Connection.

In 2000, Southwest Airlines accounted for the largest share of passenger activity at ABIA, with 35 percent of total enplanements. Other airlines accounting for a significant share of passenger activity included: American Airlines (25 percent); Delta Airlines (11 percent); and Continental Airlines (11 percent).

# Austin-Bergstrom International Airport Master Plan Update

Table 1-3  
ENPLANED PASSENGER TRENDS  
RMMA AND AUSTIN INTL AIRPORT: 1981 - 2000

Year	Enplaned Passengers			
	Domestic	Intl	Total	% Intl
<b>Enplanements</b>				
1981	982,593	-	982,593	0.0%
1982	1,108,784	-	1,108,784	0.0%
1983	1,255,270	-	1,255,270	0.0%
1984	1,655,334	-	1,655,334	0.0%
1985	1,852,160	-	1,852,160	0.0%
1986	1,819,955	-	1,819,955	0.0%
1987	1,915,770	-	1,915,770	0.0%
1988	1,940,225	-	1,940,225	0.0%
1989	2,100,195	-	2,100,195	0.0%
1990	2,140,860	-	2,140,860	0.0%
1991	2,054,310	-	2,054,310	0.0%
1992	2,135,068	-	2,135,068	0.0%
1993	2,262,970	-	2,262,970	0.0%
1994	2,549,885	126	2,550,011	0.0%
1995	2,668,447	-	2,668,447	0.0%
1996	2,852,772	453	2,853,225	0.0%
1997	2,957,377	176	2,957,553	0.0%
1998	3,036,512	1,054	3,037,566	0.0%
1999	3,302,629	12,495	3,315,124	0.4%
2000	3,717,858	19,310	3,737,168	0.5%
<b>Percent Annual Change</b>				
1981-1990	9.0%	na	9.0%	
1990-1995	4.5%	na	4.5%	
1995-2000	6.9%	na	7.0%	
1981-2000	7.3%	na	7.3%	

Source: FAA Terminal Area Forecast database (1992 and 1993);  
Airport records, all other years.

# *Austin-Bergstrom International Airport Master Plan Update*

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In July 2000, ABIA had 126 average daily departures and provided direct, non-stop service to a variety of destinations. Dallas and Houston accounted for over 50 percent of the average daily non-stop departures from ABIA. Dallas (including both Love Field and Dallas-Forth Fort Worth) accounted for the largest share of departures (23 percent) and seats (25 percent). Houston was the second ranked destination, with 18 percent of departures and 19 percent of seats, followed by Phoenix (seven percent of departures and seats), Chicago (six percent), and Atlanta (five percent).

## *Air Cargo Activity*

Air cargo is made up of two components, air freight (including express mail) and air mail carried for the U.S. Postal Service (USPS). Historically virtually all air mail has been carried as belly cargo on passenger aircraft. However, a recently signed service agreement between the USPS and Federal Express will ship some USPS priority and overnight mail on Federal Express aircraft, providing USPS with a more reliable air distribution network. It will also continue to ship mail as belly hold on passenger aircraft. No estimates are available as to the total share of U.S. mail that may be shipped on Federal Express aircraft. Air freight is carried both as belly hold and on dedicated all cargo aircraft.

A total of 83,600 tons of air cargo were enplaned at ABIA in 2000, up from 4,100 tons in 1981, or an increase of 17.1 percent per year over the period. Table 1-4 presents recent cargo activity. Over the period, air mail activity accounted for a decreasing share of total air cargo. In 1981, air mail accounted for 41 percent of total air cargo volume. By 2000, air mail's share had declined to 6.1 percent of total air cargo.

International air freight service was initiated from ABIA in 1998, and has steadily increased. In 1998, 312 tons of enplaned air freight (0.5 percent of total air freight) was carried internationally. In 1999, the figure increased to 1,373 tons (2.2 percent of enplaned air freight), and by 2000, it reached 2,879 tons (3.7 percent of enplaned air freight). Much of this international traffic is related to high technology industries located in the Air Service Area. There was also a service gap for international cargo which was resolved when U.S. Customs located at the Airport.

The majority of air freight is carried by all cargo airlines. As seen in Table 1-4, all cargo airlines share of air cargo volume increased from 77 percent in 1995 to 86 percent in 2000. Twenty all cargo airlines operated from ABIA in 2000. Federal Express was the largest carrier, with 33 percent of air cargo enplaned on all cargo airlines, followed by Express One, with 22 percent. Other carriers with significant activity included Airborne Express (16 percent of cargo enplaned on all cargo airlines), Emery Worldwide (five percent), Capital Cargo International (four percent), and BAX Global (three percent).

# *Austin-Bergstrom International Airport Master Plan Update*

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Table 1-4  
ENPLANED AIR CARGO BY TYPE: 1995 - 2000  
AUSTIN-BERGSTROM INTERNATIONAL AIRPORT

Year	Air Freight			Mail	Total
	All-Cargo	Belly	Subtotal		
<b>Air Cargo (tons)</b>					
1995	27,849	3,861	31,711	4,353	36,063
1996	35,492	3,996	39,488	4,487	43,974
1997	38,152	4,268	42,420	5,229	47,649
1998	49,934	4,696	54,629	5,283	59,913
1999	56,801	5,666	62,466	8,419	70,885
2000	71,935	6,610	78,545	5,067	83,612
<b>Percent Total [1]</b>					
1995	77.2%	10.7%	87.9%	12.1%	100.0%
1996	80.7%	9.1%	89.8%	10.2%	100.0%
1997	80.1%	9.0%	89.0%	11.0%	100.0%
1998	83.3%	7.8%	91.2%	8.8%	100.0%
1999	80.1%	8.0%	88.1%	11.9%	100.0%
2000	86.0%	7.9%	93.9%	6.1%	100.0%

[1] Calculated from distribution of air cargo tons by type (all-cargo, belly, etc.)

Source: Airport records.

## *Aircraft Operations*

The volume and type of aircraft operations is a key factor in the evaluation of airfield capacity and facility requirements. An aircraft operation is defined as either a takeoff or landing and is sometimes referred to as a movement. The movements are categorized by the various type operators – air carrier (airlines that operate commercial passenger flights according to published schedules or all-cargo flights), air taxi/commuter (commercial operators of aircraft with 60 seats or less), general aviation (all civil aviation other than commercial and commuter), and military. Table 1-5 presents the history of aircraft operations at RMMA and ABIA.

# *Austin-Bergstrom International Airport Master Plan Update*

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**Table 1-5  
HISTORIC AIRCRAFT OPERATIONS  
AT RMMA AND ABIA: 1980 - 2000**

Year	Air Carrier	Air Taxi/ Commuter	General Aviation	Military	Total
1980	31,962	18,217	131,945	9,926	192,050
1985	60,646	15,382	146,551	8,445	231,024
1990	61,353	28,892	95,602	7,149	192,996
1995	77,439	22,154	100,127	5,796	205,516
1996	80,193	21,092	107,377	6,305	214,967
1997	83,428	12,201	104,357	5,024	205,010
1998	92,290	15,594	87,781	3,809	199,474
1999	102,928	12,708	72,694	4,668	192,998
2000	100,004	18,019	88,873	5,724	212,620

Source: Airport Records

## ***EFFECTS OF SEPTEMBER 11***

The aviation industry has been severely impacted since the terrorist attacks of September 11. The number of passengers significantly dropped, airport revenues decreased and airport expenses increased due to additional security and law enforcement costs. New legislation mandated new airport security requirements, increased security has changed the passenger check-in process, and new security design standards are being established. It is not unreasonable to ask what effect September 11 has on the findings and recommendations of the Master Plan Update.

While airport traffic has decreased since the preparation of forecasts, the use of planning levels instead of years in terms of identifying facility requirements still holds true. The facility requirements identified herein remain valid indicators of general program and land area requirements to accommodate a certain planning level of traffic. Certain components of the terminal building program most likely will require refinement after new security standards are established and can be incorporated as part of the design of future terminal facilities.

The basis of the passenger terminal concept and preferred development alternative has been developed with security in mind. It complies with security standards developed to date and incorporates features (such as check-in configuration, garage setback and concourse separation) that are believed to enhance security and provide flexibility to respond to security standards that may be established. It is believed that the proposed master plan concept remains a valid plan to accommodate demand into the distant future and represents a sound long term development strategy.