PENSACOLA REGIONAL AIRPORT
MASTER PLAN UPDATE

Prepared for:

The City of Pensacola

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PENSACOLA REGIONAL AIRPORT
AIRPORT MASTER PLAN UPDATE

SECTION 1
ISSUES AND EXISTING CONDITIONS

1.1 INTRODUCTION

The City of Pensacola owns and operates the Pensacola Regional Airport (PNS), which provides commercial air transportation, general aviation and aviation services to the City, surrounding Escambia and Santa Rosa Counties, the northwestern Florida Panhandle and portions of southern Alabama.

With increasing commercial passenger demand, the City of Pensacola determined that an update of the 1989 Airport Master Plan was required to guide future development of the Airport. In June 1997, the City selected a team of consultants led by Reynolds, Smith and Hills, Inc. (now the RS&H Team) to prepare an Airport Master Plan Update.

The Airport Master Plan Update presents an evaluation of the existing airport facilities and identifies actions that are recommended to meet the air transportation needs of the community. To ensure that local interests and points of view were incorporated into this plan, this update was developed in collaboration with two Airport Advisory Committees: the Technical Advisory Committee (TAC) and the Citizens Advisory Committee (CAC). These committees were made up of representatives from the greater Pensacola area, as well as federal, state and regional agencies. Membership is listed in Appendix A. The committees met several times throughout the preparation of this Airport Master Plan Update to review work and provide direction. Public information workshops were also held to inform the general public of the Master Planning process and solicit public input.

The overall update process was a compilation of smaller, individual study elements that provided a detailed examination of the existing airport and related facilities; a review of socioeconomic trends, including population and employment of the region served by the Airport; comprehensive forecasts of future aviation activities; demand/capacity analysis and facility requirements evaluation; identification and evaluation of various facility and operational improvement alternatives; an environmental review that investigated the impact of proposed development on the environment surrounding the Airport; a land use plan, which recommends aviation and nonaviation-related land uses compatible with existing and future airport functions and operations; detailed computer-generated Airport Layout Plan (ALP) and supporting area drawings depicting proposed improvements resulting from the overall study; and a financial analysis estimating the cost of proposed airport development and methods of financing.

The study format followed in this Airport Master Plan Update is consistent with the Federal Aviation Administration (FAA) suggested format as prescribed in Advisory Circular 150/5070-6A, *Airport Master Plans*, and the Florida Department of Transportation (FDOT) *Guidebook for Airport Master Planning*. FAA provided grant monies which was used to reimburse the City of Pensacola for most of the cost of the study. FDOT also provided a grant for this study along with matching funding from the City of Pensacola. Consistent with FAA's format and FDOT guidance, the following report sections were developed in this Airport Master Plan Update.

I. Issues and Existing Conditions
II. Aviation Demand Forecasts
III. Demand/Capacity Analysis and Facility Requirements
IV. Identification and Evaluation of Alternatives
V. Environmental Overview
VI. Airport Plans
VII. Plan Implementation

In addition, the production of the ALP drawing plan sheets were developed to satisfy industry standards. Guidelines for the preparation of these drawing plans are contained in FAA Advisory Circular 150/5300-13 Airport Design and the FDOT's 3-DAAP Process Implementation.

As the sections of this report were produced, they were reviewed by the CAC and TAC to assure the study indeed met the community's needs. The City and the Airport staff ultimately had final approval of the Airport Master Plan Update. FAA and FDOT governmental approvals of the aviation demand forecasts and the ALP were also required during the Airport Master Plan Update process.

FAA approval of the ALP is always conditional upon subsequent detailed environmental analysis for major projects as the projects are undertaken. The Environmental Overview chapter discusses this matter further. FAA and FDOT approvals also do not commit the agencies to provide funding for any of the identified improvements. However, inclusion of the improvements in an approved Airport Master Plan is necessary for future consideration of funding.

1.2 ISSUES AND GOALS

A preliminary list of issues and goals to be addressed in the Airport Master Plan Update were prepared based upon an initial evaluation of the Airport and its surrounding environs, as well as meetings with Airport staff, the TAC and the CAC. Specific issues and goals for this Airport Master Plan Update should remain flexible into the future to be responsive to the needs of the Airport and the community it serves.

The primary list of issues to be addressed in the Airport Master Plan Update is as follows:

- Coordination with the EscaRosa Regional Vision (Year 2000+)
- Airspace compatibility with the U.S. Navy
- Needed runway lengths and total airfield capacity
- Passenger terminal building capacity and terminal area capacity
- Ground access to and from the airport (including access to I-10, I-110 and Route 98)
- General aviation (GA) facilities development
- Air cargo development area growth
- On-airport land uses
- Obtain maximum amount of FAA funds for development
- Continuation of existing improved facility aesthetics (both interior and exterior)
- Existing tall structure and land use conditions (including protection of runway approach areas)
- Off-airport noise and land use compatibility

The primary list of goals (or directives) of the Airport Master Plan Update is as follows:

- Create a plan that meets the needs of the community to the year 2020
- Provide better ground access to and from the airport (including access to I-10, I-110 and Route 98)
- Maintain efficient passenger processing (to include parking, curb check-in, ticketing, security, safety and concessions)
- Provide realistic project funding projections
- Develop a concession plan to maximize non-airline revenue
- Create a user-friendly airport and complete passenger process
- Identify potential environmental impacts
- Create a Capital Improvement Program (CIP) that identifies funded projects, unfunded projects, priorities and potential sources of funds.
- Provide clear justification of CIP projects
- Meet FAA safety and security criteria for the entire airport (including airfield separations with no design modifications to standards)

1.3 EXISTING CONDITIONS

1.3.1 Study Area.

Pensacola is located in Escambia County, which is Florida's most western county and is in the Central Time Zone. The County is separated on the west from Alabama by the Perdido River and borders Alabama on the north, the Gulf of Mexico on the south and Santa Rosa County Florida on the east. Pensacola is often referred to as "The City of Five Flags" because of the five nations that have governed it. The city preserves its heritage through its historical districts, museums and varieties of architecture. A regional area map is included as Figure 1.1 to help orient the location of Pensacola.

In 1863, only 82 people were recorded as living in Pensacola. However, after the Civil War, thousands of people came to the Northwest Florida region to find jobs with the lumber companies, railroads and shipping lines. Pensacola also became the leading fishery in the country. Modern fishing techniques have greatly reduced the supply, but commercial fishing still remains a steady influence on the economy of Pensacola.

The main industries in Escambia County include health care, chemicals, paper products and tourism, which is a significant source of economic activity. The Pensacola Area Chamber of Commerce reports that the states from which the most visitors originate include Alabama, Mississippi, Georgia, Louisiana and Texas. The Naval Aviation Museum and the beaches are both primary tourist attractions in the area.

In 1914, the U.S. Navy expanded its role in Pensacola development by establishing the United States Naval Aeronautical Station, now referred to as the Pensacola Naval Air Station (NAS). Pensacola is considered by many to be a military town because of Pensacola Naval Air Station, as well as Eglin Air Force Base in adjoining Okaloosa County. Other military airfields in the area include Saufley Field and Whiting Naval Air Station. As the Navy expanded, so did support businesses and services. This led to a great increase in jobs and workers for the area. The military installations have been a major force in Pensacola's growth. Known as the "Cradle of Aviation," and home of the world famous Blue Angels Demonstration Flight Team, Pensacola has had a long-standing relationship with the U.S. Navy.

1.3.2 Socio-Economic Characteristics

Population: Table 1.1 summarizes the historical and projected population for the Pensacola Metropolitan Statistical Area (MSA), the State of Florida and the United States, according to the U.S. Bureau of Economic Analysis. It can be seen from this table that Florida's growth rate has been, and will continue to be, higher than the national average. The Pensacola area is also growing faster than the nation as a whole, however, not as fast as the state of Florida. The Pensacola MSA had a population of

378,200 in 1995, and is expected to grow to over 460,000 by 2015, increasing annually by slightly higher than one percent.

Table 1.1 Historical and Projected Population
Pensacola Regional Airport - Master Plan Update

	Primary Airport Service Area		State of Florida		United States	
	Population	Average Annual Increase	Population	Average Annual Increase	Population	Average Annual Increase
Historical						
1970	244,698	-----	6,865,670	-----	205,052,000	-----
1975	275,668	2.53%	8,541,639	4.88%	215,973,000	1.07%
1980	291,132	1.12%	9,840,371	3.04%	227,726,000	1.09%
1985	319,682	1.96%	11,302,231	2.97%	238,466,000	.94%
1990	345,618	1.62%	13,009,211	3.02%	249,907,000	.92%
1995	380,853	2.04%	14,213,968	1.85%	264,168,000	1.06%
Forecast						
2000	415,195	1.80%	15,490,020	1.79%	274,634,000	.87%
2005	441,722	1.28%	16,702,719	1.57%	285,987,000	.83%
2010	468,006	1.19%	17,896,724	1.43%	297,716,000	.82%

Source: The University of Florida, Bureau of Economic and Business Research, *The Florida Long-Term Economic Forecast 1997,* Vols. 1 and 2.
U.S. Historical: U.S. Bureau of the Census, *Current Population Reports.*
Forecasts: U.S. Bureau of the Census *Statistical Abstract of the U.S., 117th Edition,* 1997.

Florida's age profile has shifted and become older when compared to the United States as a whole. The median age in the United States was 32.9 years in 1990, significantly lower than Florida, which had a median age of 36.4 years. The Pensacola area more closely resembles the national average, however, with Escambia and Santa Rosa Counties having median ages of 32.4 and 32.5 years, respectively, in 1990. The percentage of the population over the age of 65 reinforces this trend. While the national percentage of people over 65 was 12.8 in 1995, 18.6 percent of the population of Florida was over 65. Again, Escambia and Santa Rosa Counties were closer to the national trend, with 13.2 and 10.3 percent of the population being over 65 years old.

Employment: Table 1.2 displays the breakdown of employment by various industries for the Pensacola MSA, Florida and the United States. These tables show that, when compared to the nation as a whole, Florida has a similar breakdown of workers in the various industries, with the exception of having a much lower percent of workers in the manufacturing industry. The breakdown of workers by industry for the Pensacola MSA closely resembles Florida, except that the Pensacola MSA has a much higher percentage of workers employed within the government.

Table 1.2 1995 Non-Farm Employment by Industry
Pensacola Regional Airport - Master Plan Update

Industry	Pensacola MSA	Percent of Total	State of Florida	Percent of Total	United States (000)	Percent of Total
Agriculture/Forestry/Fisheries	2,183	1.2	148,298	2.0	1,822	1.2
Mining	546	0.3	14,547	0.2	922	0.6
Construction	13,363	7.3	427,719	5.7	7,650	5.2
Manufacturing	11,757	6.4	508,169	6.8	19,226	13.1
Transportation & Public Utilities	7,480	4.1	358,430	4.8	7,080	4.8
Wholesale & Retail Trade	40,870	22.4	1,765,426	23.6	32,135	22.0
Finance/Insurance/Real Estate	9,750	5.3	621,093	8.3	11,089	7.6
Services	59,377	32.6	2,614,314	35.0	44,774	30.7
Government	37,154	20.4	1,019,525	13.6	21,610	14.8
Total	182,480	100	7,477,521	100	146,308	100

Source: U.S. Bureau of Economic Analysis, 1997.

The top 20 employers in the Pensacola area according to the Pensacola Area Chamber of Commerce, are shown in Table 1.3. Clearly these employers encompass a wide range of industries, including government, health care and utilities.

The unemployment rate of the State of Florida has stayed relatively close to the national rate. As of 1994, the national rate was 6.1 percent, while Florida's unemployment rate was 6.6 percent. Escambia and Santa Rosa Counties have had slightly lower rates throughout the early 1990s, with the rate reported at 5.1 percent for Escambia and 5.0 percent for Santa Rosa County in 1994.

Income: Table 1.4 shows the historical per capita income for the Pensacola MSA, State of Florida and the United States, according to the U.S. Bureau of Economic Analysis. The per capita income for Florida has remained very close to the national average since 1970. The Pensacola area has seen roughly the same average annual increase in per capita income; however, the actual dollar amount has historically remained approximately 20 percent below the national and state averages.

Table 1.3 Top 20 Employers in the Pensacola Area
Pensacola Regional Airport - Master Plan Update

Rank	Employer	Type of Industry	No. of Employees
1	Federal Government	government	17,864
2	Local Government	government	8,204
3	Baptist Health Care	health care	5,000
4	State of Florida	government	3,996
5	Sacred Heart Hospital	health care	2,364
6	Gulf Power Company	electric utility	1,523
7	Monsanto Company	nylon fiber/industrial organic	1,500
8	HCA West Fla. Regional Med.	health care	1,500
9	Lakeview Center	health care	1,300
10	Medical Center Clinic	health care	1,127
11	Champion International Corporation	paper products	1,110
12	First Data Corporation	data processing	1,100
13	Pensacola Christian	school & publishing	850
14	Westinghouse Electric Corporation	gas turbine generators	600
15	Vanity Fair Mills, Inc. Santa Rosa	clothing manufacturing	600
16	NYCO, Inc.	Security	600
17	BellSouth Telephone Company	telephone service	555
18	Fluor-Daniel Construction Company	contracting	504
19	Armstrong World Industries	ceiling systems	460
20	Pensacola News Journal	daily newspaper	400

Source: Pensacola Area Chamber of Commerce

Table 1.4 Historical Per Capita Income
Pensacola Regional Airport - Master Plan Update

Year	Pensacola MSA ($)	Avg. Annual Increase (%)	State of Florida ($)	Avg. Annual Increase (%)	United States ($)	Avg. Annual Increase (%)
1970	3,320	--	3,980	--	4,072	--
1975	5,058	8.78	5,840	7.97	6,085	8.37
1980	8,000	9.60	9,895	11.12	10,303	11.11
1985	11,611	7.73	14,356	7.73	14,406	6.93
1990	15,161	5.48	19,107	5.88	19,142	5.85
1995	18,025	3.52	23,031	3.81	23,196	3.92

Source: U.S. Bureau of Economic Analysis, 1997.

1.3.3 Airport Service Area. PNS is located in Escambia County approximately three miles northeast of the central business district of the City of Pensacola. Escambia County is located on the Gulf of Mexico in the extreme western portion of the Florida Panhandle and borders the State of Alabama on the west and north. On the east, Escambia County is bordered by Santa Rosa County, Florida.

The Airport is owned and operated by the City of Pensacola and provides aviation facilities for commercial air carriers, cargo and commuter aircraft, general aviation aircraft and business jets and military training flights. The Airport is located in the Southern Region of the FAA and in the Northwest Planning District of the FDOT.

PNS is a Small Hub Commercial Service Airport and is included in the FAA's National Plan of Integrated Airport Systems (NPIAS). A Small Hub Airport is an airport in a community that enplanes between 0.05 and 0.24 percent of the total national enplaned passengers in a given year. A Commercial Service Airport is an airport designated as having a function of providing commercial airline service. PNS is classified in NPIAS as having a Service Level of a Primary Airport. A Primary Airport is a Commercial Service Airport enplaning 10,000 or more annual passengers. PNS has an Airport Role of a Transport Airport. A Transport Airport is one designed, constructed and maintained to serve large aircraft including business jets and transport-type aircraft.

The Airport is included in the Florida Aviation System Plan and is one of 19 Commercial Service Airports in the State of Florida. The nearest other Commercial Service Airports are at Panama City, Florida, located approximately 90 miles to the east; Fort Walton Beach, Florida, located approximately 50 miles to the east; and Mobile, Alabama located approximately 55 miles to the west.

1.3.4 Previous Studies

1989 Master Plan Update: The last Master Plan Update for PNS was completed in 1989. This plan provided the following conclusions:

- PNS is classified in the National Plans for Integrated Airport Systems as an air carrier, transport airport,
- The Airport will remain part of the City's overall long-range comprehensive plan,
- The location and orientation of runways and airport facilities is compatible with existing and future area land uses assuming adequate land use control is maintained,
- Runway 16-34 (now Runway 17-35) will remain the primary air carrier runway,
- Existing runway systems are not adequate to meet the projected 20-year activity demand,

- The existing landside facilities, particularly general aviation, are insufficient to meet future demand projections,
- Airport financing will be available to accomplish the development requirements identified in this study,
- Extension of the primary runway, Runway 16-34 (now Runway 17-35), is not required at the present time due to anticipated critical aircraft usage and projected stage lengths,
- Extension of the crosswind runway, Runway 7-25 (now Runway 8-36), is recommended to provide additional safety of air carrier operations in the use of the runway when anticipated stage lengths are increased, and
- The addition of a parallel, general aviation runway will be required in the intermediate period for capacity enhancement. Also recommended for capacity enhancement is air carrier runway hold pads and high-speed exit taxiways for air carrier use.

With these conclusions, the following improvements were recommended. It should be noted that several projects, including expanded aprons, new terminal and apron, new auto parking facilities, air cargo facility, new Air Traffic Control Tower, an Aircraft Rescue and Firefighting facility and an airport maintenance facility were not included since they were under construction or under design at the time of the Master Plan study.

- Construct air carrier runway hold pads and high-speed exit taxiways for capacity enhancement,
- Construct new general aviation facilities (apron, taxiways, parking, fuel farm, and access) to allow relief from congestion in the terminal area and to provide facilities for all general aviation requirements,
- Extend Runway 7-25 (now Runway 8-26) to increase safety of air carrier operations during the use of the crosswind runway,
- Construct a new, parallel general aviation runway to reduce capacity constraints anticipated in the future,
- Install an instrument landing system (ILS) on Runway 34,
- Construct new T-hangars and corporate hangars, and
- Resurface runways and taxiways.

FAR Part 150 Noise Compatibility Study: The *Pensacola Regional Airport FAR Part 150 Noise Compatibility Study* was completed in January 1990. The study contains the following sections: 1) Introduction, 2) Land Use, 3) Political Jurisdictions, 4) Zoning, 5) Noise and Noise Measurement, 6) Noise Monitoring, 7) Noise Modeling, 8) Noise Impacts, 9) Introduction to the Noise Compatibility

Program, 10) Identification and Evaluation of Noise Abatement Alternatives, 11) Identification and Evaluation of Land Use Alternatives and 12) Implementation Plan. The Appendices in this study include: A) Program Coordination and Public Involvement, B) Public Hearing, C) Air Carrier-Runway Length Requirements, D) Local Airspace Constraints, E) Runway Test Results, F) Advisory Circular 91-53, G) Building Requirements, H) Sample Noise Disclosure Ordinance and I) Sample Noise Disclosure Statement.

For this study, four sites were selected near the Airport for noise monitoring. Each of these was selected due to their noise-sensitive nature and their proximity to a runway centerline. Sites 1, 2 and 3 were located at single-family residences, while Site 4 was at a local park. Each of the four sites is located near an approach to one of the four runway ends at the airport. The measured Day-Night Sound Level (DNL) values at the monitoring sites were found to range from 61 decibels (dBA) to 67 dBA.

Review of the noise readings obtained during off-peak hours reveals that noise levels at all four sites remained within a range of 30 to 40 dBA during nighttime hours and within a general range of 50 to 65 dBA during daytime hours. However, an increase in noise readings was registered at the monitoring sites within the approach and departure paths of Runway 16/34 during the hours of 4 a.m. to 5 a.m. Thus, with the exception of this early morning increase in noise levels, the Airport displayed fairly typical noise exposure characteristics based upon the data collected. Consultation with airport operations staff revealed that an overnight air courier was temporarily operating a flight at Pensacola during the noise monitoring period and, therefore, was likely to have been responsible for the early morning increase in noise levels.

The *Pensacola Regional Airport 1994 Noise Contour Update Report* reveals that when compared to the 1994 Existing Condition, implementation of Scenario "A" (in which Runway 08 is designated as the preferred departure runway for air carrier operations) will result in an increase in the number of noise-impacted homes within the 65 Day/Night Level (DNL) contour. However, the number within the 70 and 75 DNL contour remain the same.

The update also reveals that when compared to the 1994 Existing Condition, and the 1994 Scenario "A", implementation of Scenario "B" (in which Runway 08 is extended by 1,000 feet west and is designated as the preferred departure runway for air carrier operations) will result in an increase in the number of impacted homes on the east side of the Airport within both the 65 and 70 DNL contours.

During the monitoring period of the update (October 26-27, 1994), the majority of aircraft operations occurred on Runway 17-35. Consequently, sites near the approach ends of this runway generally had higher noise levels. The DNL for all six sites in this report were within or below the updated 1994

existing noise contours. Three of the six sites were significantly below the existing 1994 65 DNL contours. It should be noted that the existing 1994 contours are based on an annualized activity and are acceptable in the noise contour validation process. These samples represented a 2-day rather than a 365-day sample.

The Update data supports the fact that the Airport lies in a low-density metropolitan area. Consequently, the background noise levels typically are in low to moderate range (40 to 50 decibels). Conversely integrated peak noise levels are typical for this kind of population setting, since they do not reach 80 dBA.

Environmental Assessment for General Aviation Relocation: *The Pensacola Regional Airport Environmental Assessment Report for the Relocation of General Aviation Facilities* was prepared in October 1992. This document contains the following sections: 1) Overview of the Study, 2) Alternatives, 3) The Affected Environment, 4) Environmental Consequences-Specific Impact Categories and 5) Environmental Consequences-Other Considerations.

The Pensacola Regional Airport prepared this Environmental Assessment in order to fully address the local issues concerning the relocation of general aviation facilities. Several residential developments have been constructed along the Airport's east property line near where the general aviation facilities are proposed to be relocated. Residents living in these new developments have voiced concerns over the potential for increased noise and traffic impacts, as well as concerns pertaining to aviation fuel storage.

Four alternatives that were evaluated for this study are as follows: 1) The "No-Action" Alternative, 2) Alternative Airport Location, 3) Expand Existing Facilities and 4) On-Airport Relocation. Based upon the evaluation of these alternatives, Alternative 4, referred to as the "Proposed Action," was recommended as the preferred alternative.

Alternatives 1 and 3 were eliminated because they failed to meet the Airport's objectives as established in Section 1.3 (Purpose and Need), which identifies four reasons to relocate the general aviation facilities. The reasons identified are to: 1) alleviate the *safety* concerns resulting from the close proximity of general aviation in its current location to the commercial airline activities, 2) alleviate the *security* concerns resulting from the close proximity of general aviation in its current location to the commercial airline activities, 3) allow for future expansion of the terminal and air cargo facilities to promote the continued development of commercial activities on the Airport and 4) provide for the expansion and improvement of general aviation facilities, thus allowing Pensacola to better serve the corporate, recreational and student aviation community.

Alternative 2, Alternate Airport Location, was thoroughly investigated. There is no existing airport within an acceptable driving distance that can offer facilities comparable to that of Pensacola Regional Airport. Furthermore, it was determined that to develop a truly comparable general aviation facility would take years longer to accomplish and cost several times more than the "Proposed Action."

Within the analysis of Alternative 4, it was determined that the Airport's objectives could be met using existing airport property and resources. The selection of this alternative was based on the following factors: 1) the proposed action is consistent with the conditionally approved Airport Layout Plan, the Airport Master Plan and the City Comprehensive Plan; 2) the proposed action minimizes the environmental impact by confining the activity to a site that is already experiencing this type of land use; 3) the proposed action eliminates safety concerns by relocating the general aviation facilities away from the passenger terminal area; 4) the proposed action will allow the passenger terminal and cargo facilities to be developed as needed without disrupting general aviation and 5) the proposed action establishes a new general aviation area with modern facilities sufficient in size to meet even the long-range demand for general aviation at Pensacola Regional Airport.

This document has identified that although similar in nature and supplemental to the Comprehensive Plan, the *Airport Land Use and Noise Abatement Plan* has served to promote compatible land use around the airport. The *Airport Land Use and Noise Abatement Plan* determined the need for the City to adopt an ordinance that would comprehensively regulate and restrict the height of structures, regulate the use of property in the vicinity of the airport and provide constructive knowledge of existing and projected noise impacts. The Pensacola City Council adopted the Comprehensive Airport Ordinance on April 8, 1992.

Several noise abatement and land use alternatives were evaluated in the Airport Noise Compatibility Program for Pensacola Regional Airport. It was recommended that a vegetative barrier approximately 50 feet in width and 5,000 feet in length be planted between the proposed general aviation facilities and the residential development located along Old Spanish Trail. The results of the Pensacola Regional Airport Noise Monitoring Program indicated that implementation of the "Proposed Action" will not result in a significant noise impact to residential areas.

Since the Pensacola area is considered to be an air quality attainment area, the State Implementation Plan, which applies to areas that are classified as nonattainment, does not apply and its provisions are not enforced in the Pensacola area.

Implementation of the "Proposed Action" is not expected to result in significant increases in the amount of potable water used at either the Airport or at the proposed relocated general aviation facility.

Likewise, the provision of sanitary sewer service to the relocated general aviation facility is not expected to impact the capacity of the system currently servicing the Airport.

Since the "Proposed Action" does not entail airport relocation, runway relocation or a major runway extension, a governor's certification providing reasonable assurance that the project will be located, designated, constructed and operated in compliance with applicable air and water quality standards is not required nor is a governor's water quality certification statement required.

Based on the information received and the field research conducted for this study, it can be concluded that the relocation of the general aviation facilities to the east side of the Airport will have no impacts on any known historical, architectural, archaeological or cultural resources.

Based on the lack of utilization of the proposed project area by indigenous wildlife, the fact that vegetation on site consists of cleared land and a small, isolated pocket of pine trees and the comments obtained from various agencies, it was concluded that the relocation of the general aviation area will have no impacts on any significant local or regional biotic community or on endangered or threatened species of fauna or flora.

Results of the wetlands survey indicated that the majority of wetlands found on the airport property consist of small, isolated palustrine wetlands. The largest wetland on airport property is called the Gaberonne Swamp and is located in the eastern most portion of the property. Based on the layout of the proposed relocated general aviation facilities, it is anticipated that the single, isolated wetland found in the proposed project area will not be directly impacted by the "Proposed Action."

Vegetation within the wetland will not have to be cleared, and no dredge/fill activities will occur there. Also, a majority of the upland forested area surrounding the wetland will remain undisturbed in order to act as a vegetative buffer for both the wetland and the residential areas east of the proposed facility.

The proposed General Aviation relocation area lies within Flood Zone "C" which is an area of minimal flooding during a 100-year rainfall event. Based on the fact that the proposed project area is not within an established flood zone, it can be concluded that the relocation of the general aviation area will not have any impacts on this category.

The "Proposed Action" is scheduled to take place entirely on airport property. Potential impacts from the project will be limited to existing airport property. There are no significant off-site impacts expected; therefore, it can be concluded that there will be no significant impacts to Coastal Management Zones;

coastal barriers, wild or scenic rivers, Prime, Unique or State Significant farmland or to any natural resources.

Development of Regional Impact (DRI) and All Amendments to DRI: The Pensacola Regional Airport came under Development of Regional Impact (DRI) review in 1987 when proposed improvements to the existing terminal building triggered the DRI threshold set forth in Chapter 380 of the Florida Statutes. On June 11, 1987, Pensacola City Council Resolution Number 37-87 was adopted rendering a Development Order for the proposed terminal building improvements.

The first amendment to the Development Order was adopted by City Council Resolution Number 8-93 on February 25, 1993, which extended the expiration date of the Development Order to December 31, 2010, and reconfigured the DRI land area to include land on the east side of the airfield.

On May 22, 1997, a Substantial Deviation to the Development Order was adopted by the Pensacola City Council. The proposed addition of two gates to the concourse automatically triggered the substantial deviation review process. Other proposed improvements include expansion of the aircraft apron, expansion of the baggage claim area and construction of a 1,400 space multi-level parking garage. This action represents the latest amendment to the Pensacola Regional Airport DRI Development Order.

Regional Aviation Studies: The Florida Aviation System Plan provides a summary of the aviation system in the Northwest Florida Region, which is composed of 16 counties in the Florida Panhandle. Ten general aviation airports, three air carrier airports, and one commercial service air terminal are located within the region. Additionally, there are 78 private airports in the 16-county area. During the ten-year planning timeframe contained in the current Aviation System Plan, over $90 million in federal, state and local funds are identified for airport related improvements. Because the Pensacola Regional Airport handles over 39 percent of the region's air passengers and 57 percent of the air cargo, it is considered the western anchor of the Northwest Florida Region's aviation system.

The Florida Aviation System Plan noted that Pensacola Regional Airport will require expansion to meet the growing demand in air traffic. Forecasts of annual passenger enplanements predicted a 46 percent increase from 1990 to 2010. Similarly, aircraft operations are expected to increase by 55 percent over the same period. Finally, air cargo shipments are also expected to see significant increases from 1990 to 2010.

Surface access and adjacent land use are identified as potential capacity constraints to meet growing demand in air travel at Pensacola Regional Airport. Specifically, access roads such as Airport Boulevard from Davis Highway to SR 95 and Tippen Avenue from Ninth Avenue to Creighton Road will require

expansion as planned in the Transportation Improvement Program. MPO Long Range Transportation Plan alternatives should also consider multimodal alternatives to address increased traffic related to airport access.

Although land uses to the immediate west and northwest of the Airport are a mixture of commercial and institutional, a majority of land uses adjacent to the 1,300-acre airport site are high density residential. City of Pensacola Land Development Regulations contain important zoning, use and structural design restrictions that serve to curtail future problems associated with incompatible uses. Specifically adopted are airport transition zones within which only airport-compatible uses can occur. Importantly, airspace operations also extend over both Escambia and Santa Rosa Counties, so that multiple jurisdictions are involved in regulating such factors as tall structures, which can adversely impact aviation operations.

Local Comprehensive Plan (Volume II-Goals, Objectives and Policies): Within this study, an Airport Land Use District has been established to regulate land owned by the Pensacola Regional Airport, or land located immediately adjacent to the airport, which is considered sensitive due to its relationship to the runways and its location within noise zones. Land owned by the City allows only open space, recreational or commercial and industrial uses customarily related to airport operations. Low-density residential and a variety of office and commercial uses will be allowed on privately owned land based on the zoning classification. Office and commercial uses with the maximum combined area occupied by all principal and accessory buildings shall be 50 percent, and no building shall exceed a height of 45 feet, subject to airport height limitations.

One goal of the City is to promote economic development, including new industry, business and tourism by providing airport facilities that meet existing and future demand. The City has listed several objectives in order to reach this goal. They are: 1) the City shall implement recommendations adopted in the 1989 Airport Master Plan; 2) the Airport will continue to coordinate operations and expansion plans with the appropriate transportation planning entities to ensure an integrated traffic circulation system; 3) the Airport shall continue to coordinate operational and expansion activities with the Federal Aviation Administration (FAA), the Metropolitan Planning Organization and the FDOT Five-Year Transportation Plan; 4) the City shall actively participate in the *Northwest Florida Regional Aviation System Plan* to ensure that the service needs of the Pensacola Regional Airport are considered in the coordination of air transportation in the Northwest Florida area; 5) coordinate with the U.S. Navy and the FAA in the periodic review of the *Naval Aviation Training System (NATS) Plan* to reasonably assure that both military and civilian air space operations are compatible and 6) all airport projects shall be consistent with the Future Land Use, Coastal Management and Conservation Elements of the City's Comprehensive Plan.

Another goal of the City is to have airport improvements and operations undertaken with consideration for environmental impacts and compatibility with surrounding land uses. The City has identified the following objectives to reach this goal: 1) expansion of the Airport terminal, relocation of general aviation facilities and runway extensions as shown in the Airport Master Plan shall preserve to the maximum extent feasible the natural tree cover in the relocation area and mitigation of adverse affects shall be the responsibility of the City, 2) the City shall revise the Comprehensive Airport Ordinance to reduce residential density in vacant ATZ-1 and ATZ-2 zones within 180 days of the final approval of the FAA Part 150 Noise Study, 3) the City shall continue to examine the concept of multiple land uses within Airport Restricted Zoned property and 4) the City shall continue to encourage Escambia County to enforce its airport land use compatibility regulations in the unincorporated area around the Pensacola Regional Airport.

The City shall manage the coastal system natural resources within city limits in a manner that will maintain or enhance environmental, recreational, historic and economic qualities and shall protect human life and limit public expenditures in coastal areas. The City shall also ensure the highest environmental quality feasible. The City will seek to conserve, protect and properly manage its natural resources. The City of Pensacola will seek to properly manage and protect the environment and its natural resources to the highest level possible.

Envision ESCAROSA: *Envision ESCAROSA* is a combined Escambia County and Santa Rosa County community visioning effort that has been underway during 1998. The consensus-building approach has included participant balloting related to core values and strategies for economic development, government and private-sector leadership. Additional information regarding this vision will be considered during this planning update, if applicable to the Airport.

1.3.5 Surrounding Land Use. Existing Land Use Maps, as contained in the City of Pensacola Comprehensive Plan, were adopted on September 4, 1990, and have been revised through October, 1997. The Pensacola Regional Airport is designated as a Public/Semi-Public existing land use. Land use to the north, east and south of the Airport is mostly residential. Areas west of the Airport are primarily commercial and light industrial along 9th and 12th Avenues, with a mixture of public and open space/recreational parcels located adjacent to Airport property. Vacant land use in the Airport vicinity is mostly limited to small parcels within existing residential areas, with the exception being the developing commercial parcels southwest of the intersection of 12th Avenue and Airport Boulevard. The Existing Land Use Map depicts Noise Zones 1, 2, and 3 on lands surrounding the Airport.

Future Land Use Maps were adopted in the City's Comprehensive Plan on September 4, 1990, and also have been revised through October 1997. The future land use designation of the Pensacola Regional

Airport is to remain Public/Semi-Public, as is the adjacent Pensacola Junior College property. To the immediate east of the east-west runway, lands along the Scenic Highway Bluffs are designated for conservation use.

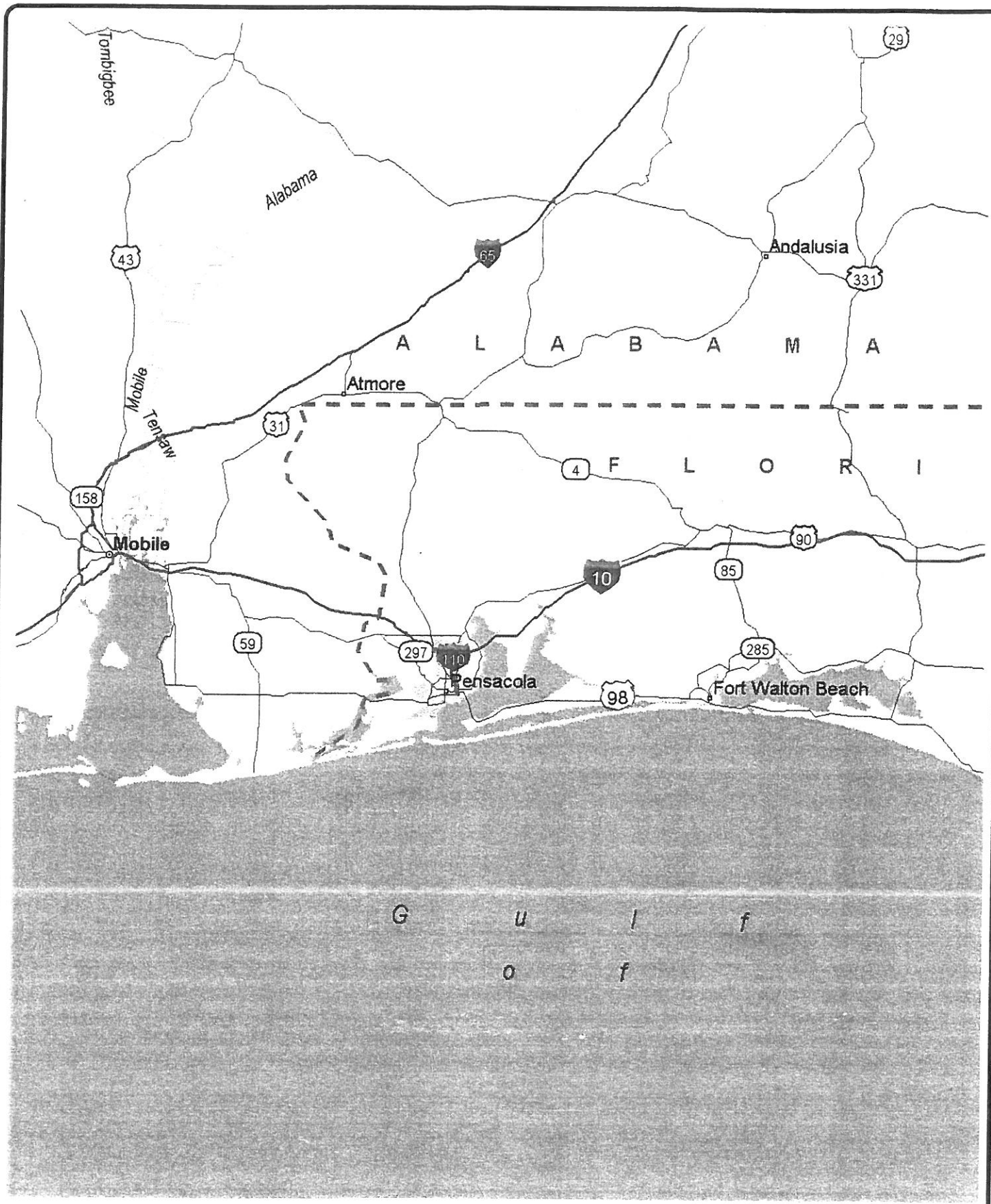
Other properties adjacent to the eastern boundary of the Airport are designated as Medium- and High-Density Residential and Office Districts. Other adjacent undeveloped properties and transitioning areas are designated Airport District. A number of open space/recreational parcels located adjacent to Airport property are also designated Airport District. Areas west of the Airport along 12th Avenue are designated as Commercial.

1.3.6 Surface Transportation. The main trunkline running through the Pensacola area is Interstate 10, which runs west to Mobile, Alabama and New Orleans, Louisiana and points further west, and runs east to Tallahassee and points further east. Interstate 110 branches from Interstate 10 and runs south into downtown Pensacola. US 29 runs north out of Pensacola into south Alabama, while US 98 runs east from Pensacola along the Gulf of Mexico to Fort Walton Beach and Panama City, Florida. Figure 1.2 shows the regional highway network for the Pensacola area.

Access to Pensacola Regional Airport can be gained from the downtown Pensacola area via 9th and 12th Avenues and then taking Airport Boulevard east into the terminal area roadway network. Figure 1.3 is a vicinity map, showing the ground access in the immediate area of the airport.

1.3.7 Surrounding Airports. There are several military bases located near Pensacola Regional Airport (PNS). These include major military installations at Pensacola Naval Air Station (Forrest Sherman Field) located southwest of PNS, Whiting Field Naval Air Station located northeast of PNS and Eglin Air Force Base located in adjacent Santa Rosa County east of PNS. Whiting Field consists of two airfields; the North Field and the South Field.

There are several other naval outlying airfields located in the vicinity of PNS including Saufley Field located west of PNS, and Santa Rosa Field, Choctaw Field and Holley Field located east of PNS.



Source: Reynolds, Smith and Hills, Inc., 1998.

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FIGURE 1.2

Regional Highway Network

There are three general aviation airports in the area; Ferguson Airport located southwest of PNS, Coastal Airport located west of PNS and Peter Prince Airport located northeast of PNS. Figure 1.4 shows the locations of all of these airports near PNS.

1.3.8 Airspace. The airspace surrounding PNS is complex due to the presence of several military operations areas (MOA) and military alert areas utilized by the U.S. Navy principally for training exercises. The complexity of the airspace in the area presents significant limitations on the development of aviation facilities in the area.

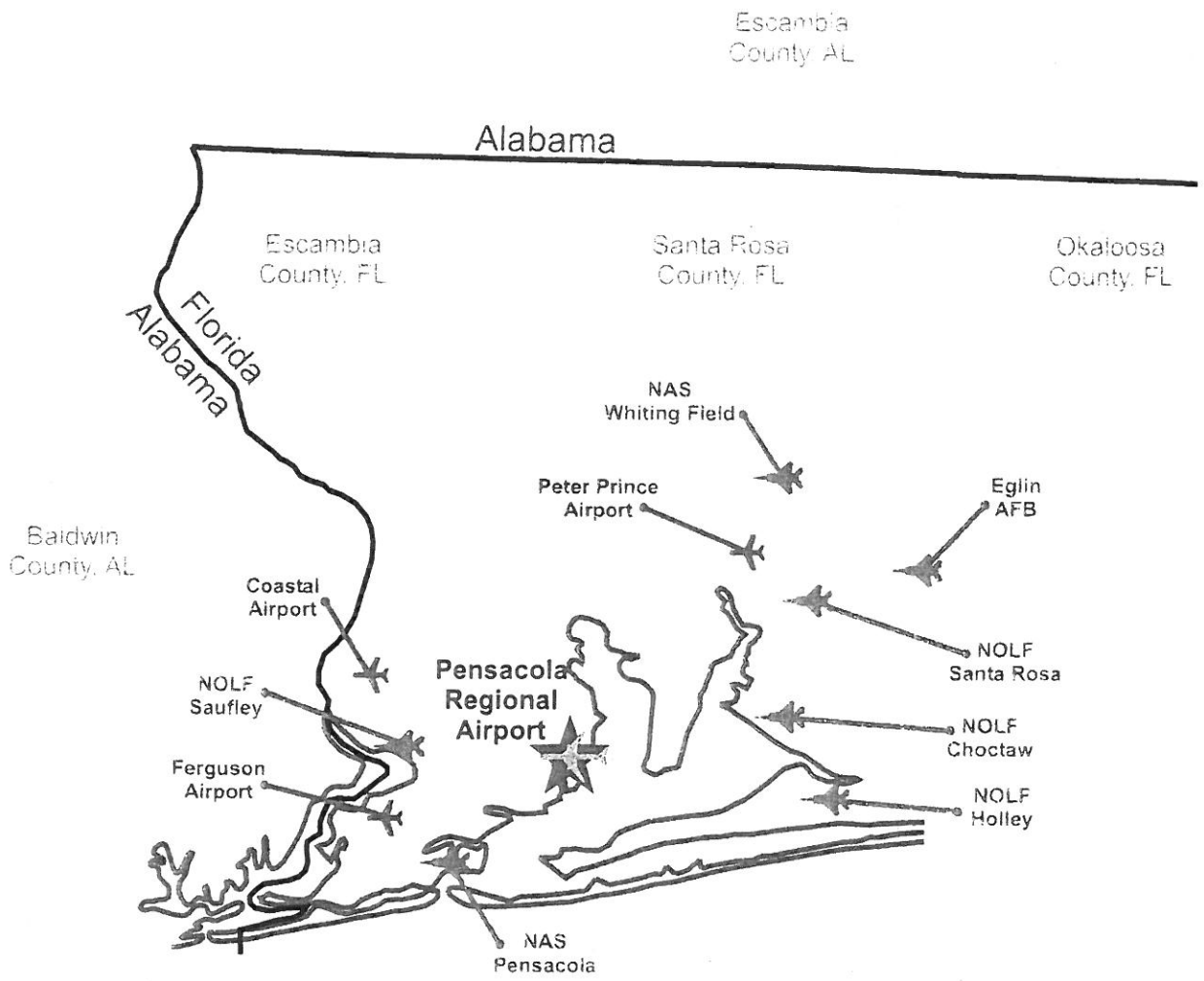
PNS is bounded on the west and north by Alert Area 292 where a significant amount of U.S. Navy flight training is conducted with military aircraft and helicopters operating from Whiting NAS, Pensacola NAS and several naval outlying airfields in the airspace from ground level to elevation 17,500 feet. PNS is bounded on the south by the Pensacola South MOA and on the east by the MOA associated with Eglin Air Force Base.

Pilots are usually in radio contact with some portion of the air traffic control (ATC) services or communication facilities. These ATC and service facilities consist of air route traffic control centers (ARTCC), terminal approach control facilities (TRACON), air traffic control towers (ATCT) and flight service stations (FSS).

ARTCC's are established primarily to provide ATC services to aircraft operating under instrument flight rule (IFR) flight plans within controlled airspace (positive control airspace), principally during the enroute phase of flight. When traffic and workload permit, such centers provide advisory service to aircraft operating under visual flight rules (VFR). Advisory service normally includes such information as the status of NAVAIDS, other air traffic, airfield conditions, weather reports and restricted areas. PNS lies within the jurisdiction of the Jacksonville ARTCC.

TRACON monitors air traffic in the airspace surrounding airports with moderate to high density air traffic. It has jurisdiction in the control and separation of air traffic from the boundary area of the ATCT to a distance of typically 50 miles from the Airport at altitudes under 18,000 feet. There is a TRACON facility located at PNS.

The ATCT is the facility which supervises, directs and monitors the arrival and departure traffic PNS and in the airspace immediately surrounding PNS typically within five miles from PNS. There is an ATCT at PNS.



Source: Reynolds, Smith and Hills, Inc., 1998.

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FIGURE 1.4

Area Airports

Flight service stations (FSS) provide essential information to pilots. Their principal function is to accept and close flight plans and to brief pilots, both before and during flight, on weather, navigational aids, airport facilities and NAVAIDS which are out of commission, changes in procedures and new facilities. The Gainesville Flight Service Station (FSS) provides flight services for pilots operating in the area of PNS.

There are three contiguous Airport Radar Service Areas (ARSA) in the vicinity of PNS (see Figure 1.5). These ARSAs are associated with PNS, Whiting NAS and Pensacola NAS. An ARSA is designated as Class C Positive Control Airspace requiring aircraft transitioning the designated airspace to be in radio contact with the Pensacola TRACON facility and to be equipped with a Mode C transponder. The designated ARSA airspace is between the ground level and elevation 4,200 feet within five nautical miles of each airport and between elevation 1,400 and elevation 4,200 feet within ten nautical miles of each airport.

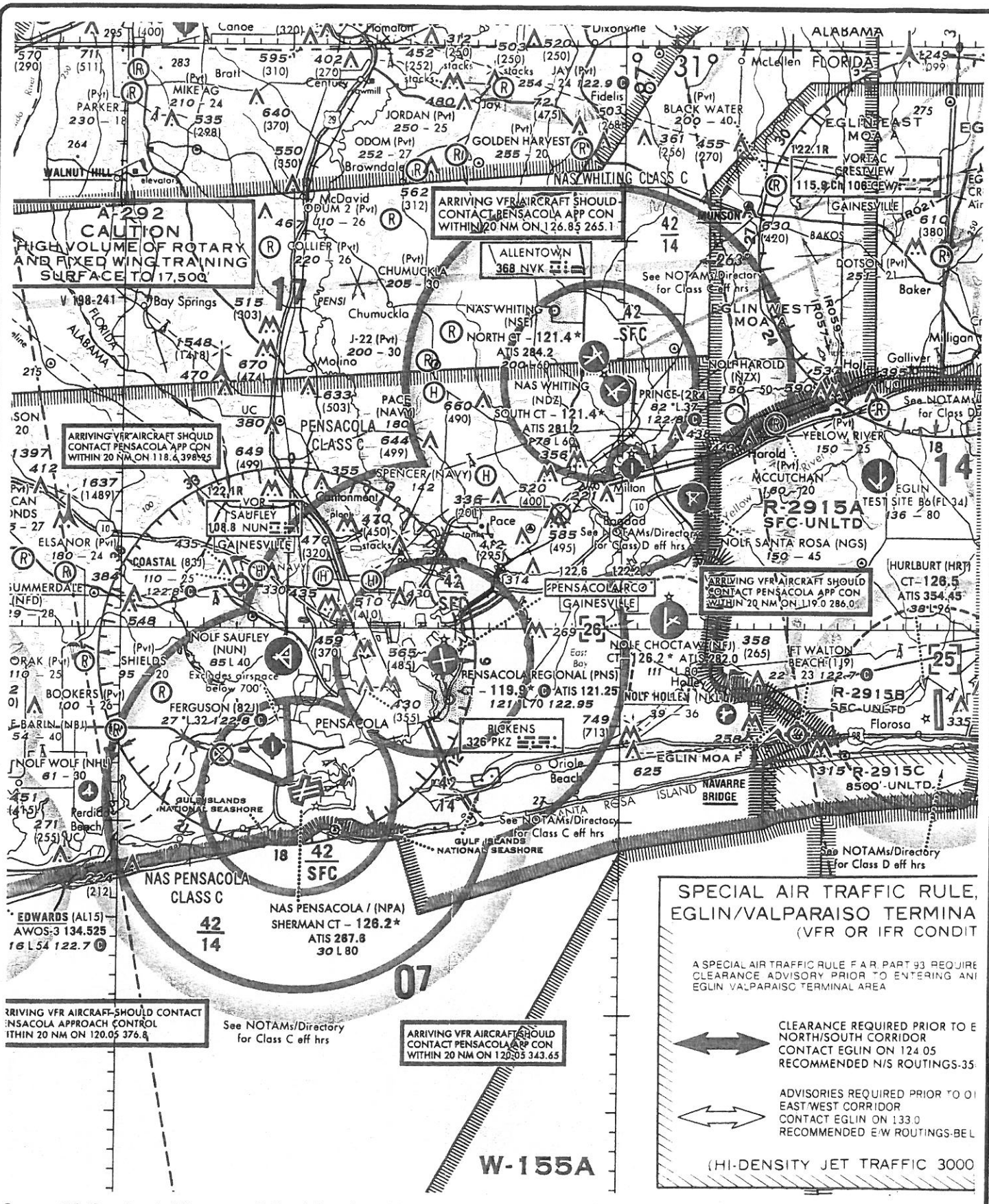
The TRACON facility at PNS has jurisdiction over aircraft operating in the three contiguous ARSA's surrounding PNS, Pensacola NAS and Whiting NAS.

The arrival routes and departure routes associated with PNS are shown in Figures 1.6 and 1.7.

1.3.9 Airside Characteristics. The principal airside characteristics of PNS consists of those facilities for the processing of aircraft operations. This includes the physical features and dimensions of the runways, taxiways and aprons at the Airport, the lighting and markings on the runway and taxiway system and the navigational aids available at the Airport. These characteristics are summarized in Table 1.5 and are discussed below. Figure 1.8 shows the existing airside facilities at PNS.

Runway 17-35: The primary runway based upon predominant runway use is runway 17-35, which has a length of 7,002 feet, a width of 150 feet and is in the directions of 167 degrees and 347 degrees true heading. The runway pavement is constructed of asphalt and is grooved. The runway is equipped with centerline lights and high intensity runway edge lights (HIRL). The runway is marked for precision instrument operations in both directions.

Runway 17 is equipped with a Category-I instrument landing system (ILS) and a simplified short approach lighting system (SSALR) with sequential flashers for runway alignment indication, touchdown zone lights, centerline lights and a transmissometer to provide horizontal visibility for runway visual ranges (RVR) during instrument meteorological conditions (IMC).



Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, New Orleans Sectional Aeronautical Chart, 1997.

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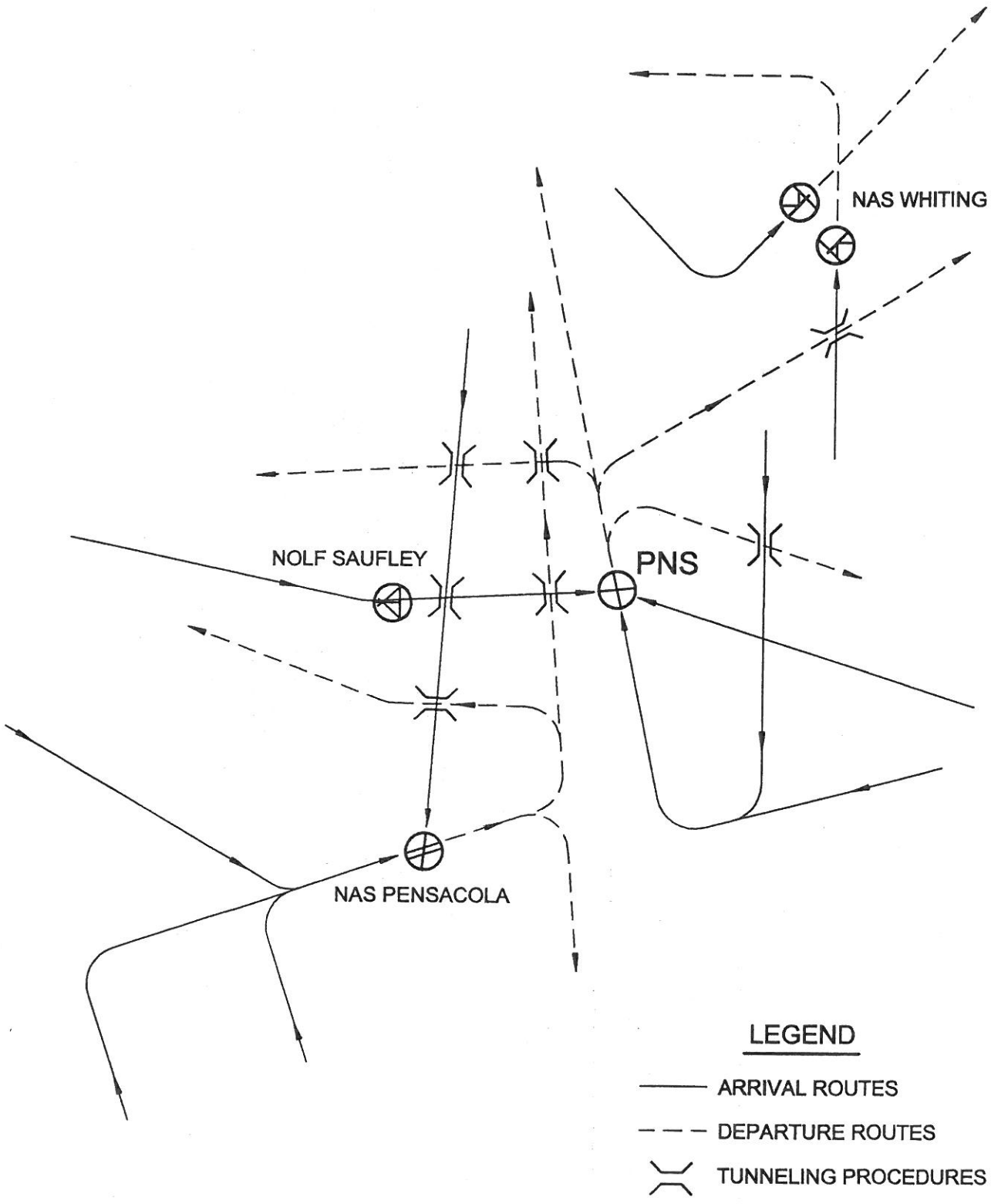
FIGURE 1.5

Surrounding Airspace



Source: Pensacola ATCT;
Reynolds, Smith and Hills, Inc., 1998.

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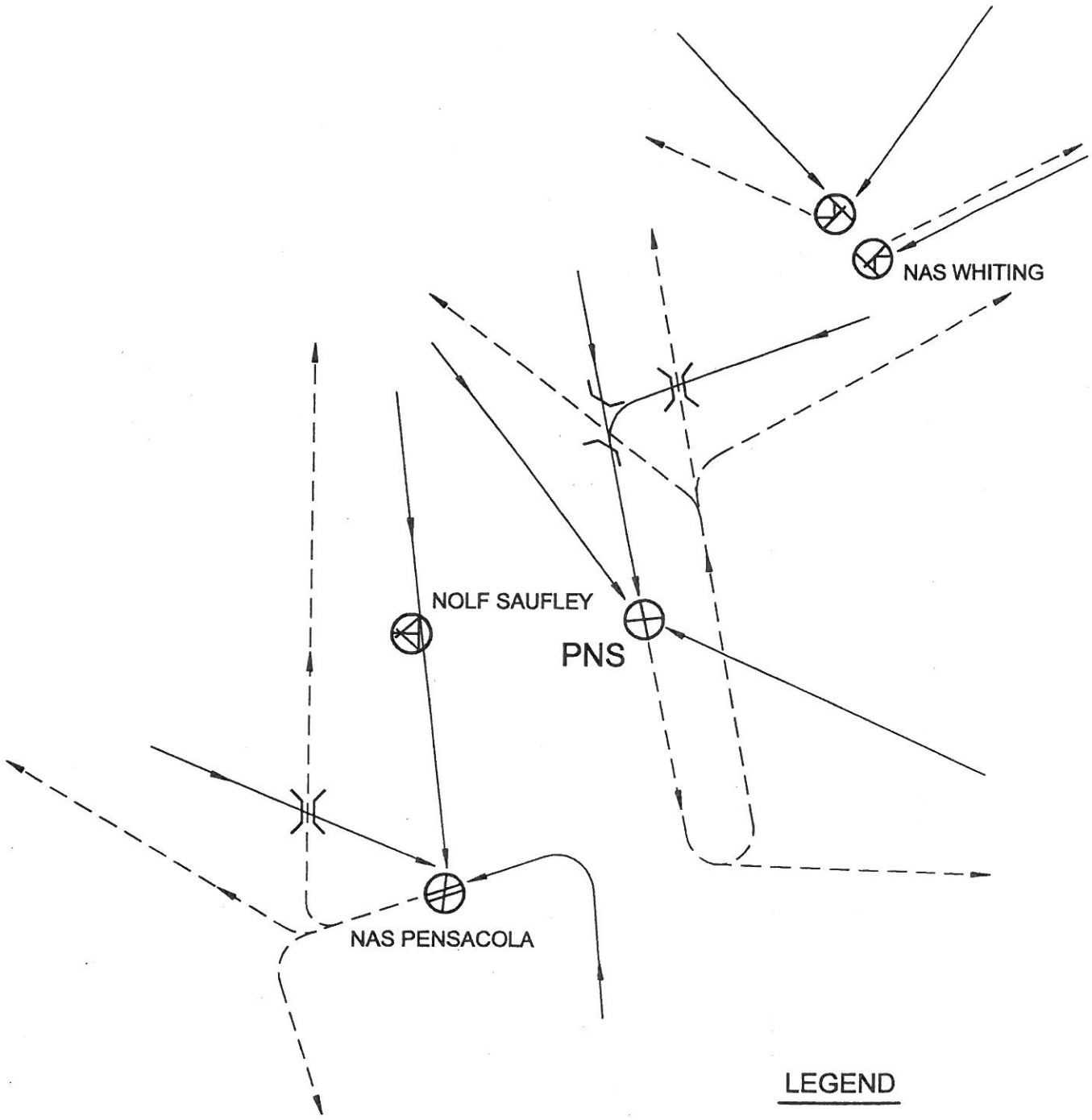
FIGURE 1.6

Arrival and Departure Routes
Operations to the North



Source: Pensacola ATCT;
Reynolds, Smith and Hills, Inc., 1998.

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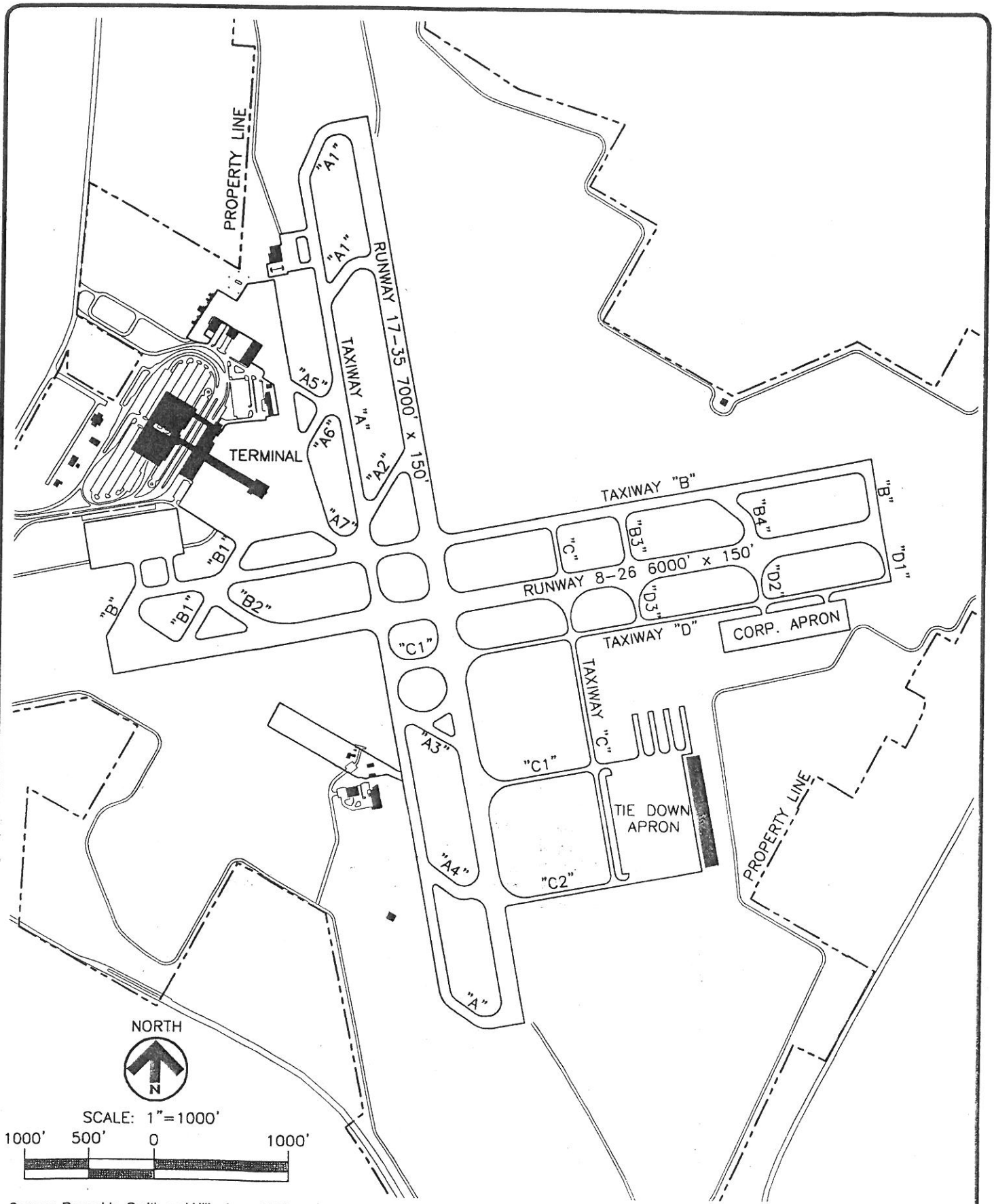
FIGURE 1.7

Arrival and Departure Routes
Operations to the South



Source: Reynolds, Smith and Hills, Inc., 1998.

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FIGURE 1.8

Airside Layout

Runway 35 has runway end identifier lights (REIL) and a visual approach slope indicator system (VASI-4) on the left side of the approach to the runway.

Runway 08-26: The crosswind runway is runway 08-26, which has a length of 6,001 feet, a width of 150 feet and is in the direction of 078 degrees and 258 degrees true heading. The runway pavement is constructed of asphalt and is grooved. The runway is marked for non-precision instrument operations in both directions. The runway is equipped with medium intensity runway edge lights (MIRL) and REIL on each approach. The runway is equipped with a VASI-4 on the left side of either approach to the runway.

Navigational Aids: PNS is equipped with a RVR transmissometer, segmented circle, lighted wind cone, non-directional beacon, airport surveillance radar (ASR-8), and is served by a very high frequency omnirange radio facility (VOR) located at Saufley Field west of the Airport.

Taxiway System: A full-length parallel taxiway system is associated with each of the two runways at the Airport. Taxiway A runs parallel to Runway 17-35, and Taxiway B runs parallel to Runway 08-26. In the general aviation area, Taxiway C runs parallel to Runway 17-35, while Taxiway D runs parallel to Runway 08-26. There are numerous exits from each runway to the taxiway system. The taxiway system provides for the movement of aircraft between the runways and the apron areas for commercial air carriers and general aviation aircraft. The taxiways associated with runways 17-35 and 08-26 are 75 feet wide and are equipped with medium intensity taxiway edge lights (MITL).

Aprons: The air carrier apron surrounding the air carrier passenger bridges and the terminal concourse is of concrete construction. This apron totals approximately 85,000 square yards and includes an apron expansion constructed in 1998 that will accommodate the ultimate terminal expansion. There are numerous taxiways connecting this apron to Taxiways A and B.

The general aviation area has two apron areas. The corporate jet apron is located along Taxiway D at the east end of Runway 08-26. This apron is asphalt and has an area approximately 26,000 square yards. There are two connector taxiways providing access from the apron to Taxiway D. The tie-down apron is also asphalt and has an area of approximately 55,000 square yards of which approximately 36,000 square yards has tie down anchors for aircraft parking. This apron has two connector taxiways providing access to Taxiway C, as well as access to the T-hangar area.

An apron area exists just southwest of the terminal area, along the west end of Runway 08-26. This apron is where the general aviation facilities were before the relocation to the current location. It is asphalt with an area of approximately 22,000 square yards. This apron has two connector taxiways providing access to Taxiway B.

The existing air cargo facility has an asphalt apron area associated with it approximately 2,600 square yards. This area has direct access to the air carrier apron as well as a connector taxiway to Taxiway A.

There also exists a helicopter parking area south of Runway 08-26 near the Air Traffic Control Tower. This area is asphalt from an abandoned runway, measuring approximately 9,000 square yards.

Table 1.5 PNS Airside Characteristics
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Runway	17	35	08	26
Width (feet)	150		150	
Surface/Condition	Asphalt/Good		Asphalt/Good	
Grooved	Yes		Yes	
Strength (lbs.)				
Dual Wheel	165,000		157,000	
Dual Tandem Wheel	320,000		285,000	
Runway Markings	Precision	Precision	Non-Precision	Non-Precision
Runway Lights	High Intensity Runway, Center Line		Medium Intensity	
	Touchdown Zone	--	--	--
Approach Aids:				
Approach Lights	SSALR	REIL	REIL	REIL
ILS	CAT 1	--	--	--
VASI	--	VASI-4	VASI-4	VASI-4

Source: Pensacola Regional Airport.

Aircraft Operations: According to the data contained in the *FAA Terminal Area Forecasts, 1997-2010* the total number of aircraft operations at PNS grew by 18.2 percent between 1980 and 1995. The number of air carrier aircraft operations increased from 1980 to 1990 by nearly 50 percent but decreased from 1990 to 1995 by about 23 percent. However, the number of commuter aircraft operations have continually grown since 1980 and in the period between 1990 and 1995 grew by 236 percent. The tradeoffs between air carrier operations and commuter operations at PNS are similar to that observed at many similarly sized airports throughout the United States. General aviation operations in 1995 were about 64 percent of those operations in 1980. Military operations saw a significant rise between 1980 and 1990 but are presently about 54 percent of the number of military operations in 1990. The historical aircraft operations data are shown in Table 1.6.

Table 1.6 **Historical Aircraft Operations**
Pensacola Regional Airport - Master Plan Update

Year	Air Carrier	Commuter	General Aviation	Military	Total
1980	9,311	1,285	73,206	17,571	101,373
1985	14,147	13,228	84,004	31,357	142,736
1990	18,610	10,604	72,930	44,218	146,362
1995	14,330	35,674	47,045	22,746	119,795

Source: Federal Aviation Administration, Terminal Area Forecasts, 1997.

In April 1998 there were 40 daily scheduled departures from PNS by air carrier and commuter aircraft. Scheduled air carrier and commuter service was provided by American, Continental, Delta, Northwest and USAirways airlines or their commuter partners. Non-stop service was provided between PNS and Atlanta, GA; Charlotte, NC; Dallas-Fort Worth and Houston, TX; Jacksonville, Orlando, Tallahassee and Tampa, FL; Memphis, TN; Mobile, AL; and Baton Rouge, Monroe and New Orleans, LA. The air carrier aircraft utilized included the Boeing 727, Boeing 737, Fokker 100, McDonnell-Douglas MD-80, McDonnell-Douglas DC9, McDonnell-Douglas MD-90 and the Fokker 100. The commuter aircraft utilized included the Beechcraft 1900, DeHavilland DHC-8, Dornier 328, Embraer Brasilia EmB120, Fokker 100 and SF340. The longest nonstop stage length operated from PNS was 604 miles to Dallas-Forth Worth International Airport.

There are 113 based aircraft at the Airport with aeronautical services provided by the Fixed Base Operator (FBO) Pensacola Aviation Center. Of these based aircraft, 75 are single-engine aircraft, 36 are multiple engine aircraft and 2 are jet aircraft.

Airside Pavement Inspection. A field investigation of the existing pavements was conducted on January 22 and 23, 1998. A number of photographs were taken of the existing pavements to show some of the issues associated with them. Several photographs of the airfield pavements were also taken utilizing a straightedge device to identify the severity of the most frequent pavement issues (i.e., rutting), which is beginning to affect the airfield pavements over most of the airport.

On January 22, 1998, there was significant thunderstorm activity in the Pensacola area. The pavements observed after the rainstorm provided easy and pronounced definition of at least four very significant and most frequent issues facing the airfield pavements:

- Cracking. The pavements inspected are beginning to exhibit a significant amount of cracking. Longitudinal, traverse, block and alligator cracking were observed in several areas both on the runways as well as the taxiways.

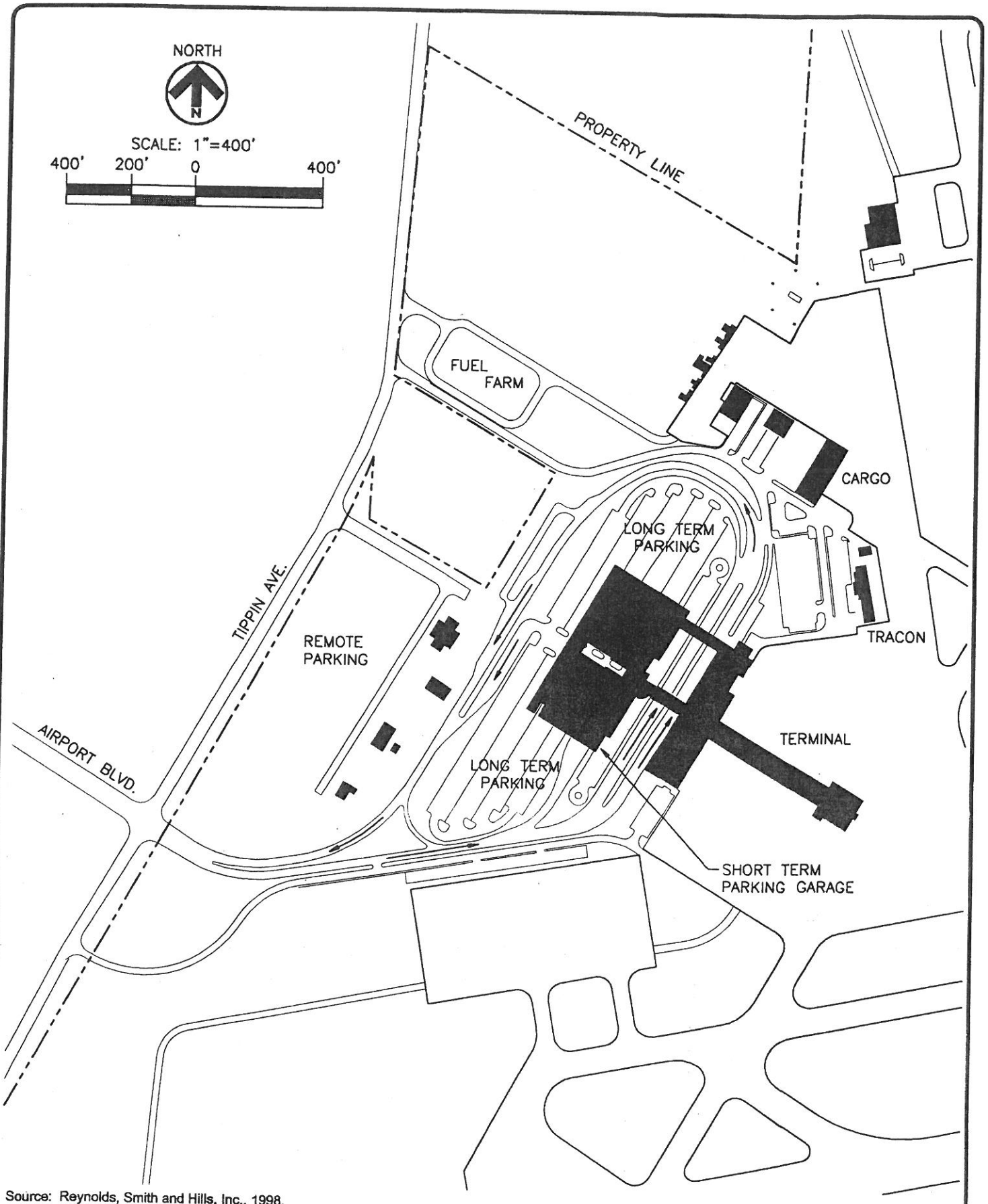
- Rutting at the Wheel Paths. The pavements inspected exhibited a serious deflection (rutting) along the wheel paths of Taxiways "A," "A-1," "A-2," "A-3," "A-4," and "B" in the area of the terminal apron. Runway 17-35 and 8-26 are also beginning to show signs of rutting in various areas.
- Raveling of the Pavements. Taxiways "A," "A-1," "A-2," "A-3," "A-4," "B" and miscellaneous other taxiways are also exhibiting significant raveling.
- Corrugation of the Pavements. Taxiways "A" and "B" and Runways 17-35 and 8-26 are also exhibiting signs of corrugation.

In the performance of the preliminary pavement evaluation for the PNS airfield pavements, the following was determined:

- The airfield pavements airport-wide have been well maintained.
- The pavements have performed well, considering the amount of traffic they have served.
- The airfield pavements have not had any significant enhancement or improvements for some 20 or more years.
- Due to the increased frequency and volume of heavier aircraft traffic at PNS, the airfield pavements have begun to show the effects of loading beyond their current capacity. This increased traffic has begun to affect the pavements in the form of depressions, rutting, corrugation, raveling and fatigue cracking. These distress types have increased significantly in just four short years and will continue to increase at a faster rate.

1.3.10 Landside Characteristics. The landside at an airport consists of those facilities provided to accommodate passengers, baggage and ground access vehicles.

Passenger Terminal Building: The passenger terminal area is depicted in Figure 1.9. The passenger terminal building at PNS consists of a single-level main terminal building containing various passenger and baggage processing facilities, such as ticketing, passenger and baggage check-in, baggage claim, baggage make-up and concessions. This building connects directly to a two-level concourse containing passenger security, concessions, airport management, departure lounges and aircraft boarding bridges. The terminal is currently undergoing an expansion that includes lengthening the existing concourse to allow for an additional two aircraft boarding bridges, bringing the total to eight. This expansion also includes adding circulation space to the ticketing area and adding space in the baggage claim area to allow for and additional bag claim device.



Source: Reynolds, Smith and Hills, Inc., 1998.

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FIGURE 1.9

Landside Layout

Current plans consist of an additional phase of terminal expansion, consisting of another concourse extension that will provide for an additional three aircraft boarding bridges, bringing the total to 11 bridges.

The existing passenger terminal building contains 130,057 square feet of usable space. The total amount of usable airline space is 68,015 square feet; the total amount of usable concession space is 20,137 square feet; the total amount of usable public space is 35,166 square feet; and the total amount of usable airport management space is 6,739 square feet. The breakdown of each of these space categories by function is given in Table 1.7.

The concourse contains six departure lounges with boarding bridge equipped aircraft gate positions capable of servicing narrow-bodied commercial aircraft such as the Boeing 727 and 737 series, and the McDonnell-Douglas DC9 and MD80 series. Commuter aircraft access is provided through stairwells to the apron adjacent to these departure lounges.

Ground Access Facilities: Vehicular access to the airport is provided by Airport Boulevard that connects to the regional highway system through 9th and 12th Avenues. Airport Boulevard feeds into the terminal building area and provides access to the terminal building by way of a single level roadway with a single level curb front. This roadway is one way, two lanes, expanding to four lanes along the terminal curbfront. Parking facilities for passenger vehicles is provided in a parking lot and four-level parking garage (which is currently under construction) opposite the main terminal building operated by APCOA, under a management contract. This parking lot and garage will contain, when completed, approximately 1050 structure parking spaces and 832 surface parking spaces. Rental car parking on the ground level of the parking garage will provide 350 spaces. There are rental car maintenance facilities provided east of the parking lot and garage for three rental car companies (Hertz, Avis and National). Even further east of the rental car maintenance facilities is a remote public parking lot with 502 spaces.

Passenger Enplanements: According to the data contained in the *FAA Terminal Area Forecasts, 1997-2010*, the total number of passenger enplanements more than doubled in the period from 1980 to 1995. Air carrier enplanements grew by about 50 percent over that period. Since 1990 air carrier enplanements have remained almost constant but significant growth of passenger enplanements occurred in the commuter airline sector with a growth of more than 450 percent in the period from 1990 to 1995. The passenger enplanement data are shown in Table 1.8.

Table 1.7 Useable Terminal Building Space
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Area	Square Feet
Airline Space	
Airline Ticket Office, Ticketing, Queuing	7,080
Baggage Makeup	3,745
Airline Operations	18,870
Baggage Service	816
Baggage Claim	6,105
Tug Drive	17,378
Lower Level Concourse Lobby	621
Departure Lounges	11,702
Apron Access Stairwells	1,698
Subtotal	68,015
Percentage of Total	52.3
Concession Space	
Rental Car	3,336
Food and Beverage	9,732
News and General Merchandising	3,424
Shoeshine	297
Telephones	222
Games	1,056
Meeting Room	1,484
USO	586
Subtotal	20,137
Percentage of Total	15.5
Public Space	
Ticketing Lobby	3,309
Baggage Claim	2,469
Lower Level Terminal Entrance Mall	5,345
Upper Level Terminal Mall Circulation	8,547
Concourse	9,841
Corridors	2,808
Restrooms	2,847
Subtotal	35,166
Percentage of Total	27.0
Airport Administration	
Security	1,171
Administration	2,614
Terminal Maintenance Office	2,954
Subtotal	6,739
Percentage of Total	5.2
Total Usable Space	130,057

Source: Pensacola Regional Airport

Table 1.8 Historical Passenger Enplanements
Pensacola Regional Airport - Master Plan Update

Year	Air Carrier	Commuter	International	Total
1980	258,303	0	0	258,303
1985	259,771	18,300	1,029	279,100
1990	394,325	39,441	0	433,766
1995	385,574	177,960	254	563,788
1997	427,481	136,754	0	564,235

Source: Federal Aviation Administration, Terminal Area Forecasts, 1997.

Building Inventory (excluding main terminal). The PNS contains numerous types of buildings serving a wide range of aviation-related and non-aviation-related activities. The most notable building at the Airport is the main airport terminal facility located in the northwest quadrant of the Airport property. This intermodal complex serves as the hub for the Airport's commercial airline and ancillary services.

In addition, the PNS contains 39 additional buildings used to serve other airport activities including general aviation activities, rental car services, rescue operations, air navigation and equipment storage. The following sections provide an overview of the non-terminal buildings located on the existing airport property in order to provide a basis for evaluating future airport facility requirements. A brief description of the existing building conditions based on a site observation conducted in March 1998 is provided along with other information which may assist in this evaluation. Figure 1.10 comprises the Building Layout Plan which illustrates the relative locations of the following non-terminal airport facilities at PNS. Additionally, Table 1.9 provides a summary of these buildings, including facility type, approximate area, construction type, color and general condition.

Building 1 - Federal Aviation Administration TRACON/Office Building: The FAA TRACON/office building is a large four-level structure located immediately north of the existing airport terminal building. Atop this concrete office structure is the former ATC tower cab, which was decommissioned in 1989 following the construction and commissioning of the new ATC tower facility in the southwest quadrant of the Airport property. In March 1998, the FAA office building was occupied by the FAA Air Traffic department and the FAA Airways Facility department. See Figure 1.11 for a photograph of this building.

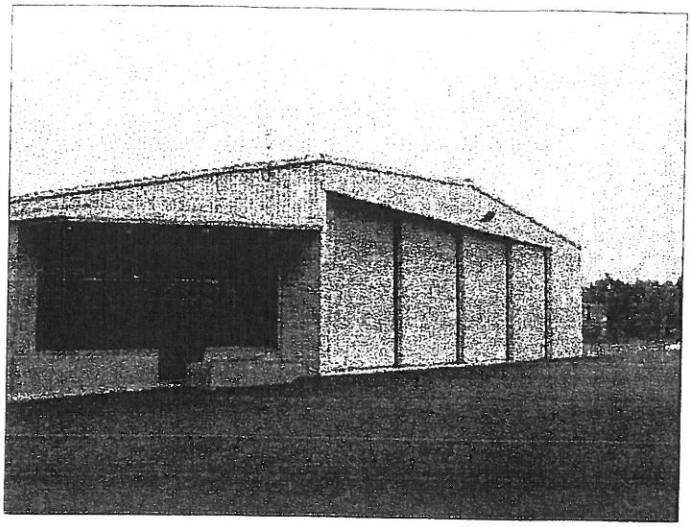
This predominantly gray facility contains approximately 18,510 square feet of floor space, including offices, basement and other storage areas and is in fair to good condition. The facility contains two main entrances and an elevator, each accessible via the landside. No direct airside access is available; however, a secured vehicular gate in the airport perimeter fence provides efficient access from the facility parking area.

Table 1.9
Airport Facility Directory
Pensacola Regional Airport Master Plan Update

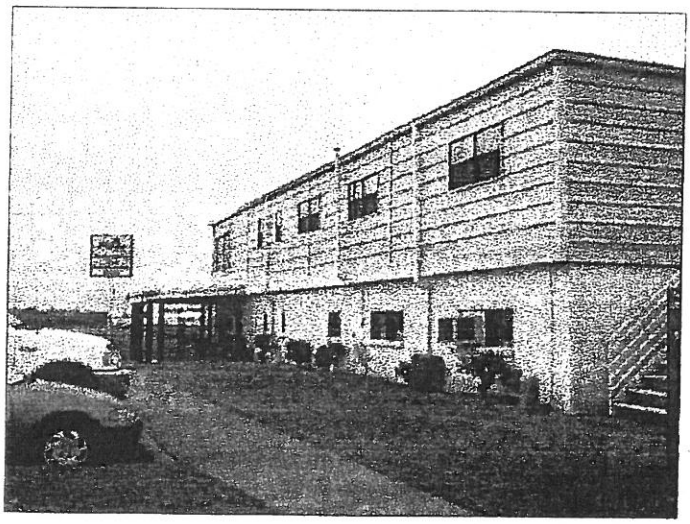
Building Number	Occupant	Facility Type	Approximate Area (sf)	Construction Type	Color	General Condition	Date of Construction (if known)	Direct Access
1	Federal Aviation Administration (FAA)	Office Building	18,510	Concrete	Grey/Dark Grey	Fair/Good	not available	Landside
2	Electrical Vault	Equipment Building	1,500	Concrete Block	Brick	Good	not available	Airside
3	Air Cargo Facility	Cargo Bays/Offices	10,100	Steel Frame	White/Black	Good	1989	Both
4	Vacant/Pilot Lounge Facility	Portable Trailer	1,200	Pre-Fabricated	Grey/Dark Grey	Fair	not available	Both
5	Lifeguard Air Ambulance, Inc.	Multi-Aircraft Hangar/Office	9,000	Steel Frame	Grey/Dark Grey	Fair/Good	not available	Both
6	Individual Hangar	Portable (Single) Hangar	700	Steel Frame	White	Fair	not available	Airside
7	Individual Hangar	Portable (Single) Hangar	700	Steel Frame	White	Fair	not available	Airside
8	Individual Hangar	Portable (Single) Hangar	700	Steel Frame	White	Fair	not available	Airside
9	Individual Hangar	Portable (Single) Hangar	700	Steel Frame	White	Fair	not available	Airside
10	Individual Hangar	Portable (Single) Hangar	700	Steel Frame	White	Fair	not available	Airside
11	Individual Hangar	Portable (Single) Hangar	700	Steel Frame	White	Fair	not available	Airside
12	Individual Hangar	Portable (Single) Hangar	700	Steel Frame	White	Fair	not available	Airside
13	Pensacola Navy Flying Club	Multi-Aircraft Hangar	2,000	Steel Frame	White	Fair	not available	Airside
14	FAA Antenna Vault	Equipment Building	800	Concrete Block	Light Green	Good	not available	Airside
15	Southern Company Services, Inc.	Multi-Aircraft Hangar/Office	13,000	Steel Frame	Brown/Dark Brown	Good	not available	Both
16	FAA Equipment Building	Equipment Building	100	Fiberglass	White	Fair	not available	Airside
17	FAA Equipment Shed	Equipment Building	100	Fiberglass	White	Fair	not available	Airside
18	FAA ASR-8/Mode S Facility	Equipment Building	5,000	Fiberglass	White	Fair	not available	Airside
19	Escambia Co. Utility Auth. Pump House	Well/Equipment Building	4,000	Concrete Block	Tan/Dark Brown	Fair	not available	Landside
20	Pensacola Aviation Center Office	FBO Office Building	1,500	Concrete Block	Light Yellow	Fair/Poor	not available	Both
21	Pensacola Aviation Center Hangar	Multi-Aircraft Hangar	5,000	Steel Frame	Light Yellow	Fair	not available	Both
22	Pensacola Aviation Center Hangar	Multi-Aircraft Shade Hangar	5,000	Steel Frame	Light Yellow	Fair	not available	Both
23	Pensacola Aviation Center Hangar	Multi-Aircraft Shade Hangar	5,000	Steel Frame	Light Yellow	Fair	not available	Both
24	Pensacola Aviation Center Hangar	Multi-Aircraft Shade Hangar	14,000	Steel Frame	Light Yellow	Fair	not available	Both
25	APCOA Parking Facility	Collection Booths	1,000	Steel Frame	Brown	Good	not available	Landside
26	Taxi Queue Facility	Taxi Concessions/Restrooms	500	Concrete Block	Brick	Good	not available	Landside
27	Hertz Rental Car Service Facility	Automobile Service Facility	1,000	Steel Frame	Grey/Dark Grey	Fair	not available	Landside
28	Avis Rental Car Service Facility	Automobile Service Facility	1,000	Steel Frame	Grey/Dark Grey	Fair	not available	Landside
29	National Rental Car Service Facility	Automobile Service Facility	1,000	Steel Frame	Grey/Dark Grey	Fair	not available	Landside
30	FAA Antenna Vault	Equipment Building	1,500	Concrete Block	Grey/Dark Grey	Good	not available	Airside
31	FAA Air Traffic Control Tower	Tower Cab/Offices	600	Concrete Block	Grey/Dark Grey	Good	not available	Landside
32	Airport Garage (Former ARFF) Facility	Equipment Storage Bay (1)	1,000	Steel Frame	Grey/Dark Grey	Fair	not available	Airside
33	Airport Garage (Former ARFF) Facility	Equipment Storage Bay (1)	1,000	Steel Frame	Grey/Dark Grey	Fair	not available	Airside
34	Aircraft Rescue & Firefighting (ARFF) Station	Vehicle Bays (4)/Offices	14,000	Steel Frame	Grey/Dark Grey	Good	1989	Airside
35	Airport Maintenance Facility	Service Facility/Offices	9,000	Steel Frame	Grey/Dark Grey	Good	not available	Both
36	Escambia Co. Utility Auth. Pump House	Well/Equipment Building	4,000	Concrete Block	Tan/Dark Brown	Fair	not available	Landside
37	FAA Equipment Building	Equipment Building	800	Fiberglass	White	Fair	not available	Airside
38	Fuel Farm Facility	Fuel Storage Tanks	not applicable	Steel	White	Fair	not available	Airside
39	Vacant/Single-Family Residence	Abandoned Residence	2,000	Wood Frame	Tan/Dark Brown	Poor	not available	Landside

Source: The data presented herein is based on airport records and an AVCON site observation of March 6, 1998. The respective approximate area for each facility is based on the facility footprint and was measured from the previous Airport Layout Plan (ALP).

Building 1: The FAA Office Building, currently occupied by the FAA Air Traffic and Airways Facility Departments, contains the airport's former Air Traffic Control Tower.



Building 15: The Southern Company Services hangar is a private multi-aircraft facility providing direct airside and landside access in the airport's northwest quadrant.



Building 20: Pensacola Aviation Center offers a variety of general aviation services from the existing two-story office facility located immediately south of the airport terminal.

Building 31: The current Air Traffic Control Tower, commissioned in 1989, is situated west of two single-bay garage structures in the airport's southwest quadrant.

Source: AVCON, Inc., 1998.

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FIGURE 1.11

Building Photographs

Building 2 - Electrical Vault: The airport electrical vault is a single-level rectangular storage building located north of the FAA office building inside of the airport perimeter fence. This concrete block structure houses the high-voltage regulators, circuit panels and other electrical equipment providing power to various airport facilities, including other airport buildings, airfield lighting systems and navigational equipment. This secured facility is operated and maintained by the Airport staff and is in good condition.

Building 3 - Air Cargo Facility: The Air Cargo Facility is a relatively new building containing five individual air cargo bays, each measuring approximately 30 feet by 68 feet. This facility was originally opened for operations in July 1989, and is in good condition. In March 1998, all five units were fully-occupied with the following tenants:

Unit 1: Airborne Express
Unit 2: Continental Cargo/USAirways
Unit 3: United States Postal Service
Unit 4: Varona Enterprises/Hangar Bay Cafe
Unit 5: Delta Air Lines

Each unit includes a small office facility with a larger cargo bay and provides direct landside and airside access for intermodal cargo/freight/mail loading and unloading operations. The landside portion of the steel-frame building contains sloped driveways to elevated docks for tractor-trailer loading and is equipped with individual stairways for pedestrian access into each office area.

Building 4 - Pilot Lounge Trailer: An elevated mobile trailer, providing airside and landside pedestrian access, is located west of the Air Cargo Facility. This trailer, commonly referred to as the "doghouse," acts as a pilot lounge facility for the general aviation activities in the northwest quadrant providing furniture such as chairs and beds as well as vending machines. This dark gray facility is in fair condition and primarily serves as an intermodal terminal facility for couriers transporting bank documents via general aviation aircraft.

Building 5 - Lifeguard Air Ambulance, Inc. Corporate Hangar: Lifeguard Air Ambulance, Inc., is an air management, air charter and air ambulance service occupying the large steel-frame hangar and office facility located west of the Air Cargo Facility and the pilot lounge trailer. The hangar portion of the facility contains two large roll-up doors on the north and south walls and can accommodate multiple general aviation aircraft, including business jets and twin-engine airplanes. The east wall of the hangar facility is contiguous with the airport security fence and provides direct landside access through a

pedestrian door. The entire hangar structure is located within the airside portion of the airport security fence.

The steel hangar exhibits signs of weathering, but remains in fair to good condition. Several isolated portions of the external walls exhibit damage, particularly along the southern portion of the east wall adjacent to the automobile parking area. Much of this damage has apparently resulted from vehicle impact from the adjacent automobile parking area. The damage to the steel wall includes numerous dents with some cracks and punctures.

The small office facility abuts the west wall of the hangar facility. The external walls of this separate office portion consists of similar steel-frame construction on a concrete block section measuring approximately two feet in height. The offices are used by Lifeguard Air Ambulance staff to support the variety of services.

Buildings 6-12 - Private Portable (Port-A-Port) Hangars: Seven individual portable-type Port-A-Port hangars are located along the airport perimeter fence west of the Lifeguard Air Ambulance hangar in the general aviation area of the northwest quadrant. These white steel hangars exhibit signs of weathering and slight discoloration; however, they are each in fair condition. Each of the seven hangar structures is owned by private aircraft owners on property leased from the Airport.

These seven hangar units are located entirely within the airside portion of the airport perimeter fence. Tenants accessing the hangars must utilize one of the airport automobile parking areas or enter the airside through one of the secured vehicular gates.

Building 13 - Pensacola Navy Flying Club Hangar: The Pensacola Navy Flying Club occupies a single-box hangar located in the north general aviation area. This white steel multi-aircraft hangar is in fair condition and is used for aircraft and equipment storage as well as other maintenance and service activities. Similar to the portable-type hangars, this larger hangar structure is in fair condition and is located entirely within the airside portion of the perimeter fence.

Building 14 - FAA Antenna Vault: The light green concrete block building located northeast of the Navy Flying Club Hangar houses equipment associated with the FAA antenna farm which surrounds the structure. This facility is located within the airside and is completely surrounded by a separate security fence independent of the perimeter fence. The one-level facility is in relatively good condition.

Building 15 - Southern Company Services Corporate Hangar: Southern Company Services, Inc. operates a relatively large corporate hangar and office facility north of most of the general aviation

facilities in the northwest quadrant. The hangar and office facility collectively measure approximately 13,000 square feet, and each contains direct access to the landside and airside portions of the airport property.

The hangar facility is a large, beige-colored steel-frame structure with sliding doors facing the airfield. The building generally accommodates twin-engine business aircraft for private storage and maintenance activities. Although this facility provides direct airfield access, Southern Company Services does not provide public general aviation related services, such as flight training, aircraft rental or aircraft repair. See Figure 1.12 for a photograph of this building.

Building 16 - FAA Equipment Building: A small white FAA equipment building is situated west of the extended centerline for Runway 17-35 north of the Runway 17 threshold. This facility is in fair condition and houses electrical equipment associated with the navigational aids associated with this runway end.

Building 17 - FAA Equipment Shed: Similar to the FAA Equipment Building referenced as Building No. 16, a small FAA Equipment Shed is also situated north of the Runway 17 threshold. This facility, located near the extended runway centerline, appears to be in fair condition. This shed structure also houses electrical equipment associated with navigational aids equipped for this runway end.

Building 18 - ASR-8/Mode S Facility: The Airport Surveillance Radar (ASR-8) is equipped with a two-section mobile structure. The ASR-8 portion of the fiberglass facility is used to store electrical and other equipment and for service personnel on an as-needed basis. The Mode S portion is also used for housing electrical equipment and is temporarily used for service and maintenance activities.

Building 19 - Escambia County Utility Authority Pump House-Northeast: A small pump house containing a pump and well system is located within the landside portion of the Airport's northeast quadrant. This facility is maintained by the Escambia County Utility Authority (ECUA) and is accessible through a ECUA security fence which surrounds the tan concrete building. This facility is in fair condition and is not directly accessible from the airside.

Building 20 - Pensacola Aviation Center Office (To be relocated or demolished): The Pensacola Aviation Center is PNS's sole Fixed Base Operator (FBO) providing general aviation facilities such as apron space, hangar storage and office areas. The facilities are privately-developed buildings and hangars constructed on property leased from the Airport. This FBO provides a wide variety of general aviation services including aircraft fueling, aircraft repair, maintenance, flight training, air taxi services, car rental and other related services.

The Pensacola Aviation Center office is a two-story concrete block structure located immediately south of the airport terminal building. This light yellow building is an intermodal terminal for general aviation pilots and users. This building is in fair to poor condition and appears to be among the older facilities at the Airport due to its weathered exterior and poor configuration. The Pensacola Aviation Center office facility is flanked to the west by four individual multi-aircraft hangars described below. See Figure 1.11 for a photograph of this building.

Buildings 21-24 - Pensacola Aviation Center Hangars (To be relocated or demolished): Pensacola Aviation Center currently manages four general aviation hangars located in the general aviation area of the southwest quadrant. These light-yellow structures vary in size. Each appears to be in fair condition. The three easternmost hangars abut each other, and the westernmost hangar, the largest hangar, is separated as shown in Figure 1.11.

The easternmost hangar is the tallest of the four hangars and appears to be the most aged due to mild discoloration. This hangar, measuring approximately 5,000 square feet, is the only hangar managed by the Pensacola Aviation Center equipped with a door. The two adjacent hangars are three-walled shade hangars without doors, also measuring approximately 5,000 square feet each.

The westernmost hangar measures approximately 14,000 square feet and accommodates multiple aircraft for maintenance and storage. The three-walled hangar is considered a shade hangar as it is not equipped with a main door. It is partitioned into three bays with a concrete-block firewall separating the easternmost bay from the west bays. The east wall of this structure exhibits streaks of rust from runoff from the multiple downspouts along the roofline.

All four hangars can accommodate multiple single-engine and multiengine general aviation aircraft and each provides direct access to the adjacent apron area. Direct landside access is available through secured pedestrian doors located along the north walls of the hangars.

Building 25 - APCOA Parking Collection Booths: A three-laned collection booth is located at the western end of the Airport's short-term and long-term parking areas to collect and process parking fees 24 hours per day. APCOA operates and manages the facility through a lease from the Airport. Each of the three drive-through lanes contains an individual booth, each of which is operated as needed based on demand. The general condition of this facility appears to be good.

Building 26 - Taxi Queue Facility: A small concrete structure in good condition is located north of the parking collection booth facility. This structure is referred to as the Taxi Queue facility and is used to

provide refreshments, food and restroom facilities for the various taxi companies serving the PNS. A driveway running along the western side of the structure provides efficient access for taxi operators.

Building 27 - Hertz Rental Car Service Facility: Hertz operates and maintains the northernmost facility of the three individual rental car service facilities located on the PNS property. The rental car facility provides a service center for cleaning and servicing rental cars as they are returned to the Airport. This light gray facility, surrounded by a parking facility, also leased by Hertz, is in fair condition.

Building 28 - Avis Rental Car Service Facility: Avis leases the middle rental car facility of the three parcels located west of the airport terminal parking area. This facility is managed and operated by Avis and contains a service station island behind the main facility to support the cleaning and restoration services. Similar to the two adjacent rental car service facilities, the Avis service facility is considered to be in fair condition.

Building 29 - National Rental Car Service Facility: National leases the southernmost rental car service facility and the parking area which surrounds the building. This facility is used to clean and restore rental vehicles returned to the PNS and is also in fair condition.

Building 30 - FAA Antenna Vault: The concrete-block structure located southeast of the Runway 8 threshold contains equipment associated with the FAA antennas surrounding the structure. This facility is located entirely within the airside and is completely surrounded by a separate security fence independent of the perimeter fence for additional protection. This facility is similar to the antenna vault located in the northwest quadrant and is also in relatively good condition.

Building 31 - FAA Air Traffic Control Tower: The ATC tower is a relatively new facility located in the Airport's southwest quadrant. This facility is leased by FAA to provide air traffic control services for the PNS and the surrounding airspace. The building and the adjacent parking area are each directly accessible via the landside portion of the airport property.

The ATC tower contains small offices and a cab structure in good condition. The cab has a floor elevation of 167.5 feet MSL, 80 feet above the tower ground elevation of 87.5 feet MSL. See Figure 1.11 for a photograph of this building.

Buildings 32-33 - Airport Garage Facility: Two independent garage bay structures are located immediately southeast of the existing ATC tower. These dark gray steel-frame facilities are in good condition and are currently used for storage of miscellaneous airport equipment. Each structure measures approximately 1,000 square feet and is equipped with a pair of roll-up, garage-type doors.

These doors are located on the west and east walls of each facility providing drive-through access. An inclined ramp at each door provides vehicular access to the elevated concrete slabs which support each building.

These served as temporary garage facilities for Aircraft Rescue and Firefighting (ARFF) vehicles during the construction of the current ARFF station. Currently, these buildings serve as general storage facilities. Both structures are located entirely within the airside portion of the airport perimeter fence.

Building 34 - Aircraft Rescue and Firefighting (ARFF) Facility: The Airport's ARFF facility is located in the southwest quadrant of the Airport, near the existing ATC tower. This facility contains a large steel-frame vehicular storage garage area equipped with four separate vehicle bays providing direct airfield access. Three of the four bays are currently occupied with ARFF emergency vehicles complying with FAR Part 139 requirements. The fourth bay is occupied by a passenger transport bus that is available for airfield emergencies.

A smaller office/lounge area of the ARFF station is located in the northern portion of the facility. This area accommodates ARFF staff during their respective shifts. The entire ARFF facility is located within the airside and is in good condition. No direct landside access is available for vehicles from the ARFF station.

Building 35 - Airport Maintenance Facility: A large steel-frame, hangar-type structure accommodates the airport maintenance activities. This facility is located between the existing ARFF station and the existing ATC tower. The building is equipped with multiple overhead garage doors and is used primarily to service vehicles and other large equipment operated by the Airport. Vehicular access to the facility is via the landside or through a secured vehicular gate along the airport perimeter fence. Several smaller offices are located within the approximately 9,000 square feet maintenance facility.

Building 36 - Escambia County Utility Authority Pump House-Southwest: A small pump house containing a pump and well system is located within the landside portion of the Airport's southwest quadrant. This tan and brown facility is in fair condition and is maintained by the ECUA on airport property. Access to the facility is via a gate in the ECUA security fence that surrounds the structure. This gate is accessible from the landside only.

Building 37 - FAA Equipment Building: A small white FAA equipment building is situated near the extended centerline for Runway 17-35 south of the Runway 35 threshold. This FAA-maintained facility is in fair condition. Various FAA electrical equipment associated with the navigational aids associated with this runway end are contained within this structure.

Building 38 - Fuel Farm Facility: PNS's sole fuel farm facility is located northwest of the main terminal building and parking facilities and west of the general aviation facilities located in the northwest quadrant of the Airport. The fuel farm is located with the airside portion of the airport perimeter fence and collectively contains 56,500 gallons of fuel capacity. Pensacola Aviation Center operates and maintains the fuel storage facilities which include capacity for 44,000 gallons of jet fuel (Jet A), 12,000 gallons of 100 octane low lead aviation fuel (Avgas) and 500 gallons of automobile gas in separate below-ground storage tanks. An additional 500-gallon waste tank is also located within the fuel farm. The general condition of the fuel farm facility is fair.

Building 39 - Abandoned/Vacant Single-Family Residence: PNS has recently acquired properties in the northwest quadrant which contain single-family housing. Although much of the property has been cleared, a single residential home in poor condition remains adjacent to the airport perimeter fence. This brown building appears to have utility connections removed and is prepared for demolition.

1.3.11 Climatology. One of the requirements of any airport master plan is an analysis of prevailing meteorological conditions. A critical component of this analysis is the development of runway wind roses. The runway wind rose analysis determines the operational impact of winds on runways. FAA planning guidelines recommend a 95 percent runway wind coverage for an airport based on a predetermined crosswind component for the Airport Reference Code (ARC). The ARC is a coding system used to relate airport design criteria to the operational and physical characteristics of airplanes operating and projected to operate at an airport. The ARC for PNS will be examined in Section 3.

Several crosswind coverage components (10.5, 13.0, 16.0, and 20.0 knots) are used in the runway wind coverage analysis. The 10.5 and 13.0 knot components typically represent the crosswind limits of small propeller aircraft whereas the 16.0 and 20.0 knot components can only be accommodated by larger turboprop and turbojet aircraft. If a single runway does not satisfy the FAA planning standard, a crosswind runway or additional runways may be required.

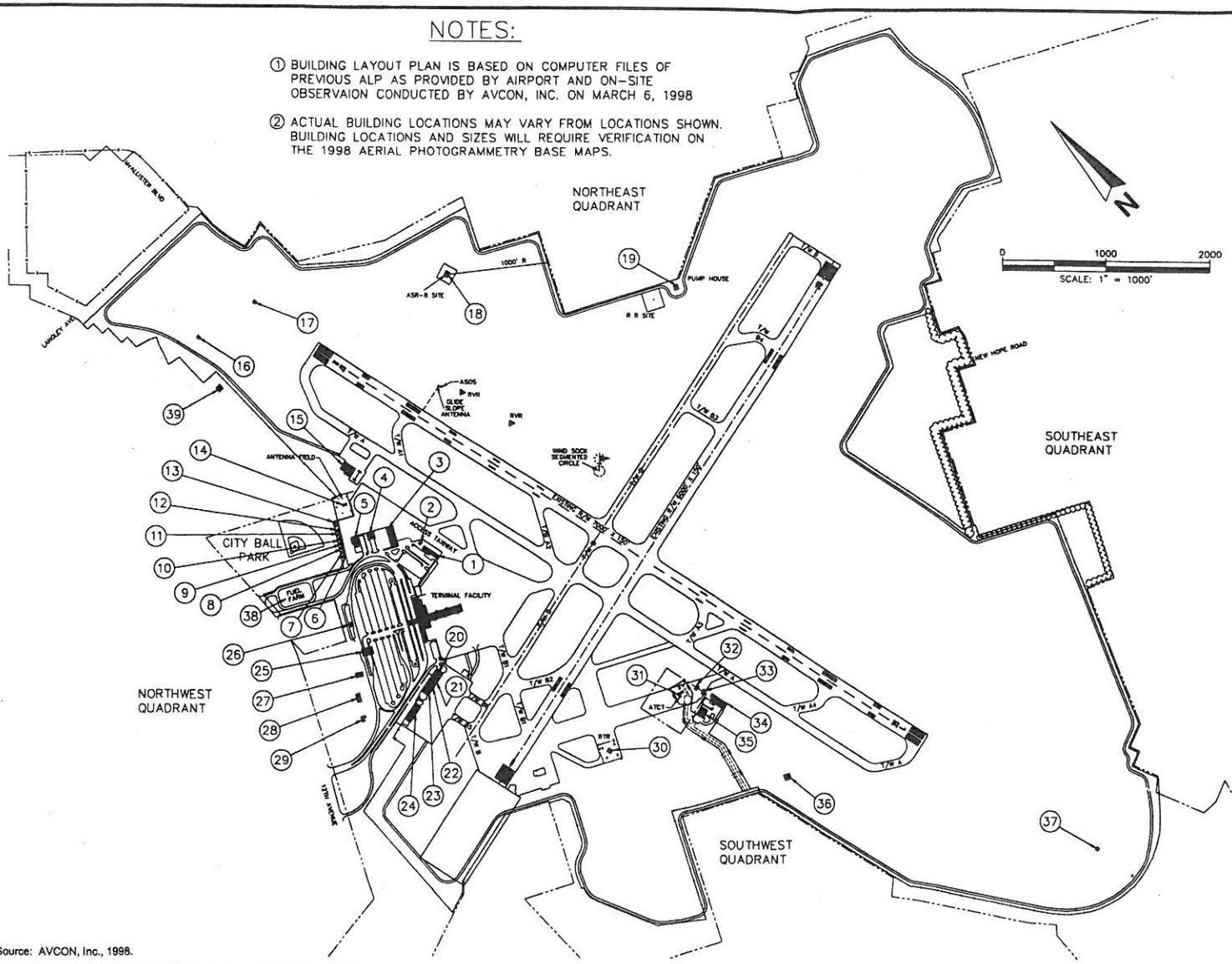
Data necessary to conduct the runway coverage wind analysis was obtained from the National Climatic Data Center of the National Oceanic and Atmospheric Administration's (NOAA). Hourly weather observation data for a ten-year period recorded by an on-airport station was obtained. This data was integrated with the FAA's Airport Design computer program to generate several wind roses. Figure 1.12 depicts the All-Weather, IFR, and VFR wind roses for PNS, as well as the runway wind coverages for all crosswind components under each of these conditions.

Based on the NOAA's *Monthly Station Normals of Temperature, Precipitation, and Heating and Cooling Days, 1961-1990*, the mean maximum temperature for PNS is 89.9 degrees Fahrenheit during the month of July.

NOTES:

① BUILDING LAYOUT PLAN IS BASED ON COMPUTER FILES OF PREVIOUS ALP AS PROVIDED BY AIRPORT AND ON-SITE OBSERVAION CONDUCTED BY AVCON, INC. ON MARCH 6, 1998

② ACTUAL BUILDING LOCATIONS MAY VARY FROM LOCATIONS SHOWN. BUILDING LOCATIONS AND SIZES WILL REQUIRE VERIFICATION ON THE 1998 AERIAL PHOTOGRAMMETRY BASE MAPS.



Source: AVCON, Inc., 1998.

EXISTING FACILITY DIRECTOR
(EXCLUDES TERMINAL FACILITY)

1	FAA OFFICE FACILITY
2	ELECTRICAL VAULT
3	AIR CARGO FACILITY
4	COURIER TRAILER
5	LIFEGUARD AIR AMBULANCE INC. HANGAR
6	PORTABLE (PORT-A-PORT) HANGAR
7	PORTABLE (PORT-A-PORT) HANGAR
8	PORTABLE (PORT-A-PORT) HANGAR
9	PORTABLE (PORT-A-PORT) HANGAR
10	PORTABLE (PORT-A-PORT) HANGAR
11	PORTABLE (PORT-A-PORT) HANGAR
12	PORTABLE (PORT-A-PORT) HANGAR
13	PENSACOLA NAVY FLYING CLUB HANGAR
14	FAA ANTENNA VAULT
15	SOUTHERN COMPANY SERVICES CORPORATE HANGA
16	FAA EQUIPMENT BUILDING
17	FAA EQUIPMENT SHED
18	ASR-8/MODE S FACILITY
19	PUMP HOUSE (ESCAMBIA COUNTY UTILITY AUTHORI
20	PENSACOLA AVIATION CENTER OFFICE
21	PENSACOLA AVIATION CENTER HANGAR
22	PENSACOLA AVIATION CENTER HANGAR
23	PENSACOLA AVIATION CENTER HANGAR
24	PENSACOLA AVIATION CENTER HANGAR
25	APCOA PARKING COLLECTION BOOTH
26	TAXI QUEUE FACILITY
27	HERTZ RENTAL CAR SERVICE FACILITY
28	AVIS RENTAL CAR FACILITY
29	NATIONAL RENTAL CAR FACILITY
30	FAA ANTENNA VAULT
31	FAA AIR TRAFFIC CONTROL TOWER
32	AIRPORT GARAGE FACILITY (STORAGE)
33	AIRPORT GARAGE FACILITY (STORAGE)
34	AIRCRAFT RESCUE ANC FIREFIGHTING (ARFF) STATIC
35	AIRPORT MAINTENANCE FACILITY
36	PUMP HOUSE (ESCAMBIA COUNTY UTILITY AUTHORIT
37	FAA EQUIPMENT BUILDING
38	FUEL FARM FACILITY
39	SINGLE-FAMILY RESIDENCE (ABANDONED)

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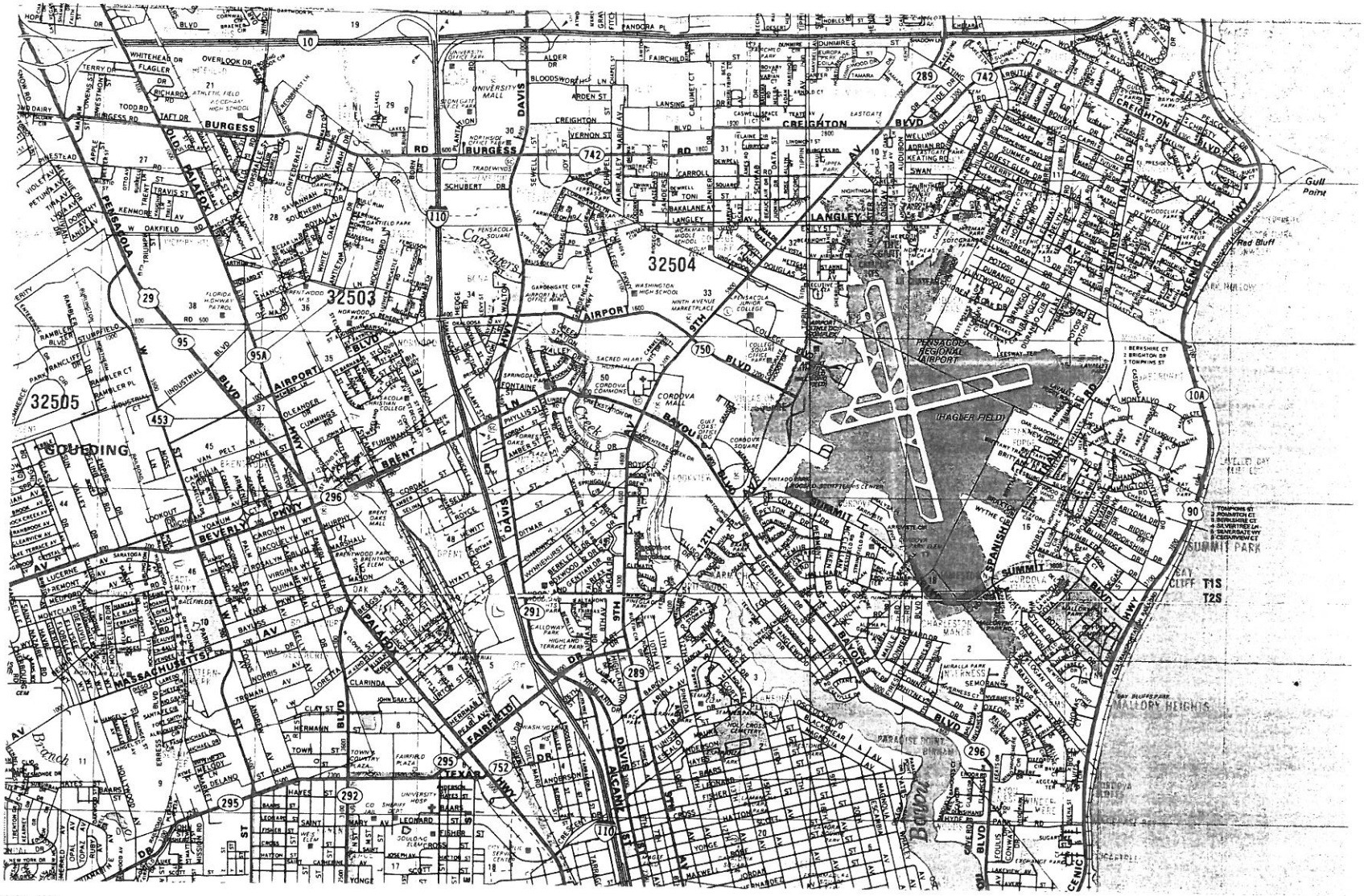
FIGURE 1.10

Building Layout Plan



Source: Rand McNally & Co., 1995.

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Jacksonville, Florida

Pensacola Regional Airport
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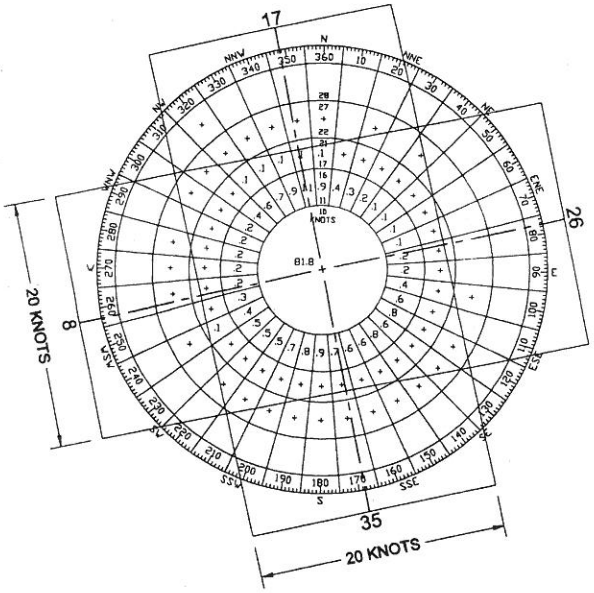
FIGURE 1.3

Vicinity Map

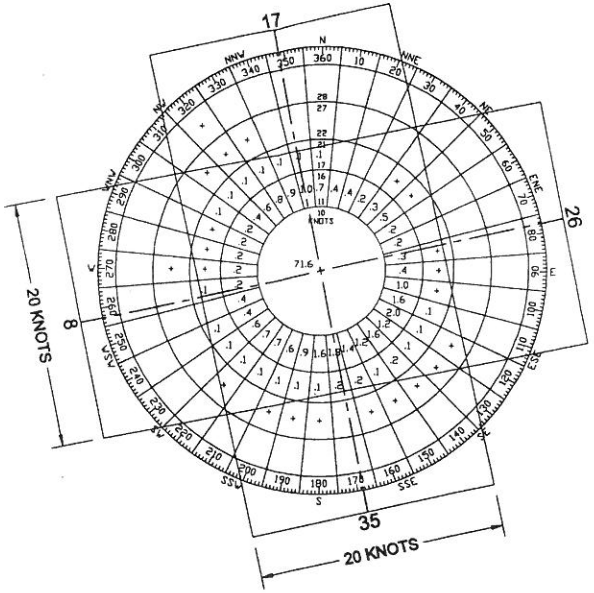
ALL-WEATHER



	CROSSWIND COMPONENT (KNOTS)			
RUNWAY	10.5	13.0	16.0	20.0
17/35	95.30%	97.89%	99.64%	99.93%
8/26	88.10%	93.97%	98.87%	99.78%
COMBINED	99.35%	99.88%	99.97%	99.98%

RECORD PERIOD: JANUARY 1988 - DECEMBER 1997
OBSERVATIONS: 80,937

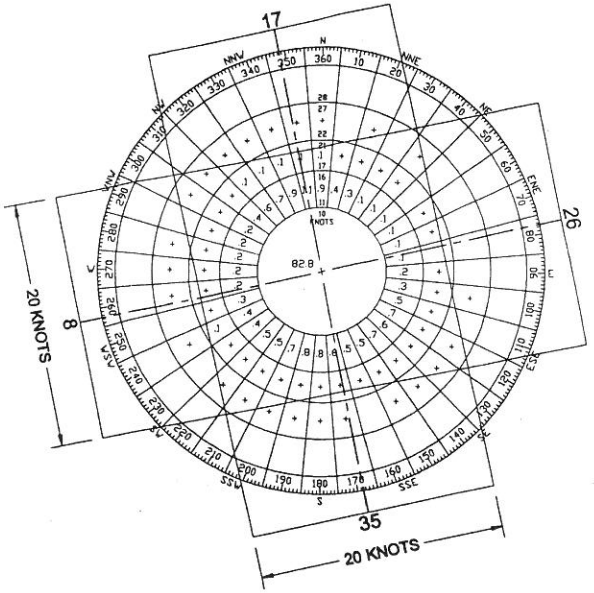
IFR



	CROSSWIND COMPONENT (KNOTS)			
RUNWAY	10.5	13.0	16.0	20.0
17/35	91.59%	96.38%	99.40%	99.92%
8/26	83.71%	91.06%	97.95%	99.58%
COMBINED	98.75%	99.76%	99.96%	99.99%

RECORD PERIOD: JANUARY 1988 - DECEMBER 1997
OBSERVATIONS: 7,858

VFR



	CROSSWIND COMPONENT (KNOTS)			
RUNWAY	10.5	13.0	16.0	20.0
17/35	95.70%	98.07%	99.69%	99.96%
8/26	89.28%	94.25%	98.98%	99.83%
COMBINED	99.43%	99.91%	99.99%	100.0%

RECORD PERIOD: JANUARY 1988 - DECEMBER 1997
OBSERVATIONS: 71,367

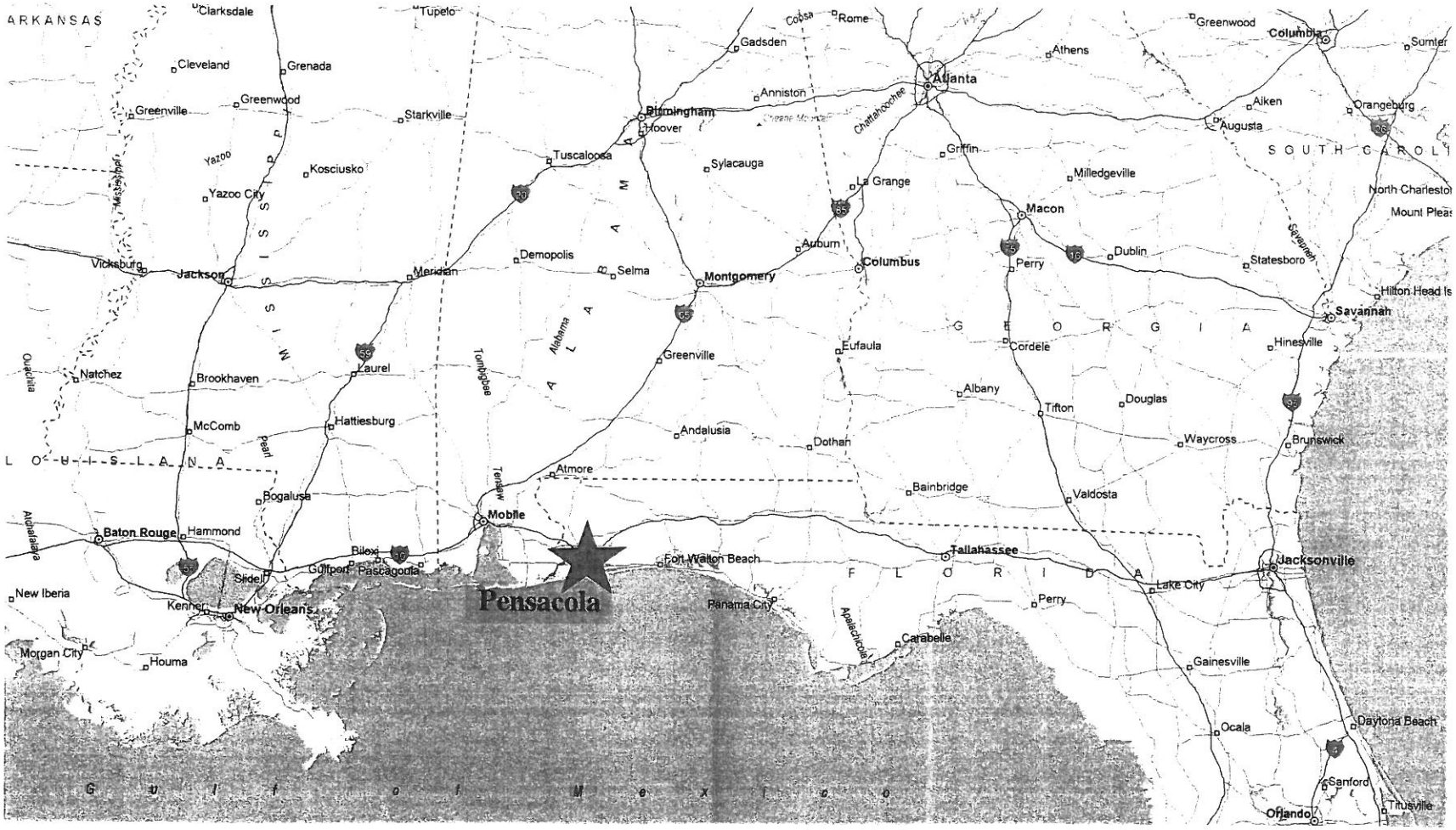
Source: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, 1998.

RS•H
Reynolds, Smith and Hills Inc.
Architectural, Engineering, Planning and Environmental Services
Jacksonville, Florida

Pensacola Regional Airport
Master Plan Update

FIGURE 1.12

Wind Roses



Source: Reynolds, Smith and Hills, Inc., 1998.

RS·H
Reynolds, Smith and Hills Inc.
Architectural, Engineering, Planning
and Environmental Services
Jacksonville, Florida

Pensacola Regional Airport
Master Plan Update

FIGURE 1.1

Location Map

PENSACOLA REGIONAL AIRPORT
AIRPORT MASTER PLAN UPDATE

SECTION 2
AVIATION DEMAND FORECASTS

In this section, forecasts of aviation activity are presented for the 20-year planning period (1998-2020). Strategic Planning Activity Levels (SPALs) are also projected for potential operating scenarios which will allow the Pensacola Regional Airport (PNS) staff to plan for future airport development during the planning period. These forecasts were submitted to the Florida Department of Transportation (FDOT) and the Federal Aviation Administration (FAA) for review and approval during the development of the master plan. The remainder of the Airport Master Plan analysis was developed using the approved forecast data as benchmarks for analysis.

Forecasts for PNS are outlined for commercial airlines, general aviation, military and air cargo. Projections of aviation activity (i.e., annual aircraft operations, passenger enplanements, based aircraft, peaking characteristics and annual instrument approaches) are also developed, as applicable. These aviation activity forecasts are projected for the traditional airport master planning periods: Short-Term (1998-2005); Intermediate-Term (2006-2010); and Long-Term (2011-2020).

2.1 SOCIOECONOMIC TRENDS

Aviation demand at an airport the size of PNS is a function of the economic and demographic characteristics of the area it serves, as well as overall national trends. An understanding of the present and forecasted future economic trends and population growth of the primary service area, the state of Florida and the nation is essential to the development and understanding of the aviation demand forecasts.

2.1.1 Airport Primary Service Area. In February 1998, a detailed passenger survey was completed at PNS. The results are summarized in a separate report, the *Pensacola Regional Airport Air Service Analysis Update* dated March 1998. The passenger survey in that report indicated that in excess of 65 percent of the passengers enplaning at PNS lived within a 35-mile radius of the Airport. Considering this geographical area, the most concentrated population base served by the Airport is derived from two Florida Counties: Escambia County (where the Airport is located) and Santa Rosa County (which should be considered the facility's primary service area).

Escambia and Santa Rosa Counties comprise the Pensacola Metropolitan Statistical Area (MSA). MSAs are established by the U.S. Office of Management and Budget and are used extensively in forecasting

economic activity. The MSA and PNS primary service area are geographically identical. Historical data and forecasts pertaining to population and economic activity for this document are primarily derived from, and based on, statistics from Escambia and Santa Rosa Counties with supporting documentation, as indicated herein.

2.1.2 Population. Table 2.1 presents comparative historical and forecast population growth in five-year increments for the Airport's primary service area, the State of Florida and the United States from 1970 through 2010. Figure 2.1 graphically depicts the relationship between population growth for the three subject geographic units. The years 1970 through 1995 are historical numbers while 2000 through 2010 are forecasts derived from sources quoted in Table 2.1.

Table 2.1 Historical and Forecasted Population Growth
Primary Airport Service Area, State of Florida and the United States, 1970-2010
Pensacola Regional Airport - Master Plan Update

	Primary Airport Service Area		State of Florida		United States	
	Population	Average Annual Increase	Population	Average Annual Increase	Population	Average Annual Increase
Historical						
1970	244,698	-----	6,865,670	-----	205,052,000	-----
1975	275,668	2.53%	8,541,639	4.88%	215,973,000	1.07%
1980	291,132	1.12%	9,840,371	3.04%	227,726,000	1.09%
1985	319,682	1.96%	11,302,231	2.97%	238,466,000	.94%
1990	345,618	1.62%	13,009,211	3.02%	249,907,000	.92%
1995	380,853	2.04%	14,213,968	1.85%	264,168,000	1.06%
Forecast						
2000	415,195	1.80%	15,490,020	1.79%	274,634,000	.87%
2005	441,722	1.28%	16,702,719	1.57%	285,987,000	.83%
2010	468,006	1.19%	17,896,724	1.43%	297,716,000	.82%

Sources: The University of Florida, Bureau of Economic and Business Research, *The Florida Long-Term Economic Forecast 1997*, Vols. 1 & 2.
U.S. Historical: U.S. Bureau of the Census, *Current Population Reports.*
Forecasts: U.S. Bureau of the Census *Statistical Abstract of the U.S., 117th Edition*, 1997.
RS&H Team.

Figure 2.1
Pensacola Regional Airport
Historical and Forecast Population
(Annual Growth Rate)

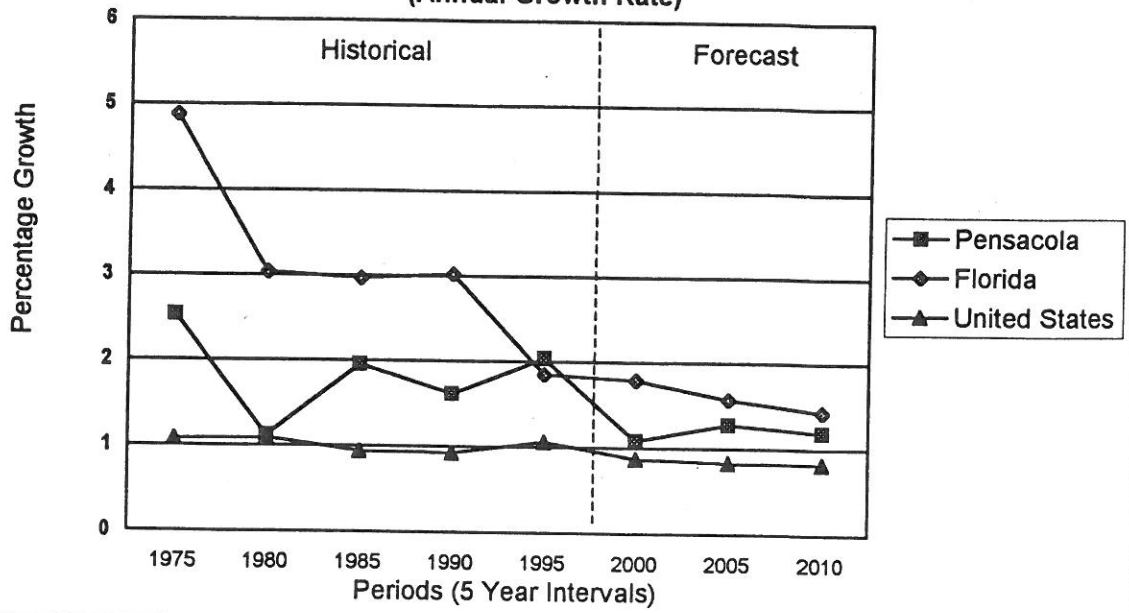
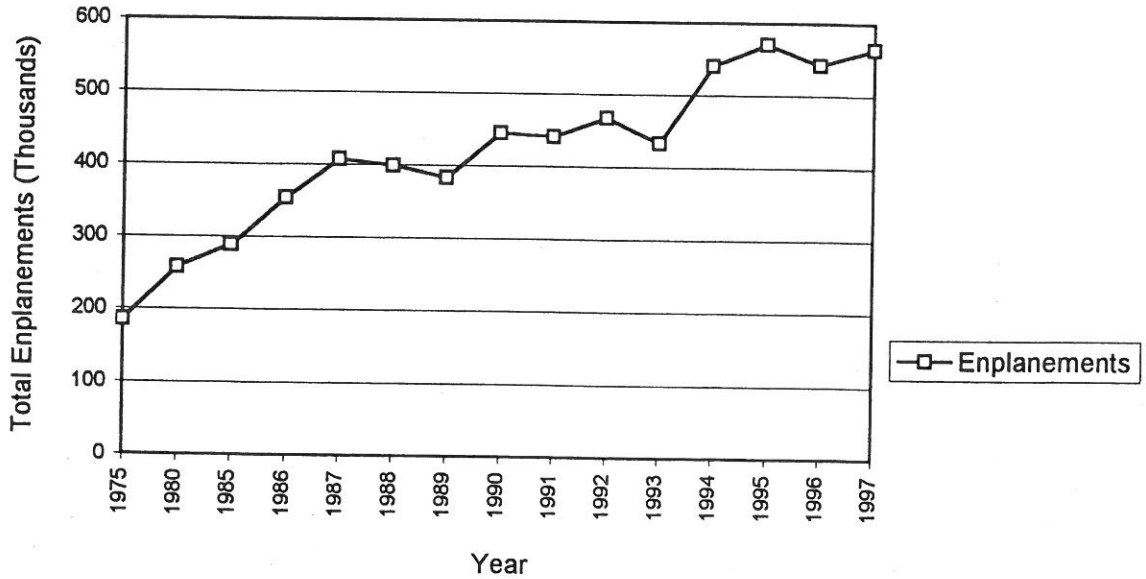


Figure 2.2
Pensacola Regional Airport
Total Passenger Enplanements
(1975 - 1997)



During the 1970s and 1980s, the State of Florida experienced an annual growth rate substantially higher than either the Pensacola MSA or the United States. However, from 1990 through 1995, Florida's growth rate declined. By 1995, it had reached 1.85 percent, while the Pensacola MSA increased to 2.04 percent, exceeding the state's growth rate by 0.19 percent.

From 1998 until 2010, the Pensacola MSA is projected to grow at almost the same average annual rate as the state: 1.42 percent for the Pensacola MSA; 1.60 percent for the state. As shown in Figure 2.1, both of these geographic units have and will exceed the growth rate of the United States as a whole.

2.1.3 Employment. Pensacola was settled in 1559 and is one of the oldest settlements in the nation. It has matured into a City with an exceptional mix of cultural and economic influences. From modern malls to historical sites, including a liberal intertwining of military influence, the Pensacola area has an economy which is diverse and unique.

Pensacola and Naval aviation are synonymous, as naval aviation considers Pensacola its birthplace. Comparing the State of Florida and the Pensacola MSA, expressed in millions of dollars, total non-labor income for the state was $139,273,333, while military earnings including active duty, reserves and national guard was $2,605,352, or 1.87 percent in 1995. For the same period, comparables were $2,476,882 and $313,292, respectively, or 12.65 percent for the Pensacola MSA. The University of Florida, Bureau of Economic Research indicated that in 1995, there were almost 10,000 military personnel in the Pensacola MSA, or approximately 11 percent of the total jobs in this geographical unit. This number grew to 11,710 military personnel in 1996. The University also projected this segment of employment to grow from 1995 to 2000, approximately 1.8 percent annually, but remain steady for the period 2000 to 2010.

In 1996, the Naval Air Technical Training Center was relocated to the Pensacola area. The Center will train from 16,000 to 18,000 military personnel per year. Many of the students will use PNS to travel to and from the Center. Therefore, the new Center will have a long-term positive effect on enplanement levels at PNS. Considering the new training center, recent decisions by the Base Realignment and Closure Commission (to maintain military facilities in Pensacola) and University of Florida estimates, it is projected that the military population in the Pensacola MSA will remain stable over the forecast period.

Tables 2.2 through 2.4 compare the civilian non-agricultural employment in the primary airport service area (Pensacola MSA), the State of Florida and the United States historically over the period from 1970 through 1995. In the case of the Pensacola MSA and the State of Florida, forecasts through the year 2010 are included.

Table 2.2 Historical and Forecasted Nonagricultural Employment in Pensacola MSA (1970-2000)
Pensacola Regional Airport - Master Plan Update
(Quantities in Thousands)

Year	Construction	Manufacturing	Transportation	Trade (Wholesale & Retail)	Finance, Insurance & Real Estate	Services	Government
Historical							
1970	5.2	14.2	3.7	14.4	2.7	9.3	18.3
1980	7.4	12.8	5.0	23.1	4.3	19.9	25.1
1985	9.5	11.9	6.3	29.1	5.1	28.0	26.8
1990	7.8	11.9	6.7	32.0	5.5	34.6	31.1
1995	9.4	11.0	6.6	34.4	5.4	49.4	27.9
Forecast							
2000	9.7	11.1	7.7	40.3	6.3	53.2	29.8
2005	11.4	10.9	8.0	43.6	6.8	59.9	31.8
2010	13.4	10.9	8.6	47.6	7.3	66.3	33.6

Sources: The University of Florida, Bureau of Economic and Business Research, *The Florida Long-Term Economic Forecast 1997*, Vol. 1 & 2.
U.S. Bureau of the Census, *Statistical Abstract of the U.S., 117th Edition*, 1997.

As shown in Table 2.2, Services, Trade (wholesale and retail) and Government have historically provided the majority of employment in the MSA. This trend is expected to continue in the future.

Table 2.3 Historical and Forecasted Nonagricultural Employment in Florida (1970-2010)
(Quantities in Thousands)
Pensacola Regional Airport - Master Plan Update

Year	Construction	Manufacturing	Transportation	Trade (Wholesale & Retail)	Finance, Insurance & Real Estate	Services	Government
Historical							
1970	175.6	322.5	154.4	545.9	131.3	416.3	397.8
1980	263.9	456.4	220.8	939.9	254.2	814.5	618.8
1985	334.2	514.4	243.0	1,184.8	319.2	1,129.8	674.4
1990	323.2	522.1	278.4	1,444.4	370.7	1,593.0	846.7
1995	303.6	482.4	303.4	1,547.9	376.4	2,056.1	923.6
Forecast							
2000	342.9	483.1	338.9	1,750.3	410.4	2,432.0	1,012.3
2005	380.7	492.6	364.6	1,948.9	446.7	2,851.8	1,111.9
2010	409.5	493.2	385.2	2,134.0	479.9	3,243.6	1,204.2

Sources: The University of Florida, Bureau of Economic and Business Research, *The Florida Long-Term Economic Forecast 1997*, Vols. 1 & 2.
U.S. Bureau of the Census, *Statistical Abstract of the U.S., 117th Edition*, 1997.

Table 2.4 Historical Nonagricultural Employment in United States (1970-1995)
Pensacola Regional Airport Master Plan Update
(Quantities in Thousands)

Year	Construction	Manufacturing	Transportation	Trade (Wholesale & Retail)	Finance, Insurance & Real Estate	Services	Government
Historical							
1970	3,588	19,367	4,515	15,040	3,645	11,548	12,554
1980	4,346	20,285	5,146	20,310	5,160	17,890	16,241
1985	4,668	19,248	5,233	23,042	5,948	21,927	16,394
1990	5,120	19,076	5,793	25,774	6,709	27,934	18,304
1995	5,158	18,468	6,165	27,585	6,830	33,107	19,310

Sources: U.S. Bureau of the Census, *Current Population Reports.*
U.S. Bureau of the Census, *Statistical Abstract of the U.S., 117th Edition*, 1997.

2.1.4 Income. Table 2.5 presents data comparing personal income for the primary airport service area (Pensacola MSA), the State of Florida and the United States historically over the period from 1980 through 1995. While the data reflects that the Pensacola MSA has a slightly smaller growth rate for personal income than the State of Florida, the growth rate exceeds the United States' growth rate in each period indicated.

Table 2.5 Historical Personal Income in United States, Florida and Pensacola MSA, 1980-1995
Pensacola Regional Airport - Master Plan Update
(In Millions of Dollars)

Year	United States	Average Annual % Change	Florida	Average Annual % Change	Pensacola MSA	Average Annual % Change
Historical						
1980	2,279,000	------	96,780	-----	2,320	-----
1990	4,774,000	7.67%	244,604	9.72%	5,173	8.35%
1995	6,098,000	5.02%	324,664	5.83%	6,707	5.33%
Forecast						
2000	-----	-----	433,484	5.95%	9,272	6.69%
2005	-----	-----	583,797	6.13%	12,302	5.82%
2010	-----	-----	802,597	6.57%	17,023	6.71%

Sources: The University of Florida, Bureau of Economic and Business Research, *The Florida Long-Term Economic Forecast 1997*, Vols. 1 & 2.
U.S. Bureau of the Census, *Statistical Abstract of the U.S., 117th Edition*, 1997.

Table 2.5 also presents the University of Florida's long-term economic forecasts for both the State and the Pensacola MSA. It indicates that by the final period, 2005 to 2010, the rate of growth for personal income in the Pensacola MSA is expected to exceed the rate throughout the remainder of the state.

2.1.5 Socioeconomic Summary. In summary, the primary airport service area for PNS has experienced steady population growth and substantial economic growth from 1970 through present. Various segments of industry, including transportation, have grown significantly and will continue to grow through the forecast period at a rate exceeding the averages. It is expected that the Pensacola MSA population will continue to grow through the forecast period while employment and income will increase correspondingly.

2.2 FORECASTS OF AVIATION ACTIVITY

2.2.1 Introduction. Forecasts of aviation activity are based on a review of socioeconomic trends and existing aviation forecasts (from other sources), each compared with significant factors affecting local aviation demand. This analysis leads to the production of recommended aviation demand forecasts. An explanation of the basic measures of aviation activity used to project future demand at airports follows.

A *Passenger Enplanement* is the number of revenue passengers boarding aircraft in either scheduled or nonscheduled air service.

Annual Operations are the total number of aircraft takeoffs and landings conducted at an airport during the year. Annual aircraft operations are classified into two types: Local and Itinerant. Local operations are conducted by aircraft that are based in the local area. Itinerant (or transient) operations are all other aircraft operations.

Enplaned Cargo (in pounds) is the total annual pounds of express packages, mail and other air freight shipments loaded on outbound commercial passenger or dedicated cargo aircraft.

The *Based Aircraft* Activity at an airport represents the total number of active aircraft permanently located or forecast to be located at an airport during a specific period. Based aircraft categories include single-engine, multiengine, turboprop, turbojet and rotorcraft. General aviation and military aircraft have been accounted for separately in this study.

The *Aircraft Fleet Mix* represents the categories of the aircraft based and/or operating at an airport. These aircraft influence the type and frequency of aircraft operations being conducted at an airport as well as drive the need for certain aviation facilities such as hangar space, apron area and fuel storage.

An *Annual Instrument Approach* is conducted by an instrument-rated pilot in an instrument equipped aircraft. Instrument approach operations require the use of a published instrument approach procedure and the installation of electronic navigational equipment at an airport.

The forecasts contained herein are based on historical data and analyses described previously in this chapter and on an assessment of the major developments and trends that may have a significant impact on aviation demand at PNS. Forecasts may be affected by economic conditions and are dependent upon future events which cannot be assured. Therefore, as in any planning study, the actual results may vary from the forecasts, and such variations could be material.

2.2.2 Methodology. Various types of time series analysis and statistical modeling were used to evaluate the mathematical relationships between socioeconomic variables, such as population, employment by category and income. Additionally, variables such as the national economy and passenger data were used. Historical data from 1980 through 1995 was used in the statistical modeling.

A correlation (relationship) was found between the Pensacola MSA annual population growth and the total number of people employed locally in the transportation sector of the economy (independent variables) and passenger growth at PNS (dependent variable). A multiple linear regression was used to estimate the relationship between the independent and dependent variables which resulted in the value of R^2 being 97.9 percent. The R^2 value is an expression of how closely the model explains the data. The coefficients derived from the regression output were then used to forecast passenger growth at PNS.

The PNS forecast model estimates are, in turn, based on inputs which were population forecasts of the MSA population and employment in the transportation sector from the University of Florida, Bureau of Economic and Business Research forecasts contained in *The Florida Long-Term Economic Forecast, 1997, Vol. 1 & 2.*

2.2.3 Significant Factors Affecting Future Aviation Demand. Future aviation demand at PNS will be affected by national economic conditions, local socioeconomic conditions, air fare levels, airline competition and the quality of airline service.

National Economic Conditions. During 1997, the national economy continued the economic expansion that, with the exception of a small downturn during early part of the decade (attributable to the Persian Gulf War), has continued since 1990. According to numerous FAA and other national forecasts, the economy will continue to grow through the forecast period. It is expected that 1998 will bring a 2.8-percent increase in the economy. During the next three years, the economy will slow to a 2.0 percent annual growth rate, but will continue to grow at 2.4 percent annually to 2002 and throughout the remainder of the planning period. These forecasts have been considered in calculating future annual growth rates at PNS. The timing, extent and rate of annual growth in the U.S. economy and future changes in real disposable income will affect the rate of future airline traffic both nationally and at PNS.

Local Socioeconomic Conditions. The local socioeconomic picture derived from close examination of the historical trends and forecasts contained in Tables 2.1 through 2.5 present positive outlook for the Pensacola MSA. It is expected that population and the economy will continue to grow at a moderate rate as has been experienced since 1970.

Air Fares. Air fare levels will have an important affect on the demand for airline service nationally and at PNS. Air fares are influenced strongly by airline operation costs such as fuel, aircraft and labor and competitive factors such as competition. Aviation fuel fell in price from 1981 through 1995 with a small downturn in 1990/91 (once again, attributable to the Persian Gulf War). Aviation fuel did increase slightly during 1996 and 1997 but is expected to stabilize and then decline for the remainder of the period. Jet fuel prices will add to the long-term stability of air fares and the continued growth of domestic enplanements. Other costs are forecast to increase only moderately during the forecast period including labor.

Airline Competition. Competitive factors have a significant influence on airline fares. On more competitive routes or in a city with a competitive environment such as one to two major air carriers and a discount carrier like Southwest, air fares are significantly lower. The staff at PNS has recognized this fact and is making every effort to recruit a low-cost carrier for PNS, as documented in the recently completed PNS *Air Service Analysis Update*.

In addition, changes in competitive forces such as airline bankruptcies, mergers and acquisitions could significantly influence airline traffic at PNS. The only foreseeable factor that might impact PNS in the near term is the recent "partnership" between Continental Airlines and Northwest Airlines. However, it is too early to predict any positive or negative impact from this event.

Quality of Airline Service. Any adjustment in the number of cities or major airline hubs connected to PNS via nonstop flights or in the frequencies of these flights could have a significant influence on airline passenger enplanements at PNS. These changes would appreciably impact business travelers which, according to the recent *Air Service Analysis Update*, account for 53 percent of the Airport's traffic.

2.3 ANNUAL PASSENGERS ENPLANEMENTS

2.3.1 Historical Passenger Enplanements. Tables 2.6 and 2.7 present historical passenger traffic for PNS. They are divided into commercial (major air carriers) and commuter (regional) airlines. Growth patterns, expressed as annual percentages are presented in Table 2.8 for both commercial and commuter enplanements. As indicated in the discussion of operations trends, the faster growth of commuter airlines is apparent in these tables. From 1985 through 1997, commuter enplanements at PNS grew approximately 15 percent per year average while commercial enplanements grew at the rate of 4.2 percent per year. Much of this growth can be attributed to the maturing of the commuter/regional airline segment. During the early part of the decade, commuters continued a trend toward operating 30 to 39-seat aircraft, rather than the 19-passenger aircraft of the past. In addition, commuters have become more sophisticated in predicting growth and have adjusted their operating schedules to

maximize passenger revenue. Commuter airline traffic is expected to grow at a faster rate than major air carriers throughout the remainder of this decade and into the next due to the regional airlines utilizing larger aircraft than in the past.

Figure 2.2 (see page 2-3) graphically depicts the historical trend line related to total passenger enplanement growth at PNS. While a faster growth rate is indicated from 1975 through 1987, the average annual growth rate from 1988 through 1997 has significantly exceeded national statistics. During the period 1990 through 1997, Pensacola averaged a 4.96 percent annual increase in enplanements. This compares favorably to a national increase of 4.78 percent. The record year for enplanements at PNS to date was 1995, with a total of 570,739 annual enplanements. In 1997, the enplanements fell just short of this level with 564,235.

Table 2.6 Historical Enplaned Passengers and Annual Aircraft Departures
Commercial Passengers and Operations, 1975-1997
Pensacola Regional Airport - Master Plan Update

		Aircraft Departures	
Year	Enplaned Passengers	Annual	Daily
1975	185,055	4,125	11.3
1980	228,641	4,656	12.8
1985	263,081	7,034	19.3
1986	331,530	7,662	21.0
1987	380,560	7,628	20.9
1988	362,334	7,434	20.4
1989	348,335	6,872	21.6
1990	401,734	9,305	25.5
1991	373,163	8,177	22.4
1992	401,882	8,624	23.6
1993	329,950	6,748	18.5
1994	386,558	7,022	19.2
1995	389,640	7,165	19.6
1996	396,131	7,014	19.2
1997	427,481	6,601	18.1

Sources: 1975 - 1991: FAA Terminal Area Forecasts Demographic Data.
1992 - 1997: Pensacola Regional Airport Traffic Reports.
RS&H Team.

Table 2.7 Historical Enplaned Passengers and Annual Aircraft Departures
Commuter Passengers and Operations, 1980-1997
Pensacola Regional Airport - Master Plan Update

		Aircraft Departures	
Year	Enplaned Passengers	Annual	Daily
1980	28,886	2,570	7.2
1985	25,504	6,614	18.6
1986	22,194	5,710	16.0
1987	26,741	4,525	12.7
1988	37,060	4,821	13.5
1989	34,716	4,179	11.7
1990	43,330	5,302	14.9
1991	67,621	6,964	19.6
1992	65,572	9,287	26.1
1993	102,898	11,732	33.0
1994	154,455	15,021	42.2
1995	181,099	17,837	50.1
1996	146,719	13,887	39.0
1997	136,754	12,673	35.6

Sources: 1975 - 1991: FAA Terminal Area Forecast Demographic Data.
1992 - 1997: Pensacola Regional Airport Traffic Reports.
RS&H Team.

Table 2.8 Historical Enplaned Commercial and Commuter Passengers, 1975-1997
Pensacola Regional Airport - Master Plan Update

Year	Total Enplanements	Commercial Percentage of Total Enplanements	Commuter Percentage of Total Enplanements	Average Annual Commercial Growth Rate	Average Annual Commuter Growth Rate	Total Growth
1975	185,055	100.00%	-----	-----	-----	-----
1980	257,527	88.78%	11.22%	-----	4.32%	6.83%
1985	288,585	91.16%	8.84%	2.85%	-2.52%	2.30%
1986	353,724	93.73%	6.27%	26.02%	-12.98%	22.57%
1987	407,301	93.43%	6.57%	14.79%	20.49%	15.15%
1988	399,394	90.72%	9.28%	-4.79%	38.59%	-1.94%
1989	383,051	90.94%	9.06%	-3.86%	-6.32%	-4.09%
1990	445,064	90.26%	9.74%	15.33%	24.81%	16.19%
1991	440,784	84.66%	15.34%	-7.11%	56.06%	-0.96%
1992	467,454	85.97%	14.03%	7.70%	-3.03%	6.05%
1993	432,848	76.23%	23.77%	-17.90%	56.92%	-7.40%
1994	541,013	71.45%	28.55%	17.16%	50.10%	24.99%
1995	570,739	68.27%	31.73%	0.80%	17.25%	5.49%
1996	542,850	72.97%	27.03%	1.67%	-18.98%	-4.89%
1997	564,235	75.76%	24.24%	7.91%	-6.79%	3.94%

Sources: 1975 - 1991: FAA Terminal Area Forecast Demographic Data.
1992 - 1997: Pensacola Regional Airport Traffic Reports.
RS&H Team.

Figure 2.3 presents the enplanement data graphically. The increase in the rate of growth between commercial carriers and commuter airlines is apparent. While it reflects a widening market share until 1995, it also shows the stabilization of the percentages between commercial and commuter air carriers in the last two years. The percentages reflected in this graphic, approximately 75 percent market share for air carriers and 25 percent for commuter airlines, are expected to continue into the next century.

2.3.2 Forecast Passenger Enplanements

The PNS forecast model reflected a forecasted increase of 4.2 percent in total annual enplanements. Compared to historical growth for the period 1990 through 1997, PNS averaged a 4.96 percent annual increase while the national average was 4.78 percent. During 1997, national annual enplanements increased 3.4 percent while PNS's annual rate of increase was 3.94 percent. Nationally, the FAA is

Figure 2.3
Pensacola Regional Airport
Historical Enplanements (1975 - 1997)

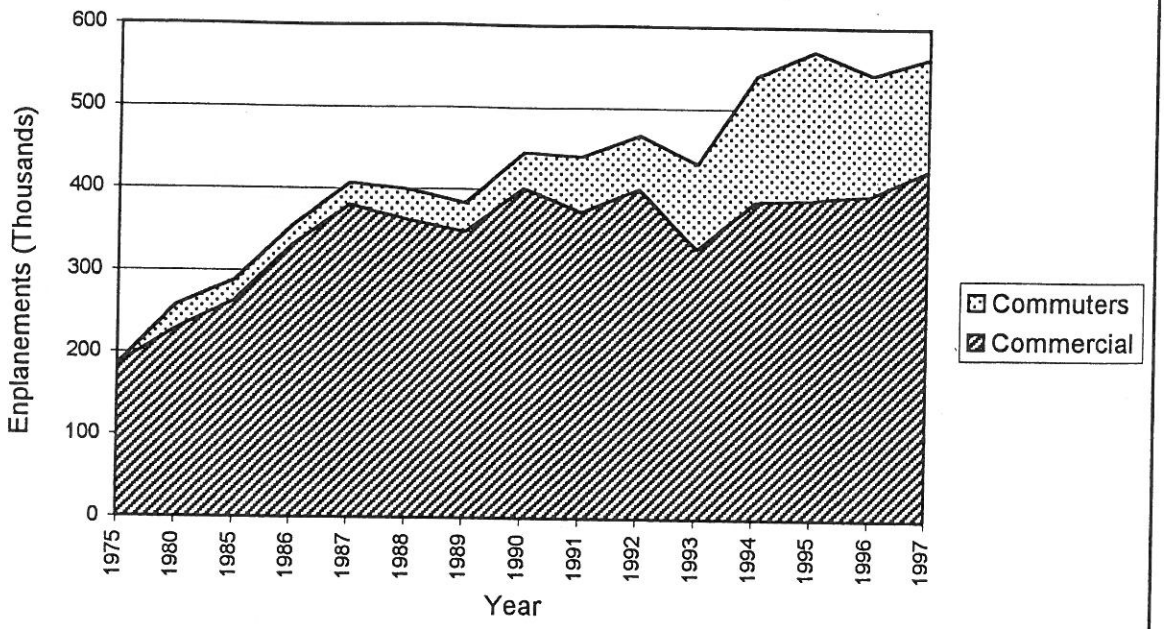
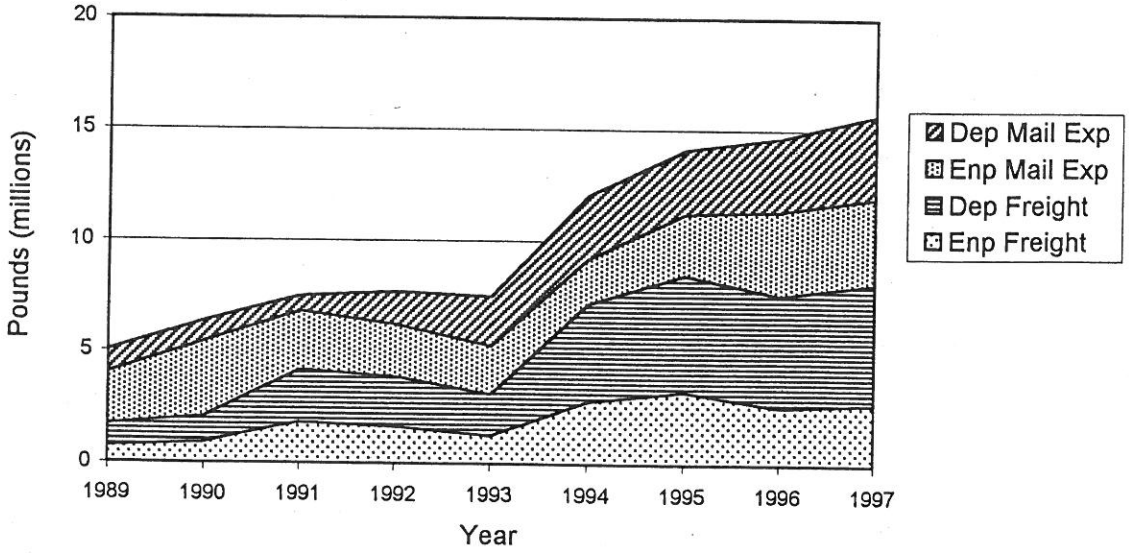


Figure 2.4
Pensacola Regional Airport
Historical Air Cargo Acitivity
(1989 - 1997)



forecasting a 3.5 percent in enplanements during its 12-year planning period. Therefore, the 4.2 percent annual growth rate developed by the model is considered reasonable.

While the commercial portion of enplanements declined through the first four years of the decade, it has increased during the last four years, accounting for 75.76 percent of the traffic in 1997. The commuter portion of PNS enplanements increased during the years 1993 to 1995. However, this figure has decreased during the past two years. In 1997, the commuter airlines carried 24.24 percent of the available passengers at PNS. Nationally, the FAA reported commuter traffic increased 3.0 percent in 1997; however, the Regional Airline Association estimates that this number is understated by 1.5 percent to 2.0 percent due to incomplete reporting. The FAA did not enforce the regulation requiring commuters to report traffic on Department of Transportation (DOT) Form 298-C until the fourth quarter of 1996.

Considering historical trends, 1997 data and forecasts, the annual 4.2 percent increase is applied equally to major air carriers and commuters to arrive at forecasted enplanement levels as presented at the end of this section.

2.4 AIRCRAFT OPERATIONS - ITINERANT

2.4.1 Air Carrier Operations. Since the beginning of the decade, with three exceptions, the number of annual air carrier operations has been decreasing from 18,610 in 1990 to 13,202 in 1997. This represents a decrease of 40 percent at PNS for this period. However, the annual rate of decrease has slowed over the past three years to 2.62 percent. The FAA has forecast an average annual increase of 2.6 percent per year in air carrier operations. Given the above factors, a forecast of "flat" growth for the period 1998 to 2000 is predicted. From 2001 to 2020, a 2.0 percent annual increase in operations is projected.

2.4.2 Commuter Operations. Commuter operations increased dramatically from 1990 through 1995, reaching a peak of 35,674 annual itinerant operations. This represented an average annual increase of 39.4 percent. However, since 1995, annual operations have decreased 28.9 percent to 25,436 in 1997. A significant factor in long-term planning, when considering commuter airline operations, is the integration of the larger regional jets into commuter fleets. As a result of this factor, the FAA is forecasting an average annual increase of 2.2 percent during the next 12-year period in capacity. Therefore, similar to the major airlines, a flat growth rate is projected for commuter airlines, from 1998 to 2000. An annual 2.0 percent per year increase in operations has been forecast for the period from 2001 to 2020.

2.4.3 General Aviation Operations. From 1985 through 1995, annual general aviation operations at PNS have decreased from 44,105 to a low of 30,483. During 1996 and 1997, annual general aviation operations increased 10.15 percent and 8.69 percent, respectively. The main factor affecting this segment of the industry has been the passage by Congress of the General Aviation Revitalization Act of 1994. Nationally, annual itinerant general aviation operations increased 3.5 percent. It is anticipated that a moderate growth in this sector will continue. The FAA is forecasting annual growth rates from 1.4 percent for single-engine piston aircraft to 0.6 percent for multiengine aircraft. Considering the past two years, PNS should experience a rate of growth above the national average. For the next five years, it is forecasted that this segment of the industry will increase 2.5 percent at PNS. For the remainder of the forecast period, a growth rate of 1.5 percent is expected.

Since the General Aviation Revitalization Act of 1994, there has been increased interest in this segment of the aviation industry. In the first three quarters of 1997, manufacturers shipped 954 aircraft, which was a 30.7 percent increase over the same period of 1996. Also in 1997, general aviation operations at PNS increased for the first time in seven years. Most of the aircraft operations increase can be directly related to local operations, which were up 4.2 percent.

2.4.4 Military Operations. As addressed previously in the text, a stabilization of the growth rate in military operations is expected. Therefore, no growth has been forecast for this segment of the industry.

2.5 AIRCRAFT OPERATIONS - LOCAL

As with general aviation annual itinerant operations, annual local operations have decreased from the 1985 level to a low of 16,562 in 1995. For the same reasons, annual general aviation local operations have increased during the past two years, 31.76 percent and 11.5 percent, respectively. Local operations increased 4.2 percent on a national basis in 1997. Considering these facts, local annual general aviation operations are forecasted at an annual 4.0 percent growth rate for the next five years, returning to a rate of 2.0 percent for the remainder of the planning period.

2.6 TOTAL OPERATIONS

Overall, total aircraft operations at PNS are forecasted to grow from 127,055 in 1998 to 178,775 in 2020, as presented at the end of this section. This represents an average annual growth of 1.56 percent per year.

2.7 BASED AIRCRAFT

Based general aviation aircraft has not changed significantly since 1985. The FAA forecast reflects no change for the period. However, considering the recent uptrend in the industry due to the General Aviation Revitalization Act of 1994 and the expansion of general aviation facilities at PNS by 20 hangars,

additional aircraft parking apron and with the capacity to further expand this area, it has forecast a 15-percent increase in single-engine and multiengine aircraft for 1998, with continuing 2.5 percent annual growth rate for the next five years and 1.5 percent thereafter. The results of this forecast project a total of 189 based aircraft in the year 2020 as presented at the end of this section.

2.8 AIR CARGO

Air cargo activity has grown significantly over the past few years at PNS. Since 1989, air cargo has increased an average of 23.64 percent per year. During the last three years, the air cargo growth rate is still strong at an average of 9.24 percent. This is well above industry forecasts, which range from 6.7 percent to 7.9 percent. Even at the slower rate of increase, PNS air cargo business is growing faster than comparative forecasts, which are roughly 7.3 percent. Since the rate of annual growth at PNS has slowed recently, an average of 7.34 percent is used to forecast air cargo growth at PNS.

Currently, air cargo arrives at PNS either through Airborne, Mid-Atlantic cargo aircraft, or in the belly of passenger aircraft. Neither FedEx or UPS have facilities on the Airport. Air cargo and express mail could be a growth area for the future of PNS.

Table 2.9 Historical Air Cargo Activity, 1989 - 1997
Pensacola Regional Airport - Master Plan Update

Year	Enplaned Freight	Deplaned Freight	Enplaned Mail/Express	Deplaned Mail/Express	Total Freight/Mail
1989	723,417	993,189	2,299,714	999,311	5,015,631
1990	928,668	1,163,802	3,345,089	928,768	6,366,327
1991	1,807,879	2,356,958	2,629,912	704,744	7,499,493
1992	1,612,881	2,261,581	2,348,635	1,450,843	7,673,940
1993	1,249,784	1,842,669	2,161,181	2,220,146	7,473,780
1994	2,767,074	4,401,989	2,055,486	2,854,064	12,078,613
1995	3,234,891	5,253,034	2,758,930	2,849,084	14,095,939
1996	2,555,188	5,028,976	3,815,912	3,240,402	14,640,478
1997	2,726,995	5,389,014	3,886,058	3,686,245	15,688,312

Source: Pensacola Regional Airport.
Note: Activity expressed in pounds.

Figure 2.4 (see page 2-14) graphically depicts the information presented in Table 2.9. The total cargo activity represents a 214 percent increase since 1989.

2.9 ANNUAL INSTRUMENT APPROACHES

Annual instrument approaches have been steadily increasing at PNS since 1977 to a high of 6,476 in 1994. However, in 1996 annual instrument approaches decreased to 5,509. Most instrument approaches are made by either airline pilots or military pilots. The FAA is forecasting an annual instrument approach growth rate of 0.87 percent Given the moderate growth rate in airline operations, coupled with the flat growth rate in military operations, a forecast increase of 0.87 percent was used for the planning period.

2.10 PEAK PERIOD PLANNING FORECASTS

Table 2.10 presents peak-period planning forecasts of aviation demand at PNS. The peak-month percentage of the year is indicated in parentheses on each forecast line. The average day, peak-hour percentages are also indicated on each line. Peak months varied by segment. The average day factor is derived by dividing the peak-month data by the number of days in the month.

All peak-month and peak-hour percentages are forecasted as constant through 2020. It is recognized that the peak-period percentages could be expected to decline slightly as traffic volume increases. However, there is no clear trend to indicate any decline.

Figure 2.5 graphically illustrates the hourly aircraft operations peaking characteristics at PNS. This chart was derived from tower counts furnished by the Pensacola FAA ATCT. It includes all operations at the Airport. The chart indicates a peak level of activity between 11:00 a.m. and 12:00 p.m. on a normal day. Each segment, major air carriers, commuters, general aviation and military traffic were individually analyzed to determine its peaking characteristics. From this analyses, the percentages in Table 2.10 were derived.

Figure 2.6 presents the enplanement data from Table 2.10 in another format. This line graph is useful for determining frequencies of distribution of air carrier operations at PNS. The trend lines reflect five years combined enplanement data from 1993 to 1997. The peaks and valleys in airport usage are evident in this chart. Enplanements at PNS traditionally peak during the late summer months of July and August. Months in which the lowest number of passengers enplane at PNS include January and February.

Enplanements are one of the most important measures of aviation activity at PNS. The FAA provides funds for capital improvements through the Airport Improvement Program (AIP) based on an airport's enplanement level.

Figure 2.5
Pensacola Regional Airport
Operations Distribution (Hourly)

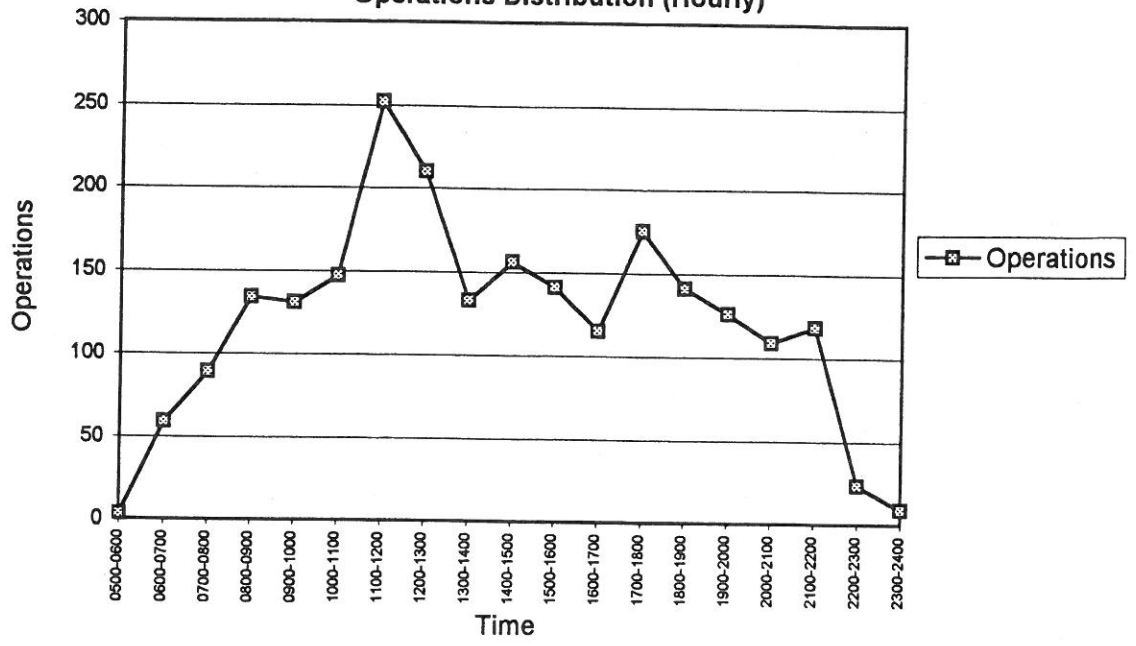
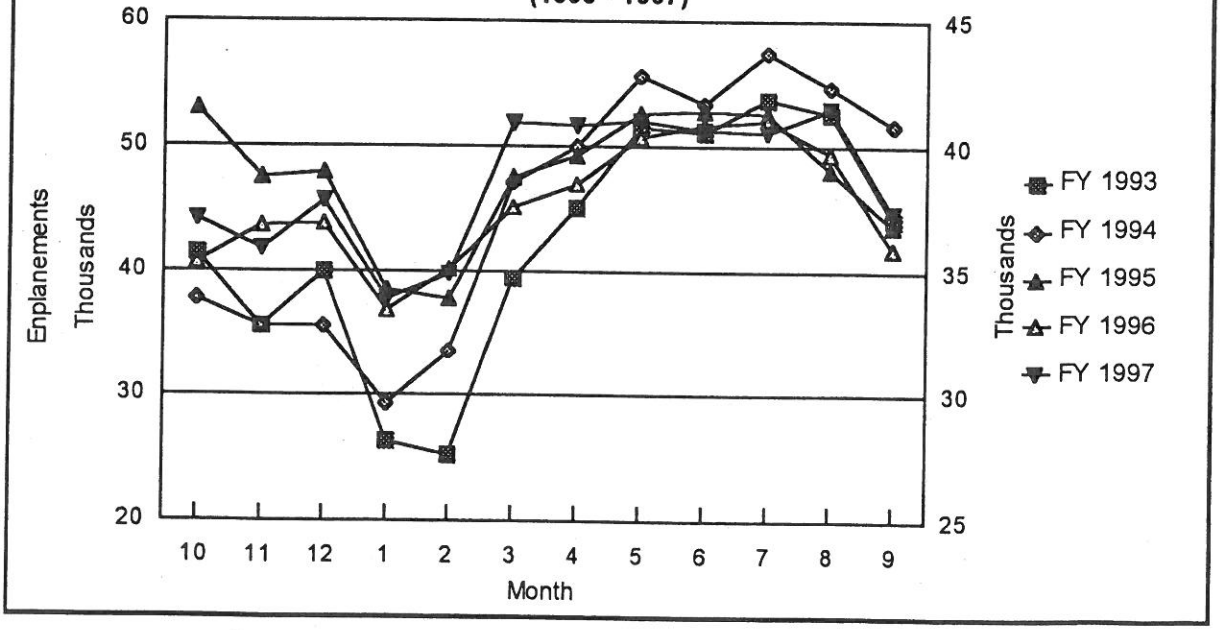


Figure 2.6
Pensacola Regional Airport
Passenger Enplanements Monthly
(1993 - 1997)



2.11 REVIEW OF EXISTING FORECASTS

Several aviation activity forecasts have been previously developed for PNS. These forecasts have been established by the Florida Department of Transportation (FDOT) and the FAA.

2.11.1 Florida Aviation System Plan (FASP). The FDOT *1992-2010 Florida Aviation System Plan* developed aviation activity forecasts for the state's commercial service, general aviation and reliever airports. Several sets of forecasts for the period from 1993 to 2010 were developed for PNS. These forecasts are summarized in Table 2.11. Annual passenger enplanements were projected to increase from approximately 435,000 in 1990 to over 630,600 in 2010, for an average annual growth rate of 1.9 percent. Enplaned air cargo shipments were projected to increase from approximately 2,800 tons in 1990 to over 3,700 in 2010, for an average annual growth rate of 1.4 percent. Annual aircraft operations were projected to increase from approximately 146,000 in 1990 to over 226,500 in 2010, for an average annual growth rate of 2.2 percent. General aviation operations were projected to increase 105 percent during this period, for an average annual growth rate of 3.6 percent. Based aircraft activity were projected to increase from 114 in 1990 to 150 in 2010, for an average annual growth rate of 1.4 percent.

2.11.2 FAA Terminal Area Forecasts (TAF). The 1998 Federal Aviation Administration's *Terminal Area Forecasts (TAF)* contain historical and forecast data for NPIAS airports. Several sets of forecasts for the period of 1990 to 2015 have been developed for PNS. These forecasts are summarized in Table 2.12. Annual passenger enplanements were projected to increase from approximately 434,000 in 1990 to over 1,135,700 in 2015. Passenger forecasts have an average annual growth rate of 5.1 percent. Annual aircraft operations decreased from 146,362 in 1990 to 119,795 in 1995, due to a reduction in general aviation and military aircraft operations. From 1995 to 2015, annual aircraft operations are projected to increase at an average annual growth rate of 1.4 percent, for a total of approximately 153,000 operations in 2015. During this period, annual air carrier and air taxi aircraft operations were projected to increase, whereas annual general aviation operations were projected to slightly decrease. No growth is projected in annual military aircraft operations. Total based aircraft activity peaked at 113 between 1994 and 1996, and no change in this activity level is projected through 2015.

Table 2.10 **Peak Period Characteristics, 1997 - 2020**
Pensacola Regional Airport - Master Plan Update

	Year (Historical)		Year (Forecast)		
	1997	1998	2005	2010	2020
Enplaned Passengers					
Peak Month	52,925	55,169	74,167	86,035	98,372
Average Day, Peak Month	1,707	1,780	2,392	2,776	4,083
Peak Hour	190	198	265	308	454
Total Peak-Hour Passengers (Enplaned and Deplaned)	356	371	499	579	854
Airline Aircraft Departures					
Peak Month	1,661	1,661	1,837	2,032	2,458
Average Day, Peak Month	54	54	59	66	80
Peak Hour	8	8	9	9	11
Total Peak-Hour Airline Aircraft Movements (Departures plus Arrivals)	11	11	12	14	17
Aircraft Operations					
Air Carrier					
Peak Month	1,163	1,163	1,286	1,423	1,721
Average Day, Peak Month	38	38	42	46	56
Peak Hour	4	4	4	5	6
Commuter and Air Taxi					
Peak Month	2,192	2,192	2,424	2,681	3,243
Average Day, Peak Month	71	71	78	87	105
Peak Hour	8	8	8	9	11
General Aviation					
Peak Month	5,772	5,951	7,085	7,724	9,105
Average Day, Peak Month	186	192	229	249	294
Peak Hour	25	26	30	33	39
Military					
Peak Month	2,520	2,520	2,520	2,520	2,520
Average Day, Peak Month	81	81	81	81	81
Peak Hour	13	13	13	13	13
TOTAL PEAK-HOUR AIRCRAFT OPERATIONS	51	52	55	60	69

Source: RS&H Team.

Table 2.11 **Florida Aviation System Plan, Aviation Forecasts for PNS, 1992-2010**
Pensacola Regional Airport - Master Plan Update

	Year (Historical)		Year (Forecast)		
Annual Activity	**1990**	**1995**	**2000**	**2005**	**2010**
Enplanements	435,010	520,433	572,637	603,142	633,647
Enplaned Air Cargo Tonnage	2,829	3,147	3,584	3,666	3,748
Aircraft Operations					
Air Carrier Operations	28,728	35,232	32,701	32,401	32,100
Air Cargo Operations	394	438	499	510	522
Total GA Operations	73,800	120,000	131,000	141,000	151,000
Military Operations	42,961	42,961	42,961	42,961	42,961
Total Aircraft Operations	145,883	198,631	207,161	216,872	226,583
GA Based Aircraft					
Single-Engine	78	82	86	93	99
Multiengine	35	39	43	47	50
Turbine Engine	1	1	1	1	1
Rotorcraft	0	0	0	0	0
Total GA Based Aircraft	114	122	130	141	150

Source: Florida Department of Transportation.
Note: GA is General Aviation

Table 2.12 FAA Terminal Area Forecasts (TAF) for Pensacola Regional Airport
Pensacola Regional Airport - Master Plan Update

	Year (Historical)		Year (Forecast)			
Annual Activity	1990	1995	2000	2005	2010	2015
Aircraft Operations						
Air Carrier Operations	18,610	14,330	13,871	15,673	17,687	19,563
Air Taxi Operations	10,604	35,674	26,813	29,903	32,875	35,277
GA Local Operations	36,112	16,562	26,234	27,496	28,642	29,607
GA Itinerant Operations	36,818	30,483	36,687	38,856	40,879	42,603
Total GA Operations	72,930	47,045	62,921	66,352	69,521	72,210
Military Local Operations	23,538	5,734	7,066	7,066	7,066	7,066
Military Itinerant Operations	20,680	17,012	18,728	18,728	18,728	18,728
Total Military Operations	44,218	22,746	25,714	25,714	25,714	25,714
Total Aircraft Operations	146,362	119,795	129,399	137,922	145,877	152,844
Enplanements	433,766	563,788	644,435	796,749	967,706	1,135,723
GA Based Aircraft						
Single-Engine	73	75	75	75	75	75
Multiengine	36	36	36	36	36	36
Turbine Engine	1	2	2	2	2	2
Rotorcraft	0	0	0	0	0	0
Total GA Based Aircraft	110	113	113	113	113	113

Source: Federal Aviation Administration TAF, 1998.
Note: GA is General Aviation

2.12 CONSOLIDATED AVIATION DEMAND FORECASTS

Table 2.13 presents a consolidated listing of the aviation demand forecasts at PNS. Figures 2.7 and 2.8 depict a comparison of the predicted forecasts of Annual Aircraft Operations and Annual Passenger Enplanements at PNS to forecasts provided in the FASP and FAA TAF. As shown, the growth rates are considered reasonable when local growth rates, socioeconomic forecasts and national data are considered.

Figure 2.7
Pensacola Regional Airport
Demand Forecasts

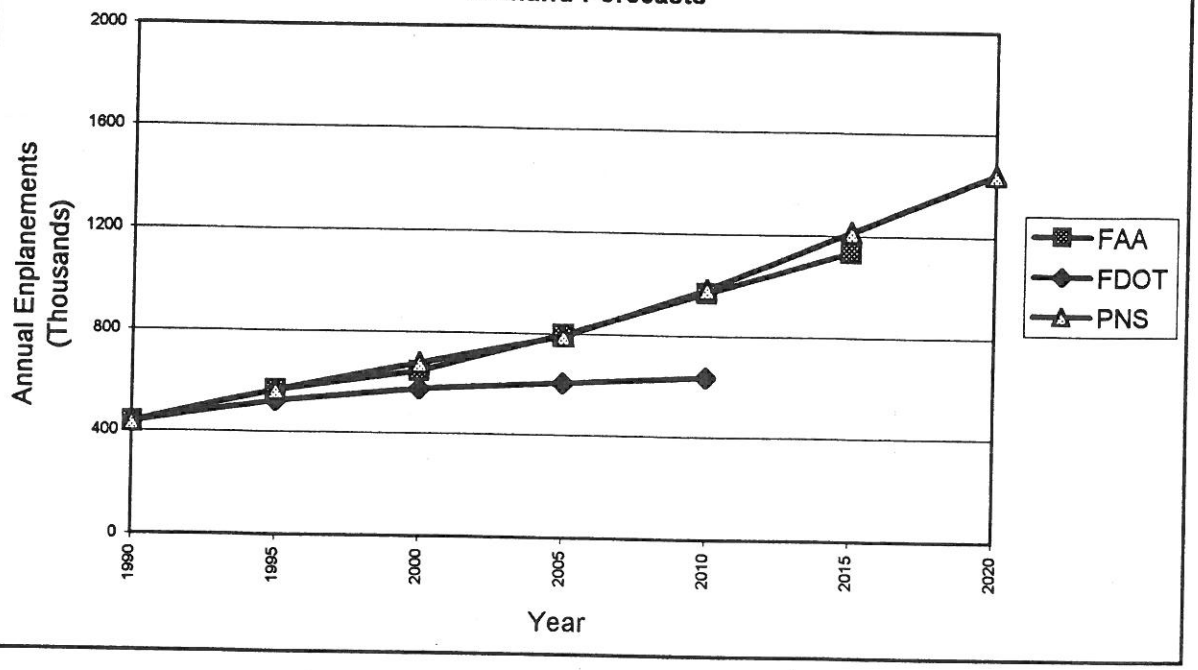


Figure 2.8
Pensacola Regional Airport
Demand Forecasts

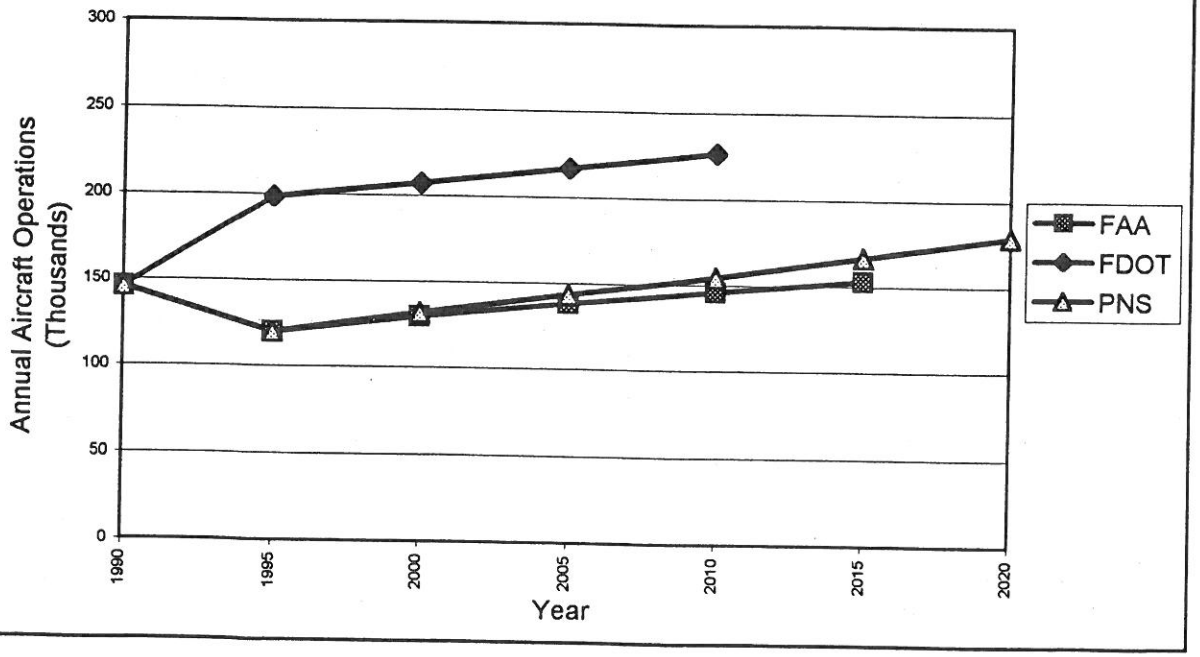


Table 2.13 Consolidated Aviation Demand Forecasts, 1997 - 2020
Pensacola Regional Airport - Master Plan Update

	Year (Historical)	Year (Forecast)		
	1997	2005	2010	2020
Enplaned Passengers				
Air Carrier	427,481	599,055	744,478	1,091,934
Commuter	136,754	191,641	238,164	349,317
Total Enplanements	564,235	790,696	982,642	1,441,251
Freight (pounds)	8,116,009	14,524,278	21,335,739	39,566,024
Mail/Express (pounds)	7,572,303	13,551,271	20,306,419	39,315,425
Total Cargo (pounds)	15,688,312	28,075,549	41,642,158	78,881,449
Based General Aviation (GA) Aircraft				
Single Engine	75	102	113	126
Multiengine	36	48	54	62
Jet Engine	2	2	2	2
Total Based GA Aircraft	113	153	168	189
Annual Aircraft Operations				
Air Carrier	13,202	14,593	16,146	19,534
Air Taxi/Commuter	25,366	28,017	30,998	37,501
General Aviation	60,827	74,658	81,397	95,947
Military	25,794	25,794	25,794	25,794
Total Operations	125,169	143,062	154,334	178,775
Peak Hour Operations	51	55	60	69
Instrument Approaches	5,556	5,956	6,222	6,775

Source: RS&H Team.

2.13 STRATEGIC PLANNING ACTIVITY LEVELS

In addition to the traditional aviation demand forecasts, SPALs were developed. SPALs will allow the Airport and City staff to make strategic demand-driven decisions for facility and operational improvements and expansion based upon actual activity rather than on calendar year forecasted levels of activity, as presented in traditional airport master plans. SPALs represent increasing levels of activity that trigger the need for action. The use of SPALs permit airport staff to develop the airport as it is needed based upon the actual aviation activity that evolves in the future rather than trying improvements in each calendar year.

Six SPAL triggers were identified as indicated below. The actual activity levels were determined in Section 3 and are also provided below.

- SPAL 1: Existing Airfield Capacity – 77 VFR operations per hour.
- SPAL 2: Airfield Capacity with Parallel GA Runway – 145 VFR operations per hour.
- SPAL 3: Existing Terminal Building Capacity with 1998 Expansion – 800,000 annual passenger enplanements.
- SPAL 4: Wide Body Aircraft – Daily wide-body aircraft operations.
- SPAL 5: Air Cargo Capacity – Two all-cargo or express package carriers, or 10,000 tons annual cargo.
- SPAL 6: Commerce Park Demand – Major aviation related industrial land request.