Chapter 1

INTRODUCTION

BACKGROUND

In March 1985, Dade County initiated a study to prepare an Aviation System Plan. The overall objective of the Plan is to provide a system of airports that will serve the aviation needs of Dade County through the year 2015.

The study was initiated, in part, to meet the recommendations of a special team appointed by Governor Bob Graham. The team's recommendations were published in 1983, and they include a number of actions to be taken to plan for the future of aviation in southeast Florida. This report addresses the following team recommendations:

- Meet aviation facility needs until the year 2000 by the full utilization of existing facilities.
- Meet facility needs between 2000 and 2020 by maximizing the utilization of all existing commercial facilities in Dade, Broward, and Palm Beach Counties (this report deals only with Dade County). If necessary, expand the boundaries at existing facilities.
- Explore the potential use of Homestead Air Force Base.
- Explore land banking of sites.

PARTICIPANTS IN THE STUDY

The Aviation System Plan study was structured to provide full, balanced participation by (1) County staff and consultants, (2) the Florida Department of Transportation, (3) the Federal Aviation Administration (FAA), (4) general aviation and air carrier airline groups, (5) citizen and business interest groups, and (6) public officials.

The preparation of the Aviation System Plan was coordinated jointly by the Dade County Aviation and Planning Departments. The Dade County Planning Department (DCPD) served as the lead agency for the coordination of County staff, consultants, and community participation and conducted community compatibility and economic impact studies. The Dade County Aviation

Department (DCAD) conducted technical studies related to the operation of its airports and contributed information on airport improvements that were considered in the past. The Dade County Department of Environmental Resources Management conducted environmental studies.

A Steering Committee was established to provide coordination and technical participation in the preparation of the Plan. Members of the Committee included the Assistant County Manager; the Directors of the Departments of Aviation, Planning, and Environmental Resources Management; and a representative of the Majority-In-Interest Airlines at Miami International Airport. Representatives of the Florida Department of Transportation and the FAA served as ex-officio members of the Committee.

Peat Marwick was retained to serve as the principal consultant on the study and was responsible for reviewing existing technical information, plans, and programs; conducting aviation analyses; preparing a set of proposed recommendations; and preparing study reports.

An Advisory Council composed of representatives of the aviation industry, chambers of commerce, community associations, and environmental organizations was formed to review and comment on the planning approach and the task reports prior to their completion. The Council, appointed by the County Manager, advised the study team and the County Manager on preparation of the Plan. The comments and recommendations of the Advisory Council were also made available to the County Commissioners for their consideration of the final Plan.

At the start and completion of the project, public meetings were held in the north and south part of the County to obtain comments on the study scope and results.

The Board of County Commissioners was apprised of the progress of the study through its Transportation Committee. The Board will be requested to adopt the completed report in a manner similar to the adoption of the Transportation Master Plan for Dade County.

RELATIONSHIP OF THE DADE COUNTY AVIATION SYSTEM PLAN TO THE SOUTH FLORIDA REGIONAL METROPOLITAN SYSTEM PLAN

The Dade County Aviation System Plan was prepared in parallel with an aviation system plan for the four-county South Florida region. The South Florida Metropolitan Aviation System Plan is concerned with developing an overall aviation system plan for the airports in Palm Beach, Broward, Dade, and Monroe Counties. Through the steering committees of both studies, the planning elements in the Dade County Plan were coordinated with those of the regional study.

Forecasts of aviation demand in Dade County were made in coordination with forecasts for the region and for the airports in Palm Beach and Broward Counties. The analyses presented in this report reflect the impact of demand from Broward and Palm Beach Counties on Dade County.

RELATIONSHIP OF THE DADE COUNTY AVIATION SYSTEM PLAN TO THE DADE COUNTY COMPREHENSIVE DEVELOPMENT MASTER PLAN

The Aviation System Plan will be incorporated into the Dade County Comprehensive Development Master Plan (CDMP). The Local Government Comprehensive Planning and Land Development Regulation Act requires that Dade County's CDMP contain a (Port and) Aviation Element. This element will be based on the findings and recommendations of the System Plan. The Aviation Element will be part of the CDMP Update scheduled to be adopted by the Board of County Commissioners in late November, 1988.

TASK REPORTS

The study consists of ten tasks documented in the following reports:

Task 1:	"Goal, Objectives, Issues, & Criteria," October 1985.
Task 2:	"Aviation System Inventory," November 1985.
Task 3:	"Forecast of Aviation Demand," February 1986.
Tasks 4 and 5:	"Aviation System Capacity and Requirements," May 1987.

Task 6:	"Evaluation of Alternatives, Part 1: Air Carrier Airports," June 1988.
	"Evaluation of Alternatives, Part 2, General Aviation Airports," June 1988.
Tasks 7 and 8:	"Selection and Implementation of an Aviation System," June 1988.
Task 9:	Project Administration (report not required)
Task 10:	"Forecast of Helicopter Activity, Dade County Aviation System Plan," June 1988.

Chapter 2

GOAL AND OBJECTIVES

This chapter describes the overall goal of the Dade County Aviation System Plan (DCASP) and the framework within which alternative systems were evaluated.

GOAL

The overall goal of the DCASP is to ensure the provision of an economic, integrated, environmentally and community sensitive, and balanced system of air transportation facilities and services to move passengers and cargo effectively and efficiently; to accommodate and encourage all types of general aviation activity, including business, commercial, instructional, and personal activity; and to enhance the economy and the quality of life in the County and region. This statement was derived from the County's overall transportation goal.

OBJECTIVES

Objectives were drawn from the overall goal and are intended to identify all of the factors that should be considered in comparing plan alternatives. Each objective is stated in terms of a desired outcome of the final selected plan.

The evaluation criteria are specific measures or indicators that were used to provide quantitative or qualitative information related to the objectives and the issues for each alternative.

The ten objectives discussed below were established for the Dade County Aviation System.

Accommodate Aviation Demand

Accommodating future Dade County aviation demand within rather than outside of County would benefit Dade's air travelers, cargo shippers, and general aviation operators. In addition, accommodating all aviation demand within the County would provide maximum benefits in terms of jobs and other economic impacts. Although accommodating all future demand in the

County could produce some negative impacts, one objective of the Aviation System should be to accommodate aviation demand to the maximum extent feasible.

Minimize Aircraft Delays and Airspace Interactions

Airspace and airfield delays within the Aviation System would be costly to users. Therefore, the Aviation System should provide airfield and airspace facilities and operating systems that minimize these costs and assure the safety of the users and the residents of Dade County.

Minimize Facility Improvement Costs

Facility improvements to airports and the airport access road system should be designed as efficiently as possible. Expenditures should be made only if they are justified in terms of other benefits to the System.

Minimize Airport and User Operating and Maintenance Costs

The costs of operating and maintaining the airports in the System would be related to the manner in which demand is accommodated and the quality and quantity of available facilities.

Minimize Airport Access Costs and Surface Transportation Congestion

Airport access costs are significant costs of operating the Aviation System. Users and others who travel to the System's airports would want their access trip to be as convenient as possible. In addition, airport access traffic should not significantly contribute to total surface transportation congestion.

Minimize Environmental Incompatibility

Aircraft noise, air and water quality related to airport operations, and other environmental concerns should be carefully considered in achieving the most desirable Aviation System.

Minimize Community Incompatibility

Airports should be developed and operated (to the maximum degree possible) to be compatible with the communities in their environs and with Dade County as a whole. Conflict between the airports and adjacent land uses should be avoided, and airports should not induce undesirable development or generate inordinate demands on the infrastructure. Also, communities should be developed and operated (to the maximum degree possible) to be compatible with the airports in their environs.

Maximize Support of Local and Regional Economic Growth

Airports provide valuable economic benefits to the local and regional economy. Future airport development should be planned so that the economic benefit to Dade County and its citizens is maximized.

Maximize Flexibility in the Development of the Aviation System

Alternative aviation systems may differ in their ability to react to future economic or aviation developments. The most desirable system, from this point of view, would allow future decision makers maximum flexibility to react to future conditions.

Maximize Feasibility of Implementation

All other factors being equal, the most desirable aviation system is the one that is the easiest to implement, in terms of organizational, financial, and environmental considerations.

Chapter 3

AVIATION SYSTEM INVENTORY

Exhibit A is a map showing the locations of airports in the DCASP.

MIAMI INTERNATIONAL AIRPORT

Miami International Airport (the Airport) is a 3,232-acre general transport airport located approximately nine miles west of downtown Miami. Exhibit B depicts the physical layout of the Airport. The Airport was originally developed in 1928 by Pan American World Airways and later expanded by the military. Dade County assumed responsibility for operation of the Airport in 1945.

Airfield

As shown in Exhibit B, the airfield has three runways:

Runway	Length x width (feet)	Condition
9L-27R	10,500 x 200	Good
9R-27L	13,000 x 150	Good
12-30	9,355 x 150	Good

The parallel runways, 9L-27R and 9R-27L, are separated by a distance of 5,100 feet. The taxiways are constructed of asphalt and in good condition.

Noise Abatement

Miami International Airport has an established noise abatement program. This program is outlined in a report dated May 31, 1984, titled "Day/Night Average Sound Level (Ldn) Contours Depicting Impacts of Non-FAR 36 Aircraft," prepared for the Dade County Aviation Department by Howard Needles Tammen & Bergendoff.

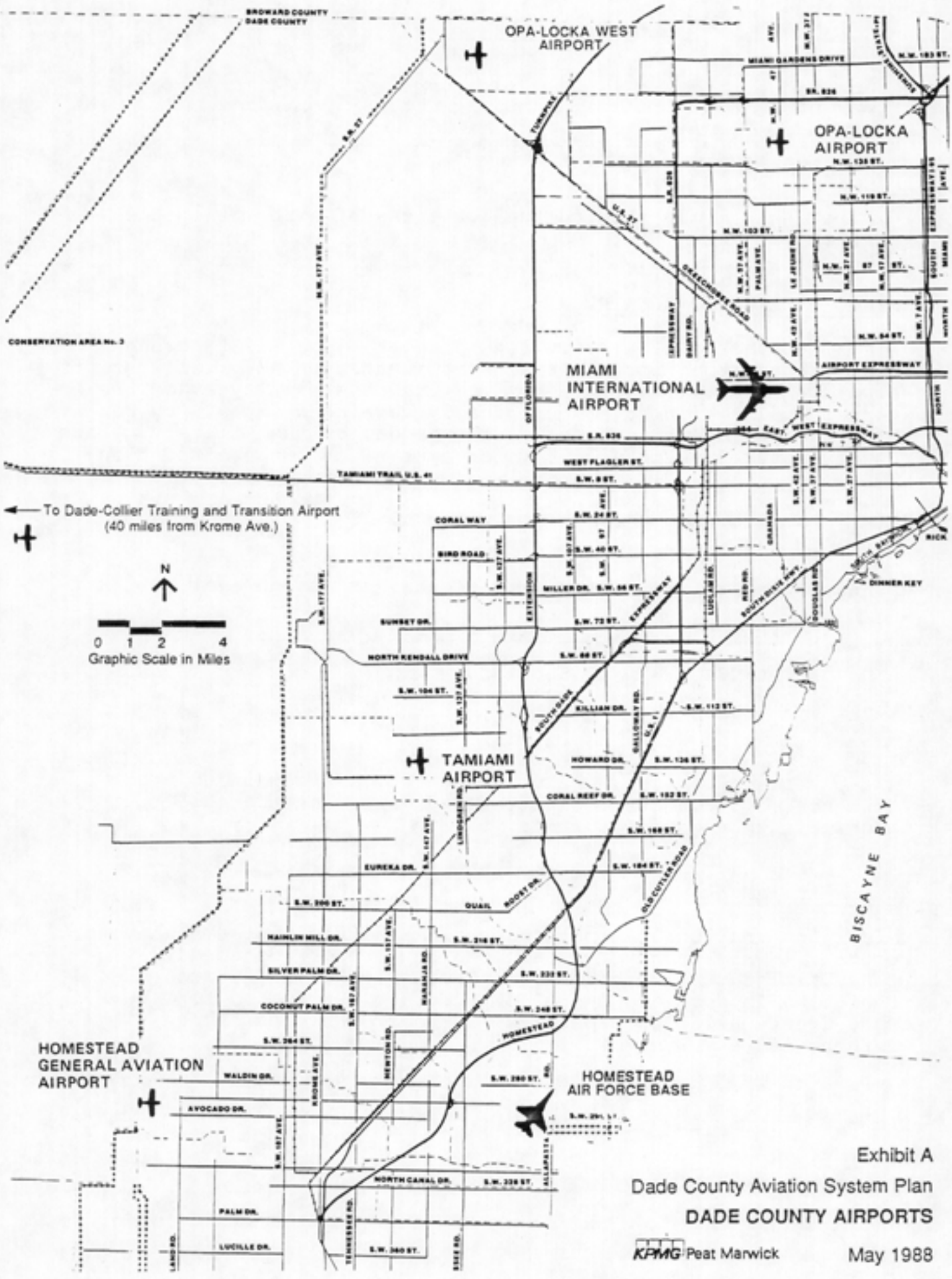


Exhibit A

Dade County Aviation System Plan

DADE COUNTY AIRPORTS

KPMG Peat Marwick

May 1988

Land Use

Existing Land Use. Miami International Airport is surrounded by four political jurisdictions: Miami, Miami Springs, Virginia Gardens, and unincorporated Dade County. With the exception of large vacant tracts of land west of the Palmetto Expressway and south of Dolphin Expressway, the urban areas surrounding the Airport are developed.

Proposed Land Use. The current and proposed updated Dade County Comprehensive Development Master Plan (CDMP), generally reflect the current pattern of development. Lands west of the Airport and north of SR 836 are generally designated for industrial and office development. A corridor of office/residential development is proposed along Doral Boulevard (NW 36/41 Street) in the updated plan. The Doral Country Club and associated residential developments are shown in the plans for residential and recreational activities.

Lands immediately east of the Airport to approximately NW 32 Avenue are proposed for business, industrial and office uses. The current plan shows the remaining area for medium density development (up to 13 dwellings per gross acre). The area west of NW 27 Avenue is shown in the proposed plan for low-medium density residential development and low density residential development (up to 6 dwelling units per gross acre). Medium density residential development (up to 25 dwellings per gross acre) is proposed for the area east of NW 27 Avenue.

North of the Airport, land uses planned for the City of Miami Springs reflect current development patterns and densities. Most of the area is proposed for low density residential development (up to six dwellings per acre). A business and office area is shown along NW 36 Street in the proposed plan.

Immediately south of the Airport, the areas around the lakes are shown for industrial and office uses in the current plan. This area in the proposed plan is shown for industrial and office uses; and office/residential development, business and office activities, high density residential development (up to 125 dwellings per acre). Lands further south reflect a mixture of maximum residential densities ranging from 6 to 25 dwellings per acre in both plans.

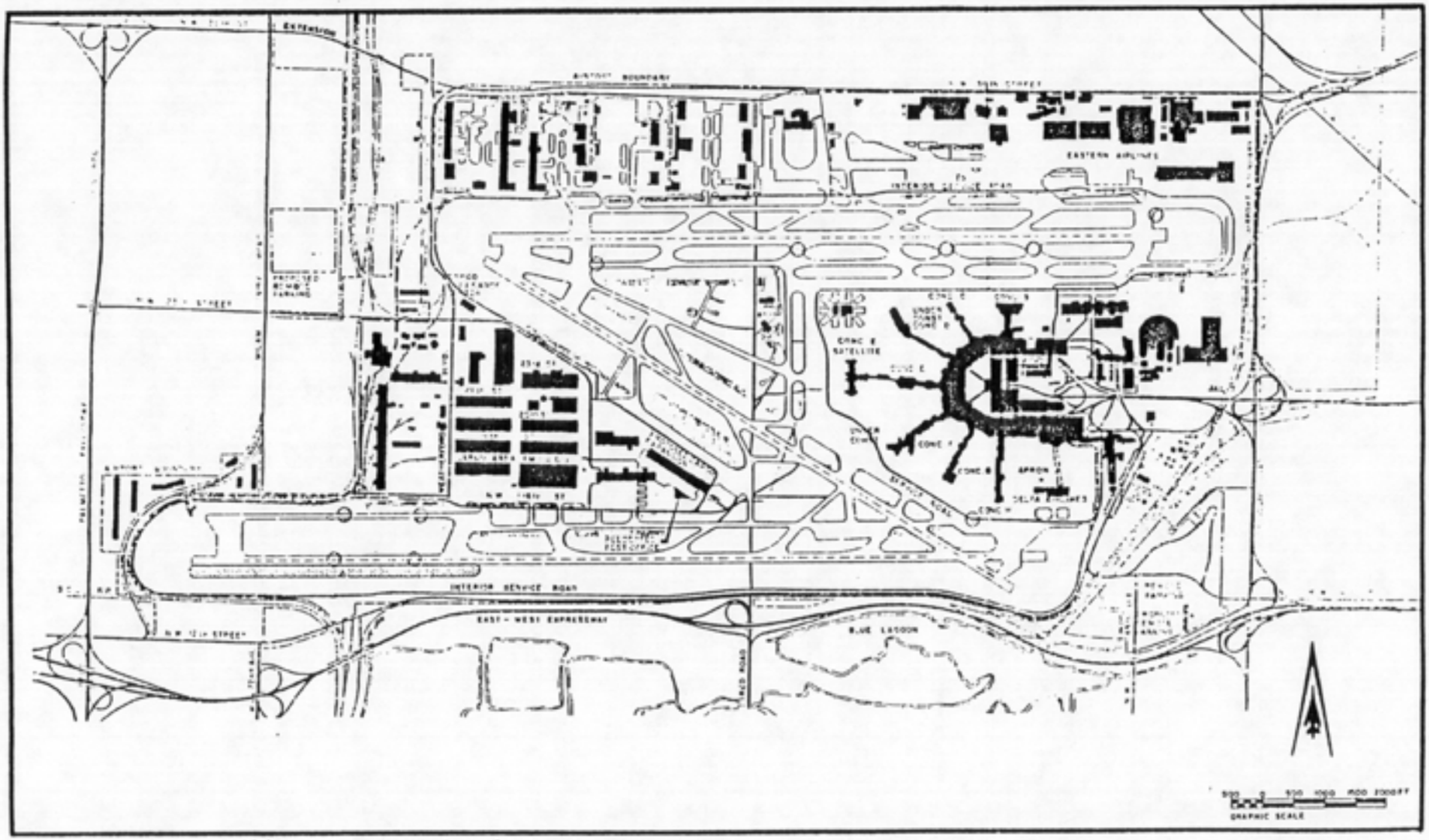


Exhibit B

Dade County Aviation System Plan

PHYSICAL LAYOUT
MIAMI INTERNATIONAL AIRPORT

KPMG Peat Marwick

May 1988

Source: Howard Needles Tammen & Bergendoff,
Conditions and Operations of Port Authority Properties,
Dade County Aviation Department, 1985 Annual Report.

DADE-COLLIER TRAINING AND TRANSITION AIRPORT

Dade-Collier Training and Transition Airport (Training and Transition) is a 24,560-acre general transport airport located 36 miles west of central Miami. As indicated by its name, Training and Transition opened in 1968 as an alternative facility to Miami International Airport for commercial airline flight training. Exhibit C depicts the physical layout of Training and Transition Airport, where there is no active air traffic control tower.

Airfield

As shown in Exhibit C, the airfield has one runway.

Runway	Length x width (feet)	Condition
9-27	10,500 x 150	Good

Land Use

Existing Land Use. A few isolated homes and an occasional commercial structure are located along U.S. Route 41. For the most part, the area has been undisturbed and remains part of the vast Everglades wetlands systems of South Florida. Much of the are around the airport is within the boundaries of the Big Cypress National Preserve.

Proposed Land Use. Most of the area will remain in its natural state as part of the Big Cypress National Preserve. The lands east of the airport are within the South Florida Water Management District's Conservation Area 3-A. As shown on the adopted and proposed updated Dade County Master Plan, this area is an environmental protection area and is not proposed for development.

HOMESTEAD GENERAL AVIATION AIRPORT

Homestead General Aviation Airport is a 960-acre general utility airport located 28 miles southwest of central Miami. Exhibit D depicts the physical layout of Homestead, which opened in the mid-1960s. There is no air traffic control tower at Homestead General Aviation Airport.

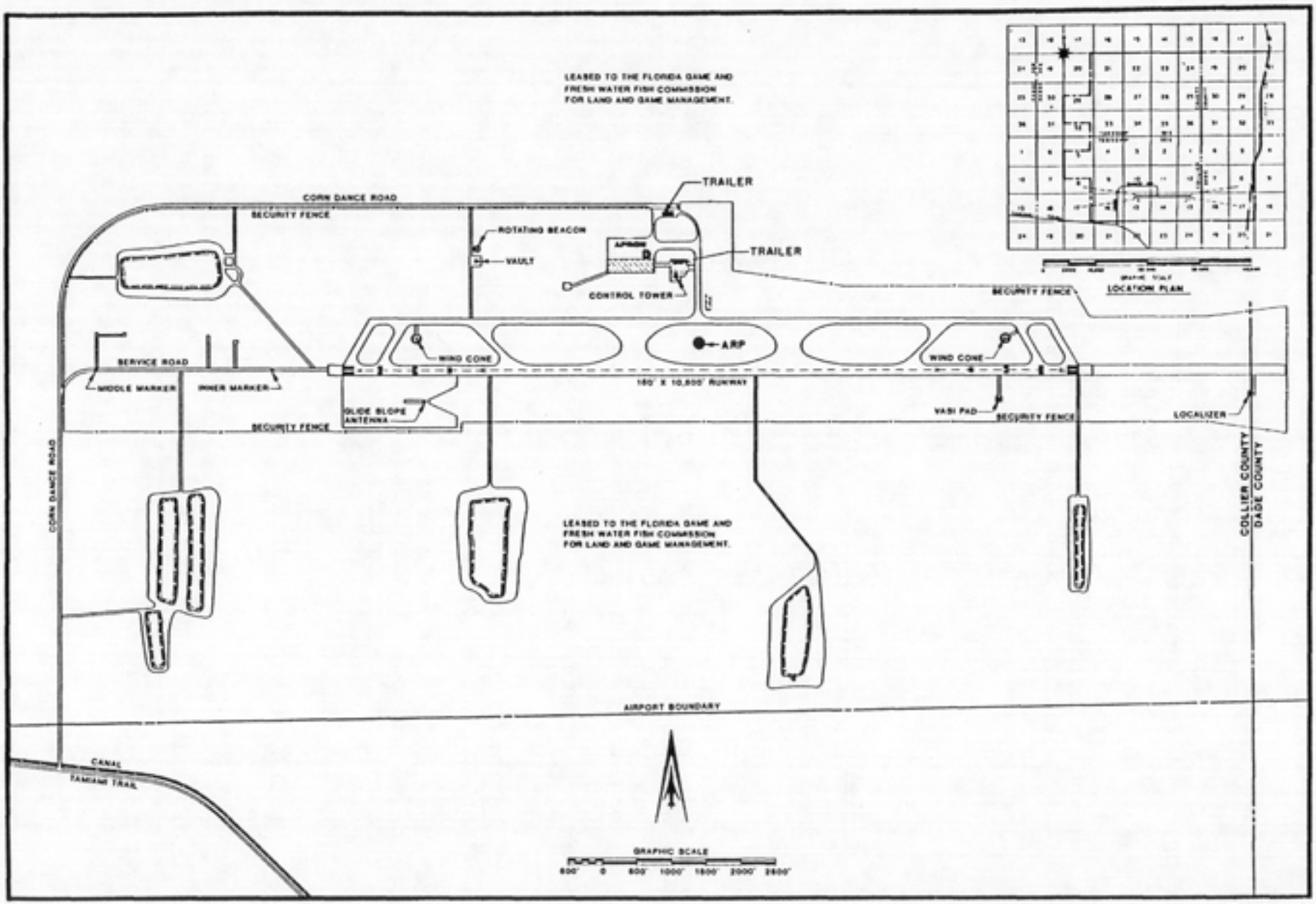


Exhibit C

Dade County Aviation System Plan

PHYSICAL LAYOUT
EX DADE-COLLIER TRAINING AND TRANSITION AIRPORT

Source: Howard Needles Tammen & Bergendoff, Conditions and Operations of Port Authority Properties, Dade County Aviation Department, 1985 Annual Report.

KPMG Peat Marwick

May 1988

Airfield

As shown in Exhibit D, the airfield has two runways:

Runway	Length x width (feet)	Condition
9-27	3,000 x 75	Good
18-36	4,000 x 100	Good

Land Use

Existing Land Use. The Airport is surrounded by agriculture, such as row crops, fruit groves, and nurseries. Interspersed among these agricultural uses are single-family homes and some small agriculturally-related businesses. Small single subdivisions on estate-sized lots become more prevalent nearer the cities of Homestead and Florida City. West of the Airport are a few large tracts of farm land. Undisturbed everglades vegetation lies beyond these farm lands. During the rainy season, the everglades area, with isolated tree islands, has long periods of flooding and sheet flow. Everglades National Park is three miles southwest of the airport's southernmost extension.

Proposed Land Use. The adopted and proposed Comprehensive Development Master Plan recommend that most of this area be retained for agricultural use. Urban development is generally restricted to the area east of SW 192 Avenue and south of SW 292 Street. In the proposed plan, the urban development boundary is moved one half mile to SW 197 Avenue. The majority of the land to the west of Levee 31N is shown in the environmental protection category and severely restricted for any type of development. Because of the environmental sensitivity of the area, the State of Florida recently acquired over 54 square miles of land to preserve it in its natural state. The lands are boundad by theoretical SW 178 Street on the north, theoretical SW 237 Avenue on the east, theoretical SW 328 Street on the south, and Everglades National Park on the west. In the proposed plan, the remainder of the land west of the levee is in the open land category. Development in this category is generally limited to one dwelling per 40 acres because the land is located in the East Everglades Agricultural Area.

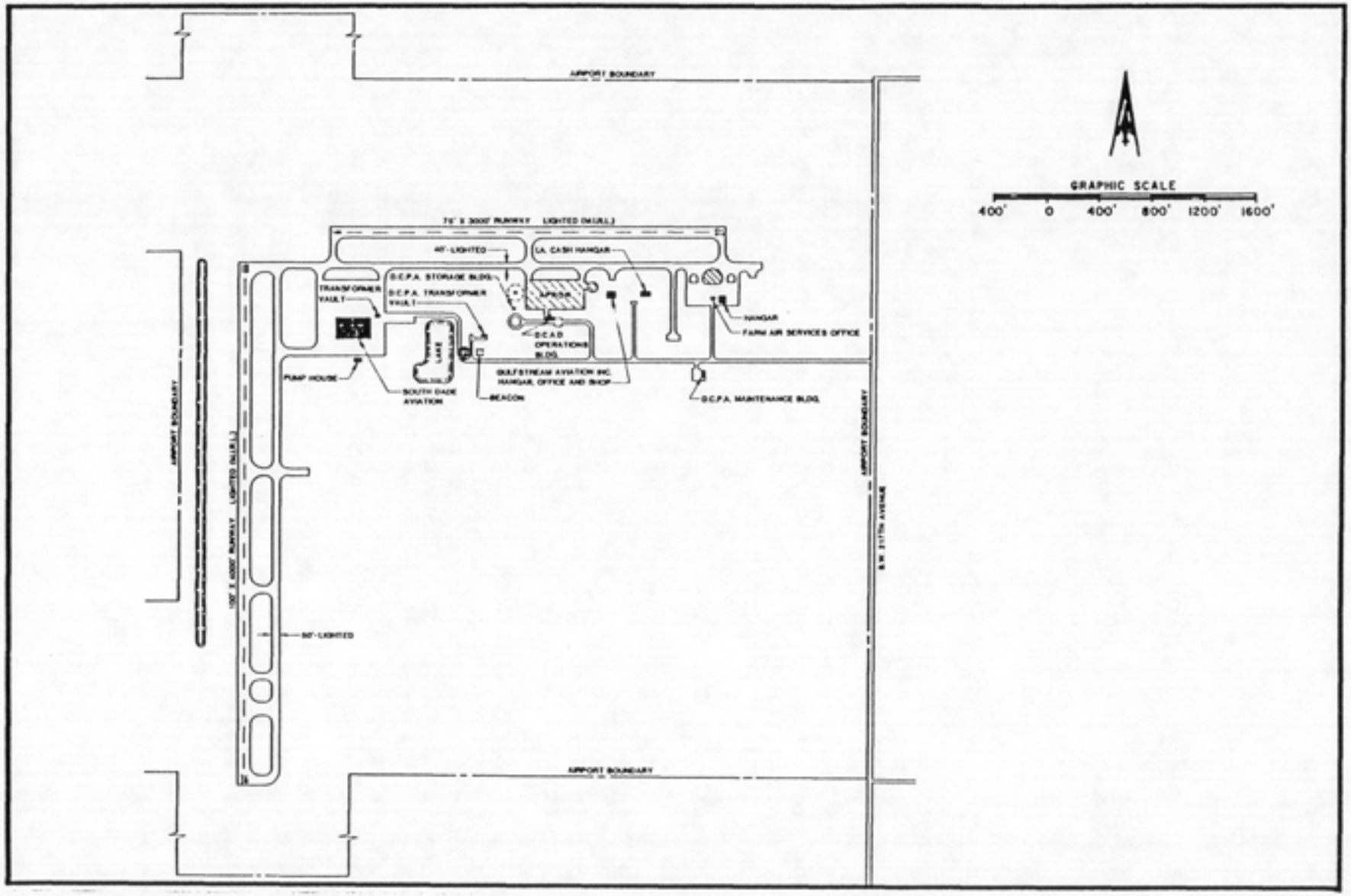


Exhibit D

Dade County Aviation System Plan

PHYSICAL LAYOUT
HOMESTEAD GENERAL AVIATION AIRPORT

Source: Howard Needles Tammen & Bergendoff,
Conditions and Operations of Port Authority Properties,
Dade County Aviation Department, 1985 Annual Report.

KPMG Peat Marwick

May 1988

OPA-LOCKA AIRPORT

Opa-locka Airport is a 1,810-acre general transport airport located in the City of Opa-locka, 12 miles north of central Miami. Opa-locka was initially developed by Glenn Curtiss in the 1920s and is a former U.S. Marine Corps Air Station that was acquired by Dade County in the mid-1960s. Exhibit E depicts the physical layout of Opa-locka Airport. The federal government owns six acres of land in the center of the Airport. The land is currently used by the U.S. Coast Guard. The Airport has an FAA-operated air traffic control tower which operates daily from 7 a.m. to 11 p.m.

Airfield

As shown in Exhibit E, the airfield has six runways:

Runway	Length x width (feet)	Condition
9L-27R	8,002 x 150	Good
9C-27C	3,010 x 100	Fair
9R-27L	3,503 x 100	Good
12-30	2,340 x 75	Good
18L-36R	4,384 x 100	Fair
18R-36L	3,299 x 100	Good

Parallel Runways 9L-27R, 9C-27C, and 9R-27L are separated by distances of 2,500 feet and 2,400 feet, respectively. There are 700 feet separating parallel Runways 18L-36R and 18R-36L. All runways are of asphalt construction.

Land Use

Existing Land Use. The Opa-locka Airport is in a highly urbanized location, and three political jurisdictions bound the airport property: Opa-locka, Hialeah, and unincorporated Dade County. A variety of land uses are adjacent to the airport.

The City of Opa-locka is located east of the Airport. Much of the city consists of single family and duplex residences; however, a concentration of multi-family structures is located inmediately east of NW 37 Avenue.

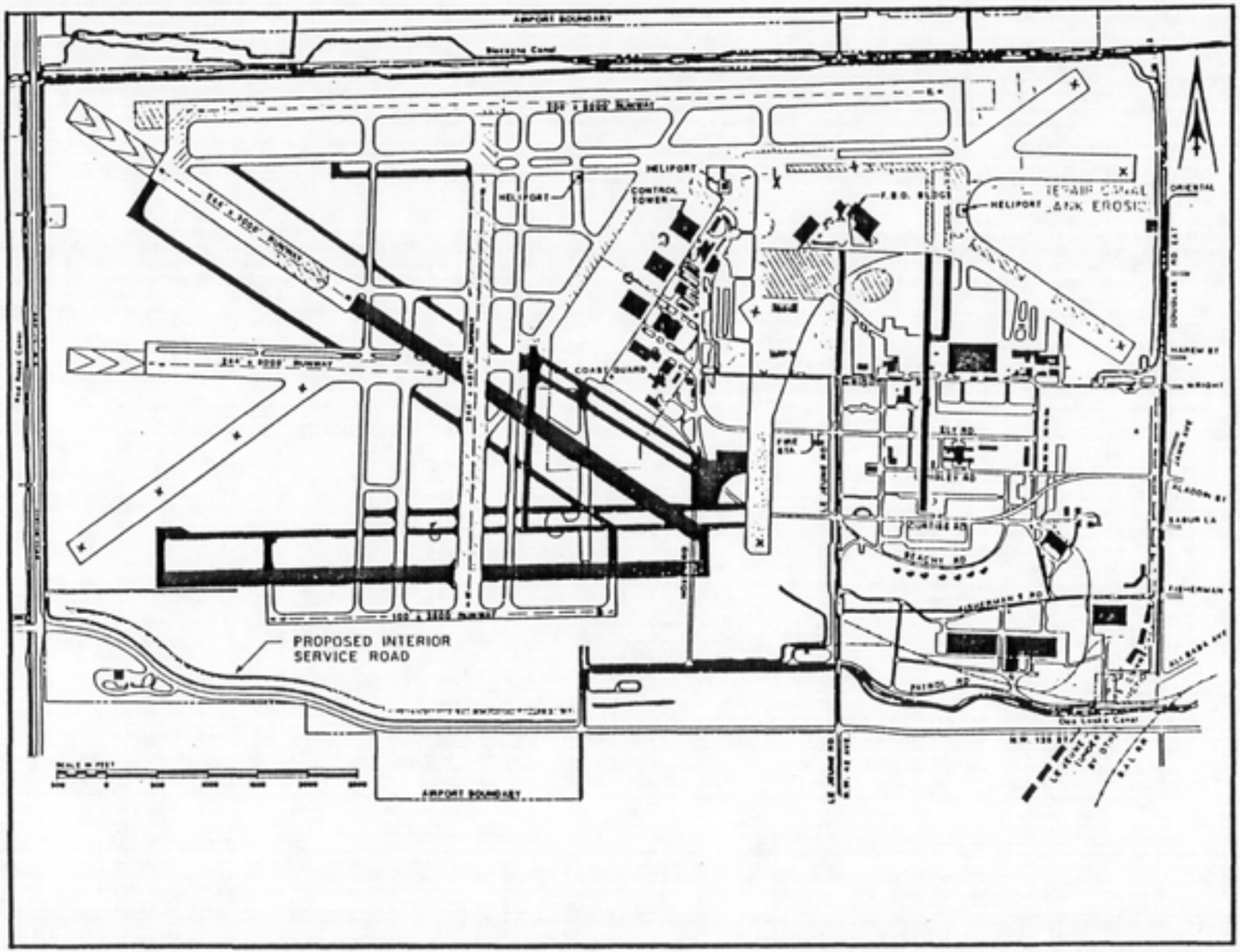


Exhibit E

Dade County Aviation System Plan

PHYSICAL LAYOUT
OPA-LOCKA AIRPORT

Source: Howard Needles Tammen & Bergendoff,
Conditions and Operations of Port Authority Properties,
Dade County Aviation Department, 1985 Annual Report.

KPMG Peat Marwick

May 1988

South of the Airport, several industrial parks have been developed, and a large recreational area, the Amelia Earhart Regional Park, has recently been developed by Dade County. The area along NW 135 Street near the Airport is primarily industrial and commercial.

There are numerous vacant tracts throughout the area. Several tracts south of NW 135 Street will be used as rights-of-way for Gratigny Expressway an the LeJeune-Douglas Road Extension.

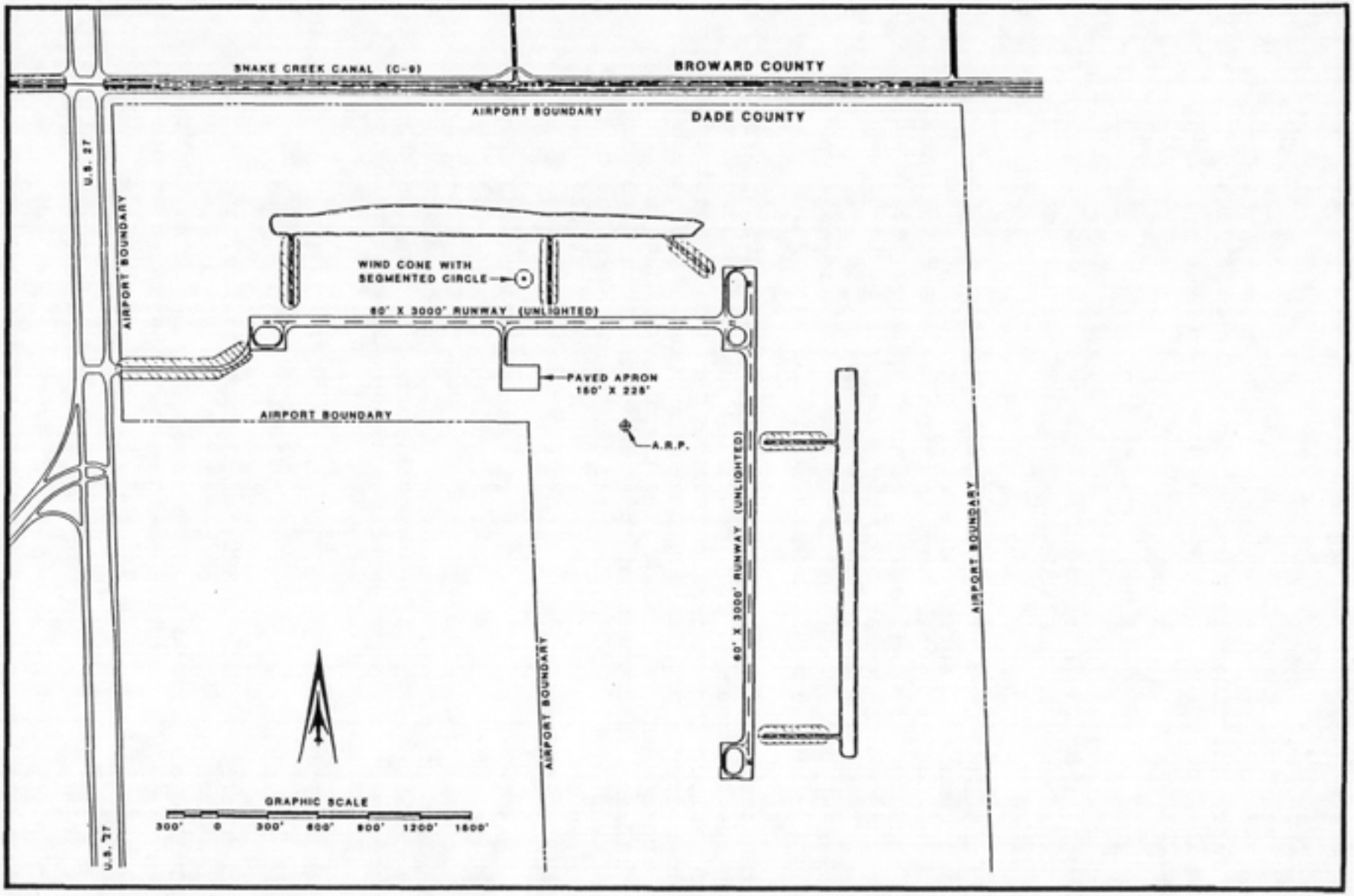
Proposed Land Use. The land use designations in the adopted and updated Comprehensive Plans generally reflect existing patterns of development in the area. East of the Airport, the City of Opa-locka is planned for low density residential development and low medium density residential development in both plans. The proposed plan also shows business and office uses in downtown Opa-locka and an industrial and office areas northeast of the airport.

Most of the areas adjacent to the Airport to the north, west, and south are recommended for industrial and office development, and reflect the current development trend. Industrial uses are proposed approximately one-half mile west of the airport property in the Miami Lakes community. Much of the area of Hialeah is recommended for residential use with maximum densities ranging from 6 to 25 units per gross acre in the proposed plan and low-medium density in the current plan. Residential uses are also shown north of the airport.

The Opa-locka Industrial Air Park is being developed on approximately 114 acres in the southeast section of the Airport. The property will be developed by the Aviation Department and the Opa-locka Community Development Corporation. an extensive internal roadway system is being constructed to service the park and aeronautically oriented businesses located on Airport property.

OPA-LOCKA WEST AIRPORT

Opa-locka West Airport is a 420-acre basic utility airport located 14 miles northwest of downtown Miami. Exhibit F depicts the physical layout of Opa-locka West Airport, which was opened in 1970 to relieve operational congestion at Opa-locka Airport. There is no air traffic control tower at Opa-locka West.



Source: Howard Needles Tammen & Bergendoff,
Conditions and Operations of Port Authority Properties,
Dade County Aviation Department, 1985 Annual Report.

Exhibit F

Dade County Aviation System Plan

PHYSICAL LAYOUT
OPA-LOCKA WEST AIRPORT

KPMG Peat Marwick

May 1988

Airfield

As shown in Exhibit F, the airfield has two runways:

Runway	Length x width (feet)	Condition
9-27	3,000 x 60	Good
18-36	3,000 x 60	Good

There are no taxiways at Opa-locka West except for turn-around loops at the end of each runway. There is an aircraft parking area of approximately 1,000 square feet at the mid-point of Runway 9-27. Opa-locka West Airport is not equipped with approach aids, the runways are not lighted, and the Airport is contained within a locked fence.

Land Use

Existing Land Use. Some rock mining operations and associated lakes are located east of the airport in both Dade and Broward counties. Limited agricultural activities, consisting mostly of pastures, are also found in the area. The only residential use in the vicinity is a small mobile home park on the SR 27 southwest of the Airport.

Proposed Land Use. Both the existing and proposed Comprehansive Development Master Plan do not recommend urban development in this area. Urban development in the extreme northern portion of Dade County is only shown east of I-75. Areas adjacent to the Airport are shown as "open land." North of the County line, the proposed plan reflects the recommendations of the Plan for the City of Miramar. The area north and northeast of the airport is designated for rural (0.4 dwellings per acre) and estate (1 dwelling per acre) densities and the area northwest of the airport is designated for conservation.

TAMIAMI AIRPORT

Tamiami Airport is a 1,300-acre basic transport airport located 15 miles southwest of downtown Miami in the West Kendall community. Exhibit G depicts the physical layout of Tamiami Airport. Tamiami opened in 1967 and has an FAA-operated air traffic control tower which operates daily from 7 a.m. to 9 p.m. The U.S. Customs service recently opened a customs facility at Tamami Airport.

Airfield

As shown in Exhibit G, the airfield has three runways:

Runway	Length x width (feet)	Condition
9L-27R	5,002 x 150	Good
9R-27L	4,999 x 150	Good
13-31	4,001 x 150	Good

The parallel runways, 9L-27R and 9R-27L, are separated by a distance of 3,500 feet.

Noise Abatement

Tamiami Airport has a number of noise abatement procedures in effect, which have been established in Operations Bulletins. Procedures apply to fixed wing aircraft and to helicopters and are designed to minimize overflights of residential areas.

Land Use

Existing Land Use. Much of the area surrounding Tamiami Airport is still undeveloped, but distinct patterns of development are evident. In the last 15 years, numerous large-scale residential and associated institutional and commercial developments have been constructed from North Kendall Drive to approximately SW 120 Street. The Boystown of Florida is located on 152 acres immediately north of the Airport and west of SW 137 Avenue.

South of the airport, Country Walk, a large-scale residential development consisting of single family homes, townhouses, and four-plexes, is under construction with access from SW 152 Street. Properties immediately south of and adjacent to the airport are being developed with many small warehouses consisting of a mixture of industrial and commercial activities. East of the airport, between SW 137 Avenue and the Florida Turnpike, some industrial buildings have been constructed, mostly containing warehousing and light manufacturing activities. This area also contains Tamiami Pineland Park, which preserves an undisturbed pineland ecosystem. Several lakes in the area were caused by rock-mining activities which are now inactive.

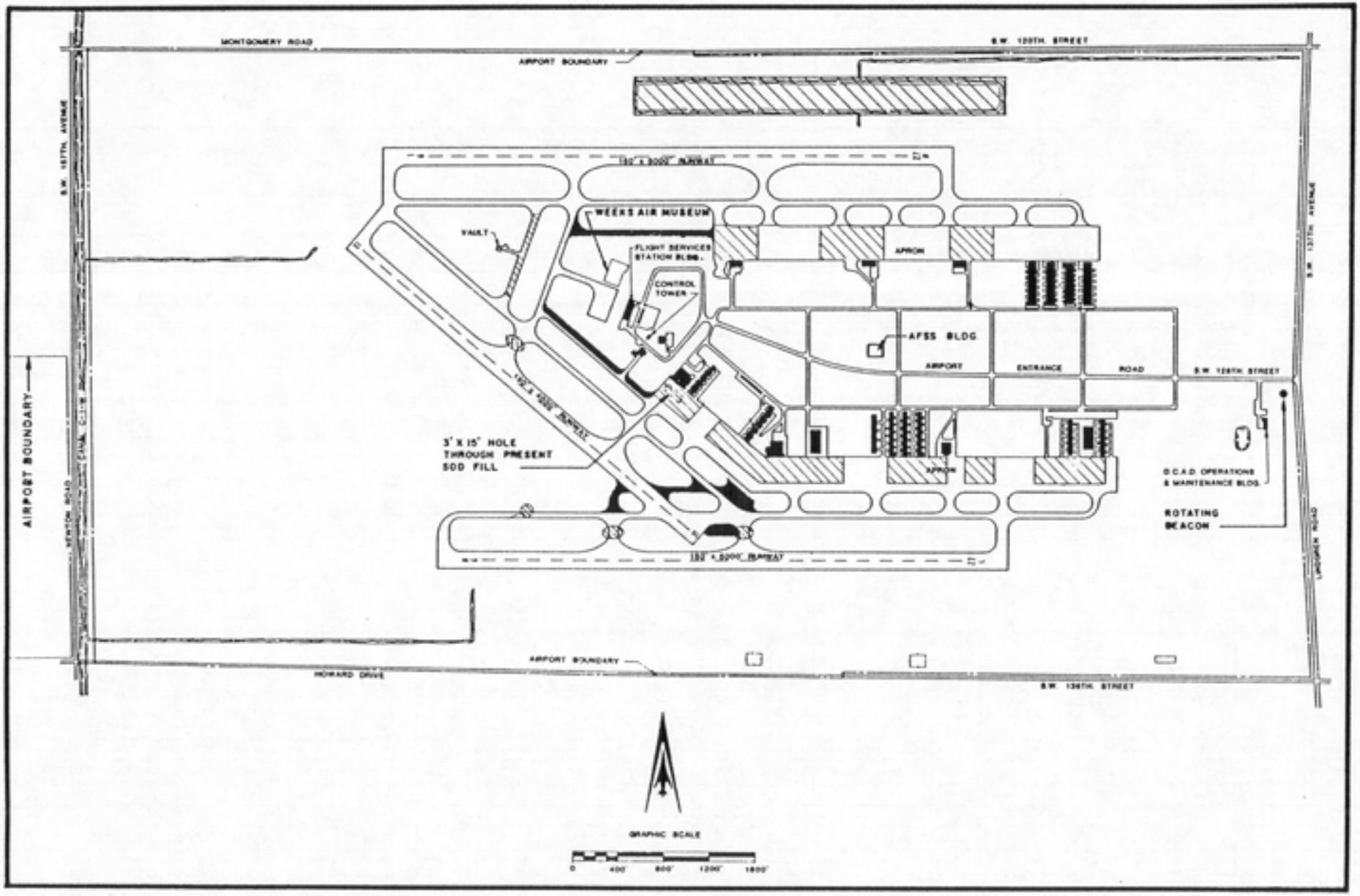


Exhibit G

Dade County Aviation System Plan

PHYSICAL LAYOUT
TAMIAMI AIRPORT

Source: Howard Needles Tammen & Bergendoff, Conditions and Operations of Port Authority Properties, Dade County Aviation Department, 1985 Annual Report.

KPMG Peat Marwick

May 1988

Proposed Land Use. The adopted Comprehensive Development Master Plan shows most of the lands adjacent to the airport as proposed for industrial and office uses to ensure compatibility with the Airport. The proposed updated plan adds to this pattern and the area on the north of the Airport.

Residential uses are recommended for the area round the lake immediately east of SW 137 Avenue between theoretical SW 136 and SW 144 Streets. The existing and proposed residential areas are shown for low density (up to six dwelling units per gross acre) and low medium density (up to 13 units per gross acre) residential development. In the area along SW 152 Street near the entrance to the Metrozoo and the interchange with the Florida Turnpike, a mixture of industrial and office, business and office, institutional and residential uses are proposed. Continued agricultural use is recommended west ofthe Airport.

HOMESTEAD AIR FORCE BASE

Homestead Air Force Base is a 2,916-acre facility located 26 miles south of central Miami. The Air Force Base was initially activated in 1942 for maintaining and dispatching aircraft being ferried overseas. After it was damaged by a severe hurricane in 1945, the Air Force Base was placed on inactive status for 10 years, and was formally reactivated in 1955. The Base was transferred from Strategic Air Command (SAC) to Tactical Air Command (TAC) in 1968.

Airfield

The airfield area at the Base has a single asphalt runway (5-23) 11,200 feet long and 300 feet wide. The runway is paralleled by a full-length taxiway which provides direct access to the aircraft apron area. The runway, taxiway, and apron pavement were designed to accommodate B-52 bombers and have the weight-bearing capacity to accommodate all aircraft in the military and civilian fleets.

Land Use

Existing Land Use. Homestead Air Force Base is located on the edge of urban development in southeast Dade County. Most of the adjacent agricultural land produces row crops, and some scattered nurseries grow landscaping plants and trees. To the east, farming diminishes as salt water intrusion, high water

tables, and coastal vegetation have resulted in a large area of undeveloped land along the shoreline of Biscayne Bay. The older communities of Leisure City and Naranja, west and north of the Air Force Base, are primarily residential. Recently, business and office, some single-family subdivisions have been built along SW 137 Avenue and Moody Drive. A number of duplexes and single-family homes for active military personnel are located on the northern portions of the Base. An isolated, older complex of multi-family homes for migrant farm laborers is located at the southwest corner of the Base.

Proposed Land Use. The proposed and current Development Plan restricts urban development and generally recommends low density residential development west of the Base and north of Campbell Drive (SW 312 Street). In the proposed plan, industrial and office dvelopment is shown in the area south of Campbell Drive and West of SW 147 Avenue and in the area immediately southwest of the base. Much of the remaining area is proposed for agricultural development or open land; however, some of these areas may be desirable for urban expansion by the year 2010.

The littoral area along Biscayne Bay is recommended for inclusion in the Biscayne National Park. North of SW 232 Street, the land west of the coastal area is recommended for urban development. Open land and environmental protection designations are shown for the land west of the coastal area and south of SW 232 Street.

Chapter 4

FORECASTS OF AVIATION ACTIVITY

ANALYSIS OF DEMOGRAPHIC AND ECONOMIC TRENDS

Aviation demand at air carrier and general aviation airports is a function of several factors. These factors include the demographic characteristics and economic activity of the area served by the airport, commonly referred to as the air trade area. Knowledge of the demographic and economic characteristics of the air trade area is important to understand historical aviation activity and to assess the potential for future growth.

Population Trends

Table 1 shows historical population trends for Dade County, the State of Florida, and the United States for the years 1960, 1970, 1980, and 1984 and forecast population for the years 1995 and 2005. As shown, the population of Dade County has grown more rapidly than that of the United States but less rapidly than that of the State of Florida. The average annual rate of population growth between 1960 and 1984 was 1.1% for the United States, 3.4% for the State of Florida, and 2.7% for Dade County. From 1984 to 1995, population in Dade County and the State of Florida is forecast to increase at an average annual rate of 2.0%. The population of the United States is forecast to increase at an average annual rate of 0.9%. The annual rate of population growth is forecast to decrease between 1995 and 2005 for both Dade County and the United States to 1.0% and 0.6%, respectively.

Dade County Economic Trends

One way to analyze the economy of an area is to examine its employment growth. Table 2 shows the historical and forecast nonagricultural employment trends for Dade County, the State of Florida, and the United States for 1960, 1970, 1980, 1984, 1990, and 2000. As of 1984, the Dade County nonagricultural civilian labor force totaled 770,500 persons. As with population, the nonagricultural employment of Dade County has increased more rapidly than that of the United States and less rapidly than that of the State of Florida. The average annual rate of nonagricultural employment growth between 1960 and 1984 was 2.3% for the United States, 4.9% for the State of Florida, and 3.2% for Dade County.

Table 1

HISTORICAL AND FORECAST POPULATION
Dade County Aviation System Plan
Dade County, Florida, and United States

	1960	1970	1980	1984	1995	2005
Dade County	935,047	1,267,792	1,625,781	1,750,000[a]	2,181,115[b]	2,402,052[b]
State of Florida	4,952,000	6,791,000	9,746,000	10,930,389[c]	13,663,400[d]	n.a.
United States	179,323,000	203,302,000	226,546,000	235,639,000	259,599,000[e]	275,677,000[e]

	Average annual percentage change				
	1960-1970	1970-1980	1980-1984	1984-1995	1995-2005
Dade County	3.1%	2.5%	1.9%	2.0%	1.0%
State of Florida	3.2	3.7	2.9	2.0	--
United States	1.3	1.1	0.9	0.9	0.6

n.a. = not available.

a. Research Division, Metro-Dade County Planning Department, "Dade County Facts," July 1984.
b. Metro-Dade County Planning Department.
c. Florida estimates of population, University of Florida, Bureau of Economic Research, April 1984.
d. University of Florida, "Projections of Florida Population by County," June 1985.
e. U.S. Department of Commerce, Bureau of the Census, "Population Estimates and Projections," Series P-25, No. 952, May 1984.

Source: U.S. Department of Commerce, Bureau of the Census, various publications, except as noted.

The forecast nonagricultural employment trends are also similar to those of forecast population. Nonagricultural employment is forecast to increase at an average annual rate of 4.0% in Dade County and 4.1% in the United States. The average annual percentage change forecast for both Dade County and the United States decreases between 1990 and 2005 to 1.2% and 0.7%, respectively.

Research by Florida International University has demonstrated the importance of international trade in the Dade County economy. In the early 1980s, for example, while the nation as a whole suffered through a recession, foreign trade indicators showed an increase in Dade County and related employment sectors increased as well.

PLANNING ACTIVITY LEVEL FORECASTS

The aviation activity forecasts are formatted in terms of "planning activity levels. This approach provides a desirable framework for long-range planning because it places primary focus on the attainment of specific activity levels and secondary focus on the projected dates of attainment, compared with the chronologically-defined forecasts from which they were derived. A scenario of the facilities required for each planning activity level can then be developed and subjected to "what if" evaluations to compare the relative merits of various system alternatives. In some instances, to provide a complete picture of future activity, evaluation data in the context of planning activity levels may be combined with evaluation data in the context the conventional chronological forecasts to evaluate alternatives.

Planning activity levels for Miami International Airport and for the County's general aviation airports are presented in this section, in terms of total activity.

Miami International Airport

Four future levels of annual passenger enplanements--12 million, 15 million, 20 million, and 25 million--were adopted for the system plan studies. Under the high, median,

Table 2

HISTORICAL AND FORECAST NONAGRICULTURAL EMPLOYMENT
Dade County Aviation System Plan
Dade County, Florida, and United States

	1960	1970	1980	1984	1995	2005
Dade County	360,097	503,200[a]	739,921[b]	770,500[b]	975,880[c]	1,096,995[c]
State of Florida	1,320,600	2,152,100	3,576,200	4,208,200	n.a.	n.a.
United States	54,189,000	70,800,000	90,406,000	94,156,000	119,575,000[d]	128,681,000[d]

	Average annual percentage change				
	1960-1970	1970-1980	1980-1984	1984-1995	1995-2005
Dade County	3.4%	3.9%	1.1%	4.0%	1.2%
State of Florida	5.0	5.2	4.2	--	--
United States	2.7	2.5	1.0	4.1	0.7

n.a. = not available.

a. Florida State Employment Service, "Labor Market Analysis for Dade and Broward Counties," 1976.
b. U.S. Department of Labor, Bureau of Labor Statistics, "Report on Employment for 1984."
c. Metro-Dade County Planning Department, Research Division, "Employment and Earnings Projections for Metropolitan Dade County, Florida, 1985-2005," August 1982.
d. U.S. Department of Commerce, Bureau of Economic Analysis, "1980 OBERS BEA Regional Projections, Volume 3, July 1981.

Source: U.S. Department of Labor, Bureau of Labor Statistics, "Employment and Earnings," various years, except as noted.

and low forecast assumptions, the four planning activity levels would occur in approximately the following years:

Planning activity level (million annual passenger enplanements)	Forecast year		
	High forecast	Median forecast	Low forecast
12	1987	1990	1995
15	1992	1997	2002
20	2001	2006	2013
25	2009	2015	2025

The highest planning activity level, 25 million annual passenger enplanements, represents two and one-half times 1984 enplanements and 2.3 times the 10.9 million enplaned passengers at Miami International Airport in 1986. Under the high forecast assumptions, the 25 million enplanement level could occur as early as the year 2009. Under the low forecast assumptions, the 25 million enplanement level could occur as late as the year 2025. Thus, the 25 million level developed for the system plan studies corresponds to a planning horizon 25 to 40 years into the future.

Requirements and plans for future air carrier airport facilities should be expressed in relation to the planning activity levels of 12 million, 15 million, 20 million, and 25 million enplanements, without tying these activity levels to specific future years.

Table 3 provides details of passenger enplanements and aircraft operations for the planning activity levels. Forecasts of aircraft mix, average seats, boarding load factors, and enplanements per departure were used to develop forecasts of aircraft operations.

General Aviation Airports

Planning activity levels for all four general aviation airports have been prepared on the following assumptions regarding the year of occurrence:

Planning activity level (aircraft operations)	Forecast year		
	High forecast	Median forecast	Low forecast
875,000	1988	1990	1993
1,100,000	1993	1997	2001
1,350,000	2001	2006	2010
1,500,000	2009	2015	2018

Table 3

HISTORICAL AND FORECAST PASSENGER ENPLANEMENTS AND AIRCRAFT OPERATIONS
FOR PLANNING ACTIVITY LEVELS
Dade County Aviation System Plan
Miami International Airport

These forecasts have been prepared on the basis of the information and assumptions given in reports published as part of the planning study. The achievement of any forecast is dependent upon the occurrence of future events which cannot be assured. Therefore, the actual results may vary from the forecasts.

	Historical		Planning activity level (annual passenger enplanements)			
	1984	1986	12 million enplanements	15 million enplanements	20 million enplanements	25 million enplanements
Annual passenger enplanements						
Domestic major	5,886,320	6,891,348	7,340,000	9,120,000	11,650,000	14,100,000
Commuter	299,215	189,744	340,000	390,000	450,000	500,000
International	3,405,865	3,825,476	4,320,000	5,490,000	7,900,000	10,400,000
Total	9,591,400	10,906,838	12,000,000	15,000,000	20,000,000	25,000,000
Percent of total						
Domestic major	61%	63%	61%	61%	58%	56%
Commuter	3	2	3	3	2	2
International	36	35	36	37	40	42
Total	100%	n.a.	100%	100%	100%	100%
Aircraft operations						
Air carrier	217,127	243,109	260,000	312,000	393,000	471,000
Air taxi	61,262	47,591	51,000	53,000	62,000	63,000
General aviation	73,623	58,300	78,000	91,000	113,000	132,000
Military	573	481	1,000	1,000	1,000	1,000
Total operations	352,585	349,481	390,000	457,000	569,000	667,000
All cargo operations	18,590	n.a.	22,000	27,000	34,000	43,000

n.a. = Not available

Sources: Historical - Dade County Aviation Department records.
Forecast - Peat Marwick, February 1986.

The resulting planning level forecasts of annual operations, operations per based aircraft, local and itinerant operations, and aircraft mix are shown in Table 4.

FORECASTS OF ACTIVE HELICOPTER OPERATIONS IN DADE COUNTY

Table 5 presents forecasts of active helicopter operations in Dade County. These forecasts are for all operations in Dade County, by operators based either within or outside Dade County. They were developed on the basis of a survey of helicopter operators.

Medium, high, and low forecasts of growth in operations per active helicopter were developed on the basis of the forecast of operations per based helicopter. The medium forecast is based on a growth rate in operations per active helicopter of approximately 1% per year. It was assumed that growth of helicopter activity in the adjacent counties would be comparable to that of Dade County. The very high forecast is based on a higher growth rate in registered helicopters in adjacent counties than in Dade County, which would cause a corresponding increase in helicopter operations in Dade County.

The forecasts of helicopter activity are based on historical and current indications of demand for helicopter transportation. Those indications are that the demand will increase at a slow and constant rate.

Table 4

HISTORICAL AND FORECAST GENERAL AVIATION ACTIVITY
FOR PLANNING ACTIVITY LEVELS
Dade County Aviation System Plan
Dade County

These forecasts have been prepared on the basis of the information and assumptions given in reports published as part of the planning study. The achievement of any forecast is dependent upon the occurrence of future events which cannot be assured. Therefore, the actual results may vary from the forecasts.

	Historical		Planning activity level (annual passenger enplanements)			
	1984	1986	12 million enplanements	15 million enplanements	20 million enplanements	25 million enplanements
Annual operations	686,860	723,500	875,000	1,100,000	1,350,000	1,500,000
Operations per based aircraft	441	520	500	550	550	600
Based aircraft	1,557	1,391	1,750	2,000	2,460	2,500
Local and itinerant operations:						
Percentages						
Local operations	60%	55%	58%	56%	53%	51%
Itinerant operations	40	45	42	44	47	49
Total operations	100%	100%	100%	100%	100%	100%
Operations:						
Local operations	415,381	400,900	507,500	616,000	715,500	765,000
Itinerant operations	271,479	322,600	367,500	484,000	634,500	735,000
Total	686,860	723,500	875,000	1,100,000	1,350,000	1,500,000
Based aircraft mix						
Single-engine piston	64%	54%	61%	60%	54%	50%
Multiengine	25	38	27	28	30	32
Turbojet	6	3	7	8	9	10
Helicopter and other	5	5	5	6	7	8
Total	100%	100%	100%	100%	100%	100%
Based aircraft						
Single-engine piston	1,009	747	1,070	1,160	1,330	1,250
Multiengine	382	534	470	560	740	800
Turbojet	88	45	120	160	220	250
Helicopter and other	78	63	90	120	170	200
Total	1,557	1,389	1,750	2,000	2,460	2,500

Sources: Historical - Dade County Aviation Department records.
Forecast - Peat Marwick, February 1986.

Table 5

FORECASTS OF ACTIVE HELICOPTER OPERATIONS IN DADE COUNTY
Dade County Aviation System Plan
1990-2015

These forecasts have been prepared on the basis of the information and assumptions given in reports published as part of the planning study. The achievement of any forecast is dependent upon the occurrence of future events which cannot be assured. Therefore, the actual results may vary from the forecasts.

	Historical		Forecast			
	1984	1985	1990	1995	2005	2015
Selected forecast of registered helicopters based in Dade County	133[a]	130[a]	160	175	190	205
Ratio of active helicopters to registered helicopters	0.62	0.62	0.62	0.62	0.62	0.62
Number of active helicopters based in Dade County	82	81	99	109	118	127
Number of operations per active Dade County registered helicopter						
Medium forecast	--	1,330[b]	1,400	1,470	1,620	1,790
High forecast	--	--	1,500	1,700	2,180	2,790
Low forecast	--	--	1,330	1,330	1,330	1,330
Forecast of operations in Dade County						
Medium forecast	--	107,730[c]	139,000	160,000	191,000	227,000
Very high forecast[d]	--	--	160,000	200,000	280,000	390,000
High forecast	--	--	149,000	185,000	257,000	354,000
Low forecast	--	--	132,000	145,000	157,000	169,000

a. Federal Aviation Administration, "Census of U.S. Civil Aircraft," 1984, 1985.
b. Based on results of a survey of helicopter operators, June 1986.
c. Estimated on the basis of the estimates of operations per active Dade County helicopter.
d. Reflects the possibility of a higher rate of growth in operations outside Dade County than in Dade County itself.

Source: Peat Marwick, May 1988, except as noted.

Chapter 5

AVIATION SYSTEM CAPACITY AND REQUIREMENTS

This chapter describes the future airfield capacities and facility requirements for the Dade County Aviation System Plan (DCASP) airports. The future airfield capacities were estimated for Miami International Airport and the general aviation airports in terms of (1) hourly capacities under visual flight rule (VFR) and instrument flight rule (IFR) conditions, (2) annual service volumes, and (3) aircraft delays.

The future requirements for Miami International Airport were developed for facilities on the airfield, in terminal buildings, and on ground access roadways. Requirements include the number and lengths of runways, the number of gates, terminal building space, parking spaces, and the number of access lanes. County-wide requirements for the general aviation airports were developed in terms of number and lengths of runways, and total acreage required for aircraft parking and terminal building areas.

Training and Transition Airport and Homestead Air Force Base are excluded from the analysis of the general aviation airports.

AIRFIELD CAPACITY ESTIMATES

This section provides estimates of annual service volumes at Miami International Airport and the general aviation airports.

Annual service volume (ASV) is a level of annual aircraft operations at an airport that can be used as a reference point for general planning. As annual aircraft operations approach the annual service volume of an airport's airfield, average annual aircraft delays increase rapidly with relatively small increases in aircraft operations.

To calculate the annual service volume of an airfield, the percentage of occurrence of different runway uses and their associated hourly capacities must be specified. These percentages, along with ASV weighting factors (derived from the capacity estimates), are first used to compute a weighted hourly capacity. Two additional factors--(1) the ratio of annual demand to average daily demand in the peak month of the

year (referred to as the D factor) and (2) the ratio of average daily demand to average peak hour demand, both in the peak month of the year (referred to as the H factor)--are then used to calculate the annual service volume. Table 6 presents the input data and the results of the ASV calculations.

The weighted hourly capacities and annual service volumes for the general aviation airports (Homestead General Aviation, Opa-locka, Opa-locka West, Tamiami, and Training and Transition) vary significantly, depending on the individual airfield configuration and use. Opa-locka Airport has the highest capacity and annual service volume of the DCASP airports--the weighted average capacity is 243 aircraft operations per hour, and the ASV is 542,000 aircraft operations per year. Training and Transition Airport has the lowest capacity and annual service volume of the civil airports--the weighted average capacity is 72 operations per hour, and the ASV is 160,000 operations per year.

AIR CARRIER REQUIREMENTS

As shown in Table 7, as many as four air carrier runways would be required at the 25 million enplaned passenger planning activity level.

Table 7 also presents the air carrier terminal requirements. Included are the number of gates required for domestic, international, and commuter operations; terminal building space requirements; and curbside length requirements for enplaning (upper) and deplaning (lower) traffic.

As shown, the Airport currently accommodates 96 gates for domestic and international airline operations and 15 gates for commuter operations. It is estimated that the required number of domestic and international airline gates would increase from 106 to 161 when passenger enplanements increase from 12 million to 25 million. In the same period, the required number of commuter gates is estimated to increase from 13 to 15. It is estimated that a total of 176 gates would be required when passenger enplanements reach 25 million.

The future gate requirements were developed on the basis of the occupancy times of widebody and narrowbody aircraft gates and assumptions on the future gate utilization by type of aircraft.

Estimates of terminal building space and curbside requirements are related to forecasts of aircraft operations and passenger enplanements.

Table 6

ESTIMATED ANNUAL SERVICE VOLUMES[a]
Dade County Aviation System Plan

Airport	Weighted hourly capacity	D[b]	H[c]	Annual service volumes (aircraft operations per year)
Miami International (annual passenger enplanements)				
Existing (1984): 9,591,400	124	328	11.4	464,000
12 million	121	326	11.6	458,000
15 million	119	326	11.7	454,000
20 million	118	326	11.9	458,000
25 million	116	326	12.1	458,000
Homestead General Aviation	137	280	7.0	269,000
Opa-locka	243	323	6.9	542,000
Opa-locka West	137	280	7.0	269,000
Tamiami	180	330	8.0	475,000
Training and Transition	72	323	6.9	160,000
Homestead Air Force Base[d]	--	--	--	210,000

Note: D and H values for Miami International Airport are from Peat Marwick "Forecast of Aviation Demand," February 1986. D and H values for Homestead General Aviation, Opa-locka West, and Training and Transition Airports are representative of low activity airports, as described in FAA Advisory Circular 150/5060-5. D and H values for Opa-locka and Tamiami Airports are from FAA survey data.

a. Reflecting current conditions, except as noted.
b. D = the ratio of annual demand to average daily demand during the peak month of the year.
c. H = the ratio of average daily demand to average peak hour demand during the peak month of the year.
d. ASV estimated on the basis of methods set forth in Chapter 2 of FAA Advisory Circular 150/5060-5.

Source: Peat Marwick, February 1986.

Table 7

AIR CARRIER REQUIREMENTS FOR PLANNING ACTIVITY LEVELS
Dade County Aviation System Plan
Miami International Airport

	Existing (1984)	Planning activity level (annual passenger enplanements) 12 million	15 million	20 million	25 million
Number of runways	3	3	3	3	3-4
Number of gates					
Domestic and international airlines	96	106	122	144	161
Commuter airlines	15	13	13	15	15
Total	111	119	135	159	176
Terminal building space (square feet)	2,237,858	2,700,000	3,100,000	4,100,000	4,900,000
Curbside length (feet)					
Lower level					
Public	1,764	1,900	2,300	3,100	3,800
Commercial	2,586	2,800	3,400	4,500	5,600
	4,350	4,700	5,700	7,600	9,400
Upper level					
Public	2,523	2,700	3,400	4,400	5,400
Commercial	807	900	1,100	1,400	1,700
	3,330	3,600	4,500	5,800	7,100

Source: Peat Marwick, May 1987.

GENERAL AVIATION REQUIREMENTS

Table 8 presents County-wide general aviation requirements for four future planning activity levels, including the number of runways and total acreage required for aircraft parking and terminal building space. Training and Transition Airport and Homestead Air Force Base were excluded from the requirements analysis. Presenting County-wide requirements on an aggregate basis does not reflect specific conditions and needs at individual airports; these considerations were included in the evaluation of alternatives in subsequent tasks.

Table 8

GENERAL AVIATION RUNWAY, AIRCRAFT PARKING, AND TERMINAL BUILDING SPACE REQUIREMENTS FOR PLANNING ACTIVITY LEVELS
Dade County Aviation System Plan
General Aviation Airports[a]

	Existing (1984)	Planning activity level (annual aircraft operations) 875,000	1,100,000	1,350,000	1,500,000
Number of runways					
Existing	13	13	13	13	13
Additional[b]	0	0	0	0-1	0-2
Total	13	13	13	13-14	13-15
Aircraft parking (acres)	245	150	180	220	240
Building space (acres)[c]	31	35	40	50	50

a. Includes Homestead General Aviation, Opa-locka, Opa-locka West, and Tamiami Airports.
b. Represents new runway to be added to the existing runway configuration at an existing airport or a new airport.
c. Includes fixed base operator buildings, hangars, office space, and other miscellaneous building areas.

Source: Peat Marwick, May 1988.

Chapter 6

DESCRIPTION OF ALTERNATIVES

AIR CARRIER AIRPORT DEVELOPMENT ALTERNATIVES AND SUPPLEMENTAL AIRPORT OPTIONS

Five basic air carrier airport development alternatives and six supplemental airport options were identified for Miami International Airport and/or at other Dade County airports to provide sufficient capacity to accommodate the 25 million enplanement planning activity level. Alternatives 1, 2, and 3 are based on the assumption that all air carrier demand in Dade County would be accommodated at Miami International Airport. Alternatives 4 and 5 are based on the assumption that air carrier activity would be accommodated at Miami International Airport in conjunction with a second or "supplemental" air carrier airport in Dade County. Six options were identified as representative of the range of locations for possible development of a supplemental air carrier airport for consideration in connection with Alternatives 4 and 5.

The alternatives and options are summarized in Table 9. For each alternative and option, it was assumed that the terminal, roadway, and other facilities would be provided to the extent necessary to accommodate forecast passenger and cargo activity.

GENERAL AVIATION ALTERNATIVES

General aviation development alternatives are designed to meet FAA guidelines for general aviation airport planning. The term "general aviation," as it pertains to the County's general aviation airports, includes single-engine piston aircraft and twin-engine piston, turboprop, and turbojet aircraft with maximum gross takeoff weights less than 75,000 pounds in private or corporate use.

Roles of General Aviation Airports

The roles of general aviation airports in the Dade County Aviation System plan are critical in identifying basic development alternatives. The roles derive partially from consideration of congestion at Miami International Airport. In developing a plan for Miami International Airport, it was concluded that because of increasing congestion, actions should be taken to encourage general aviation operators to use airports other than

Table 9

SUMMARY OF AIR CARRIER AIRPORT DEVELOPMENT ALTERNATIVES AND OPTIONS
Dade County Aviation System Plan
25 Million Enplanement Planning Activity Level

Basic alternatives[a]	
1[b]	Accommodate all demand at MIA--construct new runways.
2	Accommodate all demand at MIA--construct a new short runway within the Airport boundary to accommodate a portion of general aviation and commuter airline activity.
3	Accommodate all demand at MIA--construct a new air carrier runway outside the existing Airport boundary to accommodate all types of activity.
4	Accommodate all demand at MIA and a supplemental air carrier airport (see options below). Limit operations at MIA to VFR hourly airfield capacity. Accommodate excess activity at the supplemental airport. Construct no new runways at MIA.
5	Accommodate all demand at MIA and a new supplemental airport (see options below). Limit activity at MIA to 20 million enplanements. Accommodate excess activity at the supplemental airport. Construct no new runways at MIA.
Supplemental airport options	
A	Develop an air carrier facility adjacent to Homestead Air Force Base--construct an air carrier runway south of the military airfield.
B	Develop Homestead General Aviation Airport to accommodate air carrier activity--construct two new air carrier runways.
C	Develop Opa-locka Airport to accommodate air carrier activity--extend Runway 12-30 to 8,000 feet.
D	Develop Tamiami Airport to accommodate air carrier activity--extend Runway 9R-27L to 8,000 feet.
E	Develop a new air carrier airport with two air carrier runways at a close-in site.
F	Develop a new air carrier airport with two air carrier runways at a distant site.

Note: MIA = Miami International Airport, VFR = visual flight rules.

a. For each alternative, terminal, roadway, and other landside facilities would be constructed to the extent necessary to accommodate passenger and cargo demand.

b. Alternative 1a is based on the assumption that aircraft operations would be distributed more evenly over the hours of the day than those estimated in the Task 3 report, "Forecast of Aviation Activity." Alternatives 1 through 5 are based on the peaking assumptions described in that report. These assumptions are discussed in Chapter 4 of this report.

Source: Peat Marwick, December 1987.

Miami International Airport. FAA Order 5090.3B* recommends that reliever airports be provided in locations that "will provide at least relatively equivalent user conveniences as those provided by the relieved airport".

In addition to proximity to demand centers, a reliever airport or airports should provide facilities that would be attractive to potential users. In particular, it is necessary to provide (1) all-weather instrumented facilities and (2) a runway or runways of sufficient length and strength to accommodate the range of general aviation aircraft that would use the Dade County airports.

The Dade County Code, Chapter 25, provides authority to DCAD to designate or restrict use of its airports and thereby determine the roles of the airports. In Operational Directive No. 2, issued on February 8, 1974, the Department stated that it has no plans to apply for federal certification of Homestead General Aviation, Opa-locka, or Tamiami Airports under Federal Aviation Regulations (FAR) Part 139. Therefore, no certificated commercial aircraft activities, e.g., the transportation of passengers, cargo, etc., requiring Part 139 facilities, are to be conducted at any of the above airports.

Opa-locka and Tamiami Airports. Currently, Opa-locka and Tamiami Airports act as reliever general aviation airports to Miami International Airport, and are designated as such by the FAA. Both airports (1) have an established instrument approach procedure, and (2) are in proximity to Miami International Airport and demand centers in the northern and southern part of the County. Both airports should continue in those roles in the future and thereby assist in reducing congestion and aircraft delays at Miami International Airport.

Homestead General Aviation Airport. Homestead General Aviation Airport is used primarily for training purposes and as a base for general aviation owners and operators in the general area of Homestead and other nearby developed areas. The Airport is distant from Miami International Airport and downtown Miami. However, it does serve the growing Homestead area and is the closest public airport to the northern Florida Keys.

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*FAA Order 5090.3B, "Field Formulation of the National Plan of Integrated Airport Systems (NPIAS)," September 9, 1985.

Homestead General Aviation Airport's role in the future will be to serve an increasing number of training operations and an increasing number of corporate aircraft operations, as well as the residents in the general area of the Airport.

Training and Transition Airport. Because of its distance from populated Dade County, Training and Transition Airport is not considered as a viable airport to relieve capacity problems at the other airports.

Basic General Aviation Airport Capacity Enhancement Alternatives

Six basic airport capacity enhancement alternatives were identified as representative of the range of possible actions at the Dade County general aviation airports to provide runway capacity to accommodate the 1.5 million operations planning activity level.

Alternatives 1 and 1a are the "do nothing" cases. In Alternative 1, no control tower at Homestead General Aviation Airport was assumed; in Alternative 1a, a control tower was assumed. At the Airport, demand is forecast to reach 337,000 annual aircraft operations at the 1.5 million aircraft operations planning activity level. The FAA Airway Planning Standard Number One--Terminal Air Navigation Facilities and Air Traffic Control Services*--indicates that an airport is a candidate for an airport traffic control tower when it reaches 200,000 general aviation aircraft operations per year.

Installation of a control tower at Homestead General Aviation Airport would permit both runways to be used simultaneously in VFR weather--one runway would be used for landings and takeoffs and the other runway would be used for either landings or takeoffs but not both.

In these analyses, it was assumed that Homestead General Aviation Airport, with 337,000 or more operations, would have a control tower at the 1.5 million aircraft operations planning activity level. However, even though an airport qualifies for a traffic control tower, the FAA is not committed to provide those facilities. Therefore, the alternatives also consider Homestead General Aviation Airport without a control tower.

Alternative 2 is based on the assumption that demand which would exceed ASV at Tamiami Airport would shift to relatively underutilized facilities (specifically, Opa-locka Airport and Homestead General Aviation Airport). An airport traffic control tower would be provided at Homestead General Aviation Airport but no other runway capacity enhancements would be made in the Aviation System.

Alternatives 3, 4, 5, and 6 are based on the assumption that additional facilities would be provided to increase capacity at existing or new airports in the south part of Dade County to accommodate demand there.

The capacity enhancement alternatives are summarized in Table 10.

Tamiami Airport Runway Extension

Tamiami Airport is now classified by the FAA as a transport airport (and as a reliever airport). For all of the capacity enhancement alternatives, it was assumed that Tamiami Airport would be considered as (1) an all-weather instrument reliever airport to Miami International Airport and (2) the primary general aviation airport for business jets in the southern part of the County.*

The FAA recommended runway length to accommodate 100% of the transport airport turbojet fleet would be 8,300 feet. The 5,000-foot runways are long enough to accommodate most small single-engine and light twin-engine aircraft and some business jet operations. However, the runways do not meet basic minimum requirements for business jets established by the FAA, which provide for accommodation of 75% of the turbojet fleet at 60% of useful load. A length of 5,400 feet is indicated as a minimum requirement by FAA. Many business jet takeoff operations require runways longer than 5,000 feet, especially if long flight distances are to be achieved or maximum loads are to be carried.

As demand increases over time at Tamiami Airport, extension of a runway would provide two specific operational benefits which improve the Airport's attractiveness as a reliever to Miami International Airport. First, a greater percentage of the

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*In this report references to turbojet or business jet aircraft refer to jet aircraft that are not used to provide air carrier service.

Table 10

SUMMARY OF BASIC GENERAL AVIATION
AIRPORT CAPACITY ENHANCEMENT ALTERNATIVES
Dade County Aviation System Plan
1.5 Million Operations Planning Activity Level

Basic alternatives[a]	
1 and 1a	Construct no new runways in Dade County to accommodate general aviation demand. No action would be taken to encourage operators to shift operations from over-utilized facilities to underutilized facilities, and demand would be unconstrained. In Alternative 1a, an airport traffic control tower would be constructed at Homestead General Aviation Airport.
2	Take actions to encourage operators to shift operations and aircraft basing from overutilized airports to underutilized airports. Construct no new runways in Dade County to accommodate general aviation demand. Construct an airport traffic control tower at Homestead General Aviation Airport.
3	Construct a new east-west runway at Homestead General Aviation Airport parallel to existing Runway 9-27. Construct an airport traffic control tower at Homestead General Aviation Airport.
4	Construct a new northeast-southwest runway at Homestead General Aviation Airport. The runway would be constructed parallel to Runway 5-23 at Homestead Air Force Base. Construct an airport traffic control tower at Homestead General Aviation Airport.
5	Construct a general aviation runway at Homestead Air Force Base. General aviation basing facilities would be constructed separately from military facilities. Construct an airport traffic control tower at Homestead General Aviation Airport.
6	Construct a new general aviation airport with one runway in Dade County. Construct an airport traffic control tower at Homestead General Aviation Airport.

a. For each alternative, aircraft basing facilities, roads, and other general aviation airport facilities would be constructed to the extent necessary to accommodate general aviation demand.

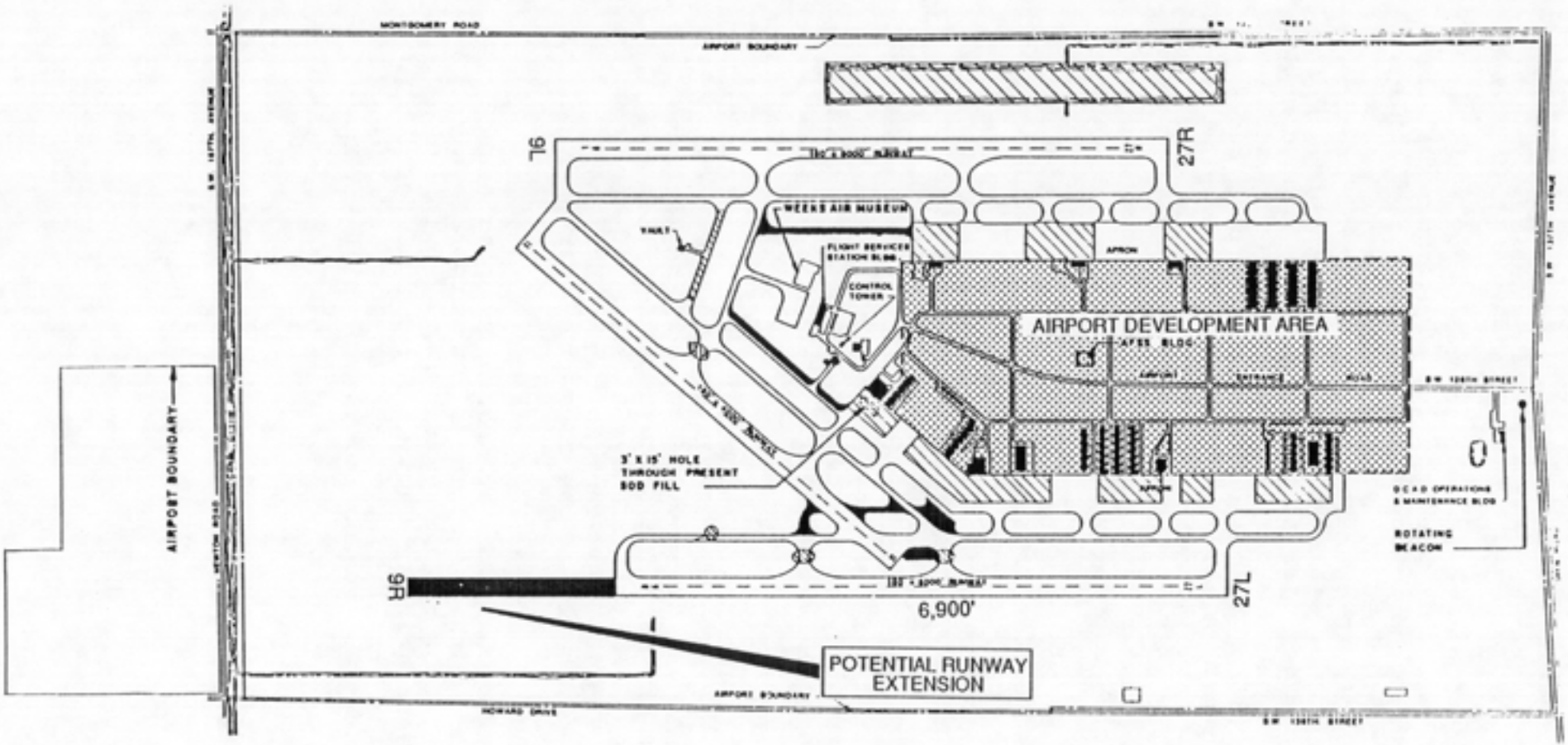
Source: Peat Marwick, March 1988.

business jet aircraft fleet could be accommodated at the Airport, and second, aircraft with heavier payloads or more fuel for long stage lengths would be accommodated. If longer runway length is not provided at Tamiami, some business jet aircraft may not be able to operate at full load, and/or some stage lengths could not be achieved by certain aircraft. For example, some business jet aircraft, when flying a transcontinental route, would have to stop en route for fuel, which would result in additional flight cost and additional travel time for the passengers. Also, as congestion increases at airports nationwide, it will become increasingly undesirable to interrupt long distance trips with intermediate fueling stops. Therefore, a longer runway would have greater utility to the general aviation users.

To provide the most effective relief to Miami International Airport, it would be most desirable to accommodate 100% of the turbojet fleet at 90% useful load. However, it was recognized that the performance of new general aviation aircraft with respect to take-off runway requirements will improve over time. Therefore, it was determined that runway extension within the existing airport property line would be appropriate for the analyses in this study. Any extension project would require more detailed study of the demand for and effects of the extension beyond the level of detail presented in this study.

Because of existing residential land use to the north and northeast of the Airport, Runway 9R-27L would be extended rather than Runway 9L-27R. Runway 9R-27L could be extended to 6,900 feet within the existing airport property line, including clear zones. Exhibit H shows a sketch of the extension of Runway 9R-27L 1,900 feet to the west. This extension was assumed for all of the capacity enhancement alternatives.

The effect of the aviation system of providing an extended runway of sufficient length for business and corporate aircraft in the south part of the County is discussed in subsequent chapters. The question of Tamiami's runway length, although important in fulfilling its reliever airport role, is not a significant factor in evaluating the capacity enhancement alternatives.



N

GRAPHIC SCALE

0 400 800 1200 1600

Source for base map: Howard Needles Tammen & Bergendoff
Conditions and Operations of Port Authority Properties,
Dade County Aviation Department, 1985 Annual Report.

Exhibit H

Dade County Aviation System Plan

SKETCH OF RUNWAY 9R-27L
1,900 FEET TO THE WEST
TAMIAMI AIRPORT

KPMG Peat Marwick

May 1988

Chapter 7

PRINCIPAL FINDINGS

The principal findings resulting from the evaluations of airport development alternatives described in the previous chapter are summarized in this chapter.

AIR CARRIER AIRPORT ALTERNATIVES

Air Carrier Airport Development Alternatives

The principal findings regarding the air carrier airport development alternatives are summarized in the following paragraphs. Table 11 presents a detailed summary of the findings of the analysis. The cost data presented in the table include the costs of constructing facilities associated with each alternative plus costs to expand terminal building and airport access faclities at Miami International Airport.* The one-time costs for land acquisition and construction were converted to their equivalent annual values.**

Alternatives 1 and 1a. In Alternatives 1 and 1a, all demand would be accommodated at Miami International Airport, and no new runways would be constructed. Therefore, these alternatives would have little ability to accommodate demand above the 25 million enplanement planning activity level (i.e., flexibility would be relatively poor).

However, compared with Alternative 1, considerable savings in annual aircraft delay costs (about $43 million) and construction costs (about $76 million) could be achieved under Alternative 1a. These savings are a result of actions taken

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*Construction of additional facilities at Miami International Airport will be required to accommodate passenger traffic and to reduce congestion on Airport access roads. Without such improvements, terminal and access facilities could constrain the ability of the Airport to achieve aviation activity growth forecasts.

**An interest rate of 15% was used in the conversion. For land, an infinite life was used; for construction, a 20-year life was used.

Table 11

EVALUATION OF AIR CARRIER AIRPORT ALTERNATIVES
Dade County Aviation System Plan
25 million enplanement planning activity level

Evaluation Criteria	Alternative 1 Accommodate all demand at MIA--construct no new runways.	Alternative 1a Accommodate all demand at MIA--construct no new runways. Distribute operations more evenly over the day.	Alternative 2 Accommodate all demand at MIA--construct short GA runway.	Alternative 3 Accommodate all demand at MIA--construct air carrier runway.	Alternative 4[a] Limit operations at MIA to VFR hourly capacity--construct supplemental airport.	Alternative 5[a] Limit activity at MIA to 20 million enplanements--construct supplemental airport.
1. Demand						
Enplanements at MIA	25,000,000	25,000,000	25,000,000	25,000,000	22,700,000	20,000,000
Enplanements at a supplemental airport	0	0	0	0	2,300,000	5,000,000
Operations at MIA	667,000	667,000	667,000	667,000	606,000	540,000
Operations at a supplemental airport	0	0	0	0	84,000	173,000
2. Aircraft delays and delay costs at MIA						
Average annual aircraft delay (minutes)						
IFR conditions	40.3	35.6	40.3	36.3	2.6	15.1
VFR conditions	5.9	3.8	3.1	1.8	1.2	1.9
All-weather conditions	6.9	4.7	4.3	2.8	1.2	2.3
Average peak hour delay per aircraft (minutes)	38.8	21.1	18.8	7.8	2.9	7.5
Annual delay cost	$135,800,000	$92,500,000	$84,600,000	$55,100,000	$21,500,000	$36,800,000
3. Airspace interactions	No close-in interactions	No close-in interactions	Capacity benefits outweigh runway dependencies	Capacity benefits outweigh runway dependencies	Depends on site	Depends on site
4. Airport construction						
Capital costs						
Aviation facilities at MIA	$250,800,000	$183,200,000	$255,100,000	$1,615,000,000	$154,600,000	$ 41,900,000
Aviation facilities and roadways at a supplemental airport, low/high range	--	--	--	--	195,200,000/ 454,600,000	297,500,000/ 556,800,000
Roadways at MIA	88,000,000	80,000,000	88,000,000	88,000,000	80,000,000	67,000,000
Total capital costs	$338,800,000	$263,200,000	$343,100,000	$1,703,000,000	$429,800,000/ $689,200,000	$406,400,000/ $665,700,000
Feasibility of meeting requirements	Fair	Good	Fair	Fair	Good	Good
Disruption of operations during construction	None	None	Minor	Moderate disruption to Runway 9R-27L during construction, plus disruption to off-Airport roadways, railroads, and businesses	None	None
5. User operating and maintenance costs	--	--	--	--	Inefficiencies because of split operations	Inefficiencies because of split operations

Table 11 (page 2 of 3)
EVALUATION OF AIR CARRIER AIRPORT ALTERNATIVES
Dade County Aviation System Plan
25 million enplanement planning activity level

Evaluation Criteria	Alternative 1 Accommodate all demand at MIA--construct no new runways.	Alternative 1a Accommodate all demand at MIA--construct no new runways. Distribute operations more evenly over the day.	Alternative 2 Accommodate all demand at MIA--construct short GA runway.	Alternative 3 Accommodate all demand at MIA--construct air carrier runway.	Alternative 4[a] Limit operations at MIA to VFR hourly capacity--construct supplemental airport.	Alternative 5[a] Limit activity at MIA to 20 million enplanements--construct supplemental airport.
6. Airport access costs						
Average one-way trip cost for an originating passenger from downtown Miami, low/high range	$2.45	$2.45	$2.45	$2.45	$2.65/$6.00	$2.90/$9.65
7. Environmental compatibility						
Suitability of biological impacts	Very high	Very high	Very high	Very high	Very high at MIA Very high to very low depending on site	Very high at MIA Very high to very low depending on site
Suitability of water quality impacts	Very high	Very high	Very high	Very high	Very high at MIA Very high to very low depending on site	Very high at MIA Very high to very low depending on site
Air quality	Would not satisfy ambient air quality standard	Would not satisfy ambient air quality standard	Would not satisfy ambient air quality standard	Would not satisfy ambient air quality standard	Would not satisfy ambient air quality standard	Would not satisfy ambient air quality standard
8. Community compatibility						
Noise compatibility	Very high	Very high	Very high	Low	Very high at MIA	Very high at MIA
Other development impact compatibility	Very high	Very high	Very high	High	Very high at MIA Very high to very low depending on site.	Very high at MIA Very high to very low depending on site
9. Economic impact						
Jobs retained by Dade County	Moderate	Moderate	Moderate	Moderate	Moderate at MIA Very high to very low depending on site	Moderate at MIA Very high to very low depending on site
Potential for urban development in airport environs	Very high	Very high	Very high	Very high	Very high at MIA Very high to very low depending on site	Very high at MIA Very high to very low depending on site

Table 11 (page 3 of 3)
EVALUATION OF AIR CARRIER AIRPORT ALTERNATIVES
Dade County Aviation System Plan
25 million enplanement planning activity level

Evaluation Criteria	Alternative 1 Accommodate all demand at MIA--construct no new runways.	Alternative 1a Accommodate all demand at MIA--construct no new runways. Distribute operations more evenly over the day.	Alternative 2 Accommodate all demand at MIA--construct short GA runway.	Alternative 3 Accommodate all demand at MIA--construct air carrier runway.	Alternative 4[a] Limit operations at MIA to VFR hourly capacity--construct supplemental airport.	Alternative 5[a] Limit activity at MIA to 20 million enplanements--construct supplemental airport.
10. Flexibility of implementation						
Ability to accommodate more traffic than forecast	Poor	Poor	Fair	Good	Good to poor, depending on site	Good to poor, depending on site
Ability to accommodate future technology aircraft	Fair	Fair	Fair	Fair	Good to poor, depending on site	Good to poor, depending on site
Financial staging considerations	Continuing financial commitment	Minimum financial commitment	Same as Alternative 1 plus one-time small financial commitment to achieve operational benefits	Same as Alternative 1 plus large one-time financial commitment to achieve operational benefits	Large one-time financial commitment to achieve operational benefits Land banking could assure availability of site	Large one-time financial commitment to achieve operational benefits Land banking could assure availability of site.
Effects of improvements in air traffic control system	None	None	None	None	Depends on site.	Depends on site.
11. Total annual aircraft delay and capital costs[b]	$190 million	$135 million	$140 million	$327 Million	$90/132 million	$102/143 million

Note: MIA = Miami International Airport, GA = general aviation, IFR = instrument flight rules, VFR = visual flight rules.

a. See Table 12 for more information on supplemental airport options.
b. Capital costs were converted to equivalent annual costs using a 20-year life and 15% interest.

Source: Peat Marwick, Dade County Aviation Department, Dade County Planning Department, Dade County Department of Environmental Resources Management, December 1987.

by DCAD to encourage all operators to shift some operations from peak to off-peak hours to help reduce delays. The total capital cost for Alternative 1a would be the least of all the alternatives, followed by Alternative 1. Airport access costs would be lowest and proximity to demand would be best for Alternatives 1, 2, and 3 compared with Alternatives 4 and 5.

Also, in general, environmental compatibility of Alternatives 1, 2, and 3 would be better than for Alternatives 4 and 5.

Alternative 2. In Alternative 2, all demand would be accommodated at Miami International Airport, and a short general aviation and commuter runway would be constructed parallel to and north of Runway 9L-27R. The capital cost of a short runway would be relatively small, and some delay reduction benefits would justify the incremental capital investment of $4 million. More detailed study in subsequent planning efforts would be required to determine the types and hours of general aviation operations and the probable use of such a runway during peak hours. This alternative would have limited ability to accommodate demand above the 25 million enplanement planning activity level (i.e., flexibility would be relatively poor). Compared with Alternatives 4 and 5, Airport access costs would be lowest and proximity to demand would be best for Alternatives 1, 2, and 3. Also, in general, environmental compatibility of Alternatives 1, 2, and 3 would be better than for Alternatives 4 and 5.

Alternative 3. In Alternative 3, all demand would be accommodated at Miami International Airport, and a new air carrier runway would be constructed, requiring costly land acquisition and the relocation of development south of the Airport. The total capital cost ($1.7 billion) would be significantly higher than for any other alternatives and would not be justified by the delay reductions that could be achieved. This alternative would increase the ability of the Airport to accommodate demand above the 25 million enplanement planning activity level (i.e., flexibility would be relatively good). Compared with Alternatives 4 and 5, Airport access costs would be lowest and proximity to demand would be best for Alternatives 1, 2, and 3. Also, in general, environmental compatibility of Alternatives 1, 2, and 3 would be better than for Alternatives 4 and 5. Noise and other community compatibility impacts would be rated low, compared with Alternatives 1 and 2.

Alternatives 4 and 5. In Alternatives 4 and 5, an air carrier airport would be developed to supplement activity at Miami International Airport. Activity at Miami International Airport would be limited and excess demand would be served at the supplemental airport. The supplemental air carrier airport would:

- Reduce aircraft delays at Miami International Airport. (Total delay costs would be considerably less than for Alternatives 1, 2, and 3--$20 to $38 million per year, compared with between $71 million and $136 million.)
- Reduce facility requirements, construction costs, and congestion at Miami International Airport.
- Relieve potential problems in expanding the terminal building and the Airport access roadways at Miami International Airport to accommodate the maximum planning activity level.
- Increase the flexibility of the Aviation System.
- Create negative aircraft noise and natural environmental impacts in the County, depending on its location.

Supplemental Airport Options

As described in previous chapters, all of the options have differing characteristics in terms of achieving the goals and objectives of the Aviation System Plan. The following paragraphs summarize the principal findings, and Table 12 presents a detailed summary of the findings of the analysis.

Option A: Homestead Air Force Base. With Option A, the airport would have relatively poor proximity to major centers of forecast demand. Major interactions between military and air carrier aircraft would occur unless the existing overhead approaches and traffic pattern for military aircraft are shifted over noise-sensitive areas. The development of the Airport would affect environmentally sensitive pinelands and possibly mangrove communities of Biscayne National Park (i.e., ecological suitability would be low). The ability of the Airport to accommodate demand greater than forecast would be relatively poor (i.e., flexibility would be poor).

Table 12

EVALUATION OF SUPPLEMENTAL AIR CARRIER AIRPORT OPTIONS
Dade County Aviation System Plan
25 million enplanement planning activity level

Evaluation Criteria	Homestead Air Force Base	Homestead General Aviation Airport	Opa-locka Airport	Tamiami Airport	New close-in site	New distant site
1. Demand						
Dade County domestic originating passengers within 40 minutes in 2015	1,110,000	860,000	5,640,000	2,790,000	4,520,000	0
Total region domestic originating passengers within 40 minutes in 2015	1,110,000	860,000	6,550,000	2,790,000	4,840,000	0
Total region domestic originating passengers within 60 minutes in 2015	5,570,000	4,700,000	7,380,000	6,240,000	7,310,000	60,000
2. Aircraft delays	Minor	Minor	Minor	Minor	Minor	Minor
3. Airspace interactions (assuming only one air carrier arrival and departure stream)	Minor to moderate (with MIA), assuming adoption of procedures to provide vertical separations for instrument approaches in southwest flow (less than 20% of the time) Major (on-Airport) unless military overhead approaches and traffic patterns are shifted to the north over a noise-sensitive area	Moderate to major (with Homestead Air Force Base) unless GCA airspace is changed Minor to moderate (with Tamiami) assuming adoption of procedures to resolve interactions with operations at Tamiami	Minor, assuming adoption of procedures to provide vertical separation from downwind approach to MIA Runway 27R	Minor	Minor to moderate (with MIA) Operations at new site would interact with departures from MIA Runway 30 and arrivals to MIA Runway 12 Minor to moderate (with Opa-locka) if instrument operations at Opa-locka do not increase significantly (see text for discussion)	No close-in interactions
4. Capital costs beyond 1995						
Alt. 4 (2.3 million enplanements)	$223,300,000	$228,600,000	$454,600,000[a]	$195,200,000	$429,500,000	$297,200,000
Alt. 5 (5 million enplanements)	$325,700,000	$333,400,000	$556,800,000[a]	$297,500,000	$554,200,000	$416,900,000
5. User cost considerations						
Distance to MIA (miles)	27	35	6	18	20	53
6. Access cost considerations						
Average travel time for all Dade County domestic originating passengers (minutes)	47	53	6	39	37	83
Distance to downtown Miami (miles)	31	39	10	21	24	17 to passenger terminal plus 40 to airfield

Table 12 (Page 2 of 2)
EVALUATION OF SUPPLEMENTAL AIR CARRIER AIRPORT OPTIONS
Dade County Aviation System Plan
25 million enplanement planning activity level

Evaluation Criteria	Homestead Air Force Base	Homestead General Aviation Airport	Opa-locka Airport	Tamiami Airport	New close-in site	New distant site
7. Environmental compatibility						
Suitability of biological impact	Low	Low	Very high	Moderate	Moderate[b]	Very low
Suitability of water quality impact	Very high	Low	High	Moderate	High	High
8. Community compatibility						
Noise compatibility	Low to high (see airspace)	High	Very low	Low	Very high	Very high
Other development impacts	Moderate	Moderate	Low to moderate	Moderate	High	High
9. Economic impact						
Jobs retained by Dade County	High	Very high	Moderate	Very high	Low	Very low
Potential for urban development in airport environs	Low	Low	Very high	High	Moderate	Very low
10. Flexibility of implementation						
Ability to accommodate more traffic than forecast (more than one arrival stream)	Poor	Good	Poor	Poor	Poor or good, depending on location	Good
Ability to be developed to accommodate future technology aircraft	Good	Good	Poor	Poor	Good	Good
Ability to extend a runway to accommodate aircraft for long-distance flights	Good	Good	Poor	Poor	Good	Good
Effects of improvements in air traffic control system (such as curved instrument approaches)		Could improve efficiency of airspace operations			Could improve efficiency of airspace operations.	
Effects on general aviation	None at the airport	Growth of low-performance aircraft activity would be inhibited	Growth of low-performance aircraft activity would be inhibited	Growth of low-performance aircraft activity would be inhibited	None at the airport At Opa-locka, instrument operations should not increase significantly above present levels	None at the airport
Attractiveness of land banking	Good	Good	Not possible, land already developed	Not necessary	Good	Not necessary
11. Total annual aircraft delay and capital cost[c] (Alternative 4/Alternative 5)	$95/106 million	$96/108 million	$132/143 million	$90/102 million	$128/143 million	$107/121 million

Note: MIA = Miami International Airport, GCA = Ground Controlled Approach, VFR = Visual Flight Rules, IFR = Instrument Flight Rules.

a. If aircraft operations at Opa-locka Airport would be restricted to all Stage 3 aircraft, land acquisition costs would be $131 million less.
b. Rating assumes that the close-in site is not in an environmentally-sensitive area.
c. Capital costs were converted to equivalent annual costs using a 20-year life and 15% interest.

Source: Peat Marwick, Dade County Aviation Department, Dade County Planning Department, Dade County Department of Environmental Resources Management, December 1987.

Option B: Homestead General Aviation Airport. With Option B, the Airport would have relatively poor proximity to major centers of forecast demand. Major airspace interactions would be expected. The development of the Airport would adversely affect environmentally sensitive wetlands (i.e., the suitability of the biological impact would be relatively low). The Airport is located in the general vicinity of an area targeted to be a future major wellfield (i.e., the suitability of the water quality impact would be relatively low).

Option C: Opa-locka Airport. With Option C, a significant area of residential development in the Airport environs would be exposed to aircraft noise (i.e., noise compatibility would be rated very low). Relatively high capital costs would be incurred for land acquisition needed for clear zone areas and noise abatement purposes. The total capital cost would be approximately $455 million (Alternative 4) or $557 million (Alternative 5), which are the highest capital costs of all of the supplemental airport options. However, if aircraft operations were to be restricted to relatively quiet (Stage 3) aircraft, the aircraft noise impacts would be less and the capital cost would be less.

The ability of the Airport to accommodate demand greater than forecast would be relatively poor (i.e., flexibility would be poor). The Airport would have the best proximity to major centers of forecast demand of all the supplemental airport sites. The Airport would rate very high in terms of the suitability of biological and water quality impacts.

Option D: Tamiami Airport. With Option D, the Airport would have relatively poor proximity to major centers of forecast demand, ranking higher than Homestead Air Force Base and Homestead General Aviation Airport but lower than the other sites.

The Airport would rate relatively low in terms of noise compatibility. The ability of the Airport to accommodate demand greater than forecast would be poor (i.e., flexibility would be poor).

Option E: New Close-in Site. With Option E, findings regarding a general close-in site in northwest Dade County were as follows:

- A close-in site would have good proximity to major centers of forecast demand.
- The development of the site would have high community compatibility.
- Relatively high capital costs ($430 million for Alternative 4 or $554 million for Alternative 5) would be incurred--only Opa-locka Airport would have higher costs.
- The flexibility of the airport to be expanded to accommodate future technology aircraft or extended runways would be relatively good.
- The flexibility of the airport to be developed to accommodate two or more arrival and departure streams would depend on the site location.
- The environmental impacts could vary, depending on the site location.
- Community compatibility would be rated relatively high.

Option F: New Distant Site. With Option F, the site would have the poorest proximity to major centers of forecast demand. The development of the site would have a significant effect on environmentally sensitive wetlands (i.e., the suitability of the biological impact would be very low). An airport on this site would have no close-in airspace interactions, and would rate relatively high in terms of community compatibility.

GENERAL AVIATION AIRPORT ALTERNATIVES

Capacity Enhancement Alternatives

Table 13 presents a detailed summary of the findings of the general aviation analyses. The following paragraphs describe the principal findings for each capacity enhancement alternative.

Table 13

EVALUATION OF GENERAL AVIATION CAPACITY ENHANCEMENT ALTERNATIVES ANALYSIS
Dade County Aviation System Plan
1.5 Million Operations Planning Activity Level

Evaluation criteria	Alternative 1 Construct no new runways.	Alternative 1a Construct no new runways; construct an airport traffic control tower at Homestead General Aviation Airport.	Alternative 2 Take actions to shift operations from overutilized airports to under-utilized airports.	Alternative 3 Construct a new east-west runway at Homestead General Aviation Airport.	Alternative 4 Construct a new northeast-southwest west runway at Homestead General Aviation Airport.	Alternative 5 Construct a general aviation runway at Homestead Air Force Base.	Alternative 6 Construct a general aviation runway at a new general aviation airport.
1. Annual aircraft delay, capital, and access costs							
Aircraft delay costs	$26,730,000	$26,040,000	$12,000,000	$9,570,000	$9,570,000	$6,810,000	$6,810,000
Capital costs	2,720,000	4,410,000	4,630,000	6,100,000	6,360,000	8,150,000	9,690,000
Access costs	3,600,000	3,600,000	4,820,000	4,640,000	4,640,000	4,550,000	4,600,000
Total annual costs	$33,050,000	$34,050,000	$21,450,000	$20,310,000	$20,570,000	$19,510,000	$21,100,000
2. Airspace interactions	Congestion and delays would be incurred at Tamiami Airport	An airport traffic control tower is recommended when demand warrants	Shifting operations from Tamiami Airport to Opa-locka Airport conflicts with developing a supplemental air carrier airport	VFR - none IFR - moderate to major interactions with Homestead Air Force Base	VFR - none IFR - minor to moderate interaction with Homestead Air Force Base	VFR and IFR - major interactions with operations on existing runway	VFR - no direct interactions IFR - moderate to major interactions
3. Environmental compatibility							
Suitability of water quality impacts	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Suitability of biological impacts	High	High	High	Low if construction is west of Canal L-31N; high if construction is east of Canal L-31N	Low if construction is west of Canal L-31N; high if construction is east of Canal L-31N	Low	Low if construction is west of Canal L-31N; high if construction is east of Canal L-31N
4. Community compatibility							
Noise impact compatibility	High	High	High	Moderate	Moderate	Low	High
Other development impact compatibility	High	High	High	High	High	Moderate	Moderate
5. Economic impact							
Retained employment	High	High	High	High	High	Moderate	High
Added development	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
6. Flexibility	Very low	Very low	Low	High	High	Very high	Very high

Source: Peat Marwick, Dade County Planning Department, Dade County Department of Environmental Resources Management, March 1988.

Table 13 includes a tabulation of the annual costs of aircraft delays, capital improvements, and airport access. Alternatives 1 and 1a would be the most costly alternatives, with a total annual cost of $33 million to $34 million. Alternatives 3, 4, and 5 would be the least costly alternatives, with total annual costs ranging from $20 million to $21 million. The table indicates that it would be less costly to provide facilities in southern Dade County to accommodate demand than to encourage demand to shift from southern Dade County airports to Opa-locka Airport.

Alternatives 1 and 1a. In Alternatives 1 and 1a, no new runways would be constructed to provide increased airfield capacity to accommodate general aviation demand. Therefore, these alternatives would have little ability to accommodate demand above the 1.5 million operations planning activity level (i.e., flexibility would be relatively poor). The total annual cost of these alternatives would be higher than for any other alternative.

Alternative 2. In Alternative 2, actions would be taken to shift operations from overutilized to underutilized airports. The capital cost of a new tower would be relatively small, and the resultant savings in aircraft delay costs would make the total annual cost for the aviation system less than that of Alternative 1. This alternative would increase the flexibility of the aviation system with regard to variations in the forecasts of general aviation demand. Savings in annual aircraft delay costs could be achieved under Alternative 2, compared with Alternative 1, as a result of action taken by DCAD to encourage some general aviation operators to use Opa-locka Airport. However, because of the potential development of an air carrier airport in northwest Dade County or southern Broward County, it would be undesirable to encourage the number of IFR operations at Opa-locka Airport to increase above the current level. Therefore, while savings in annual aircraft delay costs could be achieved by shifting operations to Opa-locka Airport from Tamiami Airport, doing so would conflict with the objective of developing a supplemental air carrier airport.

Alternative 3. In Alternative 3, a new east-west runway would be constructed parallel to existing Runway 9-27 at Homestead General Aviation Airport. It would not be necessary for operations to shift from the south part of the County to the north part of the County. The total annual cost of the aviation system would be less than for Alternatives 1 and 2 and would justify construction of the new runway. From an airspace standpoint, aircraft operations on an east-west runway at the Homestead General Aviation Airport would have minor to moderate IFR interactions with aircraft operations at Homestead Air Force Base. IFR departures would be constrained by the antenna tower northeast of the Airport. From an environmental standpoint, construction of the east-west runway east of Canal L31-N would have high compatibility; construction west of the canal would have very low compatibility. It would be feasible to construct the runway to the east of the canal. From a community impact standpoint, this alternative would have very high compatibility in terms of noise and other impacts.

Alternative 4. In Alternative 4, a new northeast-southwest runway would be constructed at Homestead General Aviation Airport. As in Alternative 3, savings in annual aircraft delay costs would justify the cost of the new runway, compared with Alternative 1. From an airspace point of view, moderate to major IFR interactions would occur between aircraft on approach to Homestead General Aviation Airport and Homestead Air Force Base in northeast flow. A major reallocation of the GCA airspace would be required. From an environmental impact point of view, construction of the runway east of Canal L-31N would have high compatibility; construction west of the canal would have very low compatibility. It would be feasible to construct the runway east of the canal. From a community impact point of view, this alternative would have very high compatibility in terms of noise and other community impacts.

Alternative 5. In Alternative 5, a new general aviation runway would be constructed at Homestead Air Force Base. The savings in annual aircraft delay costs would justify the cost of construction. Problems associated with implementing integrated Air Force and civilian aviation airport activity were not quantified. However, major interactions between general aviation aircraft and high performance Air Force aircraft would occur. Also, as in the air carrier airport alternatives, the existing overhead approaches and traffic pattern for Air Force aircraft would have to be shifted over noise sensitive areas north and west of the airport.

Alternative 6. In Alternative 6, a new general aviation airport would be constructed in southern Dade County between Homestead General Aviation and Tamiami airports. The savings in aircraft delay costs would justify the cost of construction of the new facility. However, from an air traffic control point of view, the limited maneuvering room between the three airports could result in moderate to major indirect interactions in VFR. Also, depending upon the level of IFR activity, moderate to major IFR interactions could result from the overlapping traffic patterns. From an environmental standpoint, construction of the runway east of Canal L31-N would have high compatibility; construction west of the canal would have low compatibility. From a community impact standpoint, this alternative would have very high compatibility in terms of noise and other community impacts.

Tamiami Airport Runway Extension

Extension of Runway 9R-27L at Tamiami Airport to the west would provide several benefits:

- The extended runway would permit the Airport to meet the FAA minimum requirement for runway length for Tamiami's classification as a transport airport.

- The extended runway would increase the attractiveness of the Airport to general aviation operators as a reliever airport to Miami International Airport.

- The extended runway would also be in keeping with the findings of the recommendation to develop a supplemental air carrier airport in the northern part of the County rather than in the southern part of the County--with a supplemental air carrier airport to the north, it would be undesirable to increase the number of IFR aircraft operations at Opa-locka Airport. Therefore, it will become increasingly important to have an airport that can accommodate the full range of general aviation aircraft operations in the County.

- The extended runway would improve the image of the Airport to business jet operators. The Airport could accommodate a wider range of business jet aircraft which could operate with higher payloads over greater distances.

- The extended runway could affect business location decisions and increase the economic development of south Dade County.

- Based on the aircraft noise analysis in this study, aircraft noise impacts--as measured by the Ldn noise metric--would be less east of the Airport with the extension than without the extension.

- Aircraft taking off to the east would be a higher altitude at the Airport boundary; if takeoff problems occur, aircraft would have greater opportunity to maneuver over unpopulated areas.

Chapter 8

RECOMMENDATIONS AND IMPLEMENTATION

This chapter (1) summarizes the recommendations on air carrier and general aviation airport development alternatives and (2) describes the implementation steps for the DCASP.

AIR CARRIER AIRPORT RECOMMENDATIONS

A combination of the alternatives was approved by the Study Steering Committee and a majority of the members of the Study Advisory Council. The recommendations are described in the following paragraphs. The recommendations comprise an action program consisting of actions that should be initiated in the near future and others that can be delayed for some time.

Take Actions to Reduce Growth of Activity at Miami International Airport in Peak Hours

Actions to encourage the reduction of activity in peak hours under Alternatives 1 and 1a should be actively pursued. As traffic increases at Miami International Airport and aircraft delays become a matter of increasing concern, some changes would be expected to take place without DCAD actions: airlines and other users might (1) reschedule certain activity to off-peak hours, (2) use larger aircraft to reduce the number of aircraft operations necessary to carry passengers and cargo, and (3) delay introduction of additional flights to accommodate increasing demand and thereby increasing load factors. To encourage actions to reduce delays, Dade County should consider development of a continuing program to explore ways to work with Airport users to reduce activity in peak hours. The DCAD program could include development of an information system to inform users of the extent, timing, and causes of delays and development of incentives to reduce peak hour activity, such as increased user fees at Miami International Airport and provision of facilities at other airports, consistent with their roles.

Evaluate Construction of a Short Runway at Miami International Airport

Studies of the construction of a short runway (for use by small general aviation and commuter aircraft) at Miami International Airport under Alternative 2 should be continued.

Surveys should be made to determine the types and hours of general aviation and commuter operations and the probable use of the potential runway during peak hours. If it is determined that significant operational benefits could be achieved, a plan for the construction of the new runway should be developed.

Construct a Supplemental Airport

The most desirable candidate location for a supplemental airport would be a close-in new site. A close-in new site would be relatively close to centers of demand. Such a site should be located to minimize natural environmental impacts, to minimize aircraft noise impacts, and to permit its eventual, long-term expansion to operate two simultaneous aircraft arrival and departure streams.

Therefore, the recommendation for a supplemental airport is presented in the following paragraphs.

- Evaluate alternative airport layouts for a supplemental air carrier airport at a close-in location in northwest Dade County or southwest Broward County. In Dade County, the site layout studies should be conducted north of the Miami Canal (to avoid conflict with the Northwest wellfield), east of the South Florida Water Management District Water Conservation Area (to avoid potential environmental problems),* and west of the Florida Turnpike (to avoid potential conflicts with future residential development).

  Each alternative should be evaluated in terms of a wide range of evaluation criteria, emphasizing the following tasks:

  1. Analyze the locations of originating passenger demand on a multi-county basis to permit objective comparisons of the relative proximity of demand to the alternative sites.

  2. Analyze airspace operations to determine the ability of each site to accommodate two or more arrival and departure streams.

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*The eastern boundary of the South Florida Water Management District Water Conservation Area is Canal L-30N.

3. Analyze aircraft noise to determine the relative noise impact of the alternatives and the types and extent of noise mitigation actions, including land acquisition.

4. Analyze natural environmental impacts of each alternative.

On the basis of the evaluation, a site layout should be chosen for the supplemental airport.

- Apply to FAA for an airspace reservation for the site.
- Prepare a federal environmental impact statement.
- Arrange financing for site acquisition (land banking).
- Acquire land for the airport and an appropriate aircraft noise buffer area and make provisions to protect airport access corridors to assure that the airport can be developed when required.

These recommendations should be pursued on a priority basis so that construction of a supplemental airport will not be thwarted by (1) potentially incompatible urban development in both Dade and Broward Counties, (2) construction of structures that would cause airspace obstructions, or (3) construction of another airport whose airspace would conflict with the airspace requirements for the supplemental airport.

Other Actions

1. Continue coordination with the FAA on airport and airspace planning regarding the development of Miami International Airport and a supplemental airport.

2. Review supplemental airport options again in five years, as activity at Miami International Airport approaches approximately 450,000 aircraft operations or 15 million enplanements annually. A new close-in Dade County site or other alternatives that may be available should be considered.

3. Actions should not be taken at Opa-locka Airport that would (1) encourage growth in the number of IFR operations, or (2) affect development of a new close-in air carrier site in northwest Dade County. Otherwise, proceed to accomplish interim development of Opa-locka Airport, as appropriate, subject to further airspace studies.

GENERAL AVIATION AIRPORT RECOMMENDATIONS

The following recommendations regarding the general aviation alternatives were approved by the Study Steering Committee and a majority of the members of the Study Advisory Council:

Construct an Air Traffic Control Tower and a New Runway at Homestead General Aviation Airport

Construct an air traffic control tower and a new runway at Homestead General Aviation Airport. The expanded Airport would provide additional airfield capacity, which would relieve growth pressures at Tamiami Airport, which, in turn, is a reliever airport for Miami International Airport. The specific orientation and location of the new runway should be evaluated in a airport layout planning study for the Airport in terms of airspace implications, airfield capacity, and environmental impact. Runway locations and orientations that are not analyzed in this study may be available.

Extend Runway 9R-27L at Tamiami Airport

The Tamiami Airport recommendations are as follows:

1. Extend Runway 9R-27L at Tamiami Airport to the west to a total length of approximately 6,900 feet, subject to the findings of a FAR Part 150 Study (see the implementation section in this chapter).

2. The Dade County Aviation Department should confirm its Operational Directive No. 2 that the Department will not develop facilities at Tamiami Airport to accommodate air carrier passenger activity or all-cargo aircraft activity (see Chapter 6) for aircraft heavier than those limited by runway strength constraints.

3. In a new Operational Directive, the Dade County Aviation Department should establish a policy that the Department will not increase the strength of the Airport's runways, taxiways, and aprons, to accommodate aircraft with a maximum gross takeoff weight greater than 75,000 pounds.

DADE COUNTY AVIATION SYSTEM PLAN

Exhibit I is a map of the Dade County Aviation System Plan that shows the locations of the existing airports and the approximate location of the supplemental air carrier airport site. Table 14 shows the recommended airport activity levels for the long-range (year 2015).

IMPLEMENTATION OF RECOMMENDATIONS

This report describes a program for implementing the selected Dade County Aviation System Plan. The policy requirements and action plan necessary for adoption of the Aviation System Plan in its final form are outlined. The implementation program includes a description of a continuing planning process, recommended specific planning, design, and construction activities, and a set of contingency plans.

One of the keys to implementation of an effective airport system is to undertake development projects based on a demonstrated demand for facilities and services. Some of the projects are recommended for immediate or short-term implementation. Other recommended projects are based on requirements that are associated with planning activity levels of demand. Those planning activity levels have been identified in terms of the forecast year in which the level of activity would occur. However, actual aviation activity must be compared with forecast activity in order to establish the correct timing of implementation actions. Thus, a condition associated with the tentative implementation activity schedules presented subsequently is that demand materialize as expected over time. Should demand for facilities be different than forecast, adjustments in development schedules must be made.

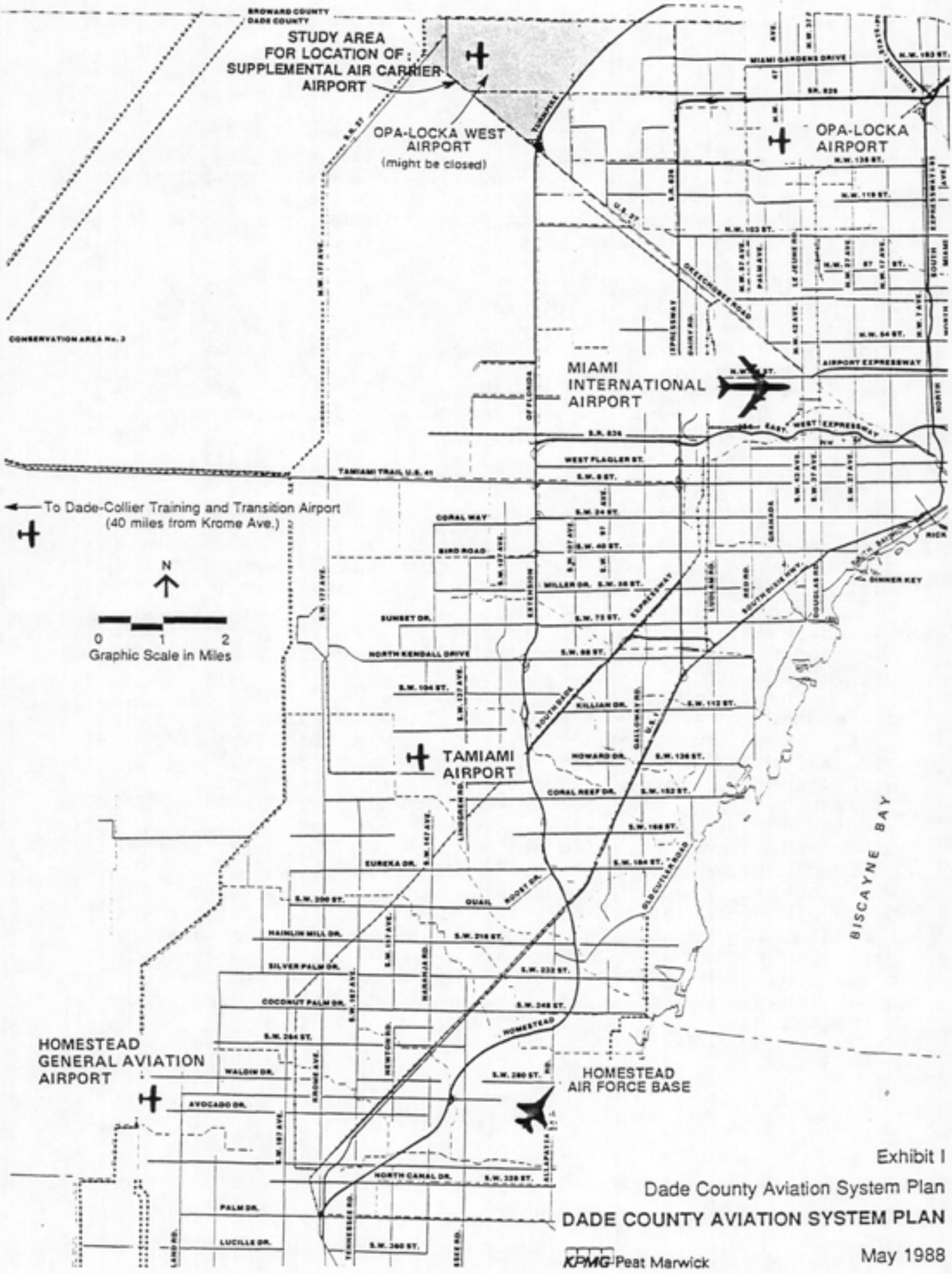

Exhibit I

Dade County Aviation System Plan

DADE COUNTY AVIATION SYSTEM PLAN

KPMG Peat Marwick

May 1988

Table 14

RECOMMENDED AIRPORT ACTIVITY FOR
LONG-RANGE PLANNING ACTIVITY LEVELS

Air carrier airports	Annual aircraft operations[a] Alternative 4	Alternative 5
Miami International	606,000	540,000
Supplemental airport	84,000	173,000
Total	690,000	713,000

General aviation airports	Annual aircraft operations[b]
Homestead general aviation	475,000
Opa-locka	493,000
Tamiami	483,000
Total	1,451,000

a. Air carrier operations at Miami International Airport might be limited by conditions assumed under either Alternative 4 (a constraint on hourly operations) or Alternative 5 (a constraint on passengers).
b. Fixed wing aircraft. Some 49,000 helicopter operations are forecast to take place at the three airports.

Air Carrier Airports

Based on the air carrier airport implementation plan, a tentative series of implementation activities has been identified. These are illustrated on Exhibit J and include the following:

For Miami International Airport

- Review aviation activity forecasts and update system plan periodically in the future--five years is the recommended interval for completion of this task.

- Initiate a program to manage peak hour airfield demand. Work with users to minimize delays at Miami International Airport. This program could be initiated immediately.

- Update Miami International Airport Layout Plan to reflect future facility development plans. The plan should include an analysis of the need for and feasibility of a short runway and analyses of airport access roadways.

- Prepare and obtain approvals for an Environmental Assessment (EA), Environmental Impact Statement (EIS), and Determination of Regional Impact (DRI), as necessary, for the short runway. Establish the financial feasibility of the short runway and other projects.

- Develop designs, specifications, and cost estimates for planned facility improvements.

- Develop financial plans, obtain agreement with the airlines on the construction program, and finance the projects.

- Undertake project construction to provide other facility improvements at Miami International Airport, including the short runway for general aviation and commuter aircraft.

For a Supplemental Airport

- Undertake an airport layout study immediately for a supplemental airport located in northwest Dade County or southwest Broward County, east of the water conservation area and Canal L-30N, north of the Miami Canal, and west of the Florida Turnpike.

Additional studies should include the following:

- An analysis of the locations of originating passengers on a multicommunity basis and an evaluation of the extent to which the supplemental airport would attract originating passengers in Dade, Broward, and Palm Beach counties.

- Airspace studies to determine the ability of potential airfield locations to accommodate two or more arrival and departure streams over the long term.

- Aircraft noise analyses to determine the relative impact of alternative airfield locations and the types and extent of noise mitigation actions, including land acquisition, that should be taken.

- Natural environmental impact analyses.

- Obtain an airspace reservation from the FAA for the supplemental airport.

- Prepare and obtain approvals for an EA and an EIS for site acquisition for the new airport. Financing for land acquisition should be arranged. If possible, the Jetport Pact among Dade County, the State of Florida, and the federal government should be renewed so that 100% federal funding of land acquisition will be obtained.

- On the basis of the site evaluation study, establish a land acquisition program. That program should include coordination with Broward County and should be initiated as soon as possible with title searches and property appraisals. Land for the new airport should be acquired. This action and the preceding site evaluations and environmental impact statements, should be accomplished on a priority basis.

- Subsequent to periodic updates of the Aviation System Plan, an updated airport layout plan for the supplemental airport should be prepared.

- When construction is anticipated, update the EA and EIS, and prepare and obtain approval of a DRI for the supplemental airport, as necessary.*
- Prepare design, specifications, and cost estimates.*
- Prepare financial plans.*
- Construct the supplemental airport.*

For the Aviation System

- Review and monitor aviation activity. Coordination with federal, State, and local agencies should be maintained through participation by those entities in the planning process.

General Aviation Airports

Based on the general aviation airport recommendations, a tentative series of implementation activities has been identified. These are illustrated on Exhibit K and include the following:

For Homestead General Aviation Airport

- Prepare an airport layout plan for Homestead General Aviation Airport to include construction of a control tower and a new runway.
- Conduct an FAR Part 150 study to identify areas in the vicinity of the Airport that should be protected from incompatible development and to determine the actions that should be taken to assure such protection.
- Prepare an EA, EIS, and DRI, as necessary, for Homestead Airport land acquisition and construction projects to be undertaken within the short-range (5-year) period.

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*Environmental studies, airport design, financial planning, and construction activities would be triggered by actual growth of air carrier aviation activity.

- Develop designs, specifications, and cost estimates for planned facility improvements.*

- Undertake construction of Airport expansion projects.

For Opa-locka Airport

- Prepare and obtain approval for an EA, EIS, and DRI for the extension of Runway 12-30, a project that has previously been initiated.

- Prepare design, specifications, and cost estimates.

- Undertake construction of the runway extension.

For Opa-locka West Airport

- Close Opa-locka West Airport if and when necessary for development of a supplemental air carrier airport.

For Tamiami Airport

- Conduct an FAR Part 150 noise compatibility study to evaluate noise abatement and noise mitigation measures associated with (1) the existing airfield and (2) the airfield with extended Runway 9R-27L. Implement the measures.

- If the FAR Part 150 study indicates that the extension of Runway 9R-27L to the west is desirable, update the Tamiami Airport Layout Plan to include the runway extension.

- Prepare and obtain approvals for an EA, EIS, and DRI, as necessary, for Tamiami Airport projects to be undertaken within the short-range (5-year) period.

- Prepare design, specifications, and cost estimates.

- Construct the runway extension.

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*Design and construction activities would be triggered by actual growth of general aviation activity.

CONTINGENCY PLANS

As described previously, the use of planning activity levels for determining facility requirements shows that facility development is triggered by the actual growth in traffic in the future. The flexibility of the alternatives with regard to deviations in demand provides the basis for contingency plans for the Aviation System Plan.

In the event that air carrier demand grows at a rate greater than forecast, planning and construction of a supplemental airport should be undertaken earlier than suggested in the implementation plan.

In the event that general aviation demand grows at a rate faster than air carrier demand, general aviation facilities in the southern part of the County should be developed to serve that demand. Also, the supplemental air carrier airport could be built in phases so that it would operate initially as a general aviation airport.

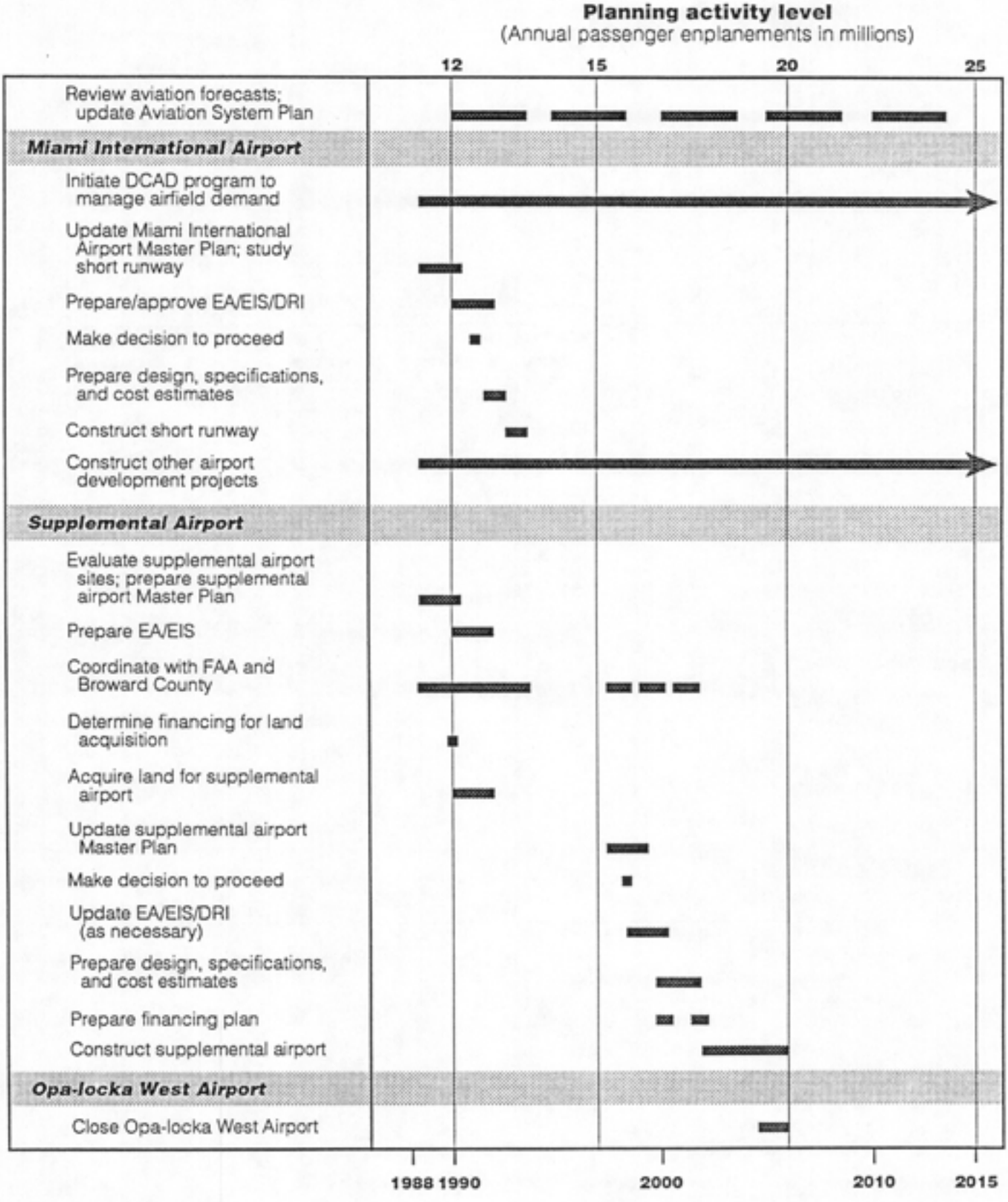

Exhibit J

Dade County Aviation System Plan

AIR CARRIER AIRPORTS IMPLEMENTATION PLAN

KPMG Peat Marwick

May 1988

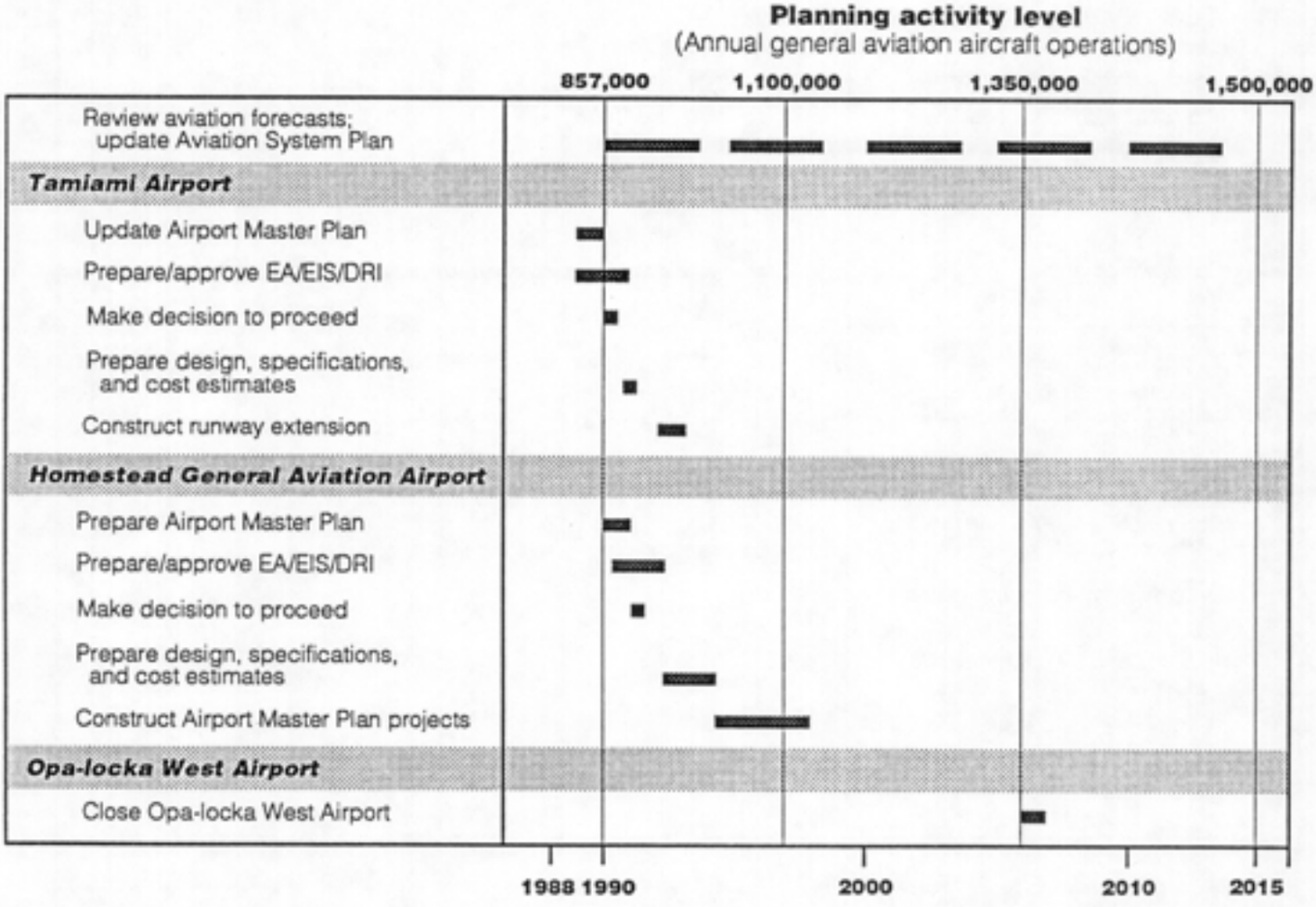

Exhibit K

Dade County Aviation System Plan

GENERAL AVIATION AIRPORTS IMPLEMENTATION PLAN

KPMG Peat Marwick

May 1988

Appendix A

PUBLIC MEETINGS TO REVIEW THE FINDINGS AND RECOMMENDATIONS

Two public information meetings, one in north Dade County and one in south Dade County, were held to review the findings and preliminary recommendations (see Exhibit A-1).

Members of the general public and representatives of interested organizations attended. The following organizations were represented:

Kendall Federation of Homeowner Associations
Greater Miami Aviation Association
Crossings Homeowners Association
Pan Am Flying Club
Friends of the Everglades
Florida Sport Aviation Association
South Dade Chamber of Commerce
Experimental Aircraft Association
Redlands Civic Association
City of Miami Springs
City of Coral Gables
South Dade Vision 2000 Council
League of Women Voters
Tropical Audubon Society
North Dade Chamber of Commerce
Dade Aviation Tenants and Users Inc.

Comments made at the two meetings are summarized below.

Comments on the Runway Extension at Tamiami Airport

The Kendall Federation of Homeowners Associations expressed opposition to the extension.

The Greater Dade County Chamber of Commerce supported the extension but opposed use of the Airport by all-cargo aircraft and aircraft in commercial airline passenger service.

Concern was expressed about the role of Tamiami. The proposed role of the Airport, as discussed in this report, was explained.

Exhibit A-1

PUBLIC MEETINGS NOTICE

PUBLIC MEETINGS

May 2 & 3, 1988
THE DADE COUNTY AVIATION SYSTEM PLAN CITIZENS ADVISORY COMMITTEE AND STEERING COMMITTEE

MIAMI INTERNATIONAL AIRPORT

will jointly hold two public meetings to present the proposed plan for meeting the 30 year air carrier (commercial) and general aviation needs of Dade County. The plan recommendations include:

- Miami International Airport — continued on-site improvements
- New Air Carrier Airport — study of land banking of future site in the vicinity of Opa-locka West Airport
- Opa-locka Airport — continued on-site improvements
- Tamiami Airport — on-site south runway extension
- Homestead General Airport — control tower and expanded site runway addition

The dates, times, and locations of these meetings are:

Monday, May 2, 1988, 7:30 PM
Miami Southridge Senior High School Auditorium
19355 SW 114 Avenue

Tuesday, May 3, 1988, 7:30 PM
American High School Auditorium
18350 NW 67 Avenue

After April 25, 1988, copies of a summary of the proposed plan can be obtained at the reference desks of Dade County public library branches or at the Dade County Planning Department, 111 NW 1 Street, 12 Floor. For additional information call the Department at 375-2840.

"A person who decides to appeal any decision made by any board, agency, or commission with respect to any matter considered at its meeting or hearing, will need a record of the proceedings. Such person may need to ensure that a verbatim record of the proceedings is made, including the testimony and evidence upon which the appeal is to be based."

METROPOLITAN DADE COUNTY, FLORIDA

MIAMI HERALD APRIL 26, 1988

A question was asked about how large aircraft could be prevented from using the Airport. It was explained that a policy declaration not to construct facilities for large aircraft operators and not to increase the strength of the runways would preclude such operations.

Concern was expressed regarding one of the Consultant's reasons for the extension, i.e., that the extension would increase the potential of south Dade County to attract new industry. It was explained that the capability to accommodate business jet aircraft was one factor that some corporations use in making decisions on new business sites and that an extended runway could affect site choices and employment opportunities in south Dade County.

General opposition to the extension centered on safety and aircraft noise. It was explained that, even with more business jet aircraft operations, the noise analysis conducted in this study indicates that less noise would occur over residential areas, because the extension would be to the west and departing aircraft would be at higher altitudes, resulting in less noise on the ground.

A representative of pilots/aircraft owners stated that the extension would increase the safety of the Airport. Increased safety would result because aircraft taking off to the east would be at a greater altitude at the Airport boundary, thus making it easier to maneuver aircraft in distress above the Airport rather than above populated areas. Therefore, the homeowners should want the extension.

Concern was expressed on the possible use of the extended runway by military aircraft in emergencies. It was explained that the Aviation Department had discussed the potential use of a new long runway at Homestead General Aviation Airport for such purposes, but not the use of Tamiami Airport.

The following specific comments were offered against the extension:

- Only a few businesses would benefit, but many homeowners would suffer.
- Residential property values would decline.
- Tamiami would be used as an airport to accommodate aircraft maintenance activities that currently take place at Miami International Airport.

- A new U.S. Customs facility would increase use of the Airport by large aircraft.
- A decision on the runway extension should not be made until an FAR Part 150 study is completed.
- The runway extension would result in large-scale commercial development in the Airport environs.
- Small aircraft would be forced off of Tamiami and would have to go to Homestead General Aviation Airport.
- Business jets would increase noise at night.
- Television interference would result.
- Jet aircraft would displace small aircraft and would be unsafe.
- Old aircraft at "corrosion corner" at Miami International Airport would come to Tamiami
- The economic benefits of the runway extension are insignificant.

It was requested that one month's notice be provided before the County Commission meeting is held to consider the runway extension at Tamiami.

Comments on Other Recommendations

The following other recommendations were offered:

- There was support for Homestead General Aviation Airport expansion, including use of the Airport for air cargo operations.
- In planning for Homestead General Aviation Airport expansion, an area five miles in diameter around the Airport should be planned for non-conflicting land uses.
- On the overall System Plan, it was suggested that consideration be given to the planned changes in the regional airspace.

- Concern was expressed on how the best location for the supplemental air carrier airport would be chosen. The definition of the search area, as defined in this report, was explained.

- The supplemental airport would be near developing population. It was explained that the effects on nearby land use would be considered in planning the airport.

- A question on how land banking for a supplemental airport would be accomplished. It was explained that privately-owned land would have to be acquired by the County at the proposed site.

- Not enough attention has been placed on sport aviation, ultralight aircraft, and sky diving.

- Better public notice of the meetings was requested.

These comments were reviewed by both the Citizens Advisory Council and Steering Committee in their deliberations.