SECTION 1
ISSUES AND EXISTING CONDITIONS

1.1 INTRODUCTION

The City of Melbourne through the Melbourne Airport Authority (MAA) owns and operates Melbourne International Airport (MLB), which provides commercial air transportation, general aviation, and aviation related services to the City of Melbourne, Brevard County and the Space Coast of Florida.

With significant changes in passenger demand, interest in corporate aviation facilities on the rise, and the need to address long-term expansion alternatives of Melbourne International Airport facilities and infrastructure, the MAA determined that an update of the 1996 Airport Master Plan was required to direct future development at the Airport. In addition, as an integral component of the Master Plan Update, intermodal transportation options were evaluated using Melbourne International Airport as a regional transportation hub for southern Brevard County. By focusing attention on the connectivity between transportation modes at Melbourne International Airport, the Airport can become a major multi-transportation network center throughout the region. In May 2002, MAA selected Reynolds, Smith and Hills, Inc. (RS&H) as the Prime Consultant to prepare the Airport Master Plan Update.

The Airport Master Plan Update presents an evaluation of existing Airport facilities and identifies actions that are recommended to meet the air transportation needs of the community. The overall update process will involve individual study elements providing detailed examinations of the existing Airport and operating facilities to include;

- An evaluation of socioeconomic trends, including population and employment of the region served by the Airport;
- A comprehensive forecast of future aviation activities;
- A demand/capacity analysis and facility requirements evaluation;
- The development of intermodal surface transportation requirements and infrastructure alternatives;
- The identification and evaluation of various facility and operational improvement alternatives;

- An environmental review designed to investigate the impact of proposed development on the environment around the Airport;
- Development of a land use plan, with recommendations for aviation and non-aviation related land uses to ensure compatibility with existing and future airport functions and operations;
- A detailed computer-generated Airport Layout Plan (ALP) depicting proposed improvements resulting from the overall study; and
- A financial analysis necessary to estimate the cost of proposed Airport development and recommended methods of financing.

The study format followed in this Airport Master Plan Update is consistent with the Federal Aviation Administration (FAA) suggested format as described in Advisory Circular 150/5070-6A, *Airport Master Plans*, and the Florida Department of Transportation (FDOT) *Guidebook for Airport Master Planning*. Consistent with FAA's format and FDOT guidance, the following report sections will be developed as part of this Airport Master Plan Update.

1. Issues and Existing Conditions
2. Aviation Demand Forecasts
3. Demand/Capacity Analysis and Facility Requirements
4. Identification and Evaluation of Alternatives
5. Environmental Overview
6. Airport Plans
7. Plan Implementation

The production of the ALP will be developed in conformance with FAA and aviation industry standards. Guidelines for the preparation of these drawing plans are contained in FAA Advisory Circular 150/5300-13 Airport Design and FDOT's 3-DAAP Process Implementation.

MAA staff and Technical Advisory Committee (TAC) members will review all sections of this report as they are produced to ensure the study's accuracy and determine if all goals and objectives have been achieved. The MAA board has final approval of the Airport Master Plan Update. FAA and FDOT governmental approvals of the ALP and the

aviation demand forecasts will also be required during development of the Airport Master Plan Update.

FAA approval of the development items discussed in the Master Plan narrative report and depicted on the ALP is contingent upon a subsequent detailed environmental analysis, which will be discussed further in the Environmental Overview of Section 5. Approvals by the FAA and FDOT do not commit these agencies to provide funding for any improvement projects, however improvement projects must be included in an approved Airport Master Plan and ALP to be considered for funding.

1.2 ISSUES AND GOALS

A preliminary list of issues and goals to be addressed in the Airport Master Plan Update was prepared based upon an initial evaluation of the physical airport and surrounding environs, in addition to input obtained through meetings with MAA staff and the TAC. Specific issues and goals for this Airport Master Plan Update should be flexible into the future to be responsive to the Airport and the community it serves. The following is a list of primary issues addressed in this study:

- Identification and development of conceptual improvements for transportation linkages related to cargo and passenger movements.
- Identification of long-term requirements associated with General Aviation (GA) facilities.
- Relocation of aviation facilities used by Florida Institute of Technology (FIT).
- The demand for improved ground transportation strategies to meet the Airport's access and egress needs, including improved access to Interstate 95 (I-95).
- On-airport land uses.
- The Airport's future intentions relative to land associated with Trailer Haven Mobile Home Park.
- The need for a centrally located aircraft parking apron and run-up pad.
- The need for the extension of Runway 9R/27L and 9L/27R and a connecting taxiway between the threshold of the approach end of Runway 9R and the threshold of the approach end of Runway 9L.

- Alternatives associated with the development and growth of the air cargo industry at Melbourne International Airport.
- Off-airport land use and noise compatibility.
- Air service enhancement.
- Coordination with the local Metropolitan Planning Organization and Florida Department of Community Affairs to satisfy Development of Regional Impact (DRI) review requirements.

The primary list of goals (or objectives) of the Airport Master Plan Update have been identified as follows:

- Create a plan that meets the needs of the community throughout the study period.
- Provide better ground access to and from the Airport including an improved linkage with I-95.
- Identify opportunities to provide seamless intermodal connections including linkages between air, rail, surface, port and space activities.
- Maintain efficient passenger processing to include parking, curbside, ticketing, security, concourse and concessions.
- Make transportation investments that maximize the potential of the region's tourism resources and promote economic growth.
- Increase the availability and flexibility of funds for freight needs.
- Develop a schedule for the implementation and construction of projects identified in the Plan.
- Identify potential environmental impacts.
- Create a Capital Improvement Program (CIP) that identifies funded projects, unfunded projects, priorities and potential sources of funds.
- Provide realistic project funding projections and justification for CIP projects.
- Develop sufficient conceptual alternatives and environmental information to serve as inputs into future project development, environmental and design activities at Melbourne International Airport.

- Build a consensus among public and private transportation agencies that are responsible for the provision or administration of transportation services as needed to justify improvements.
- Meet FAA safety and security criteria for the entire Airport.
- Promote further economic development of compatible on and off airport land uses.

The issues identified for evaluation, and the goals sought to be achieved, should be periodically reviewed by MAA to ensure strategic planning targets are being met, and to periodically refocus the community's vision for the long-term direction of the Airport.

1.3 EXISTING CONDITIONS

The development of a Master Plan Update for Melbourne International Airport requires the collection and evaluation of information relating to the Airport and surrounding areas. Data evaluated in preparation of *Section 1 – Issues and Existing Conditions* includes an inventory of facilities, structures and services provided by the Airport. Information obtained for this section was collected through on-site investigations, phone conversations and interviews with Airport officials. Additionally, the information was categorized and is presented in the following manner.

- Airport Location and Background
- Airport Service Area (ASA)
- Airport Role, Category and Classification
- Previous Studies
- Surrounding Land Use
- Surface Transportation
- Surrounding Airports
- Airspace
- Airside Characteristics
- Landside Characteristics
- Climatology

1.3.1 Airport Location and Background

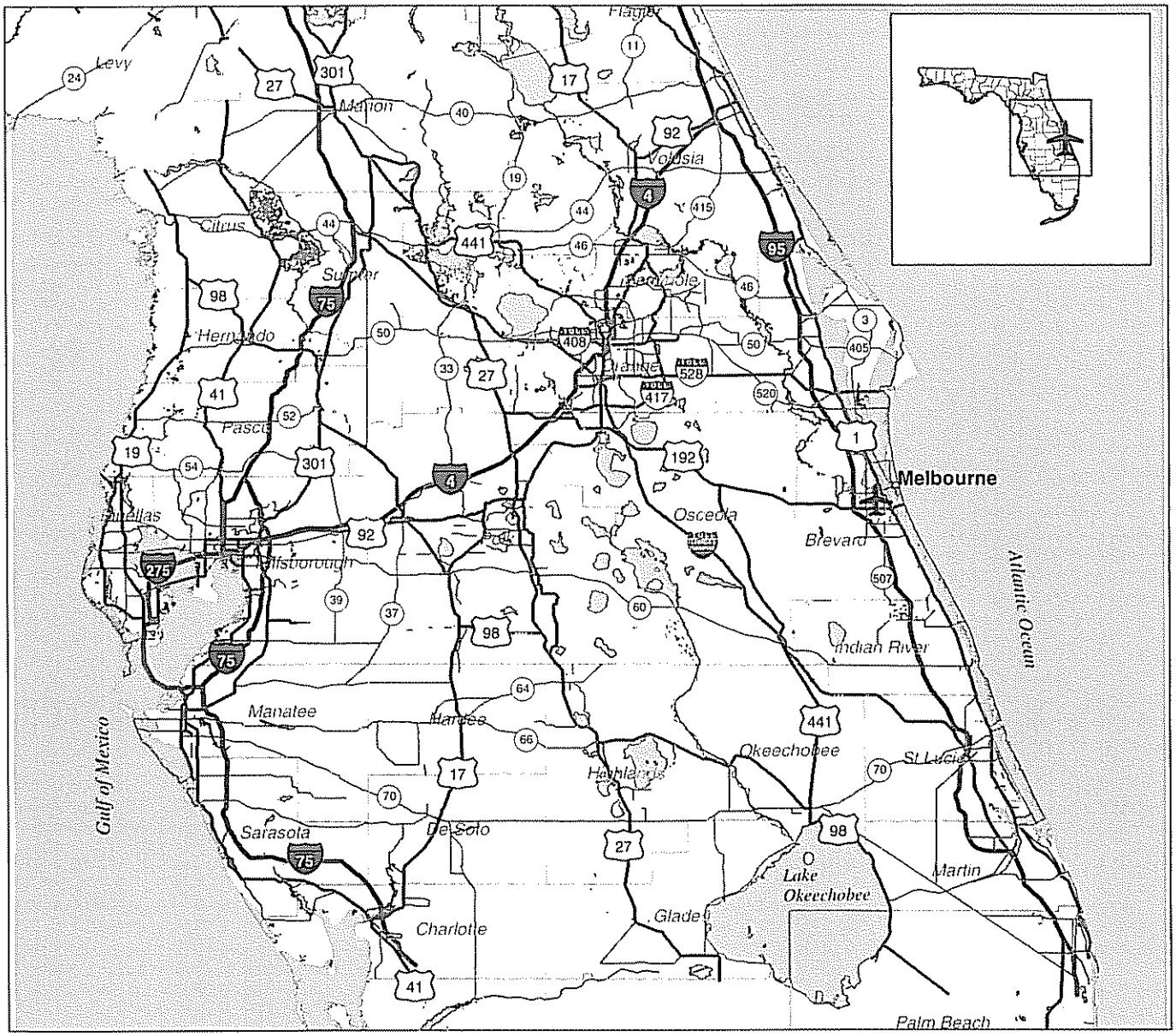
Melbourne International Airport is located in southern Brevard County on the East Coast of Central Florida, 65 miles southeast of Orlando and approximately three miles west of the City of Melbourne's central business district. Additionally, Melbourne International Airport is located in the Melbourne-Titusville-Palm Bay Mean Statistical Area (MSA), which shares the same borders as Brevard County. A regional area map is included in Figure 1-1 to identify the location of the City of Melbourne and Melbourne International Airport relative to the Atlantic Ocean and surrounding counties. A vicinity map is provided in Figure 1-2 to illustrate the proximity of the City of Melbourne to Melbourne International Airport.

The Atlantic Ocean serves as the eastern boundary of Brevard County, with Volusia County to the north, Orange and Osceola Counties to the west and Indian River County to the south.

After the Civil War, the City of Melbourne, formerly known as Crane Creek, was settled on a harbor of the Indian River Lagoon. The small community was a networking center for sailing postmen using the waterway for commerce and communication. In 1888 Melbourne was officially established as a town under Florida law and began to expand as a result of the railroad's arrival in 1893.

Today, the City of Melbourne and Brevard County maintain status as a center for the aerospace and high technology industries hosting such companies as Harris Corporation, Northrop-Grumman Corporation and Rockwell Collins. Because of the community's location and working relationship with NASA's Kennedy Space Center, the region is often referred to as Florida's Space Coast.

The Airport began operations in 1932, but like most municipal airports in the late 1930's and early 1940's, the U.S. Government took control of the Airport for national defense purposes prior to the outbreak of the Second World War. In 1947, the Airport was transferred back to the City of Melbourne under the provisions of the Surplus Property Act of 1944, and resumed civil aviation operations. In 1953 commercial air service was first introduced at the Airport, and in 1967 the City of Melbourne created the Melbourne Airport Authority (MAA).



Source: ESRI and Florida Geographical Data Library 2001

Legend

- Interstate Highway
- U.S. Route
- State Highway
- Toll Road
- Florida's Turnpike
- Melbourne International Airport

0 10 20 40 Miles

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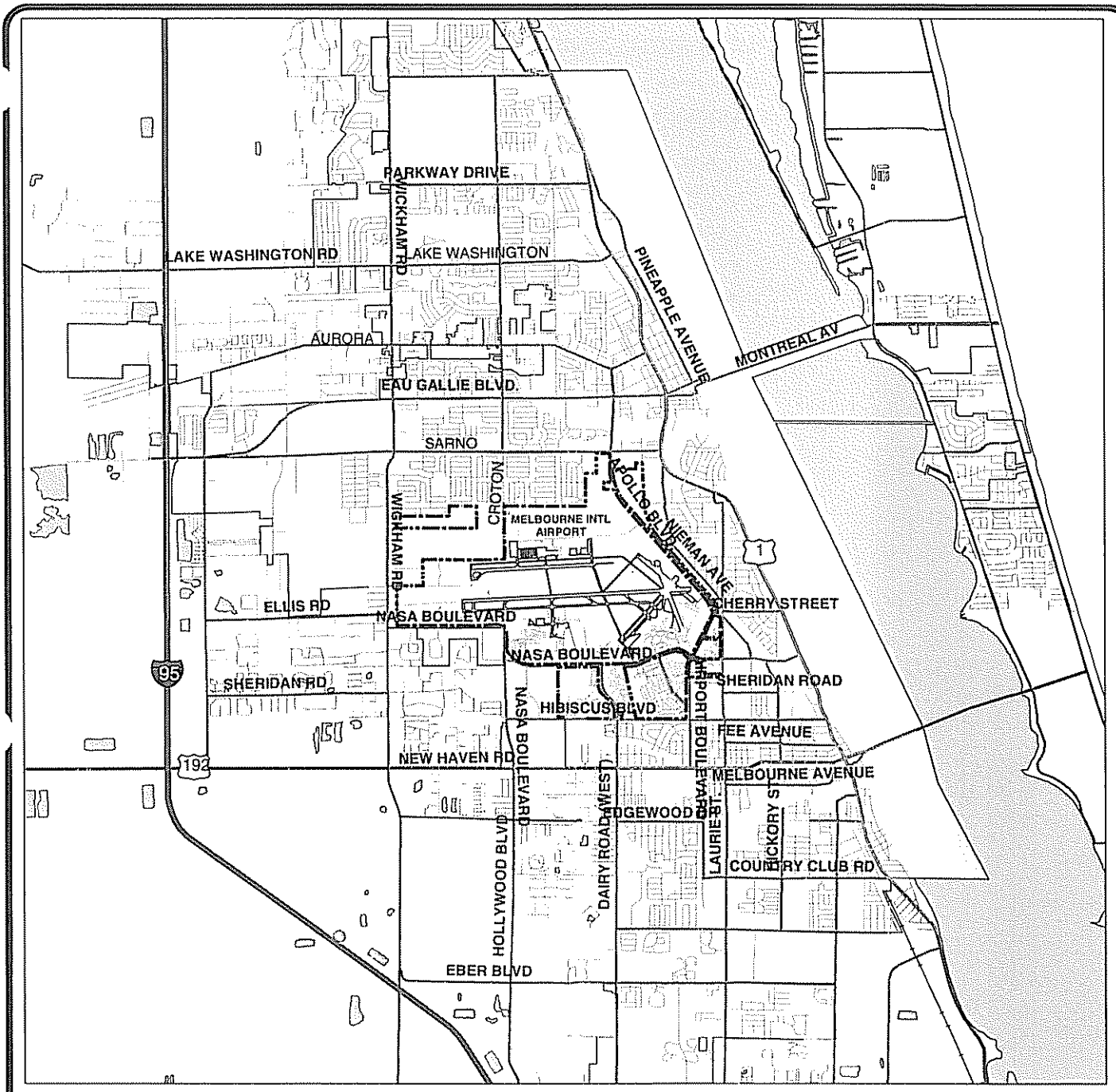
Figure 1-1

Regional Area Map



Source: ESRI and Florida Geographical Data Library 2001

LEGEND

- Denotes area within Melbourne City Limits
- Melbourne City Streets
- Interstate Highways
- U.S Highways
- Airport Property Line

0 0.5 1 2 Miles

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Figure 1-2

Vicinity Map

1.3.2 Airport Service Area (ASA)

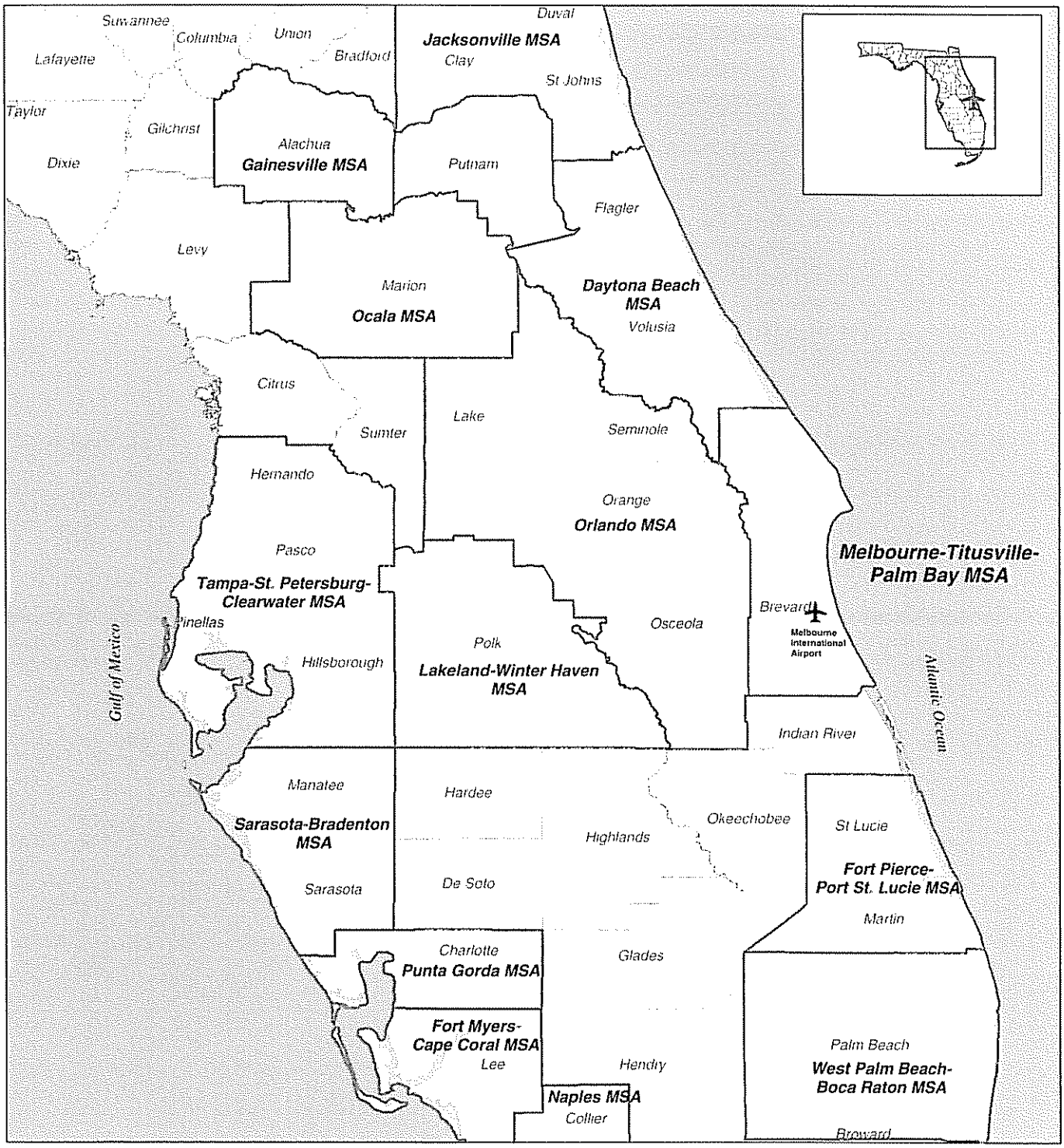
The ASA is defined as the geographic region that provides the necessary infrastructure and economic base for successful operation of the Airport. Additionally, the ASA contains that portion of the population identified as being primary users of services provided by the Airport. For a majority of Airport Master Plan studies, the geographic boundaries of the ASA are identical to those associated with the MSA in which the airport is located.

At present, the concentrated population within the Melbourne-Titusville-Palm Bay MSA primarily utilizes services provided by Melbourne International Airport. Therefore, the ASA identified for the Melbourne International Airport Master Plan Update includes the region encompassed by the Melbourne-Titusville-Palm Bay MSA. A map showing the location of the MSA is presented in Figure 1-3. However, Melbourne International Airport maintains the capability of attracting passengers from a geographic region greater than the extents of the Melbourne-Titusville-Palm Bay MSA due to the Airport's relative proximity to other competing airports. In essence, the ASA for Melbourne International Airport extends well beyond the boundaries of the MSA.

Analysis and identification of the ASA revealed that the appropriate outer boundaries include the areas located within approximately one-half the drive distance between Melbourne International Airport and surrounding commercial service airports. These commercial service airports include the following:

- Daytona Beach International Airport
- Orlando International Airport
- Palm Beach International Airport

The ASA for Melbourne International Airport was also delineated and discussed in the *Melbourne Florida International Airport Catchment Area Leakage Study* completed August 2002 by Sabre Consulting, which determined the percentage of air travelers located in Brevard and surrounding counties who utilize services provided by surrounding commercial service airports. Historical and projected demographic data representing the socio-economic characteristics associated with the ASA was collected and used in the preparation of the Aviation Demand Forecasts presented in Section 2. A map showing the location and borders of the ASA is presented in Figure 1-4.



Source: ESRI and Florida Geographical Data Library 2001
U.S. Census Bureau

0 12.5 25 50 Miles

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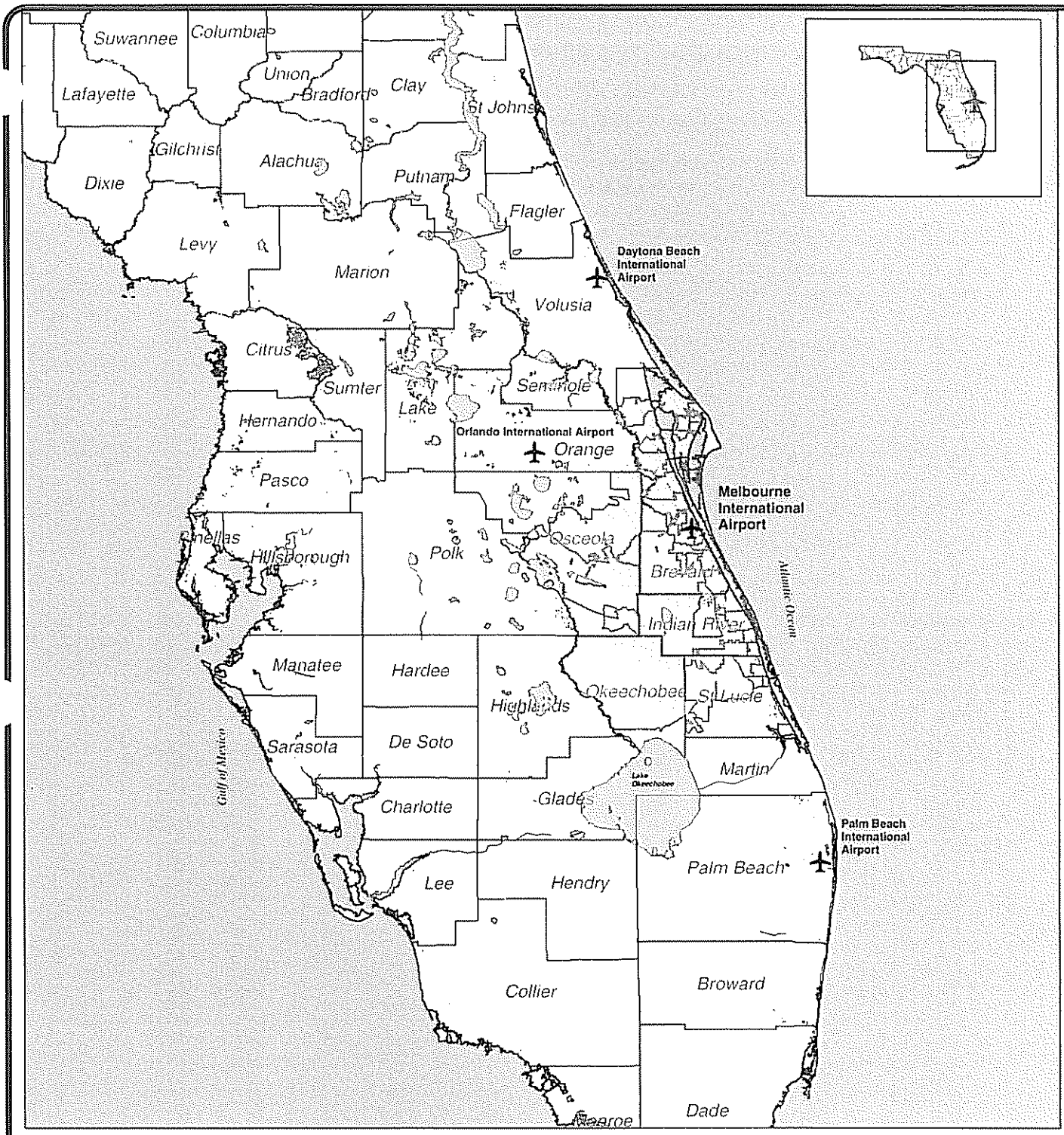
Figure 1-3
Melbourne-Titusville-Palm Bay MSA Location



Source: ESRI and Florida Geographical Data Library 2001
U S Census Bureau

Denotes area included within Melbourne International Airport's Airport Service Area (ASA).

0 15 30 60 Miles

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Figure 1-4
Melbourne International Airport's
Airport Service Area (ASA)

1.3.3 Airport Role, Category and Classification

Melbourne International Airport provides aviation facilities for commercial air carriers, cargo carriers, commuters, general aviation aircraft and business jets. The Airport is located in the Southern Region of the FAA under the jurisdiction of the Orlando Airports District Office (ADO) and in the East Central Metropolitan Area of the Florida Aviation System Plan (FASP).

Melbourne International Airport is included in the National Plan of Integrated Airport Systems (NPIAS) as a Non-Hub Commercial Service Primary Airport. A Non-Hub Airport is a commercial service facility that enplanes less than 0.05 percent of all commercial passenger enplanements nationwide. A Commercial Service Airport is a facility with commercial airline service. A Primary Airport as categorized in NPIAS is a Commercial Service Airport that enplanes more than 10,000 passengers annually. Melbourne International Airport also serves the role of a Medium Haul Airport. With the average non-stop trip distance per aircraft of between 500 and 1,500 statute miles, Melbourne International Airport is also one of 19 Commercial Service Airports included in the FASP.

1.3.4 Previous Studies

- **Melbourne International Airport Catchment Area Leakage Study:** This study was completed in August 2002 by Sabre Consulting, Incorporated. The objective of the study was to determine the percentage of air travelers residing within the area served by Melbourne International Airport, which regularly utilize Daytona Beach International Airport, Orlando International Airport or Palm Beach International Airport. Findings of the study will be used as a tool to devise future marketing programs for Melbourne International Airport.

- **Comprehensive Wetland Inventory, Impact and Mitigation Plan:** In 2002 Airport Engineering Co., Inc. conducted this study, which identified the wetland areas positioned on property owned by the City of Melbourne and managed by the MAA. Additionally, the study outlined a mitigation plan to address impacts to wetlands occurring as a result airport development.

- **Environmental Assessment (EA) for Taxiway 'C' Extension and Hangar Facility:** In 2001 the Airport Engineering Co., Inc. prepared the EA for the Taxiway "C" extension and a proposed aircraft hangar located on the north side of the Airport. The purpose of this project was to identify the environmental impacts associated with the construction of an extension to Taxiway "C", and the development of an aircraft hangar facility to accommodate large aircraft, which Melbourne International Airport cannot currently accommodate with existing facilities. The Taxiway "C" extension, which is now complete, connects the proposed hangar facility to Runway 9L/27R. Additionally, Taxiway "C" widened between Taxiway "K" and Runway 9L/27R

- **Environmental Assessment for Runway 9R/27L Extension and Airside Improvements:** In 2000 the Airport Engineering Co., Inc. prepared an EA for the Runway 9R/27L extension and runway and taxiway intersection improvements. The purpose of the proposed project was to reduce pilot confusion and the potential hazard of a ground collision at the intersection Runway 9R/27L, Runway 4/22, and Taxiways D and K. The mix of general aviation aircraft and commercial aircraft using this intersection posed a traffic hazard and created significant air traffic delays.

- **Airport Layout Plan (ALP) Update:** In 2000 the Airport Engineering Co., Inc. prepared an update to the Melbourne International Airport ALP. The update included implementation of a new Airport survey and illustrates new GA facilities located on the north side of the Airport.

- **Air Cargo Development Study:** In 2000 an Air Cargo Development Study was produced by Woolpert LLP in conjunction with Montgomery Consulting Group and Wexxon Consulting. The purpose of the study was to provide MAA with an evaluation of domestic and international cargo activities and to determine the potential for increasing airfreight activities at Melbourne International Airport.

- **Airport Access Transportation Alternative Feasibility Study:** In 1998 Dyer, Riddle, Mills and Precourt, Incorporated prepared the Airport Access Transportation Alternative Feasibility Study. The purpose of this study was to

develop and analyze the feasibility of various transportation alternatives, which will improve mobility between I-95 and Melbourne International Airport.

- **Environmental Impact Assessment for an International Aircraft Fueling Facility:** In 1997 Storm L. Richards and Associates prepared an environmental evaluation of a proposed Aircraft Fueling Facility at the Airport. The focus of this study was to determine if there were any environmental consequences associated with the development of the proposed Fueling Facility.

- **Environmental Assessment for Proposed Extension of Runway 9R/27L:** In 1996 Storm L. Richards and Associates prepared an EA for the proposed extension of Runway 9R/27L. The EA, which was revised in October 1997, was required for the proposed extension of Runway 9R/27L from 9,481 feet to 11,600 feet in order to provide a sufficient takeoff length for fully fueled extended ranged Trans-Atlantic, South American, and Middle-Eastern flights. However, the EA for the proposed extension of Runway 9R/27L was never officially issued as a result of the Airport postponing the project.

- **Environmental Assessment for Proposed Runway Safety Area (RSA) Enhancements for Runway 9L/27R:** Storm L. Richards and Associates prepared this EA for proposed enhancements to the Runway 9L/27R RSA, simultaneously with the EA for the extension of Runway 9R/27L. This EA was also revised in October 1997. The purpose of enhancing the Runway 9L/27R RSA was to comply with FAA safety and design standards. The ability to provide a standard RSA was impacted by low-lying wetlands. In order to meet FAA requirements, the safety area was modified dimensionally from 350 feet wide by 450 feet long, to 500 feet wide by 1,000 feet long.

- **Master Plan Update:** In 1996 the HNTB Corporation completed the last Master Plan Update for Melbourne International Airport. The purpose of this 1996 Update was to update the activity forecasts, FAA safety standards, and to focus on long-term Airport development. Proposed development recommended by the 1996 Update included Runway 9R/27L and 9L/27R extensions and land acquisition for proposed airside improvements.

- **Part 150 Study:** In 1993 an Federal Aviation Regulations (FAR) Part 150 Study was prepared by Bristol, Childs & Associates to address aircraft noise impacts and develop land use recommendations to ensure long-term compatibility with the surrounding community.

- **Master Plan Update:** The 1985 Master Plan Update for Melbourne International Airport was completed by Bristol, Childs & Associates. The recommendations provided in this report involved increasing air service, development in noise sensitive areas, maintaining competitive ticket pricing, and maximizing profits and revenues.

1.3.5 Surrounding Land Use

The Existing Land Use Maps, as contained in the City of Melbourne Comprehensive Plan, were adopted on February 13, 2001. Melbourne International Airport contains the largest amount of undeveloped area in the City. The Airport comprises 2,458+/- acres and is the most dominant feature of the planning area. Melbourne International Airport is classified as Industrial lands in the Comprehensive Plan, and is surrounded on the south, east and west by commercial and industrial land use. Small parcels north of the Airport property line are vacant land and wetland mitigation areas. Just beyond the undeveloped land areas are low-density residential areas.

The commercial and industrial land located south of Melbourne International Airport is owned by the City of Melbourne and managed by the City of Melbourne Airport Authority with the exception of land and facilities owned by Harris Corporation located between NASA Boulevard and Hibiscus Boulevard along Harris Road. Grumman, Rockwell, JDS, Uniphase and General Electric own their facilities built on land leased from MAA. MAA also manages a 759-unit trailer park area located within the southeast boundary of the Airport.

The Future Land Use plan for the City of Melbourne was also adopted on February 13, 2001. The Plan projected the establishment of light industrial and commercial centers near the Airport. The Plan also projected that the existing codes and land classifications for the City of Melbourne would remain in their current uses. New developments around the Airport are projected to be on Airport property. Several low-density residential areas

around the Airport to the north, east, and south will need to be protected from the intrusion of nonresidential areas according to the Comprehensive Plan. Commercial development will be permitted along Airport Boulevard, Apollo Boulevard and NASA Boulevard, which extend across Airport property. Light industrial and commercial uses will be permitted along Nasa Boulevard and Gateway Drive following the north side of Hibiscus Boulevard, Airport Boulevard, and the west side of Apollo Boulevard. Melbourne International Airport is protected in the Future Land Use Plan from obstructions caused by incompatible land uses. Developers should consult the Comprehensive Plan and the Airport Master Plan for guidance during the development process.

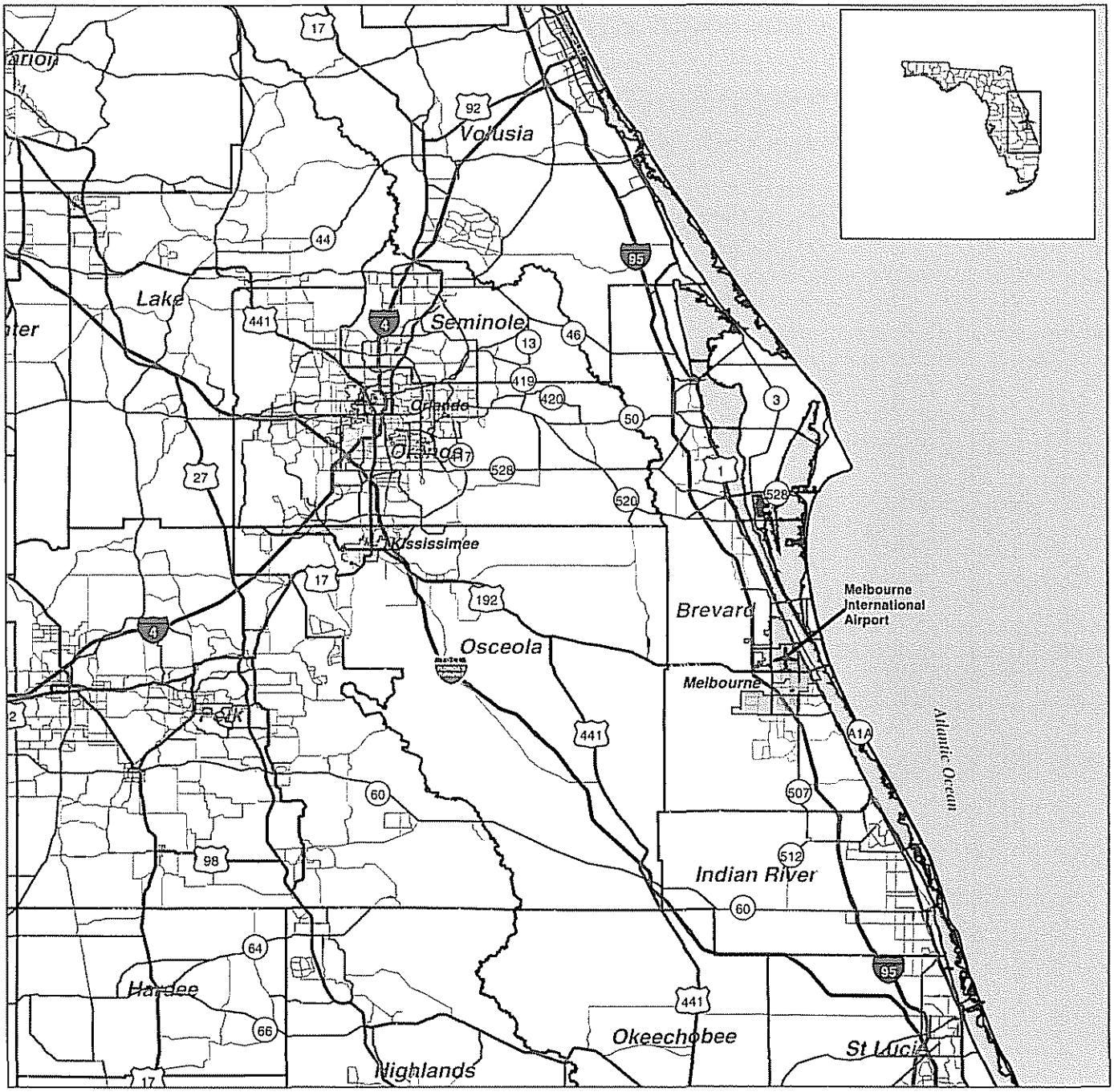
1.3.6 Surface Transportation

The major trunkline traversing through the Melbourne area is I-95, which runs north to Jacksonville, Florida, and points further north throughout the east coast of the United States, and runs south to the Miami area. U.S. 192 runs east from the Kissimmee area and connects to U.S. 1, which runs north and south in downtown Melbourne. Currently, the City of Melbourne and MAA are examining the feasibility of a direct connection from I-95 to the Melbourne International Airport terminal via Nasa Boulevard. Figure 1-5 displays the regional highway network in the Melbourne area.

Access to Melbourne International Airport can be gained from downtown Melbourne via west on U.S. 192 then north on State Road 507, then west on Nasa Boulevard to the terminal area roadway network. Numerous roads access the Airport with the primary artery being NASA Boulevard. Figure 1-6 depicts ground access to the Airport.

1.3.7 Surrounding Airports

Several airports are located around Melbourne International Airport. The nearest facility is Patrick Air Force Base, which is located approximately 10 statute miles northeast of Melbourne International Airport. Further north of Melbourne International Airport are several outlying fields including the NASA Space Shuttle Landing Facility, Space Coast Regional Airport, Arthur Dunn Air Park in Titusville, and Merritt Island Airport. South of Melbourne International Airport are Valkaria Airport, Sebastian Municipal Airport, and Vero Beach Municipal Airport. Figure 1-7 displays the locations of airports surrounding Melbourne International Airport.



Source: ESRI and Florida Geographical Data Library 2001

Legend

- Brevard County
- Interstate Highway
- U.S. Route
- State Route
- Florida's Turnpike

0 5 10 20 Miles

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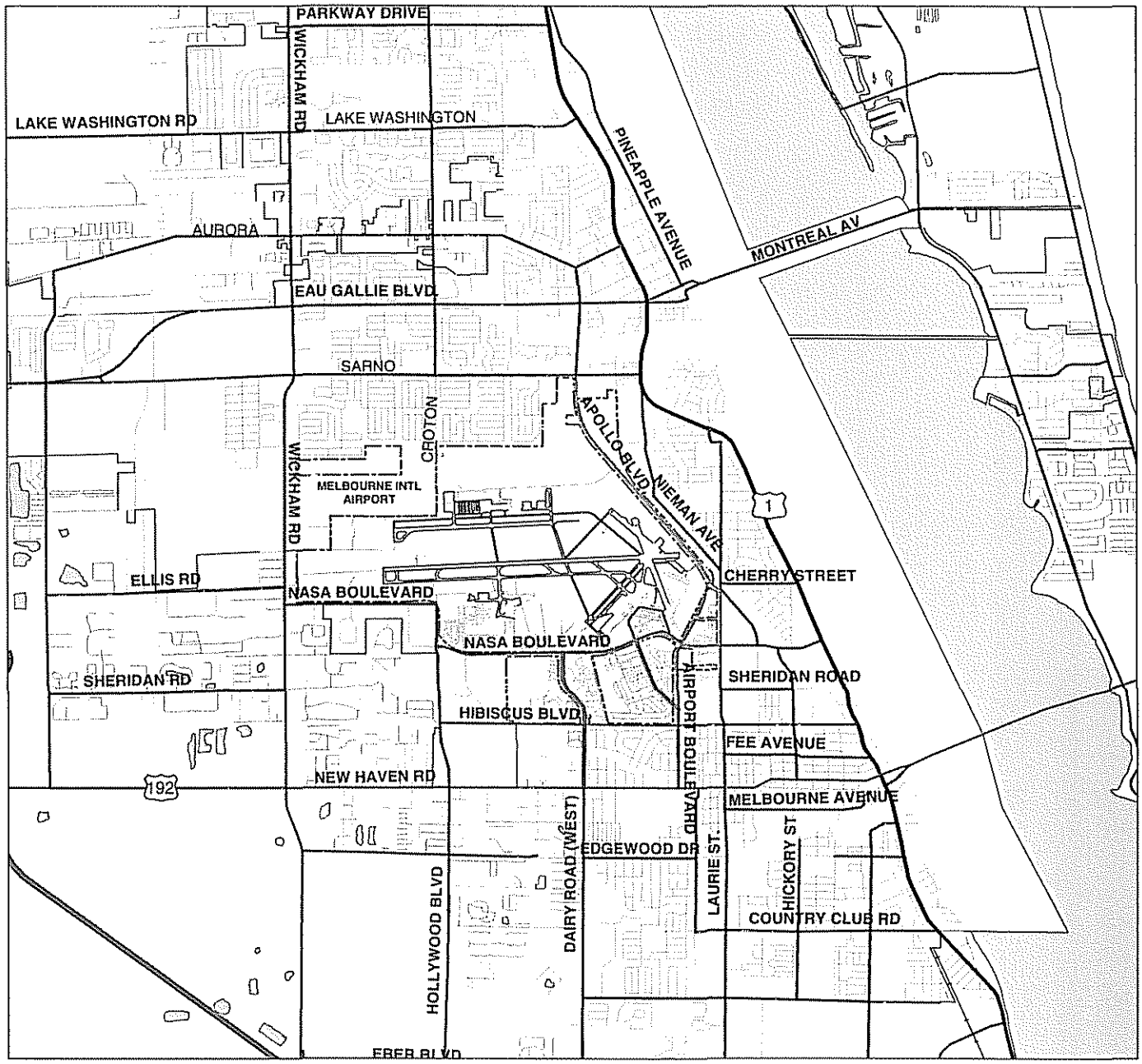
Figure 1-5

Regional Highway Network



Source: ESRI and Florida Geographical Data Library 2001
City of Melbourne

Legend

- Melbourne City Limits
- Interstate Highway
- U.S. Route
- Primary Airport Access Routes
- Airport Property Line

0 0.5 1 2 Miles

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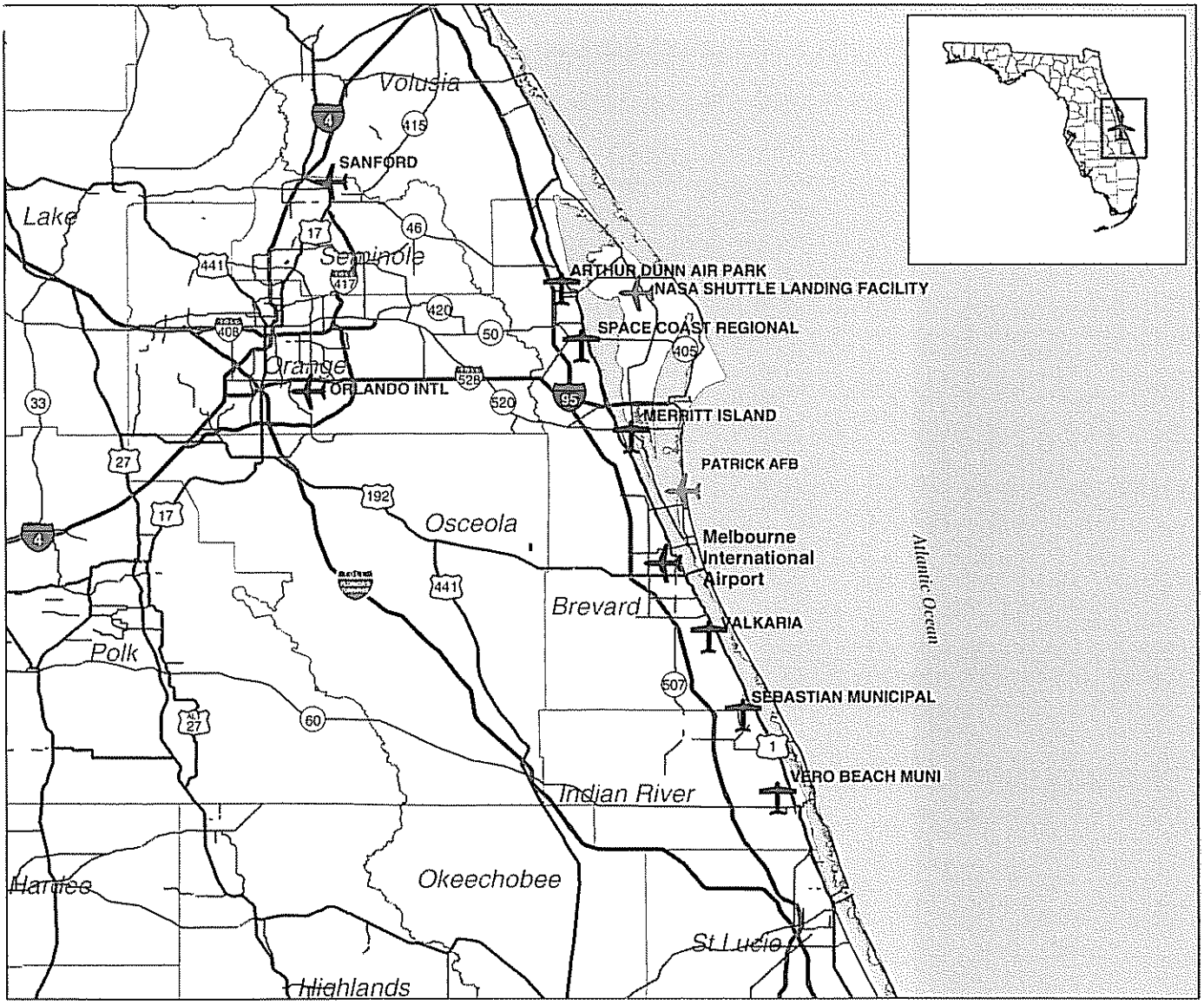
Figure 1-6

Airport Ground Access



Source: ESRI and Florida Geographical Data Library 2001

General Aviation Airport

Commercial Service Airport

Special Operations Facility

0 10 20 40 Miles

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Figure 1-7

Surrounding Airports Map

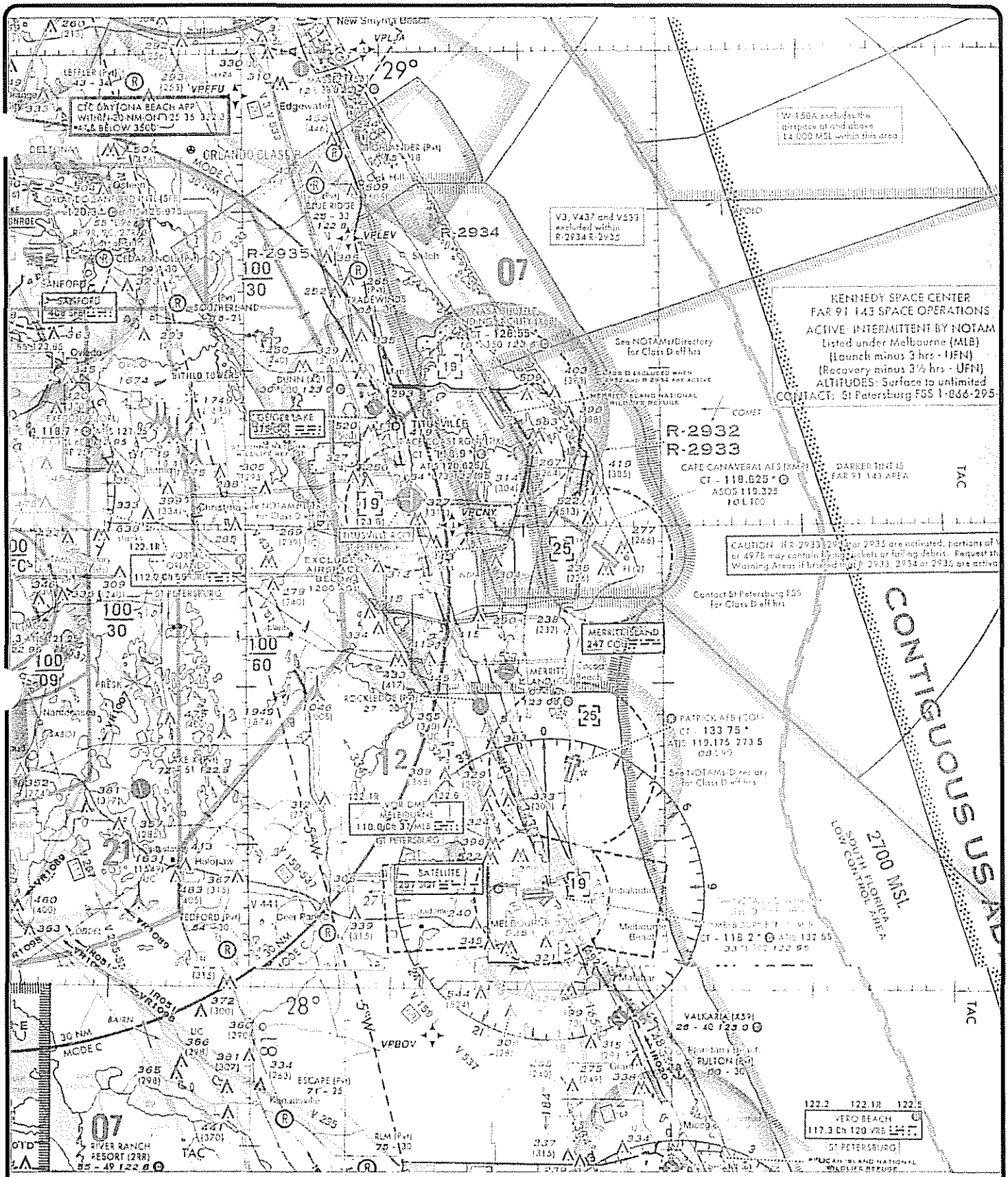
1.3.8 Airspace

Airspace surrounding Melbourne International Airport is complex due to the location of Patrick Air Force Base and Kennedy Space Center to the north, and Class B airspace associated with Orlando International Airport to the west and northwest. Although significant military and civilian aviation activities occur in relatively close proximity to Melbourne International Airport airspace, significant current or future airspace capacity restraints are not anticipated. Melbourne International Airport is also bounded on the north and east by restricted areas (see Figure 1-8), which surround Kennedy Space Center and Cape Canaveral.

- Restricted Area 2932 (R-2932) is a continuously operating restricted area extending from the surface to 5,000 feet mean sea level (MSL).
- Restricted Area 2933 (R-2933) is intermittently active and a Notice to Airman (NOTAM) will normally be issued by the Kennedy Space Center 24 hours in advance of planned activity. R-2933 begins at 5,000 feet MSL and extends up to an unlimited altitude.
- Restricted Area 2934 (R-2934) and Restricted Area 2935 (R-2935) are similar to R-2933 in that they are activated by issuance of a NOTAM 24 hours in advance. R-2934 has unlimited ceiling from the surface and R-2935 extends from 11,000 MSL to an unlimited ceiling.
- Surrounding the Restricted Areas are Warning Areas 497A and B. These Warning Areas are controlled by Patrick Air Force Base and are activated by NOTAM issuance.

Pilots arriving or departing from Melbourne International Airport are usually in radio contact with some portion of the Air Traffic Control (ATC) services and communication facilities available in the national airspace system. These ATC and communication related facilities consist of Air Route Traffic Control Centers (ARTCC), Terminal Radar Approach Control facilities (TRACON), Air Traffic Control Towers (ATCT) and Flight Service Stations (FSS).

ARTCC's are established primarily to provide ATC services to aircraft operating under Instrument Flight Rules (IFR) within controlled airspace, principally during the enroute phase of flight. When traffic and workload permit, ARTCC's also provide advisory services to aircraft operating under Visual Flight Rules (VFR). Advisory services



Source: Jacksonville and Miami Sectionals

RS&H

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Figure 1-8
Restricted Areas

normally include dissemination of information such as the status of navigational aids, proximity of other air traffic, airfield conditions, weather reports and the status of restricted areas. Melbourne International Airport lies within the jurisdiction of the Miami ARTCC.

TRACON monitors and controls air traffic in the airspace surrounding an airport with moderate to high-density air traffic. TRACON has jurisdiction for the control and separation of air traffic usually from the boundary area of the ATCT to a distance of up to 50 miles from the airport, and up to an altitude of 18,000 feet MSL. Melbourne International Airport is under the jurisdiction of the Daytona TRACON facility.

The ATCT is the facility which supervises and directs the arrival, departure and over-flight of traffic at tower-controlled airports. ATCT's are typically responsible for the safe, orderly and expeditious flow of traffic on and in the vicinity of the airport. Class D airspace surrounds an airport with an operational ATCT. The Class D airspace at Melbourne International Airport extends from the surface up to 2,500 feet above the elevation of the Airport, to a distance of 5 nautical miles from the center of the Airport. When the ATCT is closed, the Class D airspace becomes Class E airspace. ATCT services are provided at Melbourne International Airport from 6:00 a.m. to midnight.

Flight Service Stations provide essential information to pilots. Their principal function is to accept and close flight plans and to brief pilots, both before and during flight, concerning current and forecast weather conditions, airport facilities and navigational aids which are out of service, provide assistance to lost aircraft, and coordinate VFR search and rescue services. The St. Petersburg FSS provides services for pilots operating in the vicinity of Melbourne International Airport.

Located to the west and northwest of Melbourne International Airport is the Orlando International Airport Class B airspace and its' associated 30 nautical mile Mode C "veil." Aircraft operating with 30 nautical miles of Orlando International Airport are required to operate a Mode "C" transponder, which automatically transmits the aircraft's altitude and position information to ATC. Also, aircraft operating within Class B airspace are required to obtain a clearance before entering the airspace, and maintain two-way radio communications with ATC.

There are seven instrument approaches available at Melbourne International Airport which include an Instrumental Landing System (ILS) approach to Runway 9R, a Localizer Back Course (BC) approach to Runway 27L, and Very High-Frequency Omnidirectional Range Station/Global Positioning System (VOR/GPS) approaches to Runway 9R and 27L. Table 1.1 summarizes the various instrument approach procedures available at Melbourne International Airport.

Table 1.1
INSTRUMENT APPROACH SUMMARY - MELBOURNE INTERNATIONAL AIRPORT

Type of Approach	NAVAID	Runway(s) Served	Lowest Minimums by Aircraft Category (Height/Visibility)			
			A	B	C	D
Straight-In	ILS	9R	200/1/2	200/1/2	200/1/2	200/1/2
Straight-In	Localizer	9R	500/1/2	500/1/2	500/3/4	500/1
Circling	ILS	9R	500/1	600/1	600/1 1/2	700/2
Straight-In	Localizer BC	27L	500/1	500/1	500/1 1/4	500/1 1/2
Circling	Localizer BC	27L	600/1	600/1	600/1 1/2	700/2
Straight-In	VOR/GPS	27L	600/1	600/1	600/1 1/2	600/1 3/4
Circling	VOR/GPS	27L	600/1	600/1	600/1 1/2	700/2
Straight-In	VOR	9R	600/1/2	600/1/2	600/1	600/1 1/4
Circling	VOR	9R	600/1	600/1	700/1 3/4	800/2 1/4
Straight-In	VOR/DME/NDB	9R	500/1/2	500/1/2	500/3/4	500/1
Circling	VOR/DME/NDB	9R	600/1	600/1	700/1 3/4	800/2 1/4
Straight-In	NDB/GPS	9R	500/3/4	500/3/4	500/3/4	500/1 1/4
Circling	NDB/GPS	9R	500/1	600/1	600/1 1/2	700/2
Straight-In	GPS	9L	500/1	500/1	500/1 1/4	500/1 1/2
Circling	GPS	9L	500/1	600/1	600/1 1/2	700/2
Straight-In	GPS	27R	500/1	500/1	500/1 1/4	500/1 1/2
Circling	GPS	27R	500/1	600/1	600/1 1/2	700/2

Aircraft Categories
A - Approach speed less than 91 knots
B - Approach speed 91 knots or more but less than 121 knots
C - Approach speed 121 knots or more but less than 141 knots
D - Approach speed 141 knots or more but less than 166 knots

Source: NOAA U.S. Terminal Procedures, 3 October 2002
RS&H, 2002

1.3.9 Airside Characteristics

The principal airside characteristics of Melbourne International Airport consist of those facilities for the processing of aircraft operations. This includes the physical features and dimensions of the runways and taxiways at the Airport, the lighting and markings on the runway and taxiway system, and the navigational aids available at the Airport. These characteristics are summarized in Table 1.2 and are discussed below. Figure 1-9 shows the existing airside facilities at Melbourne International Airport.

Table 1.2

AIRSIDE CHARACTERISTICS

Runway	5	23	9L	27R	9R	27L
Width (feet)	75		150		150	
Length (feet)	3,001		6,000		10,181	
Surface/Condition	Asphalt/Good		Asphalt/Good		Asphalt/Good	
Grooved	No		No		Yes	
Strength (lbs)						
Single Wheel	30,000		30,000		100,000	
Dual Wheel	--		60,000		170,000	
Dual Tandem Wheel	--		--		300,000	
Runway Markings	Visual	Visual	Non-Precision	Non-Precision	Precision	Precision
Runway Lights	Medium Intensity		Medium Intensity		High Intensity, Centerline	
Touchdown Zone Lights	No	No	No	No	Yes	No
Displace Threshold	No	No	No	No	No	700 Feet
Approach Aids:						
Instrument Approaches			GPS		ILS,VOR, NDB	LOC BC, VOR
Approach Lights	--		--		MALSR	REIL
VASI/PAPI	PAPI-2	PAPI-2	PAPI-4	PAPI-4	PAPI-4	PAPI-4

GPS	Global Positioning System	MALSR	Medium Intensity Approach Light System (with Runway Alignment Indicator Lights)
ILS	Instrument Landing System		
LOC BC	Localizer Back Course	PAPI	Precision Approach Path Indicator
NDB	Non Directional Beacon	PAPI-2	Precision Approach Path Indicator with Two Light Units
VOR	Very High Frequency Omni Directional Range	PAPI-4	Precision Approach Path Indicator with Four Light Units
		REIL	Runway End Identification Lights
		VASI	Visual Approach Slope Indicator

Source: Airport Engineering Co.,Inc. 2002

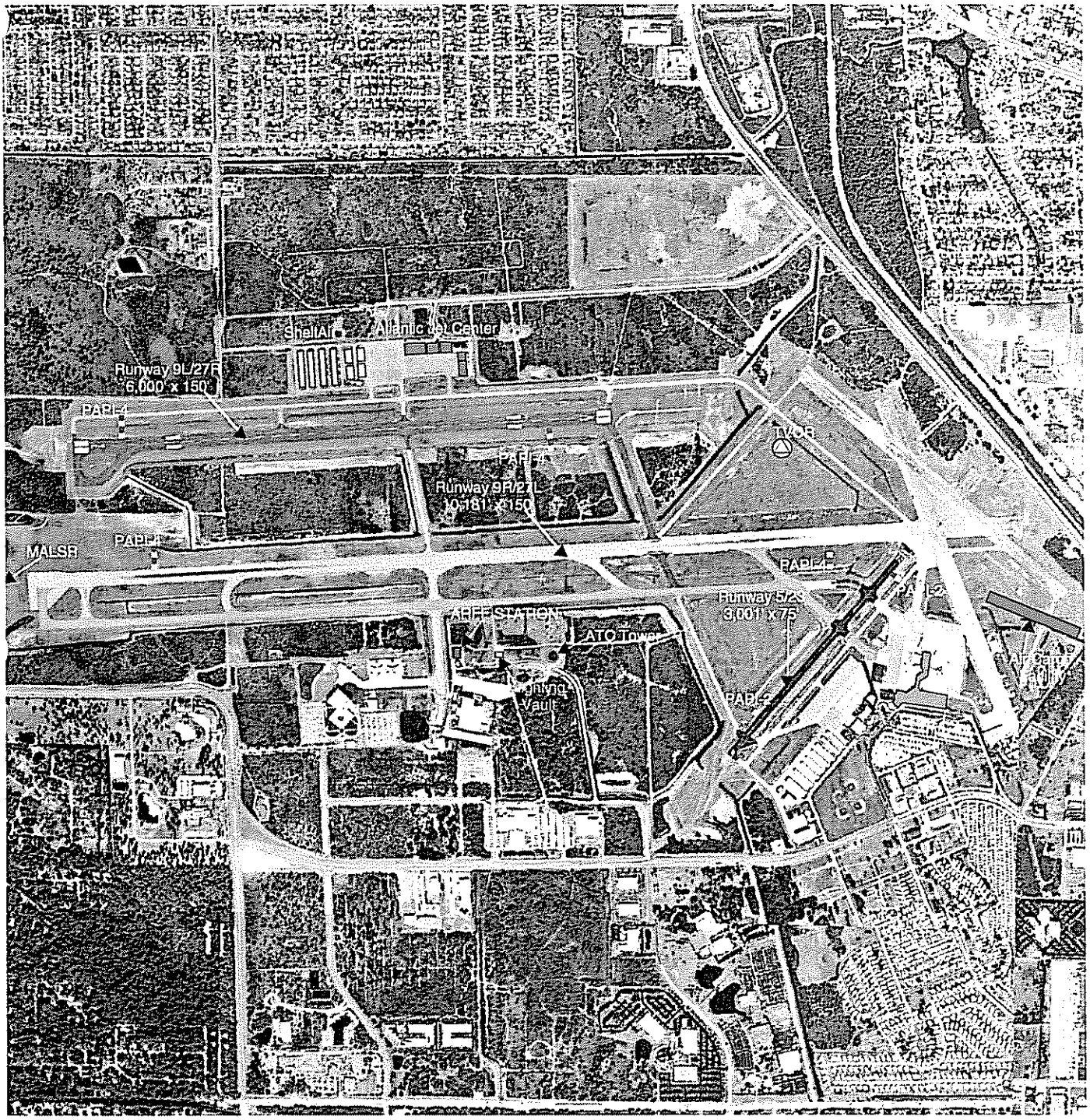

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Figure 1-9

Airside Facilities

Runway 9R/27L: The primary runway based on available length and predominant use is Runway 9R/27L, which has a length of 10,181 feet, a width of 150 feet, and is oriented in the direction of 90 and 270 degrees magnetic, and 87 and 267 degrees true heading. Additionally, Runway 9R/27L has 25-foot paved shoulders. The runway pavement is constructed of asphalt and is grooved. The runway is equipped with high intensity runway-edge lights (HIRL) and is marked for precision instrument operations in both directions. Runway 9R is equipped with a Category-1 ILS and a medium intensity approach lighting system with runway alignment indicator lights (MALSR), touchdown zone lights, centerline lights and a transmissometer to provide horizontal visibility for runway visual range (RVR) during Instrument Meteorological Conditions (IMC). Runway 9R also has a precision approach path indicator (PAPI) for visual vertical guidance to the runway environment. Runway 27L has runway end identifier lights (REIL) and a PAPI.

Runway 9L-27R: Runway 9L-27R is a parallel runway with a length of 6,000 feet, a width of 150 feet, and is oriented in the direction of 90 degrees and 270 degrees magnetic, and 87 degrees and 267 degrees true heading. The asphalt runway is marked for non-precision instrument operations on both runway ends and is equipped with a PAPI and Medium Intensity Runway Lights (MIRL) on both approach ends.

Runway 5-23: The crosswind runway is Runway 5-23 with a length of 3,001 feet, a width of 75 feet and is oriented in the direction of 47 degrees and 227 degrees magnetic, and 42 degrees and 222 degrees true heading. The asphalt runway is marked for non-precision instrument operations on the approach end of Runway 5 and basic markings on the approach end of Runway 23. Both runway ends are equipped with a PAPI-2.

Navigational Aids: The Airport is equipped with a segmented circle, lighted wind indicators, and is served by a VOR facility with Distance Measuring Equipment (DME).

Taxiway System: A full-length parallel taxiway system is associated with each runway at the Airport. Taxiway "A" runs parallel to Runway 9R-27L, Taxiway "K" runs parallel to Runway 9L-27R and Taxiway "D" runs parallel to Runway 5-23. There are numerous connector taxiways and cross-field taxiways to facilitate the movement of aircraft between runways and apron areas, which can be used by both commercial and general aviation aircraft. The taxiway widths at the Airport vary in size. With the exception of

Taxiway "K", Taxiway "U" and a section of Taxiway "C" near Runway 5/23, all taxiways are equipped with Medium Intensity Taxiway Edge Lights (MITL).

Aprons: While the portion of the air carrier apron dedicated to aircraft parking near the terminal building is constructed of concrete, surrounding taxilanes are constructed of asphalt. This apron totals approximately 32,000 square yards and is connected to the apron currently used by the Florida Institute of Technology (FIT). Taxiways "A", "T" and "R" connect the air carrier apron to the rest of the airfield.

There are two general aviation apron areas located on the north side of the Airport. Sheltair/Atlantic Jet Center is located north of runway 9L-27R and has an apron area of approximately 39,000 square yards. The Sheltair/Atlantic Jet Center apron is north of Taxiway "K", which is parallel to Runway 9L-27R. The apron is connected to the rest of the airfield by three connector taxiways. In January 2003 construction was completed on an additional apron area located west of the Sheltair/Atlantic Jet Center apron. The additional apron will provide the paved surface necessary to facilitate an additional corporate aircraft hangar which is currently under construction north of the Atlantic Jet Center facility.

The FIT apron is located southwest of the air carrier apron. The apron has an area of approximately 35,300 square yards and is positioned adjacent to Taxiway D, which is parallel to Runway 5-23. The apron is connected to the rest of the airfield by three connector taxiways.

1.3.10 Landside Characteristics

The landside at an airport consists of those facilities provided to accommodate passengers, baggage and ground vehicle access.

Passenger Terminal Building: The passenger terminal area at Melbourne International Airport is depicted in Figure 1-10. The passenger terminal building consists of a single level main terminal building containing various passenger and baggage processing facilities such as ticketing, passenger and baggage check-in, baggage claim, baggage make-up, car rental agencies, concessions, and various ground transportation services.

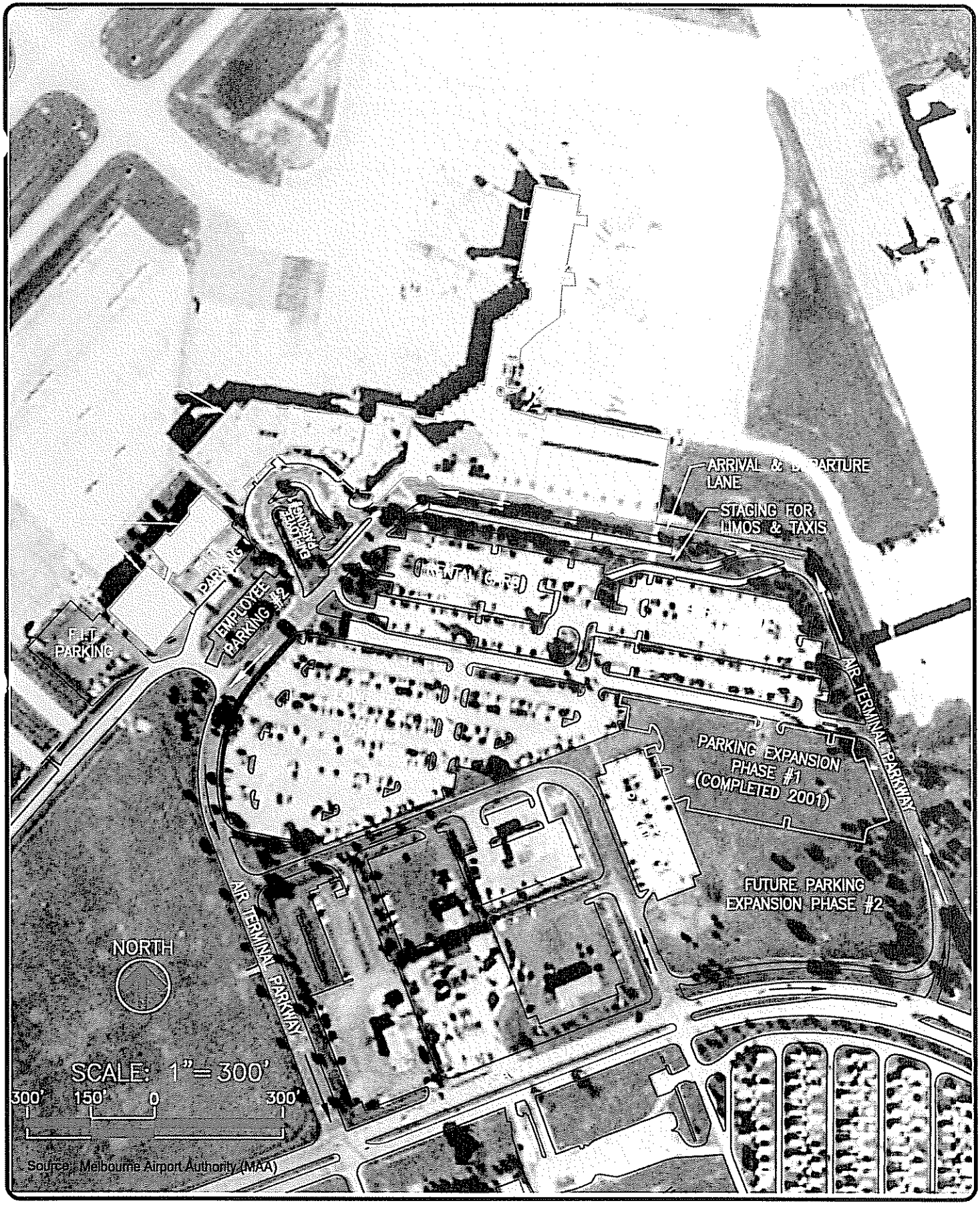

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Figure 1-10
Terminal Area

The main level of the terminal connects directly to a second level departure concourse containing passenger security, concessions, aircraft departure lounges and aircraft boarding bridges. The terminal building also has federal inspection services located on the second level, accessible from the baggage claim area. MAA offices are located on the second level, above the baggage claim area.

The existing passenger terminal building contains 193,574 square feet of usable space, which includes 44,000 square feet dedicated to international passenger processing. The total amount of usable airline space excluding the international terminal is 47,765 square feet. The total amount of usable concession space is 11,034 square feet. The total amount of usable public space is a 53,987 square feet, and the total amount of usable airport management space is 12,725 square feet. The breakdown of each of these separate space categories by function is given in Table 1.3.

The concourse contains six departure lounges with boarding bridge equipped aircraft gate positions capable of servicing regional jet commercial aircraft through wide-body jets. The departure lounge in the international terminal has a single aircraft boarding bridge capable of accommodating wide-body aircraft.

Ground Access Facilities: Primary vehicular access to the Airport consists of Air Terminal Parkway, a dual-lane roadway that begins on the southeast corner of the Airport at NASA Boulevard. NASA Boulevard connects Air Terminal Parkway to Interstate I-95 and other major roads within the Melbourne area. Air Terminal Parkway provides access to short and long term parking areas, rental car return, limousine, transit (bus) parking and taxi staging. Air Terminal Parkway then becomes a one way, dual lane roadway, which expands to four lanes as it continues along the curb of passenger ticketing and baggage check-in. A separate loop provides access to the baggage claim area, then passes a second set of parking entrances before it becomes three lanes wide and exits as a unidirectional roadway connecting to NASA Boulevard. Before connecting to NASA Boulevard a terminal return loop is provided to allow re-circulation to the terminal area.

Table 1.3

USABLE TERMINAL BUILDING SPACE

Area	Linear Feet	Square Feet
Airline Space		
Airline Ticket Office		7,257
Ticketing and Queuing	225	5,594
Baggage Make-up		10,936
Airline Operations		5,235
Baggage Claim	224	7,358
Departure Lounges		11,385
International Terminal		44,000
Subtotal		91,765
Percentage of Total		47.4%
Concession Space		
Rental Car		2,460
Ground Transportation Services (Curb Front)	571	
Food and Beverage		7,566
News and General Merchandising		1,008
Subtotal		11,034
Percentage of Total		5.7%
Public Space		
Ticket Lobby		8,390
Baggage Claim		7,217
Security Screening		1,713
Concourse		11,669
Corridors		6,927
Restrooms		1,044
Other Circulation		17,027
Subtotal		53,987
Percentage of Total		27.9%
Airport Administration		
Airport Administrative Offices		12,725
Mechanical/Building Maintenance		14,439
Non-Rental Area		4,451
Vacant		5,173
Subtotal		36,788
Percentage of Total		19.0%
Total Useable Space		**193,574**

Source: Melbourne International Airport Authority
RS&H, 2002

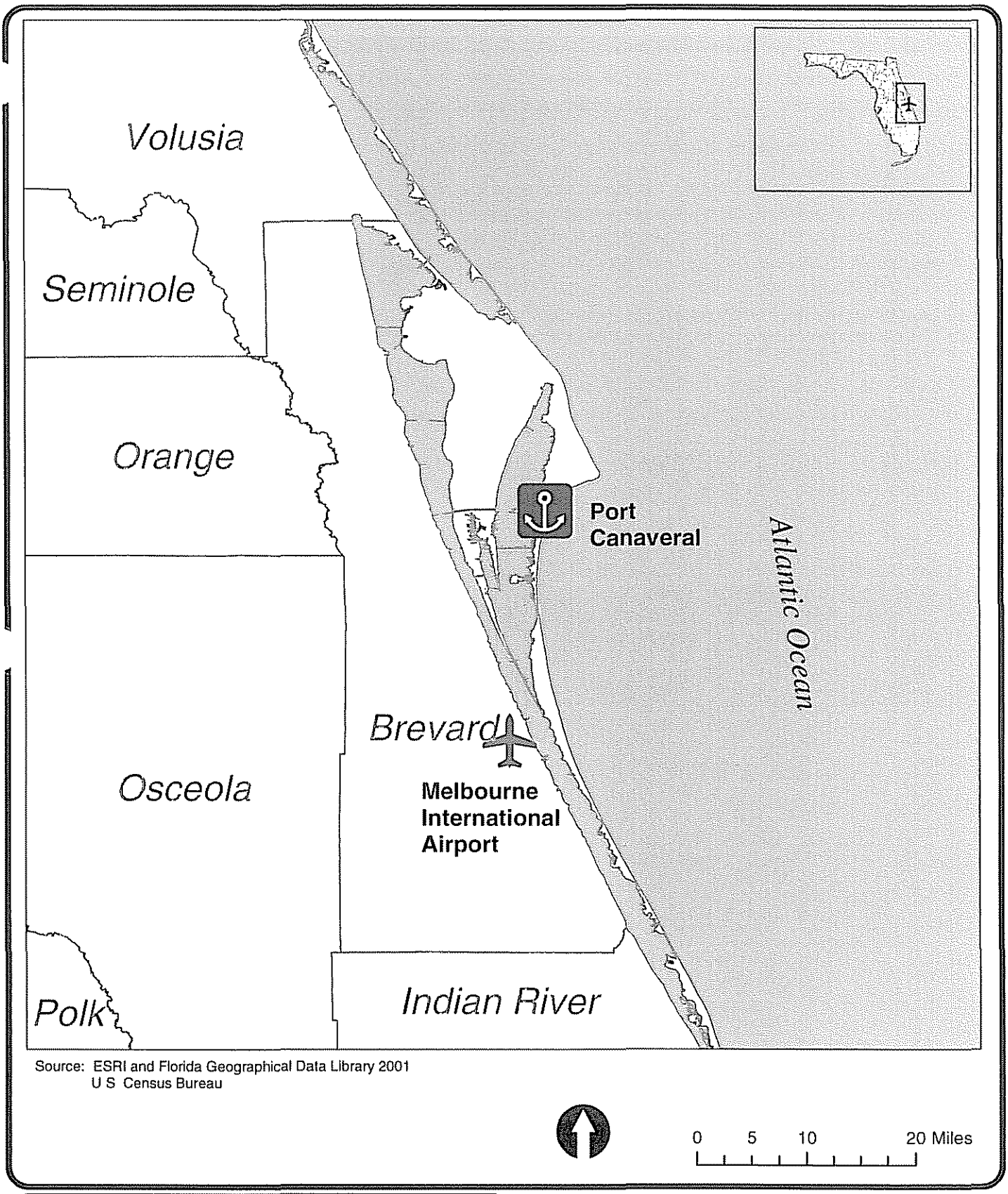
Parking facilities for passenger vehicles is provided opposite of the passenger terminal building. The parking areas include short and long-term public parking spaces, rental car ready/return spaces and handicap spaces. Parking areas located south and southeast of baggage claim are used for employee parking. Currently, there are a total of 1,255 parking spaces available in the terminal parking area. The parking space breakdown is as follows: short-term, 282; long-term, 699; rental car ready, 120; employee lot 1, 17; employee lot 2, 34; and employee lot 3, 103 parking spaces.

1.3.11 Port of Canaveral

Located 25 miles north of the Melbourne International Airport (see Figure 1-11), the Port of Canaveral is the second busiest cruise port in the world recording over 4.1 million revenue cruise passengers in 2003. And while cruise passenger service plays a major role in the operation of the Port, the cargo business is quickly emerging as a significant economic contributor with a record 5 million tons of freight handled in 2003.

Another important component of the current activity and potential long-term growth opportunities of the Port of Canaveral is the operation of Foreign Trade Zone (FTZ) 136. Encompassing more than 4,000 acres, FTZ 136 is among the largest foreign trade zones in the United States. FTZ 136 operates through four general purpose sites, including an 1,877 acre site at Melbourne International Airport. Having a general purpose site at the Airport provides manufacturers and other business enterprises a convenient way to save money during the course of importing and exporting various products. A FTZ provides businesses the opportunity to realize cost savings through improved efficiency and productivity, duty-free storage, reduced processing fees and tariffs, and other business related incentives.

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



Source: ESRI and Florida Geographical Data Library 2001
U S Census Bureau

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Figure 1-11

Port Canaveral Location

projected to operate at an airport. The ARC for Melbourne International Airport will be examined in Section 3.

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

Data necessary to conduct the runway wind coverage analysis was obtained from the National Climatic Data Center of the National Oceanic and Atmospheric Administration (NOAA). Hourly weather observation data for a ten-year period recorded by an on-airport station was obtained. This data was integrated with the FAA's Airport Design computer program to generate several wind roses. Section 3 contains All-Weather and VFR wind roses for Melbourne International Airport, as well as the runway wind coverage's for all crosswind components under each of these conditions.

Based on statistics provided by the NOAA's concerning monthly station normals for temperature, precipitation, heating and cooling days, the mean maximum temperature for Melbourne International Airport is 90-degrees Fahrenheit during the month of July.

1.3.13 Economic Impact Updates

As part of the Master Plan Update effort, and published in final form under separate cover,[1] Wilbur Smith & Associates was retained to prepare an update to the Melbourne International Airport Economic Impact Study completed in March of 1999. The Update followed the same methodology used in the previous study which is nationally recognized as the standard for conducting economic impact studies of airports and is consistent with FAA published guidelines. The update also used the official input/output model of the United States Government, as developed by the U.S. Department of Commerce, with multipliers that are specific to Brevard and Indian River Counties.

[1] Melbourne International Airport Economic Impact Update – 2002.

The detailed analysis of aviation and non-aviation activity at MLB indicate that combined annual economic impact of the Airport's operation, to include visitor, industrial, commercial, government and multiplier impacts to the Melbourne area, total over $1.0 billion in economic activity. The $1.0 billion in total annual economic impact generated from Airport operations includes the following:

Aviation Related Impacts:

Direct Impacts - $460.2 million
Indirect Impacts - $57.4 million
Multiplier - $328.2 million
Total Economic Activity - $845.8 million
Earnings - $234.9 million
Jobs – 7,281

Non-Aviation Related Impacts:

Direct Impacts - $96.5 million
Multiplier - $64.4 million
Earnings - $45.8 million
Total Economic Activity - $160.9 million
Jobs – 1,572

Total Airport Impacts:

Economic Activity - $1,006,674,100
Earnings - $280,718,000
Jobs – 8,852

The diversity of aviation and non-aviation related activity at MLB contributes in total to the over $1.0 billion in annual economic activity. While the impacts associated with the provision and use of commercial passenger service impacts is but a small percentage of the overall total, the industrial and commercial aviation segments that depend on the Airport's runways and supporting infrastructure contribute significantly to the annual economic impact. Despite recent challenges faced by the commercial airline industry and the overall economy, MLB continues to provide the stimulus to attract additional investment to the region.