CHAPTER THREE
Aviation Activity Forecasts

INTRODUCTION AND BACKGROUND

This chapter presents projections of aviation activity at Herlong Airport (HEG) that will be used as the basis for facility planning at the Airport over the twenty-year planning period. The objective of the forecasts is to provide airport management with realistic estimates of future aviation activity. From this information, a benchmark of facilities may be obtained and compared to determine the adequacy of existing airport facilities. Projections of aviation demand provide the basis for:

- Determining the Airport's future role regarding the types of aircraft that need to be accommodated as well as the types of future demand.
- Evaluating the capacity of existing Airport facilities to meet projected aviation demand.
- Estimating the type and size of airside and landside facilities required in future years.

In addition, external factors including recent and on-going aviation industry trends and projections will be evaluated as to their impact on HEG. HEG is designated under NPIAS as a general aviation reliever airport. As a general aviation airport, it serves a variety of aviation activities, including personal and recreational flying, corporate flying, glider and ultra light flying, and other similar activities. The Airport currently accommodates flight training activity, and future prospects envision HEG increasing its role as a provider of flight training services. As a result, particular attention was given to such factors as fuel prices, FDOT funding, the national and local economy, airspace restrictions and other security measures instituted after September 11, 2001, as well as such aviation trends as the development of the light sport aircraft and the approval of the Sport Pilot License.

Nationally, the use of general aviation for business travel has increased dramatically due in part to the development of the fractional aircraft ownership industry as well as extensive commercial airport and airline security measures. In addition, corporate aviation activity is expected to increase as a result of economic recovery and development of very light jet aircraft, such as the Eclipse 500 and Cessna Mustang, which sell for less than $2.5 million. Interest in this type of aircraft has grown significantly and is expected to continue in the future. Furthermore, learn-to-fly programs, approval of the Sport Aircraft license, aircraft safety improvements, as well as the development of smaller, quieter and more cost effective aircraft models is anticipated to further drive recreational general aviation activity at HEG.

The standard planning period for an airport master plan is twenty years. Forecasts for HEG are presented in 5, 10, 15 and 20-year key increments, where 2010, 2015, 2020 and 2025 were designated as the key planning years. The base year for this analysis is 2005. Forecast development and historic operations collected from Airport Management were verified from a number of sources including based aircraft operations, fuel sales as well as a survey of airport operations performed over a two-week period. The development of forecasts also includes analyses of historical data as provided by the Federal Aviation Administration (FAA), the Florida Department of Transportation (FDOT) and socioeconomic data from the region and the state of Florida. This data was supplemented with information obtained from Airport Management and FAA Airport Master Record (5010) forms to obtain a complete picture of operational activities, emerging trends, and the community's overall vision for the Airport.

HISTORICAL SOURCES

It is important that the historical data gathered and presented in this chapter is as accurate as possible, as successful aviation forecasting is dependent on such data. However, airports without air traffic control towers (ATCT) do not typically record historic information on a regular basis. Therefore, several sources were consulted to obtain historic data. These sources include: the Federal Aviation Administration (FAA), Terminal Area Forecast (TAF) and 5010 Airport Master Records, Florida Department of Transportation (FDOT), Florida Aviation System Plan (FASP), and the 2000 HEG Airport Master Plan Update. In addition, information from HEG Airport Manager and staff, and tenant interviews were also used and incorporated in this section. Finally, the consultant utilized the formulas and recommendations outlined in the report, "*Model for Estimating General Aviation Operations at Non-Towered Airports using Towered and Non-Towered Airport Data*," June 2001 by GRA Inc. as recommended by FAA Headquarters to develop an effective baseline for determining future operations.

METHODOLOGY

Various methods of forecasting aviation demand exist and are widely used throughout the industry. In order to adequately identify the future needs of the airport, a number of projections were developed. In this chapter, the following elements were analyzed and subsequent projections prepared.

- **Based Aircraft**
  - Single-Engine
  - Multi-Engine (piston and turboprop)
  - Jet
  - Rotor

- **Aircraft Operations**
  - General Aviation
  - Local/Itinerant
  - Instrument

- **Peak Activity**
  - Peak Month
  - Average Day Peak Month
  - Peak Hour

Previous forecasts and their accuracy over time were also considered to identify historical trends and their relationship to national, state and local socioeconomic and aviation activities. These methods were applied to develop the most accurate forecasts possible at HEG, and will be discussed in greater detail throughout this chapter.

Additionally, the activity forecasts in this section were developed in accordance with the standards and guidelines set forth in Federal Aviation Administration (FAA) Advisory Circulars (AC) 150/5070-6B, 150/5300-13, and other applicable federal and state publications.

Although these forecasts cover an extended timeframe, aviation, social and economic trends can only be reasonably projected for the first five years. Unexpected events in any of the above trends, which cannot be factored into the assumptions of the forecast, can cause dramatic changes within the 20-year planning period. Therefore, aviation activity forecasts and master plans themselves must continually be evaluated and updated on a regular basis, approximately every five years.

HISTORIC DATA

Traditionally, HEG has served as a general aviation reliever airport to the commercial passenger service airports in the region, primarily to Jacksonville International Airport (JAX). As such, HEG is one of three highly active general aviation airports in the Jacksonville Metropolitan Statistical Area (MSA), which also includes Craig Airport and Cecil Field.

Based upon historical data and discussions with Airport management, the Airport primarily serves single-engine, multi-engine, rotorcraft, as well as a significant number of glider and ultra light aircraft. Based upon data obtained from the FBO, HEG accommodates 170 based aircraft, the majority of which are single-engine piston. Although historically based turbojet aircraft have remained stagnant from 2003 through 2005, it is anticipated, based upon new technology and the anticipated increase in turbine aircraft worldwide that based turbojet aircraft at HEG will likely increase. However, while the potential exists for jet aircraft to be based at HEG, historical data shows that the Airport primarily supports smaller general aviation aircraft. This is primarily due in part to limited runway length rather than the functional role the Airport can support.

Reviewing activity at the Airport, operations at HEG are dominated by general aviation and sport aircraft activity. However, approximately 2,240 itinerant military operations occurred in 2005 as a result of helicopter training primarily in the form of "Touch and Go" operations.

Aircraft operations forecasts provided in the 2000 Master Plan Update, 2006 FAA Terminal Area Forecasts (TAF) and 2004 Florida Aviation System Plan (FASP) which were available at the time of this writing, incorrectly identified corporate general operations as air taxi operations. JAA has corrected this error by adding the air taxi operations to the transient general aviation operations in recapping each of these past forecasts.

Historic Based Aircraft

In order to realistically forecast based aircraft, a reliable source or combination of sources must be obtained. **Table 3-1** compares historic based aircraft data obtained from the 2006 FAA TAF, 2004 FASP, 2000 Master Plan Update with information obtained from airport management.

TABLE 3-1
HISTORIC BASED AIRCRAFT

Year	Airport Records*	2006 FAA TAF	2004 FASP	2000 MPU
1995	101	NA	NA	101
1996	101	NA	NA	101
1997	129	NA	NA	129
1998	118	NA	131	118
1999	126	NA	130	126
2000	142	NA	130	130
2001	143	143	130	133
2002	162	162	163	137
2003	162	162	162	141
2004	162	162	167	144
2005	**170**	163	170	148
AAGR % 2001-2005	**4.42%**	**3.33%**	**6.94%**	**2.71%**

**Source: Herlong Airport Management Records and The LPA Group Incorporated, 2006*

Historic based aircraft fleet mix data was obtained from Airport Management records as well as site visits. This data is provided in **Table 3-2**.

TABLE 3-2
HISTORIC BASED AIRCRAFT FLEET MIX

Year	Single-Engine	Multi-Engine	Jet*	Rotorcraft	Experimental/ Gliders/Other	Total
1995	75	13	0	1	12	**101**
1996	75	13	0	1	12	**101**
1997	95	15	0	2	17	**129**
1998	90	10	0	2	16	**118**
1999	97	10	0	2	17	**126**
2000	103	13	0	1	25	**142**
2001	103	14	0	1	25	**143**
2002	114	15	0	3	30	**162**
2003	120	15	5	3	19	**162**
2004	120	15	5	4	18	**162**
2005	128	15	5	4	18	**170**

*Note: *Jet refers to both turboprop and turbojet aircraft based upon FAA standard naming criteria.*
Source: Herlong Airport Management Records and The LPA Group Incorporated, 2006

The number of historic based aircraft numbers varied noticeably amongst the sources noted above. However most followed similar patterns of fluctuation, especially in 2001, during which the negative offset of the September 11 terrorist attacks contributed to a decline in aviation activity as a whole, for both general aviation and non-general aviation alike. Subsequent years following 2001 saw dramatic increases in both the number of based aircraft and annual operations occurring at HEG. Since HEG does not have an Air Traffic Control Tower (ATCT), a precise, thorough log of aircraft activity could not be consulted; therefore, it is generally assumed that information provided by Airport management and obtained from the 2004 Florida Aviation System Plan (FASP) (published January 10, 2005) fairly represent the historical numbers depicted in the previous table.

Historic Annual Aircraft Operations

The FAA defines an operation as either a single aircraft landing or takeoff. Under this definition, an aircraft "touch and go" is considered two operations, since the aircraft conducts a landing and a takeoff. Past aircraft operations at HEG are recorded in the 2006 FAA TAF, 2005 FAA 5010 Form, 2004 Florida Aviation System Plan (FASP), 2000 Master Plan Update, and by Airport Management. These data sources are compared in **Table 3-3**. The historical operations provided by JAA management were considered the most accurate and were, therefore, used to determine based aircraft and annual operations forecasts.

TABLE 3-3
HISTORIC ANNUAL OPERATIONS

Year	Airport Records*	FAA TAF	FASP	2000 MPU
1995	67,000	NA	NA	65,100
1996	80,100	NA	NA	65,100
1997	82,839	NA	NA	80,100
1998	66,726	NA	66,726	70,000
1999	65,000	NA	65,000	70,000
2000	72,200	NA	72,200	72,200
2001	65,000	65,300	65,000	74,063
2002	80,700	65,300	80,700	75,976
2003	87,700	65,300	87,000	77,940
2004	87,870	65,300	87,892	79,957
2005*	**65,341**	65,300	88,784	82,200
AAGR % 2001-2005	**0.12%**	**0.00%**	**8.11%**	**2.64%**

**Note: Includes approximately 2,000 operations attributed to Military Operations*
Source: Herlong Airport Management Records and The LPA Group Incorporated, 2006

Since HEG does not have an air traffic control tower on site, the consultant used fuel flowage information, aircraft operation counts obtained from the FBO staff, Jacksonville ARTCC data as well as a sample week of operations during the historic peak month, to obtain the historic annual operations for 2005. This discrepancy between the base year 2005 annual operations and previous years may be attributable to the cost of operating an aircraft, i.e. maintenance, fuel, storage, etc. as well as the long-term impacts of new security procedures as a result of September 11.

PREVIOUS AVIATION ACTIVITY FORECASTS

Since the 2000 Master Plan Update, there have been no significant forecasting efforts at HEG. Although new forecasts were created for this Master Plan Update (MPU), data contained in the previous plan (2000 MPU) prove invaluable for comparison purposes and are used to supplement the analyses conducted during this study.

2000 Master Plan Update

For the purposes of this study, the 2000 Master Plan forecast was reviewed in order to obtain a historical trend of both based aircraft and aircraft operations. The 2000 Master Plan Update based aircraft forecast is shown in **Table 3-4**. For comparison purposes, forecast data was extrapolated to the year 2025.

TABLE 3-4
2000 MASTER PLAN UPDATE – FORECAST OF BASED AIRCRAFT

Base Year	Single-Engine	Multi-Engine	Jet	Rotor	Glider/Other	Total
1999	94	14	-	2	16	126
Forecast						
2005	108	16	-	3	21	148
2010	123	17	-	3	25	168
2020	158	21	-	4	30	213
Extrapolated by LPA						
2025	176	24	0	5	33	238

Source: 2000 Master Plan Update, AVCON

According to the 2000 forecast, based aircraft were estimated to grow at an average yearly rate of 2.63%.

Table 3-5 depicts the 2000 Master Plan Update forecast of operations for the planning period. Local operations forecast in the previous master plan and extrapolated through 2025 by The LPA Group Incorporated reveal an average annual growth rate of 2.88 percent. Itinerant operations reveal an average annual growth rate of 3.59 percent. Whereas itinerant operations as a percentage of total operations are projected to steadily increase, local operations as a percentage of total operations are projected to decline over the forecast period. It should be noted that the 2000 Master Plan forecast indicates local operations are projected to grow from 48,600 in 2005 to over 84,000 in 2025. However, itinerant operations are forecast to grow at a faster rate resulting in declining percentage of local operations.

TABLE 3-5
2000 MASTER PLAN UPDATE – LOCAL/ITINERANT SPLIT OF PROJECTED AIRCRAFT OPERATIONS

Year	Local Operations	Itinerant Operations	Total Operations
Base Year			
1999	40,500	29,140	69,640
Forecast			
2005	48,682	37,322	86,004
2010	56,346	44,986	101,332
2020	74,977	63,617	138,594
Extrapolated by LPA			
2025	84,293	72,933	157,226

Source: The LPA Group Incorporated, 2006

FAA Terminal Area Forecast

Terminal Area Forecasts (TAF) are prepared by the FAA to meet the planning needs of their offices concerned with future traffic levels at the nation's airport facilities. Except for specific regional or state requests, the airports included in the FAA's TAF report must meet at least one of the following criteria:

- Have an existing FAA tower.
- Have an existing FAA Contact tower.
- Candidate for a FAA tower.
- Currently receiving or expected to receive scheduled air carrier or regional/commuter service.
- Currently exceed 60,000 itinerant or 100,000 total aircraft operations.
- Reported 10 or more based aircraft on the latest available Airport Master Record (FAA 5010 Form).

HEG is included within the FAA TAF since it has consistently reported ten or more based aircraft.

Forecasts in the FAA TAF are calculated using a number of methods. Typically, projections are calculated using regression analysis with various national economic indicators as the independent variables. **Table 3-6** depicts the figure contained in the 2006 TAF for HEG.

TABLE 3-6
2006 FAA TERMINAL AREA FORECAST

Year	Based Aircraft	Annual Operations
Base Year		
2005	163	65,300
Forecast		
2010	170	65,300
2015	178	65,300
2020	185	65,300
2025	193	65,300

Source: FAA Terminal Area Forecast, 2006

As reflected in the 2006 TAF, the FAA has forecast a straight-line projection of activity over a 20-year period for aircraft operations. This forecast indicated that there is a 0.85 percent annual average growth rate for based aircraft and a 0 percent annual average growth rate for annual operations throughout the 20-year planning period. While the 2006 FAA TAF Forecast for based aircraft appears to have some validity, the flat operations forecasts appears to be in error. Therefore other forecasts will be analyzed.

2004 Florida Aviation System Plan

2004 Florida Aviation System Plan (FASP) is a broad blueprint that guides the development of Florida's 131 public airports. This plan is necessary to ensure that airports work together effectively as a statewide transportation system, provide a link to a global air transport network, and effectively interface with regional surface transportation.

The latest edition of the FASP (2004) was based on data collected up to and including 2003. The FASP incorporates traditional aviation planning techniques to identify future air traffic demands. In addition, the FASP includes a strategic planning element to allow FDOT to respond to aviation and economic trends, including emerging technologies, projected funding shortfalls and shifting priorities. **Table 3-7** depicts the 2004 FASP forecast for HEG during the 2003-2024 period. Data shown for the year 2024 was determined by using growth rates derived from the FASP forecast.

TABLE 3-7
2004 FLORIDA AVIATION SYSTEM PLAN

Year	Based Aircraft	Annual Operations
Base Year		
2003	162	87,000
Forecast		
2010	188	93,276
2015	207	98,034
2020	228	103,034
Extrapolated by LPA		
2025	249	107,955

Source: 2005 Florida Aviation System Plan (FASP)

The average annual growth rate associated with the FASP general aviation based aircraft forecast is 1.95 percent over the 2003-2025 period. During the same period, the FASP projects general aviation operations to increase at a rate of 0.99 percent annually.

The National Forecast

The national forecast is a forecast created by the FAA to project aviation growth for the U.S. The FAA Aerospace Forecasts, Fiscal Years 2006-2017, was used to express national trends in the general aviation industry in order to determine the correlation between national trends and activity at HEG. Using a market share analysis of historic airport activity to the national activity as presented in the FAA Aerospace Forecast, resulted in a 1.11 percent average annual growth rate (AAGR) for based aircraft and 1.14 percent AAGR for aircraft operations through the twenty-year planning period. The results of these calculations are shown in **Table 3-8**.

TABLE 3-8
MARKET SHARE OF U.S. GENERAL AVIATION ACTIVITY
(FAA AEROSPACE FORECASTS - 2006 THROUGH 2017)

Year	Based Aircraft	Total Annual Operations
Base Year		
2005[1]	170	65,341
Forecast*		
2010	180	70,049
2015	190	72,996
Extrapolated by LPA		
2020	200	77,329
2025	212	81,919
AAGR 2005-2025	1.11%	1.14%

Notes: [1]Source is Herlong Airport Actual Operations and Based Aircraft 2005, Airport Management and Fuel Sales
** Forecasts were based upon historic percentage (2005) of HEG based aircraft and operations compared to National Forecast provided in FAA Aerospace Forecasts, 2005-2016*
Source: FAA Aerospace Forecasts, 2006-2017

Forecasting Approach

Historic trends are one of the primary considerations that can influence activity forecasts at an airport. By tracing these trends, it is possible to determine the impact that economic fluctuations, as well as changes in the industry have had on activity at the airport. The study of historical trends is particularly valuable at those airports having an air traffic control tower (ATCT) recording takeoff and landing operations for several years.

Historic data for HEG from sources such as the FAA TAF, FAA Form 5010, or FASP seem to be inconsistent. Thus, 2005 historic data obtained from HEG staff, JAX ARTCC and fuel flowage data was used as the base year for the operations and based aircraft forecasts. Since 5-plus years of historic data was available for most items, airport activity could be compared to various local economic indices including population, employment and per capita income. A linear forecast based upon the average annual growth rate for the period 1997-2005 was applied to the base year annual operations. However, this forecast methodology was discounted since fluctuations in historical data are attributed to some extent by outside events which may or may not occur in the future.

The multiple regression methodology using population, employment and per capita income was also developed to project future aviation activity at HEG. However, no correlation was found between the socio-economic indices and aircraft operations and based aircraft and was, therefore, ultimately discounted. Finally updates to the National Forecast (FAA Aerospace Forecast), Florida Aviation System Plan, and Terminal Area Forecasts, as well as projections of general aviation activity based

upon market share analysis were considered feasible methods of forecasting aircraft operations and based aircraft at HEG.

Industry trends, as well as national and local economy reviews, were also used to project aircraft activity at the Airport. The best source of information on the nation's general aviation activity is contained in the 2005 FAA Aerospace Forecasts. Given the nature of the airport operations, primarily General Aviation (GA), projections of future activity based upon these forecasts, adjusting for local trends, was considered a reasonable forecasting approach. Several factors were considered which might influence the course in which activity at the airport develops. These included evaluating anticipated general aviation development, airport geographical constraints, and industrial/business development on and surrounding HEG. The primary goal of the analysis was to develop an approach that gives reasonable attention to these factors while at the same time providing a rational basis upon which to support the forecast selection.

It is also noteworthy that substantial demographic and economic growth in an area rarely triggers an equal general aviation activity expansion. Nowadays, general aviation growth at an airport usually falls within a narrow range, at a rate usually somewhat lower than the socioeconomic data alone would suggest. Unless an airport has readily developable land and funds, as well as excessive general aviation demand, annual average growth rates over a 20-year planning period usually fall under five percent. Therefore, a projection of aircraft activity assuming national growth and customized for local conditions can be just as useful. Additionally, GA growth relies on many other factors, which include: level of services offered, competitive pricing, space availability, airfield characteristics, local area attractiveness, and pilot perception of services. While these factors cannot be tailored into the equation leading to the airport activity forecast, these do contribute directly to the level of operations at HEG. As a result, these forecasts assume that Airport Management, Fixed Based Operator (FBO), and other tenants will actively support GA activity and initiate the appropriate measures to either maintain or extend air traffic at the airport.

INDUSTRY TRENDS AND IMPACTS OF SEPTEMBER 11, 2001

Decreases in general aviation activity were experienced across the nation in the late 1980's and early 1990's due to significant increases in the cost of owning a general aviation aircraft. A large part of this cost was directly attributable to increasing product liability costs, as well as increasing operating costs. Unfortunately, this period, which was also affected by a national recession, ultimately forced the closure of nearly every manufacturer of general aviation piston aircraft. Legislators responded to the severe downturn with the passage of the General Aviation Revitalization Act of 1994. The signing of this act provided a renewed era of growth for the general aviation market, which has led to recovery in the industry up through the end of 2001.

After passage of the General Aviation Revitalization Act, two of the largest manufacturers of small aircraft resumed production in the general aviation market. The Cessna Aircraft Corporation re-

entered the single-engine piston aircraft market for the first time since 1986. In addition, the New Piper Aircraft Corporation emerged from Chapter 11 bankruptcy protection to restart and increase its previous production schedule. Other aircraft manufacturers and aviation suppliers also began hiring and expanding their production. Overall, revitalization of the industry has had a positive effect on the number of active general aviation aircraft, and therefore on the number of operations these aircraft conduct in the U.S. According to the 2005 FAA Aerospace Forecasts, annual shipment of U.S. manufactured general aviation aircraft has constantly increased from 1994 to 2000. This was significantly facilitated by the strong economic cycle of the mid to late 1990s.

Indeed, the unfortunate events of September 11, 2001 exacerbated a decline already evident within the general aviation industry and the economy as a whole. Whereas the commercial aspect of aviation has received the immensity of Federal assistance and attention, the widespread decline of aviation activity spread throughout the industry. Between 2001 and 2003, rising fuel costs sharply impacted the delivery of new aircraft, especially jet aircraft, and were further hampered by the generally weak-to-recover economy. Nonetheless, the general aviation industry staged a rather significant return to growth in 2004, spurred primarily by the increase in dollars spent on advancing avionics research as well as other aircraft technologies. Impelled by the need to stimulate growth in the pilot population, “learn to fly” programs have been heavily promoted by the industry.

General aviation has seen fluctuating changes among the several segments within the industry, particularly between business/jet aircraft and the smaller, but growing sport aircraft market. But despite a slowdown in the demand for business jets over the past several years, the 2005 FAA Aerospace Forecast assumes that business use of general aviation aircraft will expand at a more rapid pace than that for personal/sport use. The business/corporate side of general aviation should continue to benefit from a growing market for new micro jets. In addition, corporate safety/security concerns for its corporate staff, combined with increased processing times at some U.S. airports have made fractional, corporate, and on-demand charter flights viable alternatives to travel on commercial flights.

According to the 2005 FAA Aerospace Forecasts, GA aircraft shipments reversed a 3-year decline in 2004, whereby U.S. manufacturers of aircraft shipped 1,758 units to various customers, an increase of 10.2 percent over the same period in 2003. Shipments increased for each of the three aircraft categories: turboprops, from 163 to 194 (up 19.0 percent); business jets, from 384 to 403 (up 4.9 percent); and pistons, from 1,590 to 1,758 (up 10.6 percent). The resilience of the piston aircraft market indicates that there is growing interest in the low-end market for general aviation aircraft. Likewise, the stimulation of interest in the new light sport aircraft market could further propel growth among the general aviation aircraft market in the future. New aircraft models are also stimulating interest in the high-end market for general aviation aircraft, particularly the market for new business jet aircraft. The upward trend for new aircraft deliveries is a positive sign to the lulls experienced within the general aviation market during the last few years and signifies a recovery in the economy as a whole.

The number of general aviation pilots is projected to total 575,790 in 2016, an increase of almost 1.6 percent annually over the FAA's forecast period. A significant reason for such growth is due to the certification of nearly 12,000 new sport aircraft pilots spurred by the new sport pilot license. As well, according to the 2005 FAA Aerospace Forecast, the number of private pilots is projected to total 273,600 by 2016, representing an approximate annual increase of 1.2 percent. However, according to the FAA, some student pilots, particularly foreign nationals, who represent nearly 20 percent of the student pilots in the US, are continuing to experience increased scrutiny and lengthy background checks as a result of new security legislation imposed by the Federal Government.

While the general aviation industry will be facing challenges in the years ahead, recent signs of recovery are an important indication of future trends. The most important driving force of this recovery will be the U.S. economy. According to the 2005 FAA Aerospace Forecasts, the active general aviation aircraft fleet is forecast to increase at an average annual growth rate of 1.10 percent and general aviation hours flown are forecast to increase by 1.60 percent annually from 2004 to 2016.

Signs of macroeconomic recovery are evident in the recent growth indication of the general aviation industry. The Bureau of Economic Analysis (BEA) indicated that real GDP in the second quarter of 2005 grew at an annual rate of 3.3 percent, whereas in the first quarter the economy grew at an annualized rate of 3.8 percent. Of interest to business/jet aircraft market is the significant growth in corporate profits, which increased 17.7 percent between the second quarter of 2004 and the same period during 2005. However, longer-term prospects of growth are still uncertain, especially as the outcomes of the war in Iraq remain grim and the potential for future terrorist strikes on the U.S. are still perceived as likely. Therefore, as indicated in the FAA forecast, the general aviation industry will likely remain under the influence of larger economic and political effects, both from within the U.S. and abroad.

Forecast of Based Aircraft

The development of future facilities such as hangars, aprons and tie-downs is heavily driven by the forecasted number of based aircraft expected at HEG during the planning period. Projections for the anticipated number of based aircraft were generated using the following methods.

AIRCRAFT USING FAA TAF GROWTH RATE

The TAF forecast of based aircraft at HEG assumes an annual average growth rate of 0.88 percent from 2005 through 2015. Using this annual growth rate, anticipated based aircraft using the TAF methodology was extrapolated through 2025 resulting in 193 based aircraft by the year 2025. **Table 3-9** outlines the TAF methodology.

PROJECTION OF BASED AIRCRAFT USING FASP

The next forecast method is based upon the Florida Aviation System Plan (FASP). The FASP indicates that the number of based aircraft at HEG is expected to grow at an average annual rate of 1.93 percent. As shown in **Table 3-9**, the FASP forecasts relatively higher based aircraft growth at HEG over the planning period.

PROJECTION OF BASED AIRCRAFT USING HISTORICAL GROWTH

Another method of deriving the based aircraft projection is by using the historical growth rate. The historical data gives a relatively inaccurate picture of an extended growth rate due to significant increases in based aircraft activity between 1998 and 2005. Using historical based aircraft data from the years 1998 through 2005 resulted in an average annual growth rate of 5.35 percent. **Table 3-9** depicts the results of that calculation.

PROJECTION OF BASED AIRCRAFT USING NATIONAL FORECAST PROJECTIONS

An additional viable method of forecasting based aircraft is to use market share analysis. This data is used to derive projections of based aircraft through the application of national trends in the aviation industry. The national forecast was obtained from 2005 FAA Aerospace Forecasts, which forecasts the number of active aircraft in the nation. The Aerospace forecast defines an active aircraft as any aircraft flying at least one hour during the year. According to the 2005 FAA Aerospace forecast, the number of active general aviation aircraft at HEG is expected to increase at an average annual growth of 1.10 percent over the next twelve years. This growth rate was applied to the base year to extrapolate the forecast national growth for the remainder of the planning period, as indicated in **Table 3-9**.

SELECTED BASED AIRCRAFT FORECAST

When selecting the forecast of based aircraft, all the previously mentioned forecasting methods were taken into account. Forecasts were analyzed, reviewed and compared to determine how they compare to the expected growth at the airport. The selected based aircraft forecast should be the best representation of what is expected to occur at HEG. The selected forecast can be one of the previously mentioned methods or a combination of them.

Previous forecast projections with the exception of the historic (linear) forecast appear valid, and, therefore, were used to develop the preferred based aircraft forecast. Although HEG has seen an increase in based aircraft since 1998 due primarily to the construction of several hangar facilities, it is unlikely that such liberal growth can be sustained for an extended period of time. Therefore,

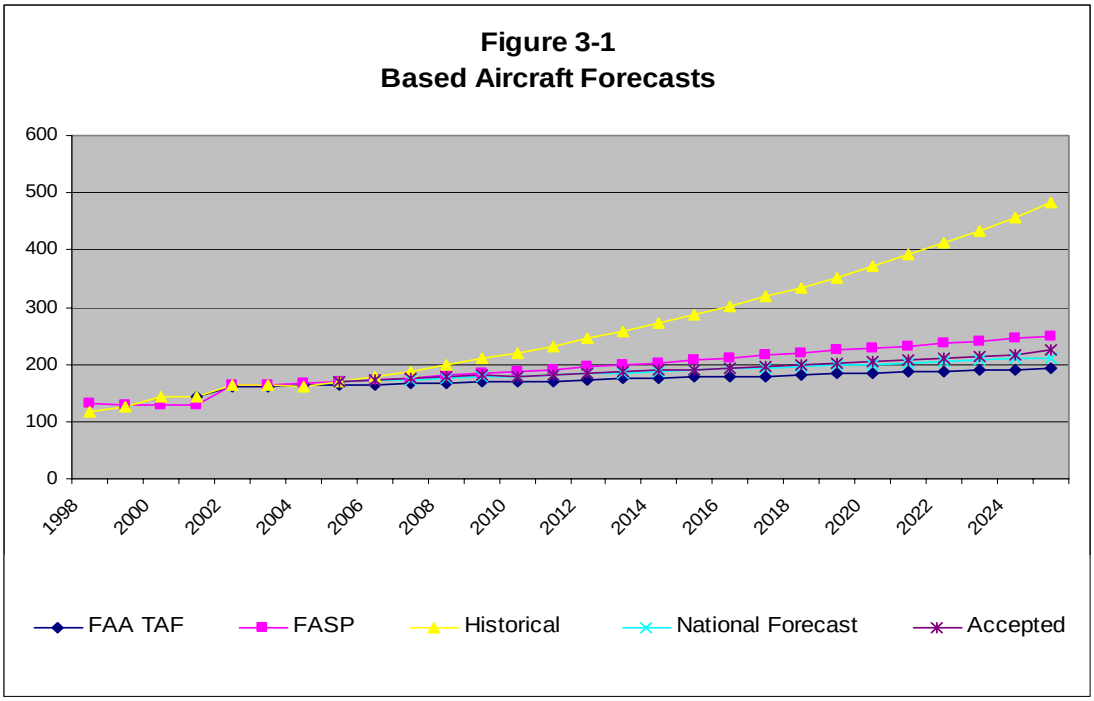
applying the 2006 FAA TAF, 2004 FASP and 2005 FAA Aerospace, 224 based aircraft were projected for the year 2025. This represents an average annual growth rate of 1.39 percent over the twenty-year planning period. **Figure 3-1** is a graphical representation of the selected forecast. **Table 3-9** depicts the selected forecast data.

TABLE 3-9
PROJECTIONS OF BASED AIRCRAFT

Year	2000 Master Plan Update*	2006 FAA TAF Forecast	2004 FASP Forecast	Historical Trend (Linear Projection)	Market Share of US GA Based Aircraft (FAA Aerospace Forecasts)	Preferred Forecast
Base Year						
2005	148	163	170	170	170	170
Projected						
2010	168	170	188	*221*	180	179
2015*	191	178	207	*286*	190	190
2020	213	185	228	*372*	200	205
2025*	236	193	249	*482*	212	224
AAGR (%) 2005-2025	2.36%	0.85%	1.93%	5.35%	1.11%	1.39%

** Extrapolated by The LPA Group Incorporated, 2006*
Source: 2006 FAA TAF, 2004 FASP, FAA Aerospace Forecasts (2005-2016), Airport Management & The LPA Group Incorporated.

Figure 3-1
Based Aircraft Forecasts



Source: The LPA Group, 2006

PROJECTED BASED AIRCRAFT FLEET MIX

Aside from determining the number of based aircraft, it is also vital to determine the aircraft fleet mix in order to develop the appropriate sized facilities. Understanding the future fleet mix would allow the airport to develop the facilities to accommodate various types of aircraft that are forecasted to operate at the airport. The future fleet mix was determined by studying the national fleet mix forecast and comparing it with the fleet mix based at HEG.

National Projection of Active General Aviation Fleet

Every year the FAA generates the active general aviation forecast as part of the FAA Aerospace Forecast. This forecast breaks the general aviation aircraft into distinctive categories. A breakdown of the national activity fleet in 2003 included: 68.15 percent single-engine aircraft, 8.38 percent multi-engine piston, 3.45 percent turboprop, 3.99 percent turbojet, 3.26 percent rotorcraft and 12.77 percent other aircraft (i.e. experimental, sport, and other). The 2003 Active General Aviation Fleet Table was the most recent data available at time of this writing.

An analysis of the active general aviation fleet data reveals certain trends. Single-engine piston aircraft and rotorcraft have experienced a decline in recent years, but the forecast shows that that segment has stabilized and will grow in the future. Turboprops and turbojet aircraft continue to

grow, and significant growth is expected to occur within the very light jet aircraft market and other aircraft associated with the newly developed Small Aircraft Transportation System (SATS).

Several reasons exist to support this anticipated growth. The use of business aircraft by smaller companies has escalated as various chartering, leasing, time-share, partnerships, and fractional ownership agreements have emerged. Businesses increasingly are choosing to use general aviation transport because it provides safe, efficient, flexible, and reliable transportation. Fractional ownership offers consumers a more efficient use of time by providing faster point-to-point travel times, the ability to conduct business while flying, as well as minimum enplaning and deplaning hassles. The continuing popularity of travel by general aviation aircraft is also due to the ability to use smaller, less-congested airports located closer to one's final destination. According to the National Business Aviation Association (NBAA), the number of individuals and companies in the U.S. that own a fractional share of an airplane increased by 52 percent from 2000 to 2002, from 3,834 to 5,827. In addition, new product offerings, such as the Eclipse 500 and the Cessna Mustang, lightweight jets featuring relatively low fuel consumption and having relatively low acquisition costs, will help to stimulate the markets in future years.

Finally, the introduction of light sport aircraft into the active fleet will have a profound effect on the development of this sector of aviation, especially at HEG. Light-sport aircraft are defined as simple, low-performance aircraft that are limited to 1,232 pounds maximum weight, two occupants, a single non-turbine powered engine, stall speed of 39 knots, maximum airspeed of 115 knots, and fixed landing gear. This category includes most existing ultra light aircraft, which the FAA has not registered in the past. To simulate general aviation activity, the FAA recently approved new certification requirements for light-sport aircraft, pilots, and repairmen. The new certification addresses advances in sport and recreational aviation technology, and provides pilots with safe and cost-effective access to a growing segment of aviation. The new sport pilot certificate, which allows pilots to fly light-sport aircraft, is obtained with approximately 20 hours of flight training. In addition, sport pilots would only need either a third class medical certificate or a valid state driver's license to fly. The new rule will greatly reduce the barriers to becoming a pilot and an aircraft owner, thereby boosting general aviation activity and light aircraft sales.

Table 3-10 compares the projected national active aircraft fleet mix forecast for the year 2003 and 2015. The numbers that stand out in the table are the average annual growth rate for turboprop and turbojet aircraft at a rate of 2.82 percent and other at a rate of 2.17 percent. Single-Engine and multi-engine aircraft increased at a rate of 0.25 percent. Despite the significant increase in turbojet and other aircraft, single-engine and multi-engine aircraft still constitutes over 70 percent of the national active general aviation aircraft in 2015.

TABLE 3-10
FAA PROJECTED NATIONAL ACTIVE AIRCRAFT FLEET

Aircraft Type	2003	Overall Share	2015	Overall Share	Average Annual Growth Rate
Single-Engine - Piston	113,960	53.91%	117,460	50.89%	0.25%
Multi-Engine- Piston	48,840	23.10%	50,340	21.81%	0.25%
Turboprop	7,450	3.52%	10,400	4.51%	2.82%
Turbojet	7,450	3.52%	10,400	4.51%	2.82%
Rotorcraft	6,800	3.22%	7,400	3.21%	0.71%
Other*	26,900	12.72%	34,800	15.08%	2.17%
Total	211,400	100.00%	230,800	100.00%	1.68%

Note: An active aircraft is one having a current registration that was flown at least one hour during the calendar year. Since the long range forecast does not segment piston and turbine engine categories, Single Engine and Multi Engine subcategories are given 70% and 30% split, respectively; Turbo Prop and Turbo Jet categories given equal 50% split.

** Other category includes experimental and light sport aircraft.*

Source: FAA Aerospace Forecast (Fiscal Years 2005-2016), 2006

Herlong Airport Projected Based Aircraft Fleet Mix

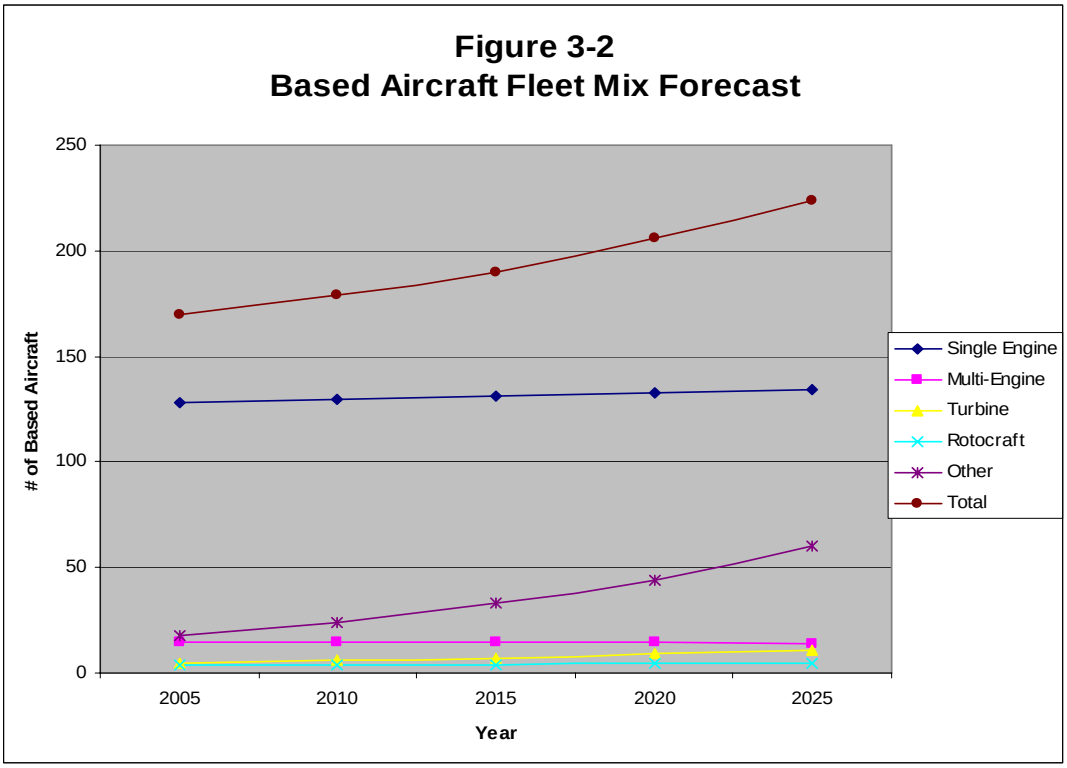
The base aircraft mix fleet was obtained from 2005 Airport Management records and from tenant surveys. This information confirmed the number of single-engine and multi-engine piston aircraft, turboprop and turbojet aircraft (Jets), helicopters (Rotorcraft) and experimental and gliders (Experimental/Other). From this data, a percentage breakdown for each category was determined. These percentages were then adjusted to reflect national fleet mix trends. The national trend indicates what is expected in the general aviation segment as a whole. Applying these percentages to the based aircraft forecasts provided the fleet mix forecast through the year 2025 as shown in **Table 3-11**.

TABLE 3-11
HEG PROJECTED BASED AIRCRAFT FLEET MIX

	Single-Engine		Multi-Engine		Jet*		Rotorcraft		Experimental/Other		Total
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Base Year											
2005	128	75.29%	15	8.82%	5	2.94%	4	2.35%	18	10.59%	170
Forecast											
2010	130	72.63%	15	8.38%	6	3.35%	4	2.23%	24	13.41%	179
2015	131	68.95%	15	7.89%	7	3.68%	4	2.11%	33	17.37%	190
2020	133	64.56%	15	7.28%	9	4.37%	5	2.43%	43	21.36%	205
2025	134	59.82%	14	6.25%	11	4.91%	5	2.23%	60	26.79%	224

**Note: Jet includes turboprop and turbojet aircraft*
Source: The LPA Group Incorporated, 2006

Figure 3-2
Based Aircraft Fleet Mix Forecast



Source: The LPA Group Incorporated, 2006

FORECAST OF AIRCRAFT OPERATIONS

Aircraft operational activity at HEG for the twenty-year planning period was conducted for general aviation activity exclusively. Military operations are expected to remain unchanged at approximately 2,000 rotorcraft operations during the planning period. This information will provide an accurate image of future demand and, therefore, facility requirements at the Airport for the twenty-year planning period.

FORECAST OF GA (NON-MILITARY) AIRCRAFT OPERATIONS

Many elements of aviation make up the broad definition of general aviation activity. General aviation includes all segments of the aviation industry except for those conducted by commercial or military operators. Its activities include the training of new pilots, sightseeing, aerial photography, law enforcement, and medical flights, as well as business, corporate, and personal travel. The FAA defines an operation as either a single aircraft landing or takeoff. Under this definition, touch-and-go training procedures are considered two operations (one arrival and one departure) and are considered local operations.

Projection of General Aviation Operations using TAF

The first method that was used to determine the general aviation forecast over the planning period is the TAF. In the TAF, the FAA forecasts the future operations growth at individual facilities. The 2005-2025 FAA TAF indicates that there is a straight-line forecast projection for annual operations at HEG. Straight-line forecast projections are generally discounted as an accurate measurement of anticipated operational growth, however since HEG does not have an air traffic control tower from which operational activity could be retrieved, the TAF is used as a generally conservative source of forecast information and is shown in **Table 3-12.**

Projection of General Aviation Operations using FASP

The next method of extracting the general aviation forecast for the planning period is through the use of the FASP. The FASP forecasts the growth in general aviation operations in Florida. The 2004 FASP provides forecasts for the years 2005 through 2016, which show an average annual growth rate of 1.00 percent. This growth rate was used to extrapolate the numbers for the rest of the planning period. The results are depicted in **Table 3-12**.

Projection of General Aviation Operations Using Historical Growth

Another method of extrapolating projected growth is through the use of the historical average annual growth factor for the years 1998 through 2005. This linear growth rate of 1.89 percent presents aircraft operations at HEG for 2025 at 92,052. This forecast may be viable if moderate development occurs at the airport. The results of the extrapolation are shown in **Table 3-12**.

Projection of Operations per Based Aircraft Methodology

This method uses the average operations per based aircraft (OPBA) to project operations over the twenty-year planning period. Using the average operations per based aircraft from 1998 through 2005 provided an average annual OPBA of 506.

In addition, an OPBA forecast of future airport operations at HEG was also performed using the FAA's OPBA standard of 492 operations to based aircraft for NPIAS designated reliever airports as shown in Appendix 5 of AC 150/5300-13, *Airport Design*. Utilizing OPBA, a growth rate of 1.52 percent was obtained, which resulted in a forecast of annual operations equal to 113,293 for the year 2025, which is considered the higher end of the forecast of operations for HEG over the planning period.

The Selected GA Operations Forecast

Since, as stated above, each projection was based upon a valid predictor variable, an average growth rate of 1.13 percent was applied for the average number of operations across the sources mentioned previously, with the inclusion of the FAA TAF, since historic operations among these sources are similar. The FASP and based aircraft method projections seem to be most closely related to the accepted forecast. Thus, as shown in **Table 3-12,** *Forecast Annual General Aviation Aircraft*

*Operations***,** and **Figure 3-3**, *Forecast Annual GA Aircraft Operations*, 79,002 GA operations are anticipated for the year 2025.

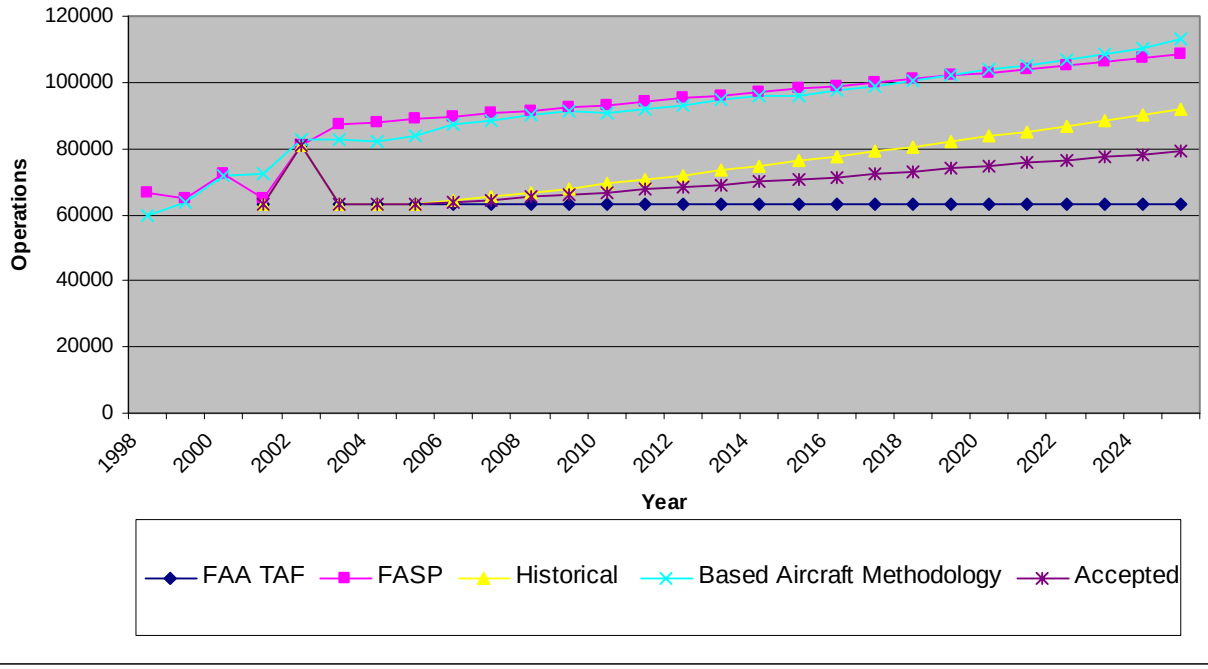
TABLE 3-12
FORECAST ANNUAL GENERAL AVIATION AIRCRAFT OPERATIONS

Calendar Year	2000 Master Plan Update	TAF	FASP	Historical	Based Aircraft Methodology	Accepted Forecast
Base Year						
2005[1]	82,180[2]	63,300	86,784	63,101	86,020[3]	63,101
Projected						
2010	93,280	63,300	93,276	69,294	90,533	66,748
2015	105,580	63,300	98,034	76,095	96,097	70,605
2020	119,480	63,300	103,035	83,562	103,683	74,686
2025	136,056	63,300	108,291	91,763	113,293	79,002
AAGR (%) 2005-2025	**2.59%**	**0%**	**1.00%**	**1.89%**	**1.52%**	**1.13%**

[1]Note: GA Operations = Total Operations -2000 military operations per year
[2]Note: Previous Master Plan forecast only 20 local military operations per year
[3]Note: Base Year = 170 based aircraft x 506 average operations per based aircraft
Source: The LPA Group Incorporated, 2006

Discussions with airport management confirmed that no distinct air taxi operations exist at HEG. Therefore, the approximate 300 air taxi operations reported in the TAF were added to the itinerant operations category. As a general rule, air taxi operations are those that cater to on-demand air service at airports that are typically Part 135 certified. Air taxi operators are not considered to be corporate or otherwise local general aviation. Rather, air taxi operations are itinerant operations with aircraft seating less than 19 passengers and operating a range no longer than 250 nautical miles.

Figure 3-3
Forecast of General Aviation Operations



Source: The LPA Group Incorporated, 2006

MILITARY OPERATIONS

Military operations at HEG are minimal due to the close proximity of Cecil Field, and consist of rotorcraft operations, primarily OH-58 Bell "Kiowa". Since Cecil Field has four runways, each with a pavement length greater than 8,000 feet, it is used by large and heavy civilian aircraft as well as most military aircraft operating within the City of Jacksonville. Nevertheless, limited military operations do occur at HEG and were, therefore, included in the forecast of total operations at HEG.

Historic military operations for the years 1995 through 1997 were unavailable. According to the 2000 MPU, twenty (20) operations per year were forecast throughout the planning period.

However, the FAA Terminal Area Forecast (TAF) reports 2000 to 2700 military operations for the years 2000 through 2003. Based upon information obtained from the Airport and FBO, this data appears realistic and is shown in **Table 3-13** for the years 2001-2005.

TABLE 3-13
Historic and Forecast Military Operations

Year	Airport Records	2000 MPU	2006 TAF	Preferred Forecast
1995	N/A	NA	NA	
1996	N/A	NA	NA	
1997	N/A	NA	NA	
1998	N/A	20	NA	
1999	N/A	20	NA	
2000	N/A	20	NA	
2001	2,000	20	2,000	2,000
2002	2,700	20	2,700	2,700
2003	2,000	20	2,000	2,000
2004*	2,573	20	2,000	2,573
2005*	2,240	20	2,000	2,240
Forecast				
2006		20	2,000	2,000
2010		20	2,000	2,000
2015		20	2,000	2,000
2020		20	2,000	2,000
2025		20	2,000	2,000

Source: HEG Management Records, 2000 Master Plan Update, FAA TAF 2006 & The LPA Group Incorporated, 2006.

Thus, based upon information obtained from JAA concerning military operations at HEG, a forecast of 2,000 military operations per year appeared realistic.

LOCAL VERSUS ITINERANT SPLIT

Aircraft operations are divided into the categories of local or itinerant. Local operations are those arrivals or departures performed by aircraft that remain in the airport traffic pattern, or are within sight of the airport. This covers an area within a 20 nautical mile radius of the airfield. Local GA operations are most often associated with training activity and flight instruction. Itinerant operations are arrivals or departures other than local operations, performed by either based or

transient aircraft that do not remain in the airport traffic pattern. Itinerant general aviation operations are typically comprised of private, business/corporate, and air taxi flight activity. Additionally, itinerant activity may include law enforcement and medical flights.

Based on information obtained from Airport management and user groups, the operational split between local and itinerant traffic has remained relatively stable over the past few years. The split between local and itinerant operations at HEG is noted as 43.37 percent itinerant GA, 3.43 percent itinerant military, and 53.20 percent local GA. It is expected the military operations at HEG will likely not exceed 1 percent of total operations and will continue to capture a dwindling proportion of total airport traffic. This future split of local and itinerant operations is depicted in **Table 3-14,** *Local vs. Itinerant Operations*.

TABLE 3-14
LOCAL VS ITINERANT OPERATIONS

	Itinerant Operations			Total Itinerant	Local Operations		Total Local	Total Operations
Year	Air Taxi	GA	Military*		GA	Military		
Base Year								
2005	0	28,340	2,240	30,580	34,761	0	34,761	65,341
Projected								
2010	0	**31,238**	**2,000**	**33,238**	**35,510**	**0**	**35,510**	**68,748**
2015	0	**33,043**	**2,000**	**35,043**	**37,562**	**0**	**37,562**	**72,605**
2020	0	**34,953**	**2,000**	**36,953**	**39,733**	**0**	**39,733**	**76,686**
2025	0	**36,973**	**2,000**	**38,973**	**42,029**	**0**	**42,029**	**81,002**
AAGR (%) 2005-2025	0	1.34%	-0.56%	1.22%	0.95%	0%	0.95%	1.08%

**Note: Military operations are related to Helicopter training performed at HEG*
Source: HEG Airport Management Records and The LPA Group Incorporated, 2006.

INSTRUMENT OPERATIONS FORECAST

HEG currently has one Global Positioning Satellite (GPS) based non-precision straight-in approach landing system on Runway 25, a circle-to-land approach using the Non-Directional Beacon (NDB), and a GPS based circle-to-land approach. The approaches are published in the U.S. Government Flight Information Publication – *U.S. Terminal Procedures Southeast (SE), Volume 3 of 4.* The current GPS approach can accommodate Category A and B aircraft with one-mile visibility minimums, and Category C aircraft with 1 ½ - mile visibility minimums, and Category D aircraft with 1 ¾ - mile visibility minimums. The ceiling for all categories of aircraft must be at least 600 feet. Similar visibility minimums are applicable for GPS circling procedures with the exception of

Category D aircraft that has a published minimum of two miles. Based on the airport's current runway lengths, the non-precision approach is adequate for the existing number of IFR operations. However, future airport development may necessitate upgrades of the instrument approach capabilities. This will be discussed in subsequent chapters.

FAA Air Traffic Activity Data System (ATADS) is the official source of historical air traffic operations for center, airport, instrument, and approach operations at towered airports. Since there is no ATCT at HEG, no historical data was available from the FAA ATADS database. According to the FAA TAF, *January 2005 Report*, instrument operations were reported as zero.

However, further analysis of climatic data provided from the National Oceanic and Atmospheric Administration (NOAA) showed that IFR weather occurs approximately 9 percent of the time. Of that 9 percent, four percent of the time weather conditions require airport closure. As a result, IFR instrument conditions are estimated to occur approximately 5 percent of the time which was used to forecast instrument operations through the twenty year planning period as shown in **Table 3-15**.

TABLE 3-15
PROJECTED ANNUAL INSTRUMENT OPERATIONS

Year	IFR Operations	Percent	Total Operations
Base Year			
2005	3,267	5%	65,341
Forecast			
2010	3,437	5%	**68,748**
2015	3,630	5%	**72,605**
2020	3,834	5%	**76,686**
2025	4,050	5%	**81,002**

Source: The LPA Group, 2006

PEAK ACTIVITY FORECAST

Aircraft operations and the number of based aircraft have periods of heightened activity. These peak periods occur on a fairly regular basis and are caused by external influences in the region and market area. One such influence is favorable weather conditions, which often creates peak periods of operations.

Due to the lack of an air traffic control tower (ATCT) on the airfield, peak operations were determined through the most reliable methods possible, namely fuel records. Through discussions with the fixed base operator (FBO) and analysis of 2004 fuel receipts, peak activity occurs in May for Avgas sales and July for Jet A sales. By utilizing the peak percentage of fuel sales for these

months, peak operations for piston aircraft were determined to be 35 percent higher than average per month whereas peak operations for jet aircraft were determined to be 32 percent higher than average.

However, since jet operations at HEG currently represent such a small fraction of total operations, the peak month will be based upon Avgas sales. This equates to a total of 8,437 operations during the peak month in 2004. The average day is then obtained by dividing the peak month by the average days in a month (30.42). The peak hour is then calculated at 35 percent of the average day of the peak month. By utilizing this formula, the peak hour at HEG for 2004 is 97 operations. Peak operations will be forecast through the planning period and discussed in greater detail in a later section.

Annual projections generally provide a good overview of the activity at an airport, but may not reflect operational characteristics of a facility. As such, peak forecasts are developed based on the fact that annual demand is typically not equally distributed throughout the entire year. In many cases, facility requirements are not driven by annual demand, but rather by the capacity shortfalls and delays experienced during peak times.

Peak operational activity such as peak month, average day of the peak month (ADPM), and peak hour forecasts are used in planning facility sizing and to determine the Airport's ability to accommodate projected demand. The projections for future peak operations at the Airport are shown in **Table 3-16,** *Forecast Peak Activity*.

TABLE 3-16
FORECAST PEAK GENERAL AVIATION ACTIVITY ONLY

Calendar Year	Total GA Ops*	Peak Month/GA Ops	Peak Month	Average Day/Peak Month	Average Day	Peak Hour/Average Day	Peak Hour
Historic							
2005	63,101	**2.96%**	**1,868**	**3.27%**	**61**	**15.00%**	**9**
Projected							
2010	66,748	**2.96%**	**1,976**	**3.29%**	**65**	**15.00%**	**10**
2015	70,605	**2.96%**	**2,090**	**3.30%**	**69**	**15.00%**	**10**
2020	74,686	**2.96%**	**2,211**	**3.30%**	**73**	**15.00%**	**11**
2025	79,002	**2.96%**	**2,339**	**3.29%**	**77**	**15.00%**	**12**

**Note: Does not include military activity*
Source: The LPA Group Incorporated, 2006.

Summary

Tables 3-17, *Comparison of TAF and Airport Forecasts***,** and **Table 3-18,** *Airport Planning Forecasts***,** provide a summary of the activity forecast for HEG. Overall the current activity at the Herlong is expected to show growth throughout the forecast period. In summary, the data and methods used to forecast aviation demand elements for the Airport are consistent with those used by the FAA and other airports located in the State of Florida and therefore, accurately reflect current activity trends of the surrounding region and nation.

TABLE 3-17
COMPARISON OF TAF AND AIRPORT OPERATIONS FORECAST

	Year	Airport Forecast	TAF	(% Difference)
Total Operations				
Base yr.	2005	65,341	65,300	0.06%
Base yr. + 5yrs.	2010	68,748	65,300	5.28%
Base yr. + 10yrs.	2015	72,605	65,300	11.19%
Base yr. + 15yrs.	2020	76,686	65,300	17.44%
Base yr. + 20yrs.	2025	81,002	65,300	24.05%
AAGR (%) 2005-2025		1.08%	0%	

Source: The LPA Group Incorporated, 2006.

TABLE 3-18
AIRPORT PLANNING FORECASTS
FORECAST LEVELS AND GROWTH RATES

	Base Year: 2005						Average Annual Compound Growth Rates				
	Base Yr. Level	**Base Yr. + 1yr.**	**Base Yr. + 5yrs.**	**Base Yr. + 10yrs.**	**Base Yr. + 15yrs.**	**Base Yr. + 20yrs.**	**Base yr. to +1**	**Base yr. to +5**	**Base yr. to +10**	**Base yr. to +15**	**Base yr. to +20**
Operations											
Itinerant											
Air Carrier	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
Air Taxi	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
General Aviation	28,340	29,865	31,238	33,043	34,953	36,973	5.38%	1.97%	1.55%	1.41%	1.34%
Military	2,240	2,000	2,000	2,000	2,000	2,000	-10.71%	-2.24%	-1.13%	-0.75%	-0.56%
Total Itinerant Operations	30,580	31,865	33,238	35,043	36,953	38,973	4.20%	1.68%	1.37%	1.27%	1.22%
Local											
General Aviation	34,761	33,949	35,510	37,562	39,733	42,029	-2.34%	0.43%	0.78%	0.90%	0.95%
Military	0	0	0	0	0	0					
Total Local Operations	34,761	33,949	35,510	37,562	39,733	42,029	-2.34%	0.43%	0.78%	0.90%	0.95%
TOTAL OPERATIONS	**65,341**	**65,814**	**68,748**	**72,605**	**76,686**	**81,002**	0.72%	1.02%	1.06%	1.07%	1.08%
Instrument Operations	3,267	3,300	3,437	3,630	3,834	4,050	1.01%	1.02%	1.06%	1.07%	1.08%
Peak Hour Operations	9	9	10	10	11	12	1.64%	1.28%	1.24%	1.20%	1.17%
Cargo/Mail (Exported and Imported Tons)	0	0	0	0	0	0	0	0	0	0	0
Based Aircraft											
Single Engine (Piston)	128	128	130	131	133	134	0.24%	0.24%	0.24%	0.24%	0.24%
Multi Engine	15	15	15	15	15	14	-0.21%	-0.21%	-0.21%	-0.21%	-0.21%
Turbine	5	5	6	7	9	11	3.78%	3.78%	3.78%	3.78%	3.78%
Helicopter	4	4	4	4	5	5	1.14%	1.14%	1.14%	1.14%	1.14%
Other	18	20	24	33	44	60	11.11%	6.19%	6.19%	6.19%	6.19%
TOTAL	170	173	179	190	205	224	1.48%	1.03%	1.14%	1.26%	1.39%
GA Operations Per Based Aircraft (OPBA)	384	381	384	382	374	362	-0.70%	0.00%	-0.05%	-0.18%	-0.30%

Source: The LPA Group Incorporated, 2006.