

EXECUTIVE SUMMARY



The U.S. aviation system is an essential component of the infrastructure of our dynamic society. Aviation has a distinct mobility advantage over other forms of transportation. This advantage can be used to enhance economic vitality and improve the quality of life. Yet aviation can also bring noise, congestion, degraded air and water quality, and resource depletion if not managed properly.

Fort Lauderdale-Hollywood International Airport (FLL) is a large hub airport, the 3rd largest airport in Florida (after Miami and Orlando), and the 28th largest commercial airport in the U.S. according to FAA's 2001 data on passenger boardings. FLL is a significant source of economic activity in the South Florida region and one of its largest employers.

Along with the airport's tenants it also has a significant impact on the environment, especially in the immediate vicinity of the airport.

FLL has done a very good job to date in minimizing and controlling its environmental impacts on the community. Its most pressing environmental concern is noise. The airport has an aggressive noise monitoring and control program in place and has spent millions of dollars in the past decade purchasing properties and insulating homes against noise exposure. However, the airport has experienced significant growth in aircraft operations and has been identified as a preferred airport for several low-cost airlines, including Southwest, JetBlue, and Spirit, which indicates continued growth in the future. This

will contribute to increasing noise and a further need for noise mitigation.

The need to accommodate growing air traffic will require the airport to expand, which will increase the environmental burden on the local community if not effectively managed. Pollutant emissions to the air and water must be controlled. Contamination of the soil and groundwater must be prevented. Pressure to drain and develop already limited wetlands must be resisted.

To meet these challenges, the airport will have to use care in planning for future growth. It will be important to take advantage of new technologies, to demonstrate the use and feasibility of cleaner fuels and less hazardous materials, and to employ advanced management systems that have proven effective in ensuring responsible environmental behavior and promoting environmental stewardship.

The Green Airport Initiative (GAI) is a tool that airports can use to guide future development to enhance environmental quality while meeting the needs of a growing airport. This report describes FLL's current environmental baseline and then presents strategies for reducing its impact as it grows. Following the principles described in this report, FLL can chart a course towards an environmentally sustainable future. FLL Airport has demonstrated its ability to meet varied challenges in the past. The challenges of the future will require greater commitment. The planned expansion of the airport will present opportunities for proving new technologies and management strategies and present the community with the chance to continue to operate a modern, efficient, and green airport if they seize the initiative and accept the challenge.





INTRODUCTION

Throughout the 1990s, a major issue for airports was that opportunities posed by airport growth were seemingly in conflict with requirements of environmental regulators and concerns of local residents. General conformity regulations stymied many airport construction projects. Communities felt that airports had fallen short in tackling the broad range of environmental issues associated with day to day operations. Case studies have shown that community activists are becoming increasingly effective in obstructing expansion plans unless their problems are adequately addressed and nuisance factors minimized. They also view the airport planning process with skepticism as a legal mechanism for skirting their concerns. The net result is reflected in the delays and rancor witnessed by Boston Logan in their 20 year effort to expand, as well as other airports nationally.

The Green Airport Initiative (GAI) is designed to help airports achieve quick and measurable benefits in environmental quality and energy savings and reduce conflicts with local communities. Its goal is not to just to make airports greener but to accommodate their growth in a manner illustrating the principles of sustainable development and creating more livable communities. The GAI is not a mechanism for trading off airport growth for environmental quality but a strategy for enhancing both.

In contrast to the traditional master planning process, the GAI is a proactive approach for an airport to develop an environmental posture that accommodates the community's concerns while still meeting all regulatory requirements.

Through the mechanism of the GAI, cost-effective options for reducing community nuisance are identified.

The GAI fosters the consideration of innovative but proven technologies and operational practices that are tailored to the needs of the local community. By remaining independent, it creates a credible mechanism that engages the community in problem solving and then fosters cooperation to obtain the political and financial support to pursue strategies that speak to community concerns and opportunities. Operating in this capacity, the GAI can play a pivotal role in simultaneously addressing the goals of the airport and the community and creating an environment conducive to partnership and growth.

Also, rigorously managing environmental information can improve resource use, enhance compliance, and support future growth and development of the airport. A recommendation is made to establish a digital environmental information management system that tracks changes in the airport's environmental footprint in near real-time. Finally, the concept of sustainability recognizes that simultaneously improving economic, social, and environmental performance is essential to ensure long-term viability. A recommendation is made that the Airport begin tracking its performance in a way that highlights its progress toward sustainable development now and in the future.



The GAI Process

The GAI is composed of two primary phases. The **baseline phase** documents current airport operations and summarizes the environmental impacts of recent actions the airport has taken whether specifically to benefit the environment or not. Current accomplishments, which when linked are sometimes substantial, are often unrecognized by either the airport or the public. A second step of the baseline phase is to define concepts and identify opportunities for airports to improve their environmental profile and begin to set a path towards sustainability. Identifying innovative but proven strategies can simultaneously improve environmental quality, enhance energy efficiency, and reduce costs. The findings of the baseline phase dictate the magnitude of effort required to complete the **implementation phase** of the GAI. Throughout the process the airport will have many opportunities for working with government at all levels, the private sector, and the local community to cultivate the support needed to implement key programs. The first section of this report takes stock of where Ft. Lauderdale-Hollywood International Airport (FLL) now stands and describes the effect of recent improvements and projects on the environmental posture of the airport. The second section of the report identifies the many opportunities the airport will have in the future to reduce its environmental impact and operating costs while growing to meet future mobility needs of South Florida. On the basis of these reports the airport and community can decide whether and how to proceed to the implementation phase of the Green Airport Initiative. Each emissions source evaluated in this report, such as landside vehicle fleets, ground service equipment,

or aircraft operations, was screened against an extensive list of possible emission mitigation strategies developed by CAP as part of its Green Airport Initiative. Those that would have a worthwhile impact at FLL are described in the report. To collect the information needed for this review, CAP met with managers from Planning, Operations, Maintenance, and Environmental Affairs. Meetings also were held with representatives of Broward County Board of County Commissioners, Broward County Department of Planning and Environment, and technical consultants familiar with FLL.

This report is a broad overview of current and potential programs that will help FLL reduce its environmental footprint and improve energy efficiency. It is not intended to be a rigorous analysis of specific operations. Also the new initiatives or programs recommended as a result of this evaluation primarily describe directed programs rather than market-based or demand-management strategies. There is potentially a wide range of these economic tools for influencing operations and behavior but they can be quite controversial and the results are difficult to forecast, so they were not considered in detail.

Recent Trends & Considerations

Several factors are important in providing a context for evaluating FLL's performance now and in the future. Among these are the impact of the terrorist acts of September 11, 2001, future growth of air traffic at the airport, and current plans for extending runway 9R/27L to meet future capacity needs.

Rebound from 9/11/01

Immediately following the terrorist acts of 9/11, air travel fell off substantially across the country. These events coupled with a soft national economy, depressed air travel throughout the following year. More than two years later, air travel nation-wide is still down with some airports experiencing



more than 15% reduction in operations. At FLL, however, aircraft operations rebounded during 2002 and have resumed the growth the airport experienced during the months leading up to the disruptions. This confirms the popularity of South Florida as a destination and the importance of FLL in meeting the needs of tourists and business travelers alike. Additionally, population increases and rising per capita income stimulates the growing demand for air travel. Findings in this report are based in part on the assumption that security concerns or prior terrorist actions have not had a permanent impact restraining air traffic at FLL.

Expected growth in the future

The US Federal Aviation Administration (FAA) updates its air traffic forecasts every year. Due to the complexity of the many factors they consider when making these projections and the inherent difficulty in forecasting the future they are not very precise. As shown in Exhibit 1, the 2000 *Terminal Area Forecast*

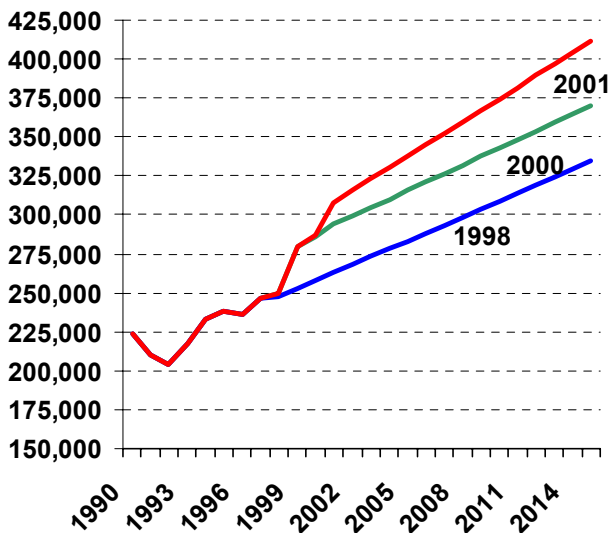


Exhibit 1: Forecast Airport Operations at FLL

projected FLL would hit the 350,000 operations mark in 2012. The following year’s forecast expected this level in 2007, five years earlier. The update currently underway will reflect the impact of the 9/11 terrorist acts, the past year’s recession, and changes in the way airlines operate their fleets. This report assumes long-term growth at the airport will fall between the 2000 and 2001 forecasts.

South Florida Regional Planning Council predicts that population in South Florida will grow by about 25% over the next 20 years affirming robust growth expectations.¹ Tourism and transport-based trade are key components of the regional economic base. More than half of the cruise passengers traveling to Port Everglades are expected to travel through FLL. If this growth is not effectively planned for and managed, quality of life in Broward County will decline.

Another consideration that could affect future activity at the airport is whether FLL will experience a growing portion of all air travel into the South Florida area. FAA’s forecasts show relatively balanced growth at the three commercial airports (FLL, Palm Beach International, and Miami International) as illustrated in Exhibit 2. Of these, only

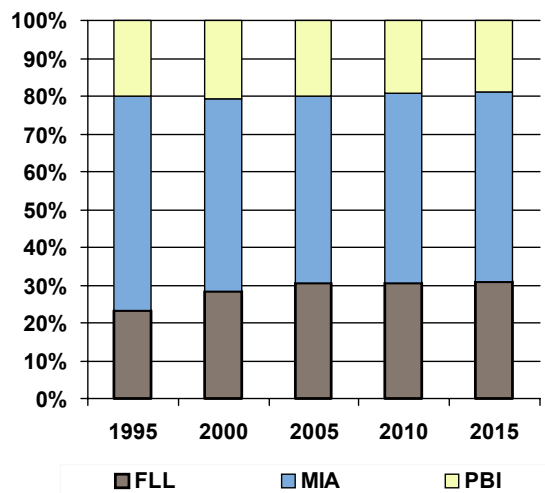


Exhibit 2: Share of South Florida Air Traffic



Current construction plans

Construction is currently underway on a new central rental car facility and new roadway entrance. There are also plans to extend runway 9R/27L from 5,276 feet to 8,920 feet to increase the capacity of the airport. Analysis for this report assumes these projects will be completed substantially as planned. Detailed analysis of the impacts from these projects is included in a Supplemental Draft Environmental Impact Statement (SDEIS), which was published by FAA in February 2002.

Environmental Footprint & Recent Improvements

Exhibit 3 illustrates the environmental footprint of FLL under current operations. Each parameter shown on the chart represents one impact category that is considered by the GAI. The first section of this report helps to define the shape and impact of the current footprint, describing the benefits of projects and initiatives that have been completed in the past few

years. The second section of this report describes the opportunities that may be available to FLL to reduce its overall footprint further.

Report Organization

The first section of this report describes activities at FLL that result in intrusive noise in the community, cause congestion on and off the airport property, emit pollutants into the air and water in the vicinity of the airport, and degrade regional air quality due to inefficient use of electric power, resulting in excess emissions at Florida power plants. Specific sources discussed include aircraft and their auxiliary power units, ground services equipment, vehicles that access the airport, and maintenance and related activities that pollute the local environment.

The second section of the report describes development strategies and advanced technology that can be employed at FLL to put the airport clearly on the path to sustainability.

¹ Strategic Regional Policy Plan: Trends and Conditions Report, South Florida Regional Planning Council, July 26, 2002.

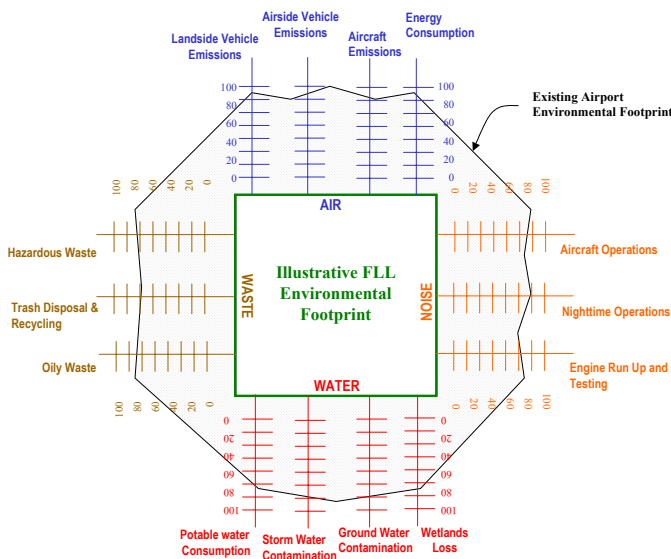


Exhibit 3: FLL Environmental Footprint



