

APPENDIX 1

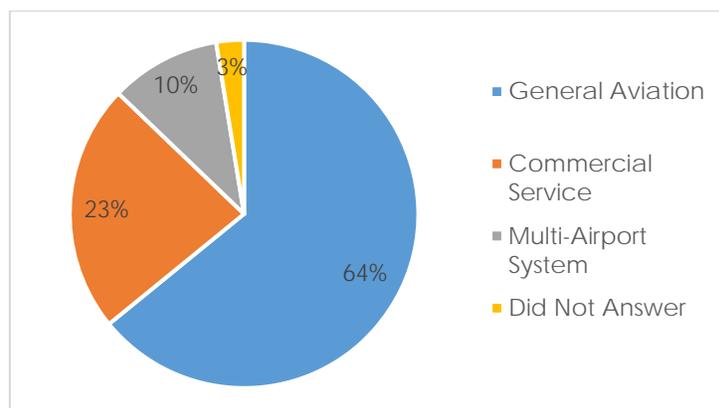
AIRPORT ONLINE SURVEY

The purpose of this survey is to help understand current airport practices and organizational structures relevant to sustainability planning. The survey identified the general organizational structure of airports, as well as information on environmental, social, operational, and economic challenges, opportunities, and practices. Responses from the survey will be used to detail sustainability practices and initiatives at airports in FDOT’s Airport Sustainability Guidebook. The survey was advertised at the Florida Airports Council (FAC) Specialty Conference in October 2015 and was distributed to airport representatives via the statewide Continuing Florida Aviation System Planning Process (CFASPP) database. Through these methods, all 128 public use commercial service and general aviation (GA) airports, airport consultants, and additional CFASPP members were notified of the survey.

There were 39 responses to the survey that consisted of the respondent types shown in **Figure 1**. It should be noted that there were more than 39 total respondents, but in some instances there were multiple respondents for the same airport. In general, the responses from the same airport were similar, but when discrepancies existed, the responses were combined. In other instances, multi-airport systems would respond and a general GA or commercial service airport within the system would also respond individually. In these instances, both the multi-airport system and the GA/commercial service airport were counted. For example, if a response was received for Tampa International Airport and a separate response was received for Hillsborough County Aviation Authority, one would be counted as a commercial service airport and one would be counted as a multi-airport system. If multiple airports that are part of a multi-airport system responded on behalf of their individual airport within the system, those responses were coded as either commercial service or GA. In total, 44 airports were represented by the 39 respondents.

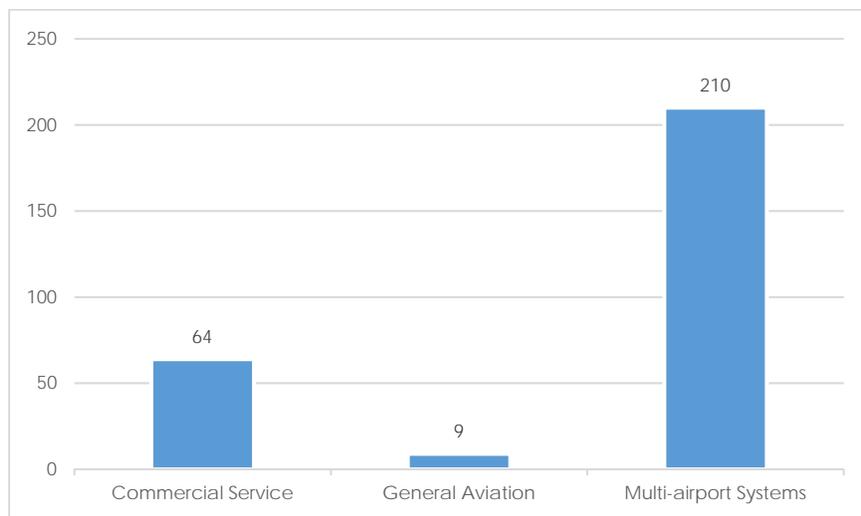
For some questions, the responses given for multi-airport systems were identified as being for either a commercial service or GA airport in the system. When this occurred the responses were grouped as either commercial service or GA airports. Based on this information, when reviewing this section, there are some questions where multi-airport systems are not represented. In these cases the responses have been grouped with either commercial service or GA airports, whichever is more appropriate.

Figure 1: Type of Airport Respondents



Of importance to airports when implementing sustainability initiatives is the availability of staff members available to work on the initiatives. Based on the information collected as part of the development of this Guidebook, it can be assumed that the more staff an airport or airport system has to dedicate to certain initiatives, the more likely it is that the initiative will be successful. Therefore, knowing the number of full-time staff at an airport is important in understanding the potential limitations that may affect airports. A summary of the average number of full-time staff members that work for the three respondent airport types is shown in **Figure 2**. As shown, GA airports have much fewer full-time staff than both commercial service and multi-airport systems. This supports the evidence that GA airports do not have the staff resources needed to implement large scale sustainability programs or initiatives.

Figure 2: Average Number of Full-Time Staff Members by Airport Type



Based on this overall airport demographic information, the following questions summarize the current airport practices and organizational structures at Florida airports. In total, there were 16 questions designed to gauge the current and desired levels of airport sustainability practices, guidance, and understanding at Florida’s airports.

**1. What are the major divisions or departments within your airport organization (if applicable)?
For example: Finance; Operations; Maintenance; Planning; Engineering**

Among all airport types, the four most common responses were:

- Operations
- Finance
- Maintenance
- Administration

For GA airports, the next most common responses were the City/County and the airport manager, while commercial service and multi-airport systems listed specialized departments including capital programs and public relations. These responses highlight the difference in staffing levels between commercial service and GA airports.

The major department differences seen at airports sets the foundation for the differences between commercial service and GA airports that are evident throughout this survey. In general, commercial service airports have staff or departments dedicated to individual functions of their airport, while GA airports often have only the core departments responsible for overseeing all activity at the airport.

QUESTIONS 2 - 4

The following three questions were developed to expand on the information gathered in Question 1. In these questions, respondents were asked what divisions, departments and/or staff positions were responsible for various activities at their airport. The differences between GA airports and commercial service airports is highlighted by the fact that for GA airports the same departments identified in Question 1 were also identified for these questions, while commercial service and multi-airport systems had dedicated staff or departments for different activities. The following is a summary of the responses.

2. What divisions, departments and/or staff positions are responsible for managing physical facilities owned by the airport, including utility consumption (energy, water, etc.)?

Both commercial service and multi-airport systems identified facilities and maintenance as the primary departments responsible for the physical facilities at their airports. Alternatively, GA airports identified administration, operations, and management as those responsible for the physical facilities. These responses indicate that, in general, GA airports often have smaller budgets and staffing levels, meaning that their staff will likely serve in generalist positions charged with multiple responsibilities. For commercial service and multi-airport systems, no other responses had more than one mention; however, the City/County was listed multiple times by GA airports as being responsible for managing physical facilities.

3. What divisions, departments, and/or staff positions are responsible for long-term airport planning and development?

Responses to this question varied greatly across respondent types as commercial service and multi-airport systems are likely to have dedicated planning departments. As such, the most common response from multi-airport systems included their planning/development departments, while commercial service airports listed the engineering, capital programs, and operations departments as responsible for long-term planning and development. In contrast, the most common response for GA airports was that management was responsible for long-term planning and development, with operations and administration also being noted. In general, the breakdown of responses by respondent type highlights the difficulty that GA airports face. Without a dedicated staff assigned to planning efforts, it may be difficult to be actively engaged in the planning process.

4. What divisions, departments, and/or staff positions are responsible for public engagement with the local community and other interested members of the public?

Responses to this question varied greatly across respondent types as commercial service and multi-airport systems are likely to have departments dedicated to public engagement. For this question, the most common response from multi-airport systems included a Public/Governmental Affairs or Public Relations/Communications Department, while commercial service airports listed the Marketing and Operations Departments as responsible for public engagement. In contrast, the most common response from GA airports was Airport Management or Administration.

5. What types of tenant businesses does your airport have? (For example: airlines, airline support providers, FBOs, rental car operators, retail, food concessions/service, etc.) Please list the types and the approximate number of each type.

Tenant types vary greatly based on the type of services that an airport provides. In general, commercial service airports focus on serving airlines and passengers, while GA airports offer services such as flight school and training facilities. Survey respondents confirmed this breakdown of tenant types; the following were the most common responses from commercial service and GA airports (note: responses from multi-airport systems were disaggregated and included with their appropriate airport type):

Commercial Service Airports

- Airlines
- Airline service providers
- Rental car companies
- Concessionaires

GA Airports

- Fixed base operators
- Flight schools
- Maintenance/paint/interior shops
- Local, state, and federal field offices

The airports that responded as multi-airport systems included a mix of these responses due to the fact they include both commercial service and GA airports. This data further exemplifies that the needs of GA airports are typically focused on businesses operating at the airport, while the Commercial and multi-airport systems deal primarily with airlines and supporting businesses that facilitate the movement of people.

QUESTIONS 6 - 8

The following three questions were developed to determine what challenges airports are facing or anticipate facing in the future. The differences between GA airports and commercial service airports is highlighted by the fact that the responses from GA airports focus on keeping the airport open and operational, while commercial service airports are primarily focused on expanding and diversifying their air service options. The following is a summary of the responses.

6. Please describe 2-5 of the most pressing core business-related or operational challenges that your airport currently faces. (Possible examples might include: diversifying revenue sources; competition for tenants; facility maintenance and upkeep; obtaining local financial assistance).

The business issues facing airports can vary greatly based on the location and situation at an airport. Additionally, as shown throughout the survey, issues also vary greatly between commercial service and GA airports. As the results of this question show, commercial service airports are primarily focused on increasing revenues, while GA airports are concerned about increasing rental capacity and infrastructure development/maintenance. The following is a summary of the responses that were received:

Commercial Service Airports

- Revenue diversification
- Expansion of infrastructure
- Air service development
- Providing services/hangar space to meet demand

GA Airports

- Revenue diversification
- Financial assistance
- Maintenance of facilities

7. Please describe 2-5 of the most pressing non-financial or operational challenges that your airport currently faces. (Possible examples might include: noise concerns from the community; meeting regulatory obligations; employee health and safety; environmental impacts).

Among all three respondent types there is a shared concern over environmental issues and the ability to grow and expand on the lands surrounding their facilities based on regulations. The property concerns noted by airports stemmed from community encroachment, inability to expand, noise concerns, and wildlife hazard mitigation. Employee development and retention was also noted by all respondent types as being a key operational challenge. Specific to commercial service and multi-airport systems, security challenges imposed by the Transportation Security Administration (TSA) was the most pressing issue. Although GA airports shared many of the same concerns as commercial service airports, the challenge of meeting regulatory requirements was highlighted as the most common concern. Additionally, the following were also identified as challenges by airports:

Commercial Service Airports

- Cost of health care
- Control of airspace
- Cost of utilities

GA Airports

- Community support through the Economic Development Council
- Keeping up with technology (landing and approach aids)
- Intrusions into imaginary surfaces

8. Please describe 2-5 of the most important challenges to your airport’s business and operational continuity that are not pressing now, but you anticipate may become so in the future.

Responses to this question, regardless of respondent type, varied greatly; however, some responses were noted by multiple airports. Across all respondent types the following were the most common responses:

- Fuel prices
 - Aging pilot population/pilot shortage
 - Decreases in GA airport activity
 - Accommodating growth
- FAA/FDOT funding and regulatory requirements
 - Sea level rise
 - Land use compatibility

9. If your airport plans and implements sustainability, what department/division of your organization leads those efforts? (Example: Operations, Planning, Environmental, Facilities, Finance, etc.)

Of the responses received, only one respondent indicated the presence of a sustainability manager in their organization as being responsible for implementing sustainability initiatives (Hillsborough County Aviation Authority). For this question, both commercial service and GA airports listed operations as a department that is responsible for implementing sustainability initiatives. Outside of operations, the responses from commercial service and GA airports differed greatly. Below is a summary of the most common responses:

Commercial Service Airports

- Facilities
- Engineering
- Planning/Environmental

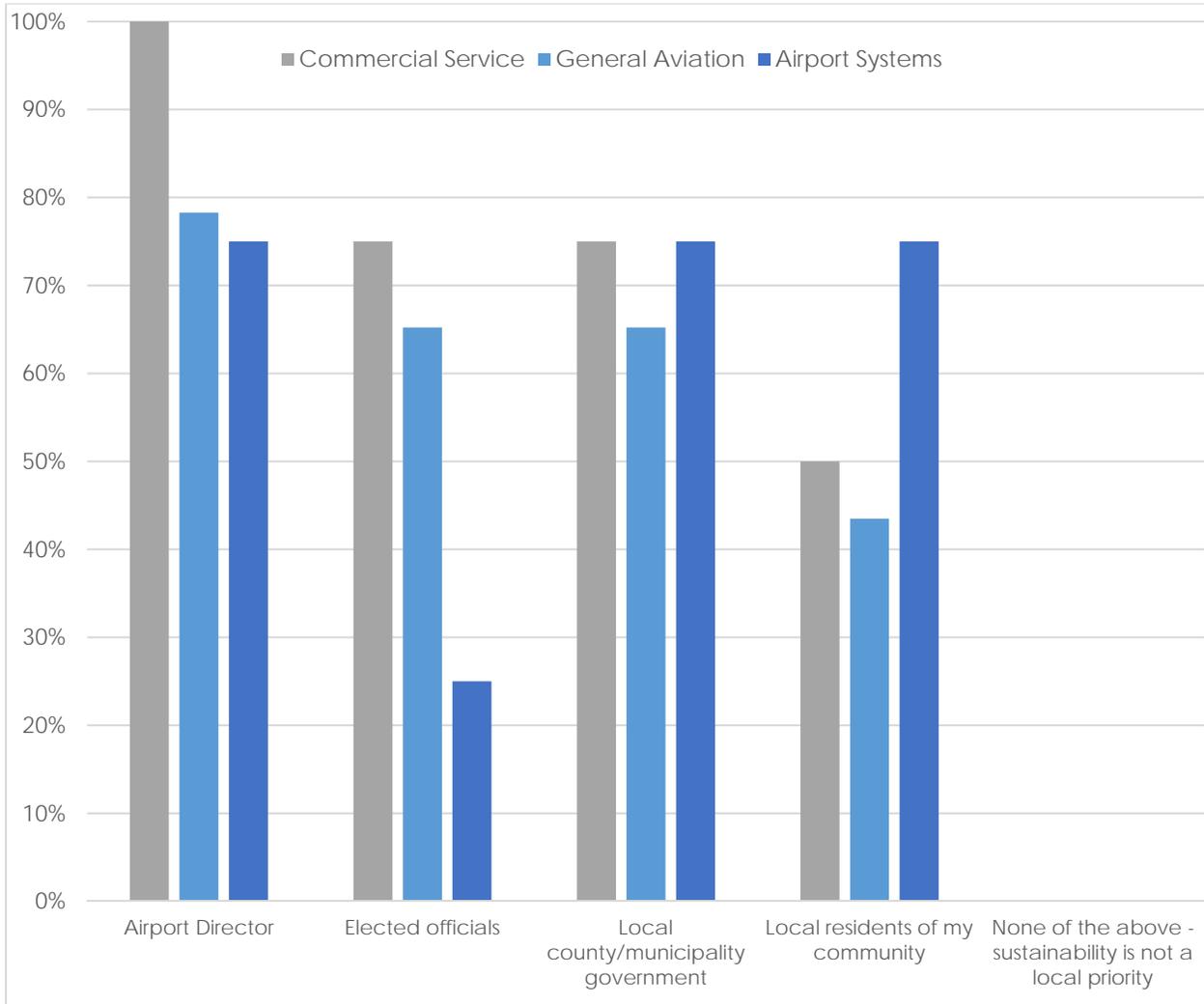
GA Airports

- Management
- Municipal Administration
- Finance

10. At my airport, sustainability is important to my... (Pick all applicable answers)

Responses varied greatly among the different respondent types, but general themes were identifiable from the responses. **Figure 3** shows that sustainability is important to all commercial service Airport Directors and close to 80 percent of all others. The response to elected officials varied greatly between airport types with only 25 percent of multi-airport systems identifying sustainability as being important to elected officials. The importance of sustainability to local governments was uniform across all respondent types. The importance of sustainability for local residents also had significant variability; in general, multi-airport systems felt that sustainability was important to their local community, possibly illustrating the fact that operating multiple airports makes more members of the community aware of what the airport is doing.

Figure 3: Airport Sustainability Importance



QUESTIONS 11-15

For the following five questions, respondents were asked to list and describe any activities that their airport or airport system has undertaken to accomplish a variety of sustainability or sustainability related initiatives. For these responses, respondents were able to input anything that they felt was appropriate. Because these questions had such a high level of variability, grouping responses based on airport type was difficult. As such, for each question the most common responses across all respondent types are shown.

Please briefly describe activities, initiatives, or studies that your airport has undertaken to:

11. Make capital improvements or financial investments that have led to, or that you anticipate will lead to, reduced costs or expenses:

- LED lighting
- HVAC upgrades/improvements
- Solar panels
- Sustainability planning documents
- LEED standards on new buildings
- Low-flow water fixtures
- Exit lane monitoring
- Upgraded chillers
- Automatic lights
- Life-cycle costs analysis

12. Improve efficiency of airport operations:

- Update master plan and ALP
- Construct service road to reduce runway crossing
- Wildlife hazard mitigation
- Rehabilitate runways/taxiways for increased capacity
- Developed airport operation center
- Traffic control devices
- Airfield emergency action planning
- Upgraded baggage claim and concessions
- Upgraded parking and people mover system

13. Reduce the negative environmental impacts of airport activities:

- Establishing natural wetland area
- Reducing power consumption
- Environmental Sustainability Master Plan/Master Plan
- Reduce utility usage
- Stormwater Pollution and Prevention Plan
- Coordinate with the local Environmental Department
- Solar panels
- Culvert and drainage pond reconstruction
- Environmental training
- Electric car charging station

14. Improve relationships with customers, employees, community members, and others:

- Outreach to the community
- Website updates
- Automated baggage timer
- Automated pay for parking
- Noise committee
- Host community events
- Use of social media
- Publicly support local job creation
- Promote low fuel prices
- Meet with airport tenants and businesses
- Guest service kiosks
- Provide WiFi

15. Prepare the airport to be more resilient to future physical, economic, or regulatory changes (such as increased extreme weather events, trends in travel patterns, or land-use developments near the airport):

- Develop new airport hazard zoning ordinance
- Revenue/development diversification
- Partnerships with local businesses for exchange of information and resources
- Develop facilities at higher than the minimum requirements
- Update lease terms on airport property
- Hold economic development meetings
- Preparation for sea level rise
- Various studies
 - Hurricane Manual
 - Emergency Plan
 - Part 139 Compliance
 - Pavement studies
 - Sustainability Management Plan

16. Are you aware of any environmental or sustainability-related goals, programs, mandates (or similar) in your local municipality or county, which may affect activities at the airport? Examples could include a municipal long-term development plan, recycling goals, a city greenhouse gas reduction target, or other local ordinances.

Though only 40 percent of respondents noted that they were aware of any local sustainability-related initiatives, at least one airport in each respondent type noted that they were aware of some form of local environmental or sustainability initiative. The most common response was participation in local waste reduction strategies typically in the form of recycling programs managed by the City/County. Additionally, the following responses were provided:

- County and City plans regarding:
 - Recycling (Multiple Airports)
 - Environmental overlay districts (Gainesville Regional Airport)
 - Tree ordinances and mitigation requirements (Gainesville Regional Airport)
 - Comprehensive wetland regulations (Gainesville Regional Airport)
- Environmental and Sustainability Management Plan (ESMP) (Ft. Lauderdale Executive)
- International Organization for Standardization (ISO) ISO 9001 – Quality Management certification process (Ft. Lauderdale Executive)
- City has long-term development plan for beach and commercial corridor (Atlantic Blvd.) (Pompano Beach Airpark)
- City has plans for increasing the availability of residents to tie into the reuse water system to get residents off potable water for irrigation (Pompano Beach Airpark)
- Recycling goals and a solar farm (Vero Beach Regional Airport)
- Florida Green Building Coalition (Witham Field)
- Leadership in Energy and Environmental Design (LEED) (Witham Field)
- Recycling Program (Witham Field)
- Keep Martin Beautiful (Witham Field)
- Statewide reduction in solid waste – 75% by 2020 (Hillsborough County Aviation Department)
- Tampa Bay Clean Cities Coalition (TBCCC) (Hillsborough County Aviation Department)
 - Works with vehicle fleets, fuel providers, community leaders, and other stakeholders to reduce petroleum use in transportation
- 2013 Lee County Sustainability Plan (Lee County Port Authority)