

Florida Flyer

www.dot.state.fl.us/aviation

Spring 2011

INSIDE

3

**Engineered Material
Arresting System
(EMAS)**

6

**Overview of FDOT's
Finance and Budget
Process**

7

**Florida Winners of FAA
Awards**

8

Primary Surface

8

**Send Florida Aviation
Award Nominations by
June 30**



Courtesy of Greater Orlando Aviation Authority

Executive Airport with a view of the downtown Orlando skyline in the background.

Executive Airport

Executive Airport (ORL) is located in Orange County, Florida, just three miles east of downtown Orlando. The airport offers an ideal flight destination for business and leisure travelers, with convenient access to all of Orlando's major highways. Executive Airport is within minutes of most of the industrial and business centers as well as the convention center and tourist attractions located in central Florida.

Situated on 1,056 acres, the airport is owned by the city of Orlando and operated by the Greater Orlando Aviation Authority with input from the OEA (Orlando Executive Airport) Advisory Committee. Executive Airport primarily serves business and recreational aviation, and offers many services to the community including medical air ambulance and flight training.

Two runways

The airport has two runways; 07/25

is 6,004 feet by 150 feet, and 13/31 is 4,625 feet by 100 feet. Two full-service fixed base operators serve the airport: Showalter Flying Services on the north ramp, and SheltAir Aviation Services on the west ramp. The city of Orlando has a fire station on the property with an airport-provided aircraft rescue and firefighting truck.

Two FBO-operated terminals serve the general aviation customers; both FBOs have ample tie-downs for transient and based general aviation aircraft. The airport provides 229 covered storage spaces for aircraft, including T-hangars and conventional hangars.

Flight training businesses are located on airport property, and several flying clubs offer flight training to their members. Executive Airport also attracts a great deal of flight training from other

See Executive Airport, page 4

MANAGER'S CORNER



Aaron N. Smith
State Aviation Manager

“The state recognizes the value of Florida’s airports and continues to support airport projects.”

I would like to announce the recent appointment of Alice Lammert to the Airport Registration Program Manager position. Alice has been with the Department for 14 years and received her Associate’s Degree from Tallahassee Community College. Her prior experience with the Department includes Production Reports Coordinator and Plans Processing Coordinator with the Production Management Office; Work Program Analyst with the Work Program Office; and Management Analyst, Program Planning Analyst, and Office Support with the Public Transportation Office.

In her new role, Alice will manage the private airport site approval process, private airport registration program, and numerous consultant contracts. In addition, she will maintain the office budget and serve as property custodian. You may contact Alice at (850) 414-4503 or Alice.Lammert@dot.state.fl.us.

Florida aviation fuel tax revenues. Aviation fuel tax revenues continue downward. The March 11, 2011 Revenue Estimating Conference reported an estimated fuel tax revenue reduction of over \$15.7 million between 2010 and 2015. That’s over \$3 million less each year. The decrease of the aviation fuel tax mainly reflected large refunds to airline carriers.

What the future may hold. As you may have heard, the priorities are highways, seaports, and freight rail. So the question is what happened to airports? Airports provide over \$100 billion in economic impact, over one million jobs, and over \$36.5 billion in payroll. Over 51 percent of Florida’s visitors arrive by way of Florida’s strategic network of airports. How is it that airports got left off the radar screen?

Well it may appear Florida’s airports have been overlooked, but I can tell you they have not. The state recognizes the value of Florida’s airports and continues to support airport projects. As of the time this article was written, the Senate has proposed fully funding the current Work Program, which translates to over \$180 million worth in airport projects. The House is considering a more conservative \$134 million aviation program. Now, of course we would all like to see maximum investment into Florida’s economically critical aviation system. However, the current House proposal is still higher than the current fiscal year. So that’s good. This goes to show Florida’s legislators do understand how absolutely critical airport projects are to Florida’s economic recovery.

Fully funding the aviation program would amount to over \$129 million in airport capacity projects, so Florida’s airports can keep pace with demand; over \$23 million in revenue generating projects which help airports become financially self-sustaining; and over \$17 million in airport preservation projects which protect Florida’s strategic aviation infrastructure.

Although you may not see it in the headlines, Florida’s airports remain a high priority.

Engineered Material Arresting System (EMAS)

Since the late 1990s, 35 airports in the United States have installed Engineered Material Arresting Systems (EMAS), a technology that can help “slow or stop an aircraft that overruns the runway, even if less than 600 feet of land is available,” says the FAA.

EMAS was developed to improve safety at airports that lack the standard runway safety area (RSA). Most commercial airports have an RSA of 500 feet wide and 1,000 feet beyond each end of the runway. However, if an airport doesn’t have the full standard RSA because of obstacles such as highways, populated areas, and bodies of water, then EMAS might be a consideration.

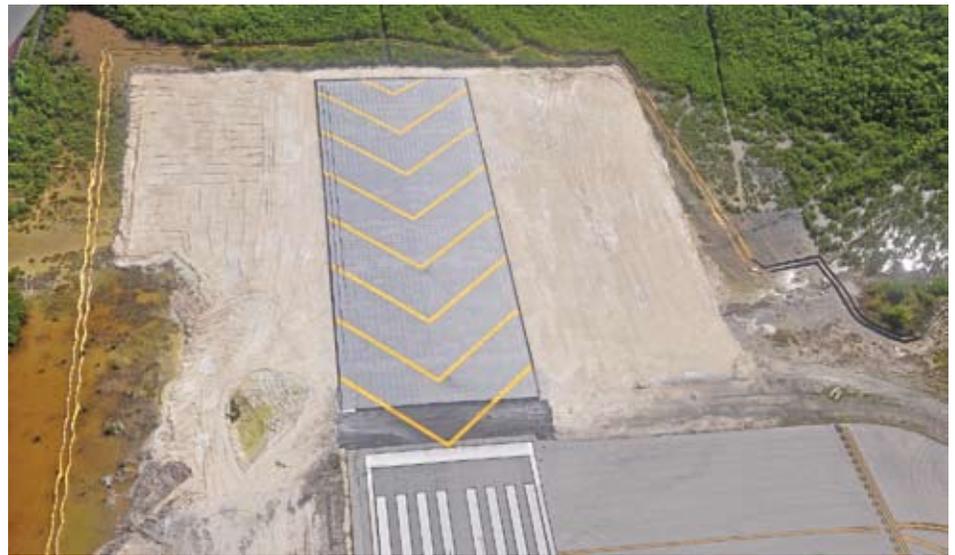
EMAS “uses materials of closely controlled strength and density placed at the end of a runway.” So far, the best material found “is a lightweight, crushable concrete. When an aircraft rolls into an EMAS arrestor bed, the tires of the aircraft sink into the lightweight concrete and the aircraft is decelerated by having to roll through the material,” according to an FAA fact sheet.

EMAS in Florida

Two Florida airports, Fort Lauderdale–Hollywood International Airport and Key West International Airport, have EMAS beds, and a third airport, Witham Field in Stuart, will have an EMAS bed installed this year.

Key West International needed an EMAS bed because “we had virtually no safety area,” says airport manager Peter Horton. It took eight years to get the required permits, however, because of environmental concerns and several other local issues including airport noise, the size of aircraft, and the effects on tourism.

“The FAA won’t approve EMAS unless it is the only thing that can be done environmentally,” says Horton. With a pond on one side of the runway and mangroves on the other side, EMAS was the only solution for Key West International Airport. Horton adds that the EMAS bed material is “a great material



Courtesy of Key West International Airport

EMAS bed at Key West International Airport.

where you don’t have the real estate for a safety area.”

After a lengthy bidding process, Witham Field (known locally as Martin County Airport) is installing two EMAS beds, says airport manager George Stokus. Stokus advises airports to “ensure you have proper planning in place, and work with your tower and tenants, especially if you are having runway closures” during the EMAS installation.

Designed for the airport

Each EMAS bed is designed specifically for the airport, based on the airport’s critical aircraft.

Each block of the bed has a bar code. If the bed is damaged, a company representative visits the airport, scans the bar code of each damaged block, and e-mails the information to the factory so the damaged blocks can be replaced as soon as possible.

The Engineered Arresting Systems Corporation (ESCO) of Logan Township, New Jersey, manufactures the EMAS bed material. Currently, ESCO is the only company manufacturing an engineered aircraft arresting system certified for airport runway safety areas that satisfies the FAA’s Part 139 requirements.

Reducing maintenance

Many of the EMAS beds installed before 2006 needed periodic repainting to maintain the integrity and functionality of the bed. To reduce maintenance and eliminate the need for repainting, some of these older beds are now being retrofitted with a plastic lid that is being used on newer installations.

Mike Nonnemacher, Director of Operations for the Broward County Aviation Department, can attest to the effectiveness of the plastic lids. Fort Lauderdale–Hollywood International Airport in Broward County installed two EMAS beds in 2004. Before getting a lid for each bed, the wind, rain, and sun took their toll, and sometimes pieces of the bed would fly off in the backwash from aircraft. The lids have greatly reduced maintenance and improved the longevity of the beds.

More recommendations

Nonnemacher has several recommendations for airports considering EMAS. “Number one is to get the warranty” offered by the company that installs the beds. He suggests having a

See Engineered, page 5

Executive Airport

Continued from page 1

central Florida airports because of the airport's availability of diverse instrument approaches and an FAA-operated air traffic control tower.

A park in the southwest corner of the airport honors a hometown hero and aviator, Colonel Joe Kittinger. The park features a pavilion and aviation-themed playground equipment. Many shopping centers and restaurants are located adjacent to the airfield.

Pan Am in 1928

In 1928, Executive Airport opened as "Orlando Municipal Airport," and Pan Am began service from Orlando to Cuba and Puerto Rico. During the 1930s, the airfield was lighted and expanded to accommodate the airlines and nighttime service.

The airport grew to more than 1,000 acres with six runways during World War II when the U.S. Army Air Corps used it for training. Following the war, the airport was returned to the city and experienced the growth of commercial and general aviation. Delta, Eastern, and National airlines provided commercial air service in 1946. During the 1960s, the commercial airlines began relocating to Orlando International Airport, and by 1968, Executive Airport was primarily a general aviation airport.

Recent improvements

A new administration building, constructed in 2007, includes a 60-foot by 60-foot community room and the addition of Customs and Border Protection, allowing international flights to come directly to Executive Airport. Every year for the past three years, the airport has built a new 10,000-square-foot hangar, and the airport expects that trend to continue. SheltAir plans to build a multi-story terminal building and a 70-room hotel on the airport in the near future.

Executive Airport and businesses

Executive Airport's administrative offices (right) and the Showalter FBO terminal (below).



Courtesy of Greater Orlando Aviation Authority



located on airport property contribute 2,085 jobs that result in a payroll of \$65,027,700 and a total annual economic impact of \$245,517,600. In addition to the airport's "regular" aviation activities, Executive Airport is home to the Orange County Sheriff's Aviation Division and is the base for several media helicopters. Hundreds of medical missions also use the airport because of the medical facilities and trauma units located close to the airport.

Community involvement

Orlando has a very active Experimental Aircraft Association chapter (#74) that routinely conducts Young Eagle flights and promotes the education of youth in the field of aviation. The Civil Air Patrol is also active at the airport. The National Business Aviation Association holds their annual convention in Orlando every other year, and will be in Orlando again in 2012. The National Basketball Association is scheduled to hold their all-star game in Orlando in February of 2012 as well.

For more information about Executive Airport, see the airport's website at www.orlandoairports.net/orl/index.htm, or contact Kevin McNamara, Director

Economic Impact

Total annual economic impact of Executive Airport follows:

- **Total employment: 2,085 jobs**
- **Direct impacts: \$80,511,600** (from the tenants/businesses at the airport and construction projects undertaken by the airport or by on-site businesses)
- **Indirect impacts: \$58,246,900** (associated with spending from visitors who arrive in the area by way of general aviation aircraft)
- **Multiplier (additional) impacts: \$106,759,100**
- **Total economic activity: \$245,517,600**

—from the *Florida Statewide Aviation Economic Impact Study*, completed in March 2010

Points of Interest

- Operations in 2010 totaled 103,216; the airport's highest year was 2000 with 237,000 operations.
- 450 aircraft are based at Executive Airport.
- Approximately 80 percent of the airport's annual general aviation operations are business related.

of General Aviation for the Greater Orlando Aviation Authority, at (407) 896-9171 or kmcnamara@goaa.org. ♦

Engineered Material Arresting System

Continued from page 3

plan for recovery and funding in case the bed is damaged, and he recommends having “contingency money and procurement methodology set up.”

Also important is to “establish a procedure that prevents inadvertent access to the beds,” adds Nonnemacher, because the beds can be damaged by vehicles. The beds at Fort Lauderdale–Hollywood International now have delineators with reflectors to make their location apparent at night.

“We point out the location of the beds to anyone going out on the runway,” says Nonnemacher.

Key West International Airport has a similar policy to prevent damage. “It is easy to do a lot of damage to the bed,” cautions Horton. “You can’t drive a vehicle on it, so everyone who is qualified to go out on your movement area must be trained not to drive on the bed, including the person who stripes your runway and any contractor who performs any maintenance or construction function on your runway.”

Horton suggests that small airports in particular might consider having “uninsured aviator” insurance. If the airport’s EMAS bed is damaged by an aircraft that is not required to be insured—or is not insured to the level needed to cover the damage—the airport would have to pay for replacing the damaged portions of the bed.

For more information

Stokus adds that airport managers should coordinate with the FDOT Aviation Office to “ensure that the proper safety areas are met as per Florida Statutes.”

Airports and pilots interested in learning more about EMAS should contact the local FAA Airports District Office. ♦

Learn More about EMAS

FAA information:

FAA Order 5200.8, Runway Safety Area Program, states, “When making determination about the practicability of obtaining the RSA, the first attempt shall consist of investigating fully the possibility of obtaining RSA that meets the current standards through a traditional graded area surrounding the runway.” The FAA states emphatically in AC 150/5300-13, Airport Design, and in AC 150/5220-22A, Engineered Materials Arresting Systems (EMAS) for Aircraft Overruns, that RSA standards cannot be modified or waived. EMAS should be considered only when it is not practicable to obtain RSA by any alternative and enhancing safety becomes necessary. Preferred methods of obtaining RSA include:

- Constructing the traditional graded area surrounding the runway,
- Relocating, shifting, or realigning the runway,
- Reducing runway length where the existing runway length exceeds that which is required for the existing or projected design aircraft,
- A combination of runway relocation, shifting, grading, realignment, or reduction.

On the internet:

- FAA Fact Sheet, “Fact Sheet—Engineered Material Arresting Systems (EMAS),” March 7, 2011; see www.faa.gov/news/fact_sheets/news_story.cfm?newsId=12497
- The EMAS manufacturer, Engineered Arresting Systems Corporation; see www.esco.zodiacaerospace.com/commercial-systems
- Magazine article, “Engineered Materials Arresting System—A Primer,” by Steve Jangelis, Air Line Pilot, December 2010; see www.alpa.org/portals/alpa/magazine/2010/Dec2010_Engineered.pdf

Airport contacts:

- Mike Nonnemacher, Director of Operations, Broward County Aviation Department, (954) 359-1213 or mnonnemacher@broward.org
- Peter Horton, Airport Manager, Key West International Airport, (305) 809-5200 or horton-peter@monroecounty-fl.gov
- George Stokus, Airport Manager, Witham Field (known locally as Martin County Airport), (772) 221-2374 or gstokus@martin.fl.us



EMAS bed at Fort Lauderdale–Hollywood International Airport (above) and close-up view (right).



Courtesy of Fort Lauderdale–Hollywood International Airport

Overview of FDOT's Finance and Budget Process

This article follows “Florida’s Aviation Work Program,” an introductory article about the Work Program published in the Winter 2011 issue of the *Florida Flyer*. Below is a portion of “Work Program, Finance, and Budget Process Overview,” a report that is available from the FDOT Aviation Office.

The Florida Department of Transportation is a public works agency building transportation facilities and providing transportation services for the public. The process by which we develop such a large program and budget is complex and is also unique among state agencies in Florida.

Some basic principles of this unique process include:

The Department operates primarily from dedicated sources of funding—federal and state. Both the State Transportation Trust Fund and the Federal Aid Highway Trust Fund receive revenue from specific tax sources dedicated to transportation. The state transportation program in Florida (as in most other states) receives little or no funding from state or federal general funds.

The Department resembles a private-sector company in that it must forecast expected revenues and develop a Finance Plan. The 10-year Finance Plan takes into account expected levels of expenditures, expected levels of federal aid, expected state revenues, and the resulting expected cash balance in the State Transportation Trust Fund. By statute, the Department must develop a program that is balanced to cash and revenue forecasts.

The Department operates with a commitment budget. That is, the appropriations received from the Legislature each year are for the planned commitment of funds. The actual disbursement (pay out) of funds resulting from such commitments may occur over a period of months or years.

Florida Statutes require that the Department’s programs be driven by policies and by program objectives. These are outlined in the Florida

Transportation Plan.* The division of funds between programs in a manner that will lead to accomplishment of these policies and objectives is accomplished through the 10-year Program and Resource Plan each year. Program levels contained in the plan are balanced to projections of available funding (from the Finance Plan).

The new Work Program is formally adopted by the Department’s Secretary each July. Before the Department can undertake any project, that project must be part of the Adopted Work Program, which is updated annually for the ensuing five-year period. If a project is not listed in the Adopted Work Program, it cannot be undertaken by the Department without formally processing an amendment to the Adopted Work Program in accordance with F.S. 339.135.

The Department’s funds are allocated among the seven districts by detailed formulas and procedures. Districts have the authority to determine the best use of their funds in a manner consistent with the Work Program instructions and the policies and objectives outlined in the short-range component of the Florida Transportation Plan. Both documents are updated and published annually.

The Department’s Work Program is developed by the districts and the Turnpike Enterprise, working with Metropolitan Planning Organizations and local governments. Input is also received through public hearings, the Legislature, and the Governor’s Office. As a result of this input at the local level, the first three years of the five-year Work Program represent the state’s transportation commitment to local governments. At the local level, the program has to be consistent with the capital improvement elements of the local government comprehensive plans. The districts identify

**The Florida Transportation Plan, required by F.S. 339.155, documents results of a systematic planning process.*

projects and develop schedules based on project priorities within the limitations of the funds allocated to them.

The process by which the Department develops the Work Program and the appropriation request is described with the term, “Policy to Projects.” This process is intended to ensure that the transportation products and services provided to the people of Florida are consistent with policy direction.

The schedule we follow in developing our plan, program, and budget represents a year-round activity. In fact, we are usually involved in updating a new program before the program we have been developing is adopted. This schedule is outlined below in the framework of an annual cycle.

Summer

The Work Program is adopted in July by the FDOT Secretary. By that time, the Work Program will have been updated to reflect the new appropriations act. The Adopted Work Program will also reflect the accounting adjustments associated with closing out the fiscal year on June 30.

Work on a new Program and Resource Plan and a new appropriations request will have begun the previous spring. Beginning in July the Executive Committee will review the proposed funding levels, policies, and objectives for the various program categories. This program-balancing activity ensures that the program the Department proposes to pursue is properly balanced to financial forecasts and is directed toward prescribed policies and objectives.

The program and resource planning process also ensures that a proper balance is struck between categories. For example, the level of resurfacing we plan to undertake over the next five years is based on the Department’s policy on pavement condition. Also, engineering categories (Preliminary Engineering and Construction Engineering and Inspection) must be properly balanced to construction levels.

Once program balancing is resolved, final targets for development of the appropriation request can go out to the districts and central office divisions. At the same time, Work Program Instructions are finalized with Executive Committee review. The Work Program Instructions include the "Schedule A" allocation of funds and "Schedule B" allocation of program targets to districts and Turnpike Enterprise for the next five years.

Fall

By September 1, the Department has submitted its appropriation request and begun preparation for a new Tentative Work Program. The appropriation request will be for the one-year period representing the first year of the new Tentative Work Program period. The new five-year Tentative Work Program will provide an update of the existing adopted program for the first four years, but will represent the first formal project-level programming for the new fifth year. Both the appropriation request and the Work Program will be based on the same funding levels determined by the program balancing achieved in the program and resource planning process that begins in July.

The Department's formal appropriation request is due to the Legislature and the Governor's Office on September 1. It is to be accompanied by a Program and Resource Plan which contains the same data summarized in a more condensed fashion. Supporting financial documents are available to ensure that the plan is balanced to available finances.

By November, the districts have a good idea of how their new Work Programs will look and have begun to meet with local governments and other public officials to review the proposed projects and schedules. At this stage, one of the main issues is the extent to which the districts are honoring their commitments to projects published in the last Adopted Work Program and the stability of the Work Program.

In the next issue of the *Florida Flyer*, we will continue our Work Program discussion with the "winter" and "spring" portions of this overview. ♦

Florida Winners of FAA Awards

Florida airports received awards in January at the FAA's 2011 Communications Conference in Atlanta.

Charlie Weller, Airport Manager Leesburg International Airport

Charlie Weller received the FAA Southern Region's General Aviation Airport Manager of the Year Award for 2010.

Charlie Weller has worked diligently to improve airport services and relations with the community, and also the infrastructure of the airport. Under his leadership, the airport has become a key economic asset to the city of Leesburg. An air traffic control tower was commissioned, and the new general aviation terminal was built.

Weller worked closely with the local Water Management District, confirming local opinion that the airport is a good neighbor to the community and respectful of the environment.

North Perry Airport

North Perry Airport received the FAA Southern Region's Runway Safety Partnership Award for 2010 in recognition of the airport's outstanding work and contributions made to reduce runway incursions.

The airport was recognized for the special emphasis program that included runway safety education and familiarization for tenants, enhancements to the airport's drivers' training program, and monthly runway safety meetings with airport tenants.

Southwest Florida International Airport

Southwest Florida International Airport received the FAA Southern Region's Air Carrier Airport Safety Award for 2010.

The airport took several steps to improve emergency operations. Airport personnel have worked closely with federal agencies to develop emergency

contingency plans and to conduct emergency exercises. The airport's state-of-the-art operations center is used in daily operations and is available for any emergency situation.

We congratulate the winners of these awards for their outstanding work and accomplishments. ♦

Calendar

Please contact event organizers before attending in case of cancellation due to weather or other factors.

May 13–14

Quincy Fly-In (EAA 445), Quincy Municipal Airport (2J9). Parachute jumping demonstration, plane rides, and more. For more information, see www.eaa445.org, or call (877) 652-0221.

June 13–15

FATA Annual Conference, Ritz-Carlton, Sarasota; for more information, see www.fata.aero or contact the Florida Aviation Trades Association at (321) 383-9662 or paula@fata.aero

July 17–20

42nd Annual FAC Conference and Exposition, Hollywood, Florida; for more information, see the web site of the Florida Airports Council at www.floridaairports.org

For information about CFASPP, see www.cfaspp.com.

Primary Surface

by Jason Myers

In the last issue of the *Florida Flyer*, we talked about the runway safety area (see page 5, Winter 2011) as part of our emphasis on airport safety and other important aspects of Florida's airport licensing program. In this issue, we will discuss the determination of the primary surface.

The primary surface's purpose is to protect aircraft in flight that are maneuvering to the landing area. It is a defined surface area that surrounds and protects the landing area. It is determined by factors such as type of landing area, visibility, weight of the landing aircraft, and the type of landing approach. It must be clear of objects not fixed by function. If objects are required by function to be located inside the primary surface, such as navigational aids, they must be mounted on frangible structures.

Primary surfaces are rectangular in shape and run longitudinally along the length of the centerline and on either

side of the runway. The elevation of any point on the airport primary surface is the same as the elevation of the nearest point on the runway centerline. The consistent width of the primary surface of a runway shall be that width required for the most precise approach for either end of that runway. The primary surface extends beyond each runway end if the runway has a paved surface. For runways that are not paved, the primary surface stops in conjunction with the end of the usable runway.

If you would like to know the state requirements for the primary surface dimensions concerning your facility, please refer to Chapter 14-60, Florida Administrative Code. This documentation is available on the Florida Aviation Office website at www.dot.state.fl.us/aviation/flpub.shtm.

As always, please feel free to contact me if you have questions or require additional information concerning Florida's airport licensing program. ♦

Jason Myers is the Airport Inspection and Safety Manager for the FDOT Aviation Office. Contact him at (850) 414-4515 or Jason.Myers@dot.state.fl.us.

Send Award Nominations by June 30

The Florida Department of Transportation will present award certificates at the Florida Airports Council's annual conference in July. The awards include outstanding aviation professional, distinguished aviation service, commercial service airport, general aviation airport, general aviation airport project, and commercial service airport project.

Airports, local government and federal officials, consultants, contractors, industry partners, and department staff who wish to nominate professionals, airports, or projects for these awards may send nominations to Aaron Smith, Aviation Office Manager, at Aaron.Smith@dot.state.fl.us. Nomination requirements may be found online under "General Info – Florida Aviation Awards" on the Aviation Office home page at www.dot.state.fl.us/aviation. Nominations must be received by June 30. ♦

Recycled paper



Printed on

PRSRRT STD
U.S. POSTAGE
PAID
Tallahassee, Florida
Permit No. 58

FLORIDA FLYER
Florida Department of Transportation
605 Suwannee Street, MS-46
Tallahassee, FL 32399-0450

The *Florida Flyer* is a non-profit newsletter published quarterly by the Florida Department of Transportation Aviation Office.
To subscribe to the *Florida Flyer*, please contact Fred Karuga, Editor, FDOT Aviation Office, 605 Suwannee Street, MS-46, Tallahassee, FL 32399-0450, phone (850) 414-4512, fax (850) 414-4508, email Fred.Karuga@dot.state.fl.us.
Visit our website at www.dot.state.fl.us/aviation.

Florida
Flyer