

## **Business Plan for Florida's Statewide Aerial Imagery Program - FINAL Project Report**

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### **Applicant Organization**

Florida Department of Transportation (FDOT)  
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### **Project Leader**

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### **Collaborating Organizations**

Florida Department of Environmental Protection (FDEP)  
Florida Department of Revenue (FDOR)  
Florida Division of Emergency Management (FDEM)  
Florida Fish and Wildlife Conservation Commission (FWC)  
Florida Resources and Environmental Analysis Center at Florida State University (FREAC)  
Northwest Florida Water Management District (NFWWMD)  
South Florida Water Management District (SFWMD)  
Southwest Florida Water Management District (SWFWMD)  
Suwannee River Water Management District (SRWMD)  
St. Johns River Water Management District (SJRWMD)  
United States Geologic Survey (USGS)

### **Organization Internet Address**

Florida Department of Transportation (FDOT)  
<http://www.dot.state.fl.us>

### **Executive Summary**

The Florida Orthophotography Business Plan defines the framework that will lead to the creation, maintenance, and distribution of a standardized terrestrial orthophotography basemap for Florida that meets the needs of local, State, and federal stakeholders. The plan recommends a course of action necessary to support periodic Statewide imagery acquisition, facilitate the adoption of technical standards, and formalize data distribution.

The plan focuses on the activities and investment necessary to support a Statewide terrestrial orthophotography basemap that meets minimum requirements for the majority of public and private users. This minimum requirement—12 inch pixel, true color, leaf off imagery—has been

shown to meet the majority of public and private needs. Often users will require higher resolution orthophotography and a variety of additional value added geospatial products. The plan recommends these value added products be available as additional cost deliverables for any orthophotography project undertaken. The organization needing the enhanced products would bear the burden of paying the incremental additional costs for those products.

Benefits from a coordinated statewide program of orthophotography to the State of Florida will include improved consistency of orthophotography products, standardized formats for storage and distribution, elimination of duplicative data collection projects, and broader distribution to support the State and National Spatial Data Infrastructure. Funded in part by the US Geological Survey through a Cooperative Agreement Program grant, this Plan represents the culmination of an open and transparent business planning process where more than 300 interested parties contributed input.

## **Project Narrative**

To provide the most open process possible, the development of this Business Plan emphasized outreach to users and providers of aerial imagery. The development of this plan was directed by a volunteer project steering committee representative of key stakeholder groups including several departments of Florida state government, water management districts, federal government, and county government.

Outreach to interested parties included direct contact with mapping related professional associations and e-mail to over 700 individuals that have been involved in Geographic Information System (GIS) efforts in the past.

Voluntary cooperation between organizations funding orthophotography projects has been successful and is on-going. State agencies, Water Management Districts, and Federal agencies have had excellent success:

### **Statewide Orthophotography Program Benefits for Florida:**

- Improved taxpayer satisfaction through better customer service and more efficient permitting processes
- Efficiency driven reductions in operational costs for state agencies
- Minimized cost impacts of statutory mandates for image acquisition and use
- Improved opportunities to access federal and private funding to support orthophotography projects

Driven by Florida Statute 195.022, which required up to date orthophotography to support tax mapping, and a broad open records law, orthophotography is available and up to date for the entire State. However, there are a number of areas where the orthophotography program within Florida can be improved to maximize overall efficiency and effectiveness.

Based on information provided by imagery users within Florida the following has been determined:

- Orthophotography is fundamental to support the business operations of many State agencies and water management districts. Many county business functions would not be possible without aerial imagery. There are over 30 Florida Statutes and 50 Administrative regulations that address the need for mapping or require imagery to be available. Activities requiring current and accurate orthophotography basemaps include emergency response, facilities management, natural resource management, long range planning, and property tax appraisal.
- Voluntary cooperation between organizations funding orthophotography projects has been successful and is on-going. State agencies, Water Management Districts, and Federal agencies have had excellent success and continue to reap benefits from interagency collaboration.
- Distribution of current and historic aerial imagery needs to be centralized. Florida lacks a single resource where all of the orthophotography for the State can be accessed.
- A duplication of efforts leads to inefficient use of resources. This is particularly true for orthophotography quality control, contracting, and hosting of data for on-line distribution.
- Opportunities for cost savings through “economies of scale” are lost through uncoordinated project activities such as collection, processing, and imagery distribution activities. Orthophoto-graphy has been acquired and processed by no fewer than 11 private firms over the last 3 years and is often available for distribution on multiple web portals. Adjacent counties occasionally select different mapping firms for projects to be acquired during the same season where selection of a single firm through a joint contract would yield cost savings to taxpayers.
- Federal and Public-Private Partnership opportunities are not maximized because there is no formal coordinated Statewide mapping.

- Communication among organizations procuring orthophotography could be improved. Improved communication will increase opportunities for collaboration.
- The aerial imagery user community has a wide variety of needs for image resolution, timing, digital formats, and imagery derived mapping products. A coordinated Statewide program must be undertaken with a contracting vehicle that allows partners to get the wide variety of products they require as optional add-ons to the orthophotography project.
- Stakeholder survey responses identified as much as \$8 million per year that is spent on orthophotography acquisition, processing, and distribution. Funding sufficient to support an ongoing coordinated Statewide cycle of orthophotography acquisition, processing and distribution meeting the needs of a majority of users in Florida will require investing \$2.86 million annually. A coordinated on-going program funded at this level will refresh 1/3 of the State (approximately 22,000 square miles) annually on a continuous cycle so imagery less than 3 years old will always be available for anywhere in Florida. This funding will also enable all current and historic data to be available in the public domain for users to access without charge.
- Options for structuring aggressive public/private partnerships or licensing data from providers rather than purchasing orthoimagery for use in the public domain may reduce the annual investment necessary to support a Statewide program.
- The benefits to Florida from a coordinated Statewide orthophotography program will exceed \$31 million per year. This figure is based on a conservative projection of benefits collected from user feedback. Benefits accrue in variety of areas but the largest are in increased staff productivity, enhanced revenue collection, and more efficient management of field services.

## **Next Steps**

Based on the project findings the following actions will improve Florida's Orthophotography Program, make government activities more effective and efficient, and provide these critical data to the private sector:

- As recommended by Florida's Strategic Plan for Geographic Information Systems Coordination , April 2008).Empower a Geographic Information Council (GIC) to formally approve minimum standards for Florida's orthophotography
- Establish a Technical Advisory Committee (TAC) on Aerial Imagery to provide technical and policy guidance to the GIC.

- Formally establish and fully fund a Florida Aerial Imagery Data Warehouse to make available all orthophotography to potential users.
- Develop product standards and inspection procedures and implement them in an “**Imagery Center of Excellence**” at the Department of Transportation. This Center would be assigned with being the technical lead in all aerial imagery activities in State government and with research emerging technologies. The Center will provide recommendations to the TAC and GIC on emerging technologies and evolving standards.
- Improve communication on imagery issues with users throughout Florida through the TAC on Aerial Imagery and through activities undertaken under the Imagery Center of Excellence.
- Establish sustainable funding for orthophotography production in Florida of \$2.9 million per year through the legislative appropriation process. Leverage this funding through innovative Federal and public/private partnerships.

## **Attachments**

1. FL Orthophotography Business Plan
2. FDOT Orthophoto Business Plan Appendices FINAL

## **Feedback on Cooperative Agreements Program**

*What are the CAP Program strengths and weaknesses?*

Our experiences with the CAP Grant program continue to be very positive. Some of the greatest benefits were the funding mechanisms in place as well as coordination with other States leveraging these grants.

*Where does it make a difference?*

This provides the funding and coordination mechanisms necessary to accomplish mission critical tasks such as business planning.

*Was the assistance you received sufficient or effective?*

Yes, the assistance received from USGS FGDC was effective. Florida’s USGS liaison provided great information in support of this project.

*What would you recommend that the FGDC do differently?*

More “Fifty States Initiative Progress Teleconferences” should be held. The Fifty States Initiative Category Lead did an excellent job coordinating a teleconference that provided quick overviews, updates and next steps of this year’s projects. This allows individuals the opportunity to hear how other projects are progressing and benefit from their lessons learned.

*Are there factors that are missing or additional needs that should be considered?*

There are no factors missing.

*Are there program management concerns that need to be addressed, such as the time frame?*

The current timeframe was communicated well and supported the needs of this project.

*If you were to do this again, what would you do differently?*

Increase participation with local entities. State and Federal coordination was accomplished very well but with the amount of Local Government in Florida it was difficult to assure all voices were heard.