Florida Spaceport Improvement Program

FDOT

2017 PROJECT HANDBOOK











Florida
Spaceport
Improvement Program

2017 PROJECT HANDBOOK

Florida Department of Transportation

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Source: Space Florida

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This resource document was developed by:
The Florida Department of Transportation
Aviation and Spaceports Office
M.S. 46
605 Suwannee Street
Tallahassee, Florida 32399-0450
www.fdot.gov/aviation

Source: Space Florida

PREFACE

Space connects the global community in many ways. And in many ways, Florida connects the global community to space.

Since 1965, when the first international telecommunications satellite provided direct and nearly instantaneous contact between Europe and North America following its launch from Cape Canaveral, the State of Florida has played a crucial role in all the ways that space has become integrated into the world's economy.

Satellites launched from Florida have enabled such public benefits as global positioning systems (GPSs), weather forecasting, disaster response, smartphones, air traffic control, and worldwide communications. From the shores of our state, humans have left the planet to explore the Moon, and to live and work in space aboard the International Space Station. But Florida has become much more than a historic launch site. Today, it is home to a thriving commercial space industry. Florida has attracted companies that will build rockets and spacecraft, launch them, return them, refurbish them, and launch them again, and again… all within the State of Florida.

As Florida's space transportation assets grow in importance to the world's space economy, the world's space economy becomes ever more important to Florida's future. Florida is poised to be the global leader in enabling space commerce throughout the 21st Century and beyond. Already, having one of the most dynamic transportation systems in the world, Florida is now leading the integration of space transportation into the fabric of its statewide multi-modal transportation network. Florida has recognized that space is not a program; it is a collection of high-value destinations for freight and people - destinations that require safe, reliable, and sustainable transportation systems operating on market-driven schedules.

In the early years of space travel, only the federal government operated Florida's space launch systems and spaceport sites, their use largely dedicated to government missions and priorities. Today, commercial space transportation systems are privately owned and operated in support of a wide diversity of both governmental and commercial customers requiring delivery of cargo or people to space. Commercial investment in space and in space transportation is driving the requirements for spaceport sites, operating environments, and infrastructure. There is growing competition among states and nations to host this rapidly evolving component of the transportation industry.

The Florida Spaceport Improvement Program is responding directly to these trends and needs, as Florida secures its place as the global leader in enabling space commerce.

The Florida Department of Transportation (FDOT) uniquely supports spaceports as part of its transportation network. FDOT and Space Florida work together to provide space transportation services and infrastructure in the state.

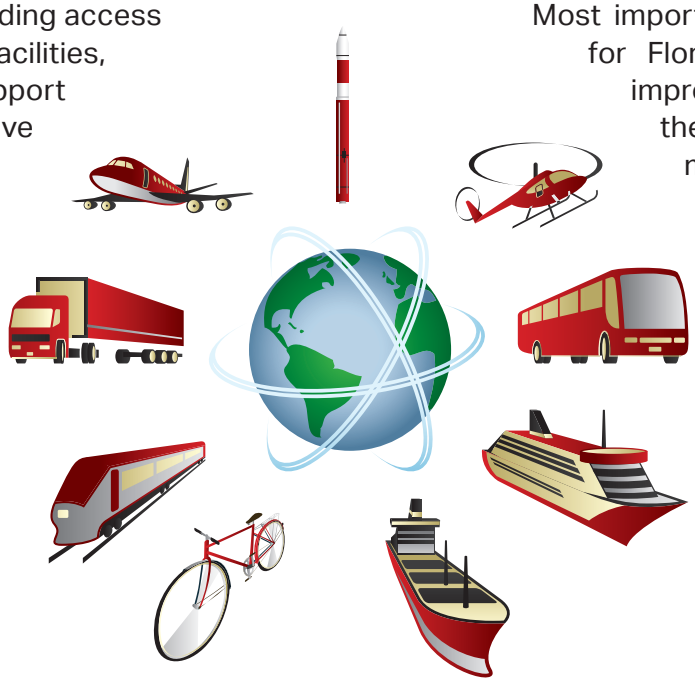
FDOT, through its Spaceport Improvement Program, provides funding for projects that:

- Improve aerospace transportation facilities
- Encourage cooperation and integration between airports and spaceports

- Facilitate and promote interagency efforts to improve space transportation capacity and efficiency

Space Florida, an independent special district of the State of Florida, serves as the state's single point of contact for state aerospace-related activities with federal, military, and state agencies as well as the private sector. Space Florida promotes and assists Florida's aerospace business sector by providing access to space transportation facilities, aerospace financing support services, and innovative education programs.

Created in 2006 pursuant to Chapter 331, Part II, Florida Statutes, Space Florida is charged with fostering the growth and development of a sustainable and world-leading space industry in Florida.



This handbook provides information and guidance on funding and managing Spaceport Improvement Program projects that include FDOT funds. FDOT provides technical assistance and funding to Space Florida for transportation-related capital improvements.

The Spaceport Improvement Program is designed to stimulate private sector investment and commercial spaceport development. Most importantly, the quality of life for Floridians will continue to improve as a direct result of these infrastructure investments.



Transporter proceeds south on Kennedy Parkway North (SR3) in Volusia County after departing from a construction yard in Oak Hill, carrying a Crew Access Arm and "White Room" destined for Complex 41 on CCAFS.

01

INTRODUCTION

Shuttle Landing Facility, Cape Canaveral Spaceport



Source: Space Florida

PURPOSE OF THE HANDBOOK

The purpose of this handbook is to provide a general overview of the Florida Department of Transportation's (FDOT's) Spaceport Improvement Program and the processes associated with funding spaceport capital projects within the state. This handbook describes eligibility requirements for partnerships, the application qualification and evaluation process, the project selection process, invoicing, and other relevant topics.

It is intended to serve as a useful resource for FDOT Program staff, interested stakeholders, aerospace industry partners who are considering or managing such partnerships with FDOT and Space Florida.

In cases where the facts or circumstances require additional guidance, interpretation, or potential deviation from this guidance, stakeholders are encouraged to coordinate with the FDOT Aviation and Spaceport Office or Space Florida, as appropriate, to ensure compliance with applicable laws, rules, procedures, and plans. Points of contact are identified in the Appendix.

FDOT POWERS AND DUTIES:

"To assume the responsibility for coordinating the planning of a safe, viable, and balanced state transportation system serving all regions of the state, and to assure the compatibility of all components, including multimodal facilities."

—SECTION 334.044(1), FLORIDA STATUTES



BACKGROUND: SPACEPORT IMPROVEMENT PROGRAM

Since the beginning of the United States' space program, Florida has played a pivotal role in development of the space industry. With Florida serving as the primary site for the National Aeronautics and Space Administration (NASA) and the U.S. Air Force's (USAF's) space launch infrastructure since the 1950s, space transportation has had a major effect on the state's economy and multimodal transportation system. Though accommodating this national mission has always been a significant role of FDOT, "space" itself was not previously considered a separate mode of transportation to be planned and developed by the state. This view began to change as space transportation technology continued to mature and the growth of commercial spaceflight became a reality.

Florida's launch of Lunar Prospector on an Athena 2 rocket on January 6, 1998, marked the first ever launch from a commercial site, the Spaceport Florida-operated Launch Complex (LC) 46 at Cape Canaveral. A site license was issued the previous year by the Federal Aviation Administration (FAA) to Spaceport Florida, a predecessor organization to Space Florida.

In 1999, Florida made a landmark decision to designate space as an official mode of transportation and "spaceports" as the associated transportation facilities. This official designation gave

space a standing within FDOT, similar to other long-established modes such as roads, bridges, rail, airports, and seaports. With this designation, spaceports and space transportation were aligned to help FDOT achieve its primary responsibility.

FDOT and Space Florida work closely together to plan and facilitate space transportation services on spaceport properties throughout the state. The Federal Aviation Administration's (FAA's) licensure of commercial spaceports at Cape Canaveral in 1997 and Cecil Spaceport in 2010, coupled with the potential for additional system elements in the future, puts Florida in the position of having an expanding system of spaceports.

Space Florida was created in 2006 as an independent special district for the purpose of fostering the growth and development of Florida's space industry.[1] Since its inception, Space Florida has acted as the state's single point of contact for all aerospace-related activities.

With NASA seeking to reduce its institutional footprint at Kennedy Space Center (KSC) following retirement of the Space Shuttle Program, and similar installation pressures on the USAF at Cape Canaveral, an increasing number of unused federal space launch facilities have become available for repurposing for commercial operations. As a result, Space Florida, in partnership with FDOT, has taken a more active role in the planning and funding of spaceport infrastructure. This expanding role has led to the Spaceport Improvement Program and has already produced significant results in partnership with commercial space launch and spacecraft operators. Examples include the recapturing of commercial satellite market share and new capacity to meet government mission needs with commercially owned and operated systems. These initiatives are securing Florida's place as a global space transportation leader.

1 Although Space Florida was created in 2006, the state has had similar predecessor organizations since 1989. See Chapter 89-300, Laws of Florida.

PARTNERSHIPS, COORDINATION, AND COLLABORATION

Pursuant to Florida law, state aerospace activities are to be highly visible and well-coordinated. The law specifically designates Space Florida as the single point of contact for state aerospace-related activities with federal agencies, the military, state agencies, businesses, and aerospace partners (Section 331.3011(3), Florida Statutes) (Figure 1).

As Florida's aerospace industry development authority, Space Florida has broad statutory powers and responsibilities to foster bold economic and spaceport development activities. These are employed to expand and diversify domestic and international opportunities that will grow the industry in Florida. These efforts support talent development, enhance infrastructure, and support governments and organizations in improving the state's competitive business climate. Space Florida achieves this by supporting, facilitating, and consulting on space industry–related needs for attracting, retaining, and expanding aerospace or related supply chain businesses (aerospace partners) that create economic opportunities in Florida by:

- Coordinating financial incentives, facilitating access to capital, and providing start up and relocation support
- Consulting on business formation, relocation, and venture development
- Developing and operating targeted infrastructure and facilities
- Supporting research and development opportunities that enable target industry growth

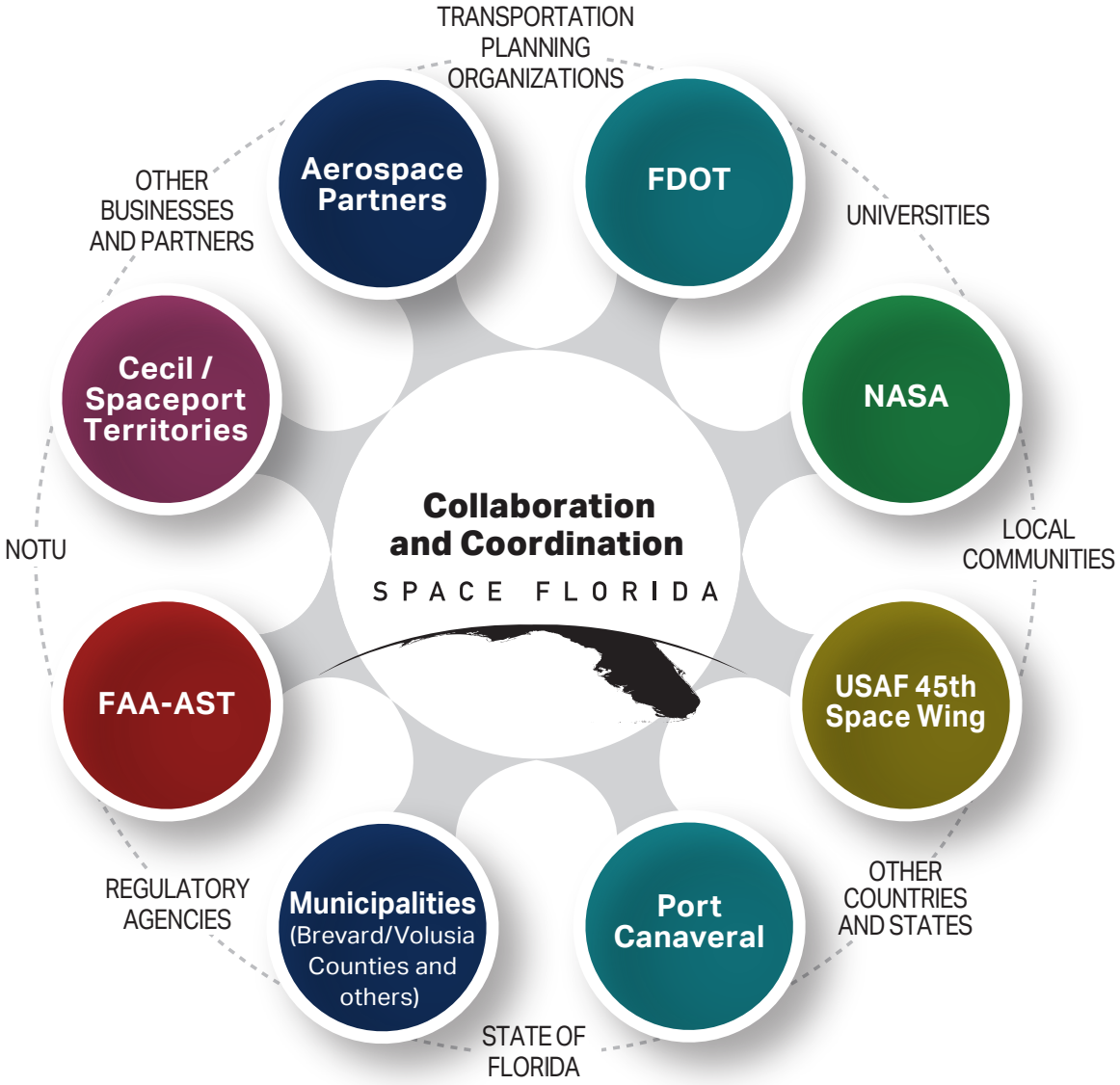


Figure 1: Spaceport Coordination

Space Florida's efforts are supported by other state agencies, such as the Florida Department of Economic Opportunity and FDOT. With the incorporation of spaceports into the Florida Transportation Plan (FTP) and Space Florida's development of the Florida Spaceport System Plan, FDOT provides support and funding to Space Florida for high-priority spaceport projects through the Spaceport Improvement Program. This funding stimulates public and private investment into emerging and growing aerospace enterprises while advancing a safer and more secure spaceport transportation system.

Aerospace partners are eligible public or private entities who consider or request Spaceport Improvement Program funding for a proposed project. These partners may include businesses such as SpaceX, United Launch Alliance, Boeing, Blue Origin, and OneWeb, and licensed spaceports such as Cecil Spaceport in Jacksonville. In other cases, the federal government (i.e., NASA/Kennedy Space Center, the USAF, and the Navy), may also be considered an aerospace partner. Aerospace partners are integral in the implementation of the processes described in this handbook.

02

PROGRAM OVERVIEW

Commercial Crew and Cargo Processing Facility, KSC



Source: Space Florida

THE BASICS

FDOT has significant responsibilities relative to aerospace and spaceports in Florida.[2] Most notably, Florida law establishes a process for incorporating spaceport and aerospace industry–related needs into the FTP and the Strategic Intermodal System (SIS). Florida's SIS consists of the state's largest and most significant commercial service airports, spaceports, roadways, seaports, and freight rail terminals. Incorporating space- and aerospace-related needs into the FTP and the SIS is a significant commitment by the state to support a major sector of Florida's economy.

The Spaceport Improvement Program was created to implement the aerospace and spaceport goals and objectives set out in the FTP and SIS as well as the goals and objectives established in the Florida Spaceport System Plan and the master plans of individual spaceports. Florida law places several aerospace and spaceport responsibilities on FDOT and incorporates them into the Spaceport Improvement Program. Most notably, the Program provides technical assistance and funding for projects that:

- Improve aerospace transportation facilities
- Encourage coordination between airports and spaceports
- Foster interagency efforts to improve space transportation capacity and efficiency

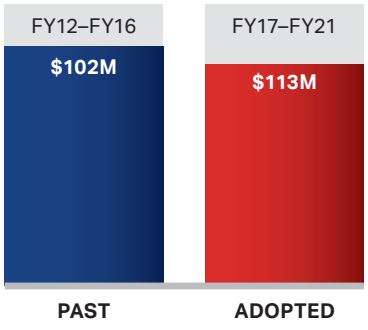
To implement state law and FTP/SIS goals and objectives, FDOT collaborates with Space Florida. Recent examples of the Program's partnership with Space Florida include:

- Providing funding to Space Florida for improvements to LC-36 at Cape Canaveral Spaceport. The improvements provide for rocket engine testing and development at the complex.
- Continuing to support Space Florida's efforts to obtain an FAA commercial launch site operator license for the Shuttle Landing Facility and the proposed Shiloh launch complex, both at the Cape Canaveral Spaceport.
- Providing Space Florida with engineering and technical expertise for facility assessments of the Shuttle Landing Facility, LC-46, solid propellant processing areas, and future launch pad sites.

One challenge for FDOT is to identify, balance, and incorporate the various regulatory and economic aspects of the evolving commercial space market and activities with its mission to provide a safe and secure transportation system.

Through 2021, approximately $113 million is in the July 1, 2016 Five Year Adopted Work Program for Spaceport Improvement Program projects; however, this is not a guarantee of future funding (Figure 2). The current year, FY 2017, has $21 million programmed for spaceport improvements. The work program is updated annually to account for changes in FDOT revenue, statewide transportation funding priorities, legislative approval, and many other factors. Therefore the actual funding level is subject to change. Most importantly, the 5-year funding allocation demonstrates Florida's ongoing commitment to invest in the state's growing spaceport transportation system.

Figure 2: Spaceport Improvement Program Funding[3]



2 See Sections 331.3051, 331.360, 334.044, and 339.362, Florida Statutes.

3 FDOT may also fund spaceport projects through other department programs such as economic development transportation projects pursuant to s. 339.2821, F.S. These funds are accounted for under their respective programs and not included within the Spaceport Improvement Program funding amounts.

KEY POINTS

Before any discussion on the project development process, stakeholders must be aware of challenges and limitations when funding spaceport capital projects. For example, Florida has a broad public records law and aerospace partners may not be aware of specific requirements pertaining to the release of information. FDOT capital funding is limited to designated areas called spaceport territories, and infrastructure ownership and responsibilities at Cape Canaveral Spaceport require coordination with our federal partners (i.e., NASA/Kennedy Space Center, the USAF, the Navy, the National Park Service, and the U.S. Fish and Wildlife Service).

PUBLIC RECORDS AND PROPRIETARY INFORMATION

Florida's broad public records law is governed by Chapter 119, Florida Statutes. Frequently, spaceport projects involve sensitive or proprietary information from aerospace partners that could fall under the public record law if part of a contract or project funding agreement. Care must be taken from the beginning of the process to ensure that all public information is made available and that sensitive or proprietary information is not improperly disclosed.

SINGLE AUDIT ACT REQUIREMENTS

In accordance with the requirements of Section 215.97(2)(a), Florida Statutes, each non-state entity that expends a total amount of state financial assistance equal to or in excess of $750,000 in any fiscal year shall be required to have a state single audit, or a project-specific audit, for such fiscal year. Essentially, this means project-related financial records are public records and audited as part of the project.



Launch Complex 40, SpaceX Falcon 9 Launch

Source: SpaceX

SPACEPORT TERRITORIES

Space Florida's ability to develop spaceport infrastructure is statutorily limited to geographic areas called spaceport territories pursuant to Section 331.304, Florida Statutes. Florida's Spaceport Territories are illustrated in Figure 3.

INFRASTRUCTURE OWNERSHIP AND RESPONSIBILITY

NASA and the USAF are the primary property owners of the Kennedy Space Center and the Cape Canaveral Air Force Station, though the State of Florida retains title to more than 55,000 acres dedicated to the U.S. government's use for the nation's space program. Land and existing spaceport infrastructure is leased, or otherwise granted, to Space Florida or aerospace partners by NASA and the USAF. Both Space Florida and aerospace partners may construct and own new infrastructure on federal land. Space Florida and aerospace partners assume responsibility for the site and infrastructure under their control. Spaceport infrastructure that may be developed in other spaceport territories will be under the ownership and responsibility of the operating authority (e.g. Jacksonville Aviation Authority for Cecil Spaceport) or its aerospace partners.

As Florida's statewide spaceport development authority, Space Florida is tasked to support the continuing NASA and the USAF missions while facilitating the growth of Florida's commercial space sector. Space Florida is the state's lead organization to coordinate with these federal agencies and other spaceport territory stakeholders to attract aerospace partners to invest and develop economic opportunities that advance space transportation and grow Florida's role as a global leader in enabling space commerce. Responsibility for specific space facilities at Cape Canaveral Spaceport varies between Space Florida, aerospace partners, and lease agreements with NASA and the USAF. Ownership, lease arrangements, and responsibility for spaceport infrastructure may also vary for the remaining spaceport territories, depending on contractual agreements with the spaceports, Space Florida, and future aerospace partners.



Source: NASA

The Commercial Crew and Cargo Processing Facility under construction, at NASA's Kennedy Space Center in Florida.

SPACEPORT TERRITORIES

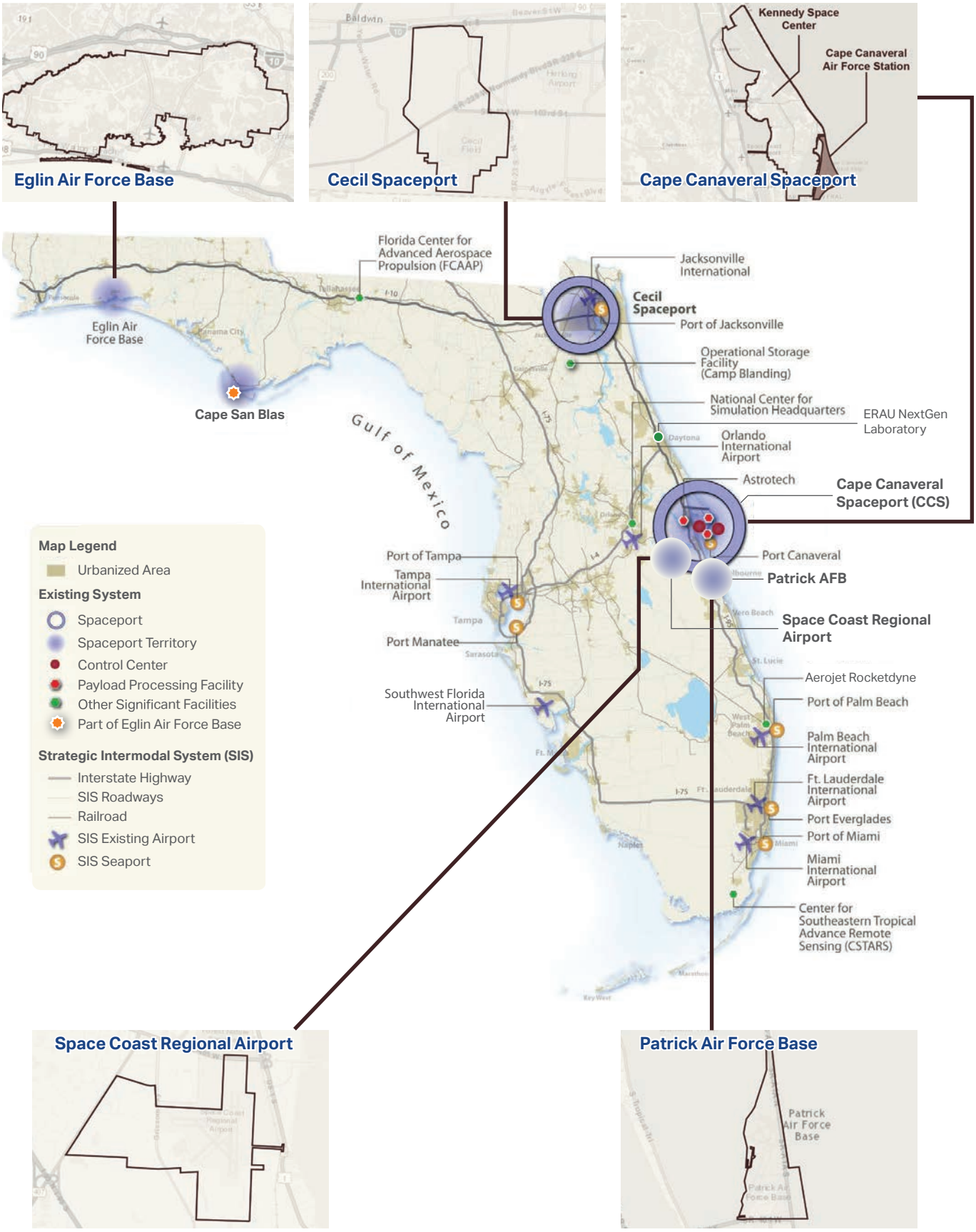


Figure 3: Spaceport Territories

03

PROGRAM MANAGEMENT



Shuttle Landing Facility, Cape Canaveral Spaceport

Source: Space Florida

PROJECT DEVELOPMENT

One of the nationally recognized features of the Spaceport Improvement Program is the use of FDOT funds for spaceport planning, development, and capital improvements.[4] These funds have been successfully used to attract aerospace partner investment, turning Cape Canaveral Spaceport into a one-of-a-kind multi-user spaceport. The use of FDOT funds indicates our strong commitment to aerospace partners with an average of approximately $20 million designated for each year of FDOT's 5-year capital improvement plan.

To take projects from concept to implementation, FDOT and Space Florida have developed, and continue to refine, the following three processes to identify, allocate, and manage Program funds for infrastructure projects:

- Project identification and funding authorization
- Space Florida's project analysis and approval
- Project funding and management

These three processes are illustrated in more detail in Figure 4.

4 Planning projects are developed and managed similar to infrastructure projects, however planning projects are for Space Florida program and planning purposes only. They do not go through the "call-for-projects" process.

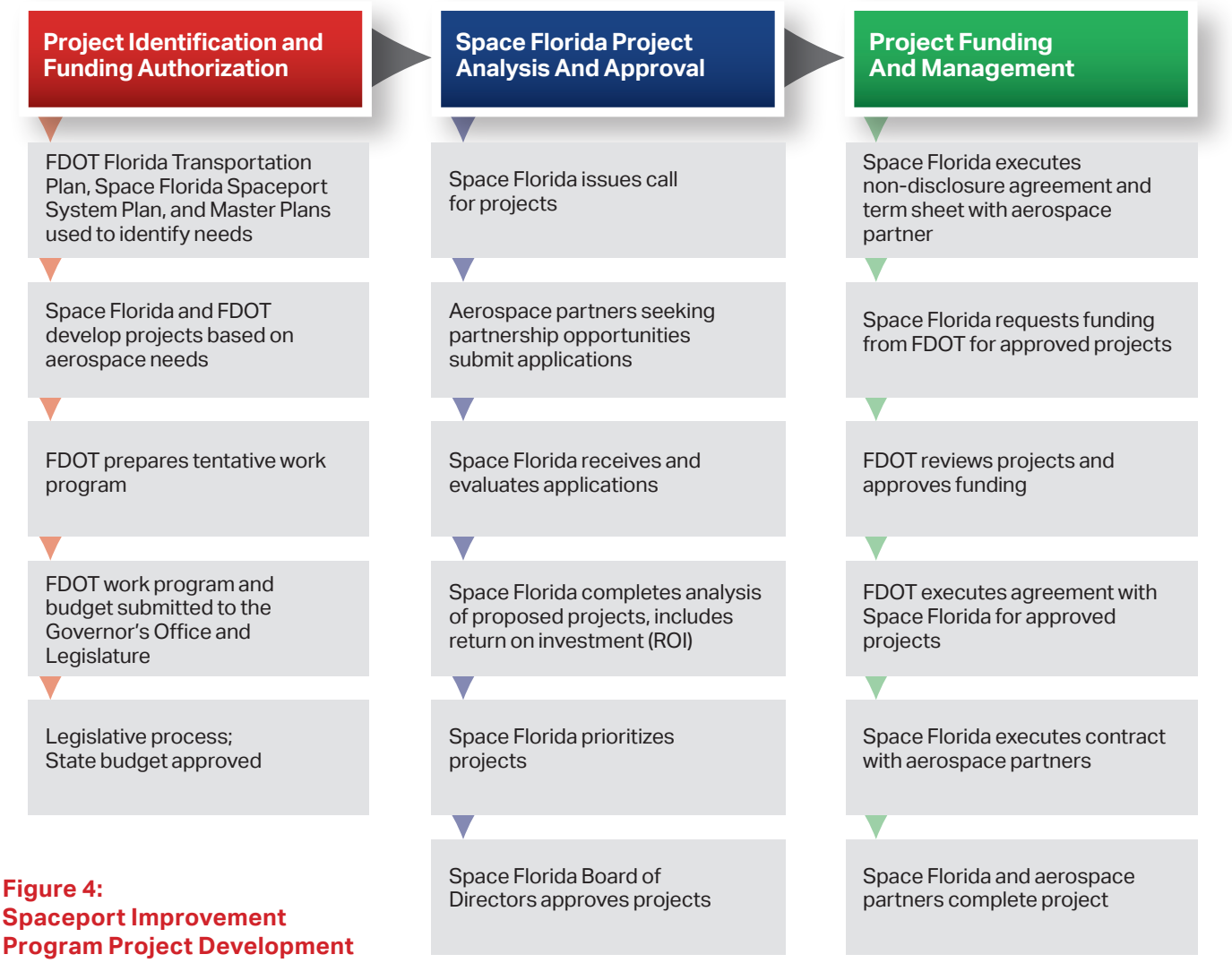


Figure 4: Spaceport Improvement Program Project Development

PROJECT IDENTIFICATION AND FUNDING AUTHORIZATION

This phase basically provides for identifying needs in the FTP, the Florida Spaceport System Plan, and the various spaceport master plans. Project-related needs are identified by Space Florida and communicated to FDOT. Once needs are identified, FDOT includes the projects in the Five Year Tentative Work Program and submits the plan to the Governor's Office and the Legislature for review and approval as part of the state budget approval process.

FLORIDA TRANSPORTATION PLAN

FDOT has significant responsibilities relative to aerospace and spaceports in Florida. Space was designated as a mode of transportation by Florida law in 1999. Florida law also establishes a process for incorporating spaceport and aerospace industry–related needs into the FTP and the SIS, both of which are primary drivers for delivering state transportation products in Florida.

The FTP provides the policy framework for allocating FDOT's funding, which will be spent to meet the long-term transportation needs of residents, tourists, and businesses. The FTP identifies the goals and objectives and addresses the needs of the entire state transportation system. One of the stated goals of the FTP is to strengthen coordination among seaports, airports, spaceports, railroads, and other modal partners.

The SIS is a statewide system of transportation facilities that play a critical role in moving people and goods to and from other states and nations, as well as among economic regions within Florida. The SIS serves as the state's highest priority for statewide mobility. Incorporating space- and aerospace-related needs into the FTP and the SIS reflects a significant commitment by the state to support this major sector of Florida's economy.



Source: Space Florida

Launch Complex 46 Mobile Access Structure

FLORIDA SPACEPORT SYSTEM PLAN

Space Florida is required under state law to "develop a spaceport master plan for the expansion and modernization of space transportation facilities within spaceport territories" (Section 331.360(3), Florida Statutes). The Florida Spaceport System Plan, first adopted in 2013 and updated in 2016, functions in this role, incorporating the various individual spaceport master plans across the state, including the Cape Canaveral Spaceport Master Plan and the Cecil Spaceport Master Plan. (Figure 5). The Florida Spaceport System Plan is consistent with and considered a supporting document to the FTP and SIS. In conjunction with the Florida Spaceport System Plan, Space Florida maintains a list of recommended capital projects eligible to be funded through FDOT. Each year, the project list is updated based on new project applications for funding and unfunded projects from the previous year. Coordination between FDOT, Space Florida, and each spaceport in Florida ensures state funds are maximized and enables Florida's spaceport system to grow to meet future needs.

FLORIDA SPACEPORT SYSTEM PLAN GOALS

- Create a stronger economy where Florida's spaceports and aerospace businesses can thrive
- Guide public and private investment into emerging and growing aerospace enterprises and maximize the use of existing aerospace resources
- Enrich our quality of life while providing responsible environmental stewardship
- Advance a safer and secure spaceport transportation system for residents, businesses, and others

SOURCES OF SPACEPORT IMPROVEMENT PROGRAM FUNDS

The Spaceport Improvement Program receives FDOT funds in two ways: first, a specific allocation is made to the Spaceport Improvement Program as part of a base allocation; and second, funding is allocated through the FDOT's SIS (Figure 6). The SIS was established to enhance Florida's mobility and economic competitiveness. It is made up of facilities of statewide and interregional significance.

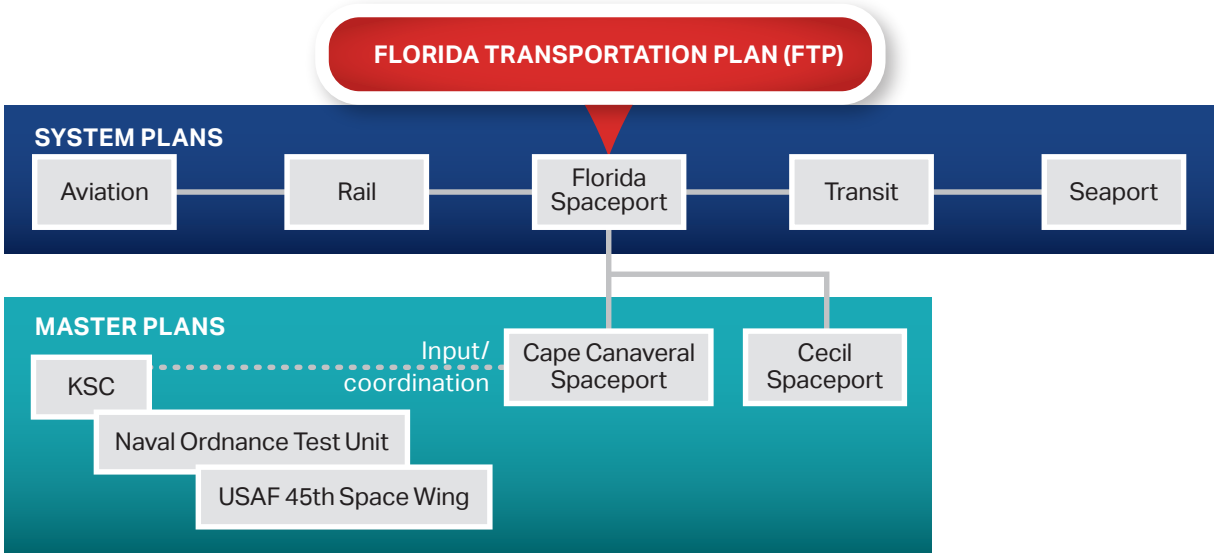


Figure 5: Florida Spaceport System Plan

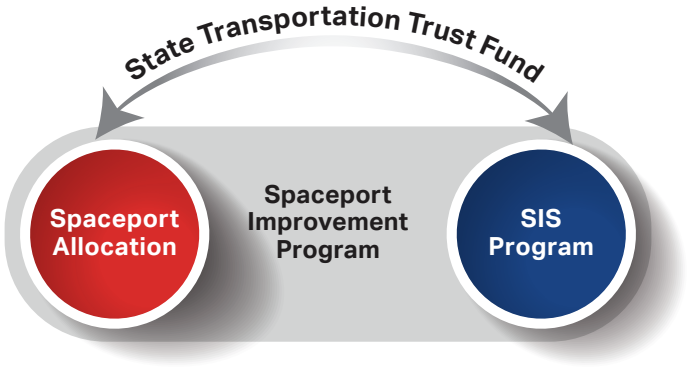


Figure 6:
Spaceport Improvement Program Funding

Together, these funds help to sustain the most progressive and expansive spaceport system in the world. This handbook provides information only on the Spaceport Improvement Program and does not include information on federal, local, or other state funding sources. Further, the Spaceport Improvement Program does not include a federal contribution or state aviation fuel tax funds.[5] Although the background, eligibility requirements, and project prioritization processes differ between the two funding sources, the three processes used to identify, approve, and manage projects are the same.

5 Section 332.009, Florida Statutes, prohibits the use of aviation fuel tax revenues on space transportation projects.

Cecil Spaceport Launch Support Facilities Renderings

Source: Cecil Spaceport





Spaceport funds are allocated annually to the FDOT Central Office and distribution is coordinated by the Aviation and Spaceports Office. As detailed in this handbook, the Aviation and Spaceports Office collaborates closely with FDOT District offices and Space Florida to effectively evaluate funding requests, allocate funds to projects, and manage project delivery.

TENTATIVE AND ADOPTED WORK PROGRAMS

Section 331.360, Florida Statutes, directs FDOT to coordinate in the development of spaceports and related transportation facilities, encourage coordination between airports and spaceports, and foster interagency efforts to improve space transportation capacity and efficiency. The law also authorizes FDOT to provide technical assistance and funding to Space Florida for transportation-related capital improvements to aerospace transportation facilities in Florida.

Space Florida developed the *Florida Spaceport System Plan 2013* to meet its statutory direction to develop a statewide master plan for expansion and modernization of space transportation facilities within Florida's designated spaceport territories. The Plan[6] integrates Space Florida's *Cape Canaveral Spaceport Master Plan 2013* and the Jacksonville Aviation Authority's *Cecil Spaceport Master Plan*. In the future, the Florida Spaceport System Plan will also incorporate the individual spaceport plans prepared by other operating authorities. Space Florida submits the plan to FDOT for funding, subject to the availability of funds. After review and approval, the Aviation and Spaceports Office submits the approved projects to the appropriate FDOT Districts to be included in the Districts' Tentative Work Programs, where the list of projects is subject to a public hearing before the Metropolitan Planning Organization within the District. Following submission of each District's Tentative Work Program to the Central Office, FDOT develops the statewide Tentative Work Program.

The FDOT Tentative Work Program is submitted to the Governor and the Legislature no later than 14 days after the regular legislative session begins per Section 339.135, Florida Statutes.

During the course of the legislative session, FDOT's budget is finalized as part of the overall state budget. Once the budget is voted on and approved by the Legislature, spaceport project priorities may need to be adjusted to account for the actual funding amounts approved.

The 1990 Legislature passed the following law in an effort to discourage the identification of specific projects in the appropriations bill. The law states: *"the adopted work program... may include only those projects submitted as part of the tentative work program developed under subsection (4), plus any projects that are separately identified by specific appropriation in the General Appropriations Act... However, any FDOT transportation project which is identified by specific appropriation in the General Appropriations Act shall be deducted from the funds annually distributed to the respective district... In addition, FDOT may not include any project or allocate funds to a program in the adopted work program that is contrary to existing law for that particular year. Projects may not be undertaken unless they are listed in the adopted work program."*

The addition of a new spaceport project, not included in the Tentative Work Program, may potentially reduce the overall allocation of funds to Space Florida and the spaceport program. This may directly impact funding for projects already approved and underway!

6 Chapter 331, Part II, Florida Statutes, references a "master plan" which Space Florida for clarity has designated the Florida Spaceport Systems Plan to incorporate planning performed by different entities in the various spaceport territories, as some of those location specific plans carry the designation of master plan.

The new state budget takes effect on July 1, which is the first day of each new fiscal year. The FDOT Secretary adopts the work program and, subject to the availability of appropriated funds, the FDOT may participate in funding eligible spaceport transportation projects.

SPACE FLORIDA PROJECT ANALYSIS AND APPROVAL

PROJECT SUBMITTALS, ANALYSIS, AND PRIORITIZATION

Once a year, Space Florida solicits aerospace partner interest in spaceport partnership opportunities through a "Call for Projects" process. Interested aerospace partners submit project applications,[7] which then compete for Spaceport Improvement Program funding.

Requests for spaceport capital funds must be submitted to Space Florida for review and prioritization.

At a minimum, proposed projects must:

- Be on spaceport territory property
- Be included in an approved spaceport master plan
- Have or be likely to obtain appropriate licenses, permits, and leases
- Meet the eligibility requirements in Section 331.303(21), Florida Statutes[8]

7 An example application is available on Space Florida's website: http://www.spaceflorida.gov/STIMF.

8 Section 331.303(21), Florida Statutes, relates to project funding eligibility and states, "capacity improvements that enhance space transportation capacity at spaceports that have had one or more orbital or suborbital flights during the previous calendar year or have an agreement in writing for installation of one or more regularly scheduled orbital or suborbital flights upon the commitment of funds for stipulated spaceport capital improvements."



Starliner Rendering

Source: Boeing

Initially, Space Florida separates space transportation capital projects from non-transportation projects, such as manufacturing, research, workforce development, and education. FDOT funding can only be used for the transportation projects, which then move into the scoring and prioritization processes. Space Florida then develops a proposed list of spaceport capital projects from the qualifying applications for submission to FDOT.

Although Space Florida issues its Call for Projects once a year, it does accept applications on a continuous basis. Space Florida examines specific required data elements in qualifying applications to determine whether projects also qualify for various funding programs. Next, proposed projects are evaluated according to various metrics in accordance with existing spaceport system and master plans and are prioritized for available funding. The project justification, economic benefits, state benefits, project cost and level of funding requested, project schedule, launch schedule, and other economic development–related data are all reviewed to maximize the use of state funds. See Figure 7 below.

FDOT emphasizes the return on investment (ROI) that the state will realize by contributing funds toward major modal transportation projects. Space Florida performs either an economic or financial analysis on spaceport capital projects before requesting FDOT funds. In most cases, the information Space Florida needs to conduct this analysis is provided in the application. If not, additional information may be requested from the applicant.

Space Florida prepares an annual list of eligible projects for inclusion in the Spaceport Master and System Plans. The Space Florida's Board of Directors approves the list and each prioritized project prior to entering agreements with FDOT and the applicant.



Note: Dates are typical but may vary.

Figure 7: Space Florida's Project Analysis/Prioritization Process

PROJECT FUNDING AND MANAGEMENT

Under the Spaceport Improvement Program, Space Florida submits Board-approved funding requests for infrastructure projects to FDOT. The Aviation and Spaceports Office reviews each request and determines whether to provide funding for the project.

FDOT evaluates each funding request based on consistency with the FTP and SIS, benefits to the state, and capital investment.

Each request includes a budget summary for the project reflecting requested state match and aerospace partner investment, project schedule, and other required financial information FDOT needs to evaluate the funding request. The budget summary includes:

- Number of jobs created, annual payroll, average wage, total capital investment
- New commercial market created
- Nominal Internal Rate of Return (IRR); Return on Investment (ROI)
- Benefit-Cost Analysis (BCA)
- Economic benefits of the project
- Project readiness
- Long-term customer commitment
- Narrative statement summarizing the project analysis and justification, and the financial and economic basis for requesting state funding participation



Shuttle Landing Facility, Cape Canaveral Spaceport

Source: Space Florida

JOINT PARTICIPATION AGREEMENTS

The Joint Participation Agreement (JPA) is the primary contract mechanism used to fund spaceport projects as authorized by Section 331.360, Florida Statutes. Essentially, a JPA is a contract between FDOT and Space Florida, where FDOT agrees to reimburse Space Florida for eligible project costs. Key provisions in the JPA include:

- Scope of work
- Quantifiable deliverables
- Budget
- Schedule
- Invoicing requirements
- Method of compensation
- Accounting practices
- Records management requirements
- Public information requirements
- Single audit act requirements
- Other terms and conditions

JPAs are processed in accordance with the *FDOT Contract Funds Management Funds Approval,* Procedure Topic No. 350-020-200 (www.dot.state.fl.us/proceduraldocuments) and the Department of Financial Services *Reference Guide for State Expenditures* (www.myfloridacfo.com/Division/AA/Manuals/).

On most projects, Space Florida will opt to have a third party perform the work.[9] The scope of work for third party agreements should be consistent with the JPA and reviewed by FDOT prior to execution by Space Florida.

PROJECT TYPES: PLANNING VERSUS CAPITAL PROJECTS

Every spaceport project has a unique context, goals, program needs, and requirements, so a determination of the eligibility of specific projects is made during the early stages of a project. Eligible spaceport projects fall into two primary categories: spaceport planning projects and spaceport capital projects. Specific types of projects may include project planning, land mitigation, processing facilities, utilities, safety improvements, and launch facilities.

SPACEPORT PLANNING PROJECTS

Spaceport planning projects identify aerospace needs and guide the development of future spaceport capital projects. Through the Spaceport Improvement Program, FDOT may provide up to 100 percent funding assistance to Space Florida for spaceport planning and project development. Space Florida must provide FDOT a scope of work and proper cost estimate prior to committing funds for a planning project. If another entity, such as a consultant, is expected to perform the work, a third party agreement must be provided in advance of committing Program funds.

The Spaceport Improvement Program has funded several planning projects, including:

- Florida Spaceport System Plan (2013 and 2016) – Defines the statewide spaceport system, develops statewide spaceport policies and processes, and priorities
- Cape Canaveral Spaceport Complex Master Plan 2013 – Guides capital development and investment at Cape Canaveral Spaceport
- Cape Canaveral Spaceport Master Plan 2016 – Updated 2013 plan based on new strategic vision and dynamic changes in space transportation technologies, business models, and markets

9 On most, if not all, projects, the aerospace partner will be considered a sub-recipient. This is an important distinction because sub-recipients are subject to Single Audit Act requirements.

- Kennedy Space Center Strategic Framework – Prepared a strategic framework for future development concept alternatives at Kennedy Space Center
- Special Studies – Examines topics of special interest, such as enhanced weather forecasting capabilities at horizontal launch and recovery facilities and assessments of legacy federal facilities for potential use by aerospace partners

SPACEPORT CAPITAL PROJECTS

Spaceport capital projects eligible for funding through FDOT's Spaceport Improvement Program include:

- Land acquisition projects
- Capital improvement projects
- Common use capital projects

This list is not exhaustive and some potentially eligible projects may not fall precisely into these categories. Further, not all projects that fall into

EXAMPLES OF PLANNING PROJECTS ELIGIBLE FOR FUNDING

The purpose of spaceport planning is to lay the groundwork for the development of future spaceport infrastructure and aerospace economic development while protecting the public, the environment, and the cultural resources of the state.

- Spaceport Systems Plan
- Spaceport Master Plans
- Environmental Assessments (EAs)
- Environmental Impact Statements (EISs)
- Economic impact studies
- Master drainage plans
- Noise studies
- Launch site or launch vehicle licensing
- Program and project support
- Spaceport facility and feasibility assessments
- Siting Studies

Launch Complex 41, ULA Atlas 5 Launch



Source: ULA

these categories are guaranteed funding. Eligible applicants must also meet other qualification criteria described in this handbook. FDOT has the responsibility for making the final determination on the eligibility of each individual project.[10]

The following capital improvement project examples include FDOT funding participation:

- Repurpose Launch Complex 39A (LC-39A) at Kennedy Space Center. This project included significant modifications to increase the number of launches the facility can handle (capacity) and expands its capability to serve additional markets, such as communications satellites, national security space payloads, and human spaceflight. LC-39A is a rocket launch site originally built for the Apollo Program and later modified for the Space Shuttle Program.
- Design and Construction of a Crew Access Tower at Launch Complex 41, Cape Canaveral Spaceport. State funds enhance the tower's capability to accommodate additional space vehicle configurations and support additional human and cargo spaceflight capacity at the Spaceport.

10 Section 331.303(21), Florida Statutes, relates to project funding eligibility and states, "capacity improvements that enhance space transportation capacity at spaceports that have had one or more orbital or suborbital flights during the previous calendar year or have an agreement in writing for installation of one or more regularly scheduled orbital or suborbital flights upon the commitment of funds for stipulated spaceport capital improvements."

FDOT FUNDING FOR CAPITAL PROJECTS

A key component of developing a JPA is FDOT's level of funding participation toward a project.

EXAMPLES OF CAPITAL PROJECTS ELIGIBLE FOR FUNDING

Land acquisition projects ensure proper ownership, development, and use of spaceport facilities and infrastructure:

- Spaceport development property identified in a spaceport master plan
- Mitigation land and easements
- Property for right-of-way

Capital improvement projects provide capital facilities and equipment at spaceports:

- Launch/re-entry facilities
- Vehicle/spacecraft/payload final assembly, integration and processing facilities
- Other landside projects (parking lots and structures, terminal buildings, etc)
- Range facilities
- Safety projects
- Security projects
- Utility projects

Common use infrastructure projects serve more than one tenant, are rented/leased based on time/frequency of use, support multiple users as needed:

- Spaceport development property identified in a spaceport master plan
- Taxiways/aprons/runways
- Hangars (mechanical work/storage)
- Fuel farms
- Specialized equipment/control facilities/ clean rooms to support launch

Although Section 331.360, Florida Statutes, does not specify project funding shares, FDOT policy is to provide up to 50 percent of eligible project costs for spaceport capital projects. The remainder must be provided by others, such as Space Florida, licensed spaceports, or other aerospace partners. This policy was developed to:

- Be consistent with the funding participation rates of other FDOT modal programs, i.e., SIS, seaports, and rail
- Maximize the use of state funds
- Ensure aerospace partners have a substantial and vested interest in the projects

For some projects, there may be overlap between the Spaceport Improvement Program and FDOT's Airport Improvement Program. For example, airport runways, taxiways, and aprons may be used by both space vehicles and aircraft and could be eligible for funding under both programs. In cases where such overlap exists, requests to fund space-related projects through the FDOT's Airport Improvement Program, or other similar programs, are handled as follows:

- For a project that is predominately aviation related, but has some limited space-related application or function, normal Airport Improvement Program funding shares apply.
- A project that is predominately space related is not eligible for funding under the Airport Improvement Program. FDOT funding for spaceport-related projects is provided under the Spaceport Improvement Program. Examples of predominately space-related projects include:
  - Fuel farms for spacecraft – hazardous fuels
  - Launch control centers
  - Range safety infrastructure
  - Projects exceeding FAA design standards to accommodate spaceport operations

In 2014, Section 331.371, Florida Statutes, was enacted to address strategic spaceport investments. The law authorizes FDOT, in consultation with Space Florida, to fund up to 100 percent of a project at strategic spaceport launch support facilities if:



Shuttle Landing Facility, Cape Canaveral Spaceport

Source: Space Florida

- Important access and on-spaceport and commercial launch facility capacity improvements are provided
- Capital improvements that strategically position the state to maximize opportunities in international trade are achieved
- Goals of an integrated intermodal transportation system for Florida are achieved
- Feasibility and availability of matching funds through federal, local, or private partners are demonstrated

Finally, Section 331.360, Florida Statutes, prohibits FDOT from funding Space Florida's operational and administrative costs. FDOT interprets operational and administrative costs as those costs related to Space Florida's operation as an organization. Spaceport Program and project-related costs are not considered part of Space Florida's operations or administration and are eligible for FDOT funding.

INVOICING AND REIMBURSEMENT

As noted under the JPA section, FDOT reimburses Space Florida for eligible project costs (Figure 8 explains this process). This ensures that Spaceport Improvement Program funds are properly used. Under this system, the aerospace partner incurs the cost, submits an invoice, and is then reimbursed by Space Florida. Space Florida then submits a request to FDOT for reimbursement of the expenditures. It is in the aerospace partner's interest that Space Florida and FDOT's invoice and reimbursement process functions smoothly and in a timely manner.

The invoicing process begins when the aerospace partner incurs costs associated with the spaceport project, as per the conditions of the

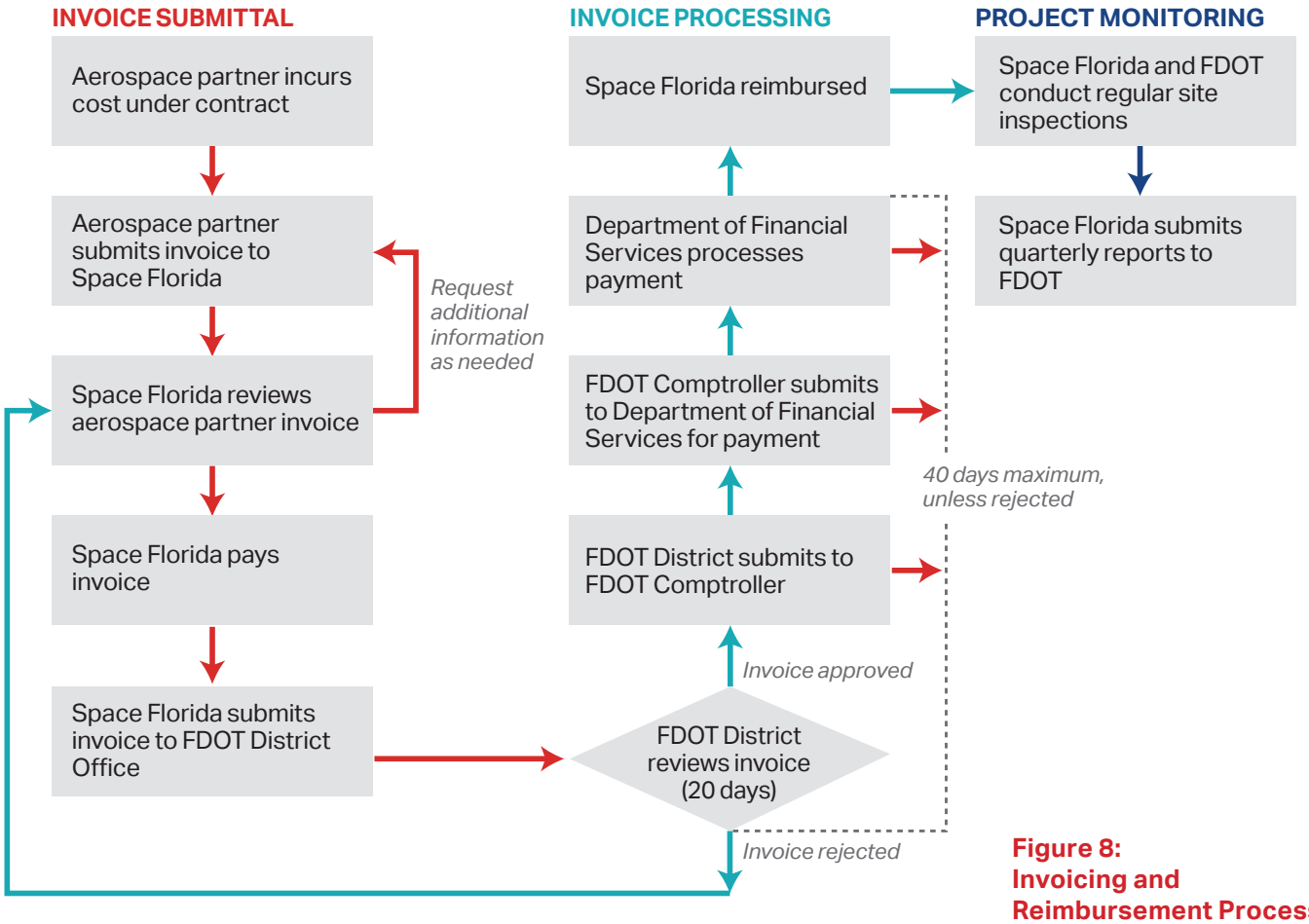


Figure 8: Invoicing and Reimbursement Process

JPA. The aerospace partner then submits the invoice to Space Florida for review and payment. If Space Florida does not identify any changes to the invoice, it is approved and paid. Space Florida then submits the paid invoice and supporting documentation to the project manager at the FDOT District Office for reimbursement. The FDOT District will review the invoice for:

- Completeness
- Accuracy
- Compliance with the JPA contract conditions
- Progress
- Deliverables
- Consistency with field reviews
- Eligibility of expense line items

Per standard language in the JPA, FDOT staff has 20 days to either approve or reject the invoice. Approved invoices must be paid by the Department of Financial Services within 40 days of submittal to the District. When approved, FDOT reimburses Space Florida for the prior payment made to the aerospace partner. If an invoice is rejected, the process starts over when the corrected invoice is resubmitted. There are two important points to reinforce regarding the reimbursement process:

- **Only eligible expenses incurred during the contract period may be reimbursed.** Invoices containing costs incurred before the execution of the contract or after the expiration of the contract will be rejected.
- **Only eligible expenses are subject to reimbursement.** Invoices containing ineligible expenses will be rejected. Examples of typically eligible and ineligible expenses are provided below. The eligibility of any specific cost is ultimately dictated by state law, FDOT policy, and the terms of the JPA.

To ensure timely reimbursement of expenses, questions should be addressed to Space Florida or the FDOT District project manager before submitting the invoice.



Source: NASA

TYPICALLY ELIGIBLE EXPENSES	TYPICALLY INELIGIBLE
Design/studies	Maintenance costs
Demolition/site work	Operational costs
Direct construction costs • Construction labor • Construction materials • Construction equipment rental	Food, travel, and lodging are usually ineligible on capital projects, but are highly dependent on the contract conditions.
Capital equipment purchases • Will transfer with delivery of the project • Are agreed to in advance by the Department and Space Florida	Non-capital equipment purchases will not transfer with delivery of the project: • Tools • Clothing
Permits	
Consultant support	

SAFEGUARDING THE STATE'S INVESTMENT

FDOT and Space Florida make every effort to ensure the state's investment is protected and benefits are realized. FDOT and Space Florida work together to maximize the ROI for all spaceport capital projects.

PROJECT MONITORING AND INSPECTION

Space Florida and FDOT strive to ensure projects are delivered in accordance with the JPA. Both Space Florida and FDOT routinely review and inspect projects to ensure accountability and performance objectives are met. Progress reports and management review of specific deliverables are accomplished periodically with the aerospace partners.

Representatives of Space Florida and FDOT District staff may attend pre-construction and project status meetings with the aerospace partner and contractor team. Regular field visits/inspections of the project site are also conducted by staff or their representative to verify:

- The conditions of the JPA are being met
- Progress is being reported accurately
- The work being performed is consistent with the scope of work

To help ensure a safe, productive, and timely field visit, these reviews are coordinated ahead of time with Space Florida, the aerospace partner, and contractor team, as appropriate.

SPACEPORT IMPROVEMENT PROGRAM SUSTAINABILITY

The Spaceport Improvement Program provides funding and technical support to Space Florida for aerospace transportation–related capital improvements. Priorities are based on the Florida Spaceport System Plan, which reflects a sustainability framework consisting of goals and objectives to guide public and private investment into Florida's emerging and growing aerospace sector. Like other transportation modes, such as aviation and transit, FDOT encourages spaceports to use Program funds for projects that bring returns to the spaceport and ensure the facility's financial sustainability.

INVESTMENT RECAPTURE FOR SPACEPORT CAPITAL PROJECTS

The FDOT and Space Florida work closely together on the allocation of state resources for spaceport capital projects to achieve strategic

capital investment goals and facilitate non-state investment into emerging and growing aerospace markets. When appropriate, Space Florida may require the aerospace partner to meet certain benchmarks as a condition of state funding participation on a project. Such requirements are commonly referred to as "recapture" provisions and are intended to ensure benchmarks are met and protect the public's investment in a project.

FDOT CONFLICT OF INTEREST PROCEDURE

In accordance with FDOT's Conflict of Interest Procedure, the goal of the FDOT's contracting program is to procure contracts in a fair, open, and competitive manner. Firms representing the FDOT must be free of conflicting professional or personal interests to ensure objective decision making and facilitate fulfillment of contractual obligations. A firm or its affiliate that is the Engineer of Record on a project shall be considered ineligible to compete as a prime consultant for Construction Engineering Services or testing services on that same project.

Additional information on this procedure, Conflict of Interest Procedure for Department Contracts, Procedure Topic No. 375-030-006, is available at: http://www.dot.state.fl.us/proceduraldocuments.

Also, see Conflict of Interests – Frequently Asked Questions at: http://www.dot.state.fl.us/construction/ConflictOfInterest/COI_Main.shtm.



Space Life Sciences Lab

Source: Space Florida

04

CONCLUSION

The State of Florida has been at the forefront of the growth and development of a sustainable and world-leading aerospace industry in the United States. The benefits of FDOT funded projects are evident in everyday life activities, not only of Floridians but billions of people around the world. The Spaceport Improvement Program is designed to stimulate private sector investment and commercial spaceport development. Most importantly, the quality of life for Floridians will continue to improve as a direct result of these infrastructure investments.

This handbook describes key requirements for partnerships, application submittals, and project selection processes; JPA provisions, invoicing, and other project management topics; and strategies used to maintain the integrity of the program and its resources. Because the market, industry, and Program continues to evolve at a rapid pace, stakeholders are encouraged to coordinate with the FDOT Aviation and Spaceports Office, or Space Florida as appropriate. This will ensure compliance with applicable laws, rules, procedures, and plans, especially in cases where the facts or circumstances require additional guidance, interpretation, or deviation from this guidance.



SpaceX Falcon 9 First Stage returns to land at Cape Canaveral Spaceport

Source: SpaceX

APPENDIX

STATEWIDE CONTACTS

FDOT Aviation and Spaceports Office:

Tom Duncan
Spaceport Development Manager
850-414-4513

Aaron Smith
Aviation Manager
850-414-4514

Space Florida:

Mark Bontrager
Vice President Spaceport Operations
321-730-5301, ext. 235

Steve Szabo
Spaceport Development Program Manager
321-730-5301, ext. 107

HELPFUL LINKS

Please use the links below to access or download the specified information. For more information, please contact the FDOT Aviation and Spaceports Office or Space Florida.

FLORIDA STATUTES

Chapter 287 Florida Statutes – Section 287.057
Procurement of commodities or contractual services

Chapter 331 Florida Statutes – Aviation and Aerospace Facilities and Commerce

Chapter 332 Florida Statutes – Airports and Other Air Navigation Facilities

Chapter 334 Florida Statutes – Transportation Administration

Chapter 339 Florida Statutes – Transportation and Finance

All statutes available at:
www.leg.state.fl.us/STATUTES

FDOT

FDOT Work Program Instructions – Freight, Logistics & Passenger Operations Part III – Chapter 15, Aviation and Spaceports:

www.dot.state.fl.us/OWPB/Development/WP_instructions.shtm

FDOT *Contract Funds Management Funds Approval,* Procedure Topic No. 350-020-200

SPACE FLORIDA

Space Transportation Infrastructure Matching Fund (STIMF) Application:

www.spaceflorida.gov/STIMF/

FLORIDA DEPARTMENT OF FINANCIAL SERVICES

Department of Financial Services *Reference Guide for State Expenditures:*

www.myfloridacfo.com/Division/AA/Manuals *(click on the Payments link)*

CECIL SPACEPORT

The Cecil Spacport website is:

http://www.flyjacksonville.com/Home.aspx?sMP=CECIL

FEDERAL AVIATION ADMINISTRATION (FAA)

FAA Memorandum: Proposed commercial space facilities and operations at federally obligated or Part 139 airports:

https://www.faa.gov/airports/media/ARP-interim-Spaceport-Guidance.pdf



Source: Space Florida

Federal Aviation Administration

MEMORANDUM

Date: October 20, 2014

To: Regional Airports Division Managers
610 Branch Managers
620 Branch Managers
Airports District Office Managers

From: Director, Office of Airport Planning and Programming (APP-1)

Director, Office of Airport Compliance (ACO-1)

Director, Office of Airport Safety and Standards (AAS-1)

Subject: **Proposed commercial space facilities and operations at Federally-obligated or Part 139 airports**

The FAA is receiving an increasing number of inquiries from both private industry and airport operators to establish commercial space launch sites at or near Federally-obligated airports, including general aviation airports and airports certificated under 14 CFR part 139.

The Office of Airports (ARP) is working with the FAA's Office of Commercial Space Transportation (AST) and other parts of the FAA to establish processes to facilitate coordinated agency-wide reviews of such proposals.

This memorandum provides summary-level guidance for both FAA personnel and airport operators on requirements that airport operators (and the FAA's Office of Airports) must consider when evaluating such proposals in a manner consistent with existing statutes, regulations, and policy. We encourage personnel in the Regional offices to convey this memorandum to all Federally obligated airports and any that are certificated under Part 139. This memorandum will also be available on the FAA's public website.

Regional Offices and ADOs will notify AST, APP, AAS and ACO when they are contacted by any entity considering a proposed spaceport facility or any such proposed operations at Federally obligated or Part 139 airports.

Similarly, through AST's pre-application consultation process (required for all license applicants per 14 CFR part 413.5), AST will notify the three ARP directorates and the appropriate ARP Regional office and ADO when AST is contacted. AST is responsible for licensing the operation of launch and reentry sites, and has issued several launch site operator licenses, some of which are located on existing Federally obligated and

part 139 airports. AST is also responsible for the subsequent issuance of actual vehicle operator licenses.

The requirements for obtaining a launch site operator license are contained in 14 CFR part 420. Information about this process is available online at: http://www.faa.gov/licenses_certificates/commercial_space_transportation/.

A launch site operator license does not confer any proprietary, property, or exclusive rights, and does not relieve an airport of its existing obligations to comply with its grant assurances and other Federal obligations.

Proposals to build and operate launch sites and conduct ongoing spaceport operations at Federally obligated airports trigger a host of requirements. These requirements include maintaining updated and FAA-approved airport layout plans to ensure safety, efficiency, and utility of airports. Some types of spaceport operations may affect existing airport facilities or airport operations. The extent of these potential effects depends on the location and/or proximity of the proposed launch site in relation to the airport, and the types and frequency of operations the spaceport operator and/or airport operator proposes to host. It will be incumbent on airport operators and FAA to recognize and address any potential impacts to airport facilities or operations.

The Role of the FAA Office of Airports (ARP)

The role of the Office of Airports (ARP) is to ensure that airports remain safe and accessible for all users. ARP has responsibility for six program areas, and all of them may be affected by proposed spaceport facilities and/or operation. As is the case when any new operation is introduced to an airport environment, airports interested in pursuing spaceport proposals must coordinate in advance with the designated FAA planners, engineers, environmental specialists, compliance officers and Airport Certification Safety Inspectors to ensure timely and appropriate evaluation of all six program areas. ARP will coordinate its review through existing processes to address the following areas:

- ***Standards.*** ARP is responsible for establishing and maintaining standards for a broad range of airport facility planning, engineering design, construction, operations and maintenance of airport facilities. Although many launch vehicles have characteristics similar to traditional aircraft (including horizontal takeoff), their potential impact to airport design standards (e.g., pavement, signage, marking, lighting, etc.) is not yet fully understood. As the industry evolves and more data becomes available, ARP will continue to evaluate whether these vehicles can be accommodated within existing design categories.

- ***Safety and Operations.*** ARP is responsible for administering 14 CFR part 139 for airports meeting certain criteria, and this includes ensuring safe operations. The FAA will have to evaluate the compatibility of specific proposed spaceport operations

with Part 139 operations, and there are specific issues that an airport operator would have to address in their Airport Certification Manual (ACM) and Airport Emergency Plan (AEP). Airport operators must coordinate with the designated Airport Certification Safety Inspector in the appropriate Regional Office.

- ***Planning.*** All Federally-obligated airports are required to maintain a current Airport Layout Plan (ALP) that is subject to approval by ARP. The approval is predicated on compliance with FAA design standards and the enduring safety, efficiency and utility of the airport. Airports must work with the appropriate Airports District Office (ADO) or Regional Office (RO) to review any proposed changes in facilities or operations.

- ***Environmental Review.*** All Federally obligated airports must comply with Federal, state and local environmental laws, regulations and ordinances. In addition, proposals to change the ALP are federal actions subject to environmental review in accordance with the National Environmental Policy Act (NEPA). AST will be the lead office, within FAA, for conducting the NEPA review for (1) licensing commercial space launch site operations, and (2) associated changes to the ALP arising from a proposed commercial space launch site at a Federally obligated airport. AST will coordinate with ARP to ensure the proper scope and timing of the environmental reviews relating to connected actions and cumulative impacts. Because spaceport operations at airports may have different types of noise sources (e.g. aircraft, RLVs, ELVs), the Office of Environment and Energy must be consulted on the acceptability of the proposed noise model and methodology.

- ***Funding Questions.*** A few questions have been received as to whether Airport Improvement Program (AIP) funds may be available to assist in developing spaceport facilities. The rules governing project eligibility and justification (which typically are defined in terms of minimum activity levels, particularly in terms of frequency of operations of a critical design aircraft) are set forth in FAA Order 5100.38 ("Airport Improvement Program Handbook").

- ***Compliance Issues.*** All Federally-obligated airports are reminded of their obligations to ensure the safety, efficiency, utility and access to airports. Airports are strongly advised to consult with the designated Compliance Officer in the appropriate Regional Office as they consider offering their sites to commercial space operators.

  At this time, commercial space represents a rapidly evolving industry and the FAA has not yet made a determination as to what specific types or aspects of spaceport operations might eventually be considered "aeronautical activity." For the moment, therefore, the most important consideration is to identify the extent to which proposed spaceport operations could affect aeronautical uses and users, either at the specific airport in question, at nearby airports and/or in the airspace.

AST has separate statutory authorities, obligations and supporting regulations. In cases

where either a part 139 or Federally-obligated airport wants to pursue a launch site operator license, ARP and AST will work together to evaluate proposed spaceport operation for consistency with an airport's obligations under the grant assurances and/or part 139. AST will also work with the Office of Aviation Safety (AVS) and the Air Traffic Organization (ATO) to evaluate related issues affecting their respective areas of statutory and regulatory responsibility.

Attachment A outlines information that ARP anticipates requiring in order to conduct an assessment of the airport's compliance with existing statutory, regulatory, and policy requirements. Length of time for ARP review will depend on the scope of the proposed ALP changes and potential environmental impacts.

ATTACHMENT A.

The following is a preliminary outline of the types of information that ARP will typically need to initially assess the consistency of a proposed spaceport operation with an airport's existing statutory, regulatory, and policy requirements. Provision of this information is not a prerequisite to initiation of the spaceport licensing process with AST.

Much of the following information will be required as part of the spaceport licensing process. This list is provided here simply to alert airports of the types of information that ARP will ultimately review as well. Recognizing that not all information may be available during the initial exploratory phases, FAA encourages airports to collect and provide as much information as possible.

1. Draft Airport Layout Plan (ALP) update that depicts the proposed launch site layout and any proposed changes to the site (including either potential construction or changes in land use). For timing and coordination reasons, it will benefit the airport to submit the proposed updated ALP and/or supporting document(s), including the following information as soon as becomes available:
   a. If known, the type of vehicle and frequency of anticipated operations.
   b. As with any proposed change in operations, some analysis and discussion of how the airport will meet its projected 20-year aeronautical demand, including an explanation of how proposed spaceport operations might affect existing and forecast airport operations
   c. If known, vehicle specifications such as size, speed, fuel, weight, etc.
   d. If known, Runway Occupancy Time for pre-flight, launch, post flight, rehearsals, tests, etc.

   Note that for initial environmental assessment and planning purposes, the proposed Launch Site Boundary (LSB)[1] will have to be shown on the draft ALP update. AST will be the lead office, within FAA, for conducting the NEPA review for licensing of commercial space launch site operations. Further, AST will coordinate with ARP to ensure the proper scope and timing of the environmental review as it relates to connected actions and cumulative impacts.

   Spaceport operations at airports may have different types of noise sources (e.g. aircraft, RLVs, ELVs) that cannot be modeled through the Integrated Noise Model. Therefore, the Office of Environment and Energy must be consulted on the acceptability of the proposed noise model and methodology If the environmental review consists of an environmental assessment (EA) and the EA supports a finding of no significant impact (FONSI), then AST and ARP will jointly issue the FONSI. ARP will then approve[2] the ALP to depict the LSB. This approval is for the limited purposes of the determination required under 49 USC section 47107, and does not constitute approval of the LSB that the applicant is required to obtain as part of the

[1] The Launch Site Boundary will normally include all facilities that are necessary for the functional operation of the launch site.

[2] Normally, the ALP approval would be unconditional at this point. However, there may occasionally be a unique situation in which one or more elements of the ALP approval will still be conditional.

licensing process. AST will then separately make a determination on the license, including the LSB. If the environmental review requires an EIS, then the same process for ALP and the license determination applies.

Similarly, a copy of the proposed Explosive Site Plan (describing facilities for the transport, storage, and loading of explosive materials) will have to be submitted for review as part of the draft ALP update if it is to be located on airport. For a part 139 airport, the Explosive Site Plan must be reflected in proposed changes to the Airport Certification Manual (ACM) and Airport Emergency Plan (AEP), which are subject to review and approval by the Airport Certification Safety Inspector (ACSI). AST will approve the Explosive Site Plan as part of the licensing process.

2. To the extent known, a Concept of Operations (ConOps) or other description of the nature of anticipated spaceport activity.

3. Identification of potential impacts to surrounding airports (if any)

4. Explanation of how the proposed spaceport operation will be coordinated with near-airport launch facilities, reentry sites, or spaceports, including airports where spaceport activities are proposed to be integrated with other types of civil aeronautical activity. Such coordination must reasonably ensure the safety, efficiency, utility and access to the airport and surrounding airports for aeronautical activities. Proposed facilities located near or adjacent to airports must be reviewed through the normal airspace process under 14 CFR part 77.

5. The proposed consultation/coordination process, whether public hearings or individual discussions, with air carriers and other aviation user groups that rely upon the airport or other nearby airports, as well as airport tenants and other users to discuss the potential impact of the airport's launch site and operational plans, and, if appropriate, afford opportunities for public comment and review and/or public meetings or workshops.

6. When available, a copy of the draft lease and use agreements with the launch site operator.

7. Part 139 airports will need to consider what changes will be required in the ACM and AEP (and subject to FAA approval) to support commercial space operations.

FAA recognizes that not all information will necessarily be available during the earliest phases of exploration. The list is intended solely to give airport operators an understanding of the types of information that ARP will eventually require in order to consider approving changes to the ALP (and, for Part 139 airports, the ACM and AEP).

In Florida, space touches everyone.

This resource document was developed by:
The Florida Department of Transportation
Aviation and Spaceports Office
M.S. 46
605 Suwannee Street
Tallahassee, Florida 32399-0450
www.fdot.gov/aviation