



**Table of Contents**

**Chapter 1 – Introduction**

Purpose of Study	1-1
Key Issues	1-2
Process	1-2

**Chapter 2 – Inventory of Existing Conditions**

Airport Setting	2-1
Location	2-1
Administration	2-1
Role in National Air Transportation System	2-1
State System Plan	2-2
Meteorological Conditions	2-2
Climate	2-2
Wind Coverage	2-2
Historic Data	2-4
Previous Planning Documents	2-4
Historic Aircraft and Activity Counts	2-4
Based Aircraft	2-4
Aircraft Operations	2-5
Airfield Environment	2-5
Aircraft Movement Areas	2-5
Runway 09-27	2-6
Runway 18-36	2-6
Taxiway A	2-6
Taxiway B and Hangar Taxilanes	2-6
Instrument Approaches	2-7
Categories of Instrument Approaches	2-7
Published Approaches for Crystal River	2-7
Airfield Lighting	2-8
Identification Lighting	2-8

# Table of Contents

## Crystal River Airport Master Plan

---



Runway Lighting	2-8
Taxiway Lighting	2-9
Pavement Markings	2-9
Takeoff and Landing Aids	2-10
Wind Indicators	2-10
Runway End Identification Lights	2-10
Visual Glide Slope Indicators	2-11
Automated Weather Observing System	2-11
Airfield Signage	2-11
Airspace and Air Traffic Control	2-11
Crystal River Airport Airspace	2-12
Airspace Surrounding Crystal River Airport	2-12
Airport Facilities	2-13
Hangar Facilities	2-13
Aircraft Parking Aprons	2-13
Aviation Fuel Storage	2-14
Airfield Security Fencing	2-14
Aviation Services	2-15
Florida Army National Guard	2-16
Airport Infrastructure	2-16
Electric Power	2-16
Water	2-17
Wastewater	2-17
Conclusion	2-18
<b><u>Chapter 3 – Aviation Activity Forecasts</u></b>	
Overview	3-1
Historic Aircraft and Activity Counts	3-2
Previous Aviation Activity Forecasts	3-2
1999 Airport Layout Plan Update	3-3
Florida Aviation System Plan	3-3
FAA Terminal Area Forecasts	3-4
Forecasting Approach	3-5
Industry Trends and Impacts of September 11, 2001	3-6



## Table of Contents

### Crystal River Airport Master Plan

---

Forecast of Based Aircraft	3-7
Historic Growth	3-7
Regression Analysis	3-7
National Active Fleet Forecasts	3-8
Selected Based Aircraft Forecast	3-8
Projected Based Aircraft Fleet Mix	3-9
National Projection of the Active General Aviation Fleet	3-9
Crystal River Based Aircraft Fleet Mix	3-10
Forecast of Aircraft Activity	3-11
Historic Growth	3-12
Regression Analysis	3-12
National General Aviation Activity Forecasts	3-12
Operations per Based Aircraft	3-12
Selected Forecast of Aircraft Operations	3-13
Types of Aircraft Operations	3-14
Local versus Itinerant Split	3-14
Instrument Operations	3-15
Operational Fleet Mix	3-15
Peak Activity	3-16
Comparison to FAA Terminal Area Forecasts	3-17
Summary of Activity Forecasts	3-18

### **Chapter 4 – Demand/Capacity Analysis**

Introduction	4-1
Airfield Characteristics	4-1
Runway Configuration	4-1
Aircraft Mix Index	4-2
Taxiway Configuration	4-3
Airfield Operational Characteristics	4-3
Percent of Aircraft Arrivals	4-3
Percent of Touch and Go Operations	4-4
Meteorological Conditions	4-4
Airfield Capacity Analysis	4-5

**Table of Contents**  
**Crystal River Airport Master Plan**

---



Hourly Capacity of the Runways	4-5
Annual Service Volume	4-6
Conclusion	4-7
<b><u>Chapter 5 – Facility Requirements</u></b>	
Introduction	5-1
Planning and Design Criteria	5-1
Airport Reference Code and Critical Aircraft	5-1
Runway Requirements	5-3
Runway 09-27	5-4
Runway 09-27 Length Analysis	5-4
FAA Airport Design Program	5-5
Runway Length Requirements Advisory Circular	5-6
Individual Aircraft Performance Characteristics	5-7
Runway 09-27 Width Requirements	5-10
Runway 09-27 Pavement Strength	5-10
Runway 09-27 Safety Criteria	5-10
Runway 18-36	5-11
Runway 18-36 Length Analysis	5-12
Runway 18-36 Width Requirements	5-12
Runway 18-36 Surface Condition	5-12
Runway 18-36 Safety Criteria	5-13
Taxiway System Requirements	5-13
Taxiway A	5-14
Taxiway B	5-14
Hangar Taxilanes	5-15
New Taxiways and Taxilanes	5-15
Run-Up Areas	5-16
Instrument Approaches	5-16
Impacts of Precision Instrument Approach	5-16
Establishment of Straight-In Non-Precision Instrument Approach	5-17
Minimum Airfield Geometry	5-17
Runway and Obstruction Survey Data	5-17
Airfield Environment	5-18



## Table of Contents

### Crystal River Airport Master Plan

---

Identification Lighting	5-18
Runway Lighting	5-18
Taxiway Lighting	5-18
Pavement Markings	5-19
Runway 09-27	5-19
Runway 18-36	5-20
Taxiways and Taxilanes	5-20
Takeoff and Landing Aids	5-20
Automated Weather Observing System	5-21
Airfield Signage	5-21
Ground Communications	5-21
Airport Facilities	5-22
Aircraft Hangar Requirements	5-22
Aircraft Parking Apron Requirements	5-23
FAA Methodology for Based Aircraft Parking Area	5-24
FAA Methodology for Itinerant Aircraft Parking Area	5-24
Aviation Fuel Storage Requirements	5-26
Airfield Security Fencing Requirements	5-26
General Aviation Terminal Space Requirements	5-26
Electrical Vault	5-27
Aircraft Rescue and Fire Fighting	5-28
Airport Access, Automobile Parking, and Utility Infrastructure	5-28
Airport Access	5-28
Automobile Parking	5-28
Utility Infrastructure	5-29
Land Acquisition	5-30
Summary of Facility Requirements	5-30
<b><u>Chapter 6 – Airport Alternatives Analysis</u></b>	
Introduction	6-1
General	6-1
Development Concepts	6-1
Alternatives to Extend Runway 09-27	6-2
Extend Runway 09-27 to the West	6-2
Extend Runway 09-27 to the East	6-3

**Table of Contents**  
**Crystal River Airport Master Plan**

---



Alternative A – Extend Runway 09-27 to 4,700 Feet	6-3
Alternative B – Extend Runway 09-27 to 5,000 Feet	6-3
Alternative C – Extend Runway 09-27 to 5,405 Feet	6-6
No Action Alternative	6-6
Recommended Runway 09-27 Extension Alternative	6-8
Options for North Golf Course Lane	6-10
Alternative A – Extend North Lindbergh Drive	6-10
Alternative B – Extend West Wings Lane	6-11
Alternative C – Realign with North Francis Terrace	6-11
Alternative D – Bisect North Golf Course Lane at Airport Property	6-11
Recommended Alternative for North Golf Course Lane	6-12
Aircraft Hangar and Parking Area Considerations	6-13
Critical Airfield Design Standards	6-13
Typical T-Hangar Layouts	6-14
Other Considerations	6-17
Sites for Dedicated Rotorcraft Operations	6-18
North Side off North Lindbergh Drive Extension	6-19
South Side off West Venable Street	6-19
Opportunities to Improve Airfield Property	6-19
Short to Intermediate Term Acquisition	6-21
Long Term Acquisition	6-21
Other Land Considerations	6-22
Summary of Airport Alternatives	6-22
<b><u>Chapter 7 – Airport Layout Plan Drawings</u></b>	
Introduction	7-1
Airport Layout Plan	7-1
Terminal Area Plan	7-2
Inner Portion of the Approach Surface Plans	7-3
Future FAR Part 77 Airspace Surfaces	7-4
Primary Surface	7-4
Horizontal Surface	7-4
Conical Surface	7-4
Approach Surfaces	7-4

**Table of Contents**  
**Crystal River Airport Master Plan**

---



Transitional Surface	7-5
Airport Property Map	7-5
Summary	7-5
<b><u>Chapter 8 – Capital Improvement Program</u></b>	
Introduction	8-1
Airport Development Funding	8-1
Capital Improvement Program	8-2
Short Term Capital Improvement Program	8-4
Intermediate Term Capital Improvement Program	8-8
Long Term Capital Improvement Program	8-9
Program Summary	8-13
<b><u>List of Appendices</u></b>	
Common Aviation Acronyms	Appendix A
Socioeconomic Data	Appendix B
Evaluation of On-Airport Wetland Areas	Appendix C