

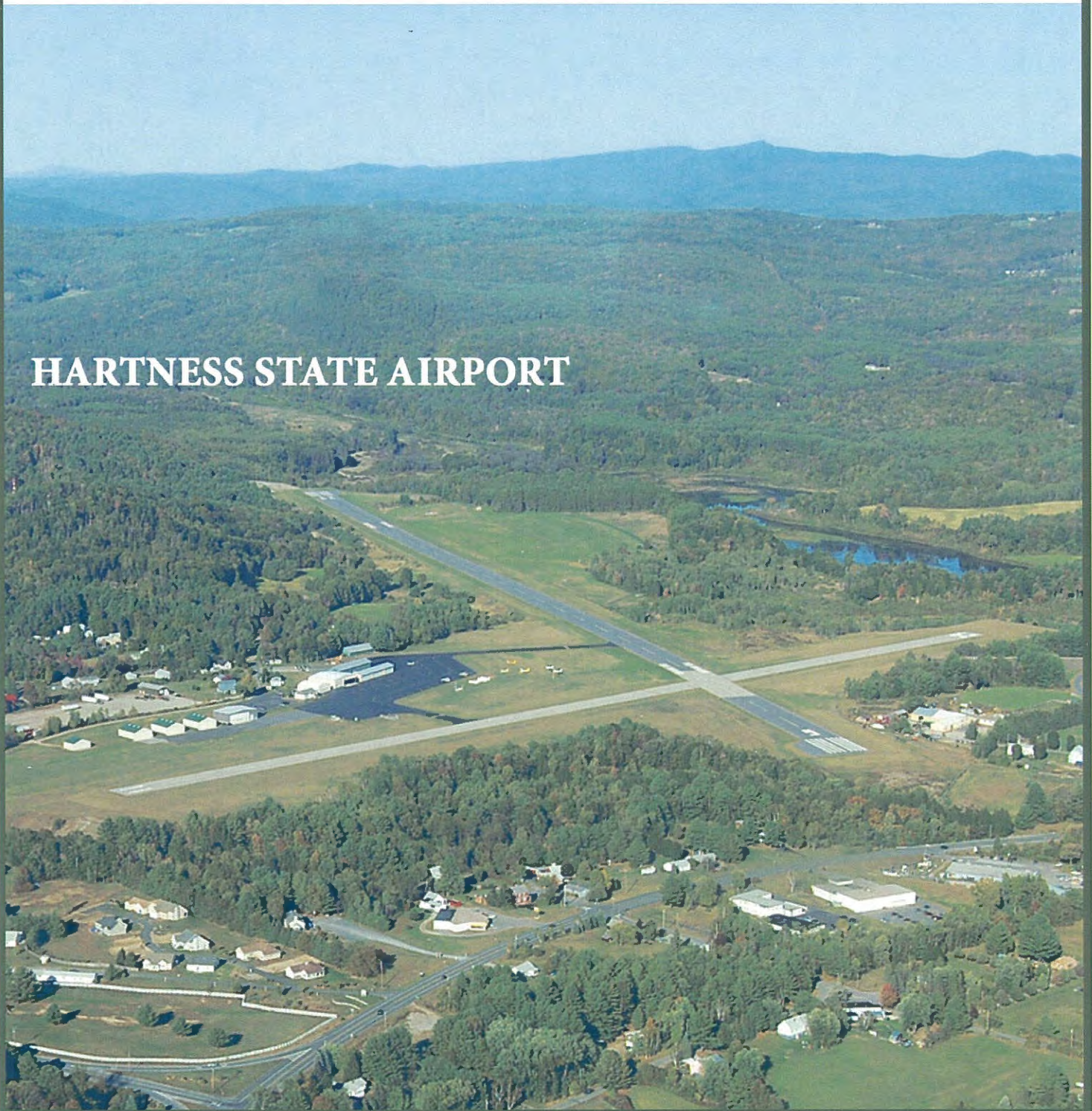
March 2008

VTrans

Vermont Agency of Transportation

STATEWIDE AIRPORT BUSINESS PLANS

HARTNESS STATE AIRPORT



Prepared by:

McFarland Johnson

40 Farrell Street | South Burlington, VT 05403-6112 | www.mjinc.com

TABLE OF CONTENTS

SECTION 1: INTRODUCTION	
1.1 VTrans Mission and Goals.....	1
1.2 Airport Classification.....	2
1.3 Desired End Products.....	2
1.4 Report Outline.....	4
SECTION 2: BACKGROUND AND MANAGEMENT STRUCTURE	
2.1 Airport Mission and Goals.....	5
2.2 Airport Management Structure	6
SECTION 3: EXISTING AIRPORT CHARACTERISTICS	
3.1 Introduction.....	8
3.2 Existing Aviation Activity	13
3.3 Existing Facilities.....	14
3.4 Existing Tenants & Users	16
3.5 Airport Development Plan	19
3.6 Market Analysis	25
SECTION 4: FINANCIAL AND ECONOMIC OUTLOOK	
4.1 Baseline Forecast of Revenues	32
4.2 Baseline Forecast of Expenses.....	33
4.3 Baseline Forecast of Net Operating Expenses	33
SECTION 5: BUSINESS CLIMATE AND PLAN DEVELOPMENT	
5.1 Area-wide Factors Supporting Growth and Development of the Airport.....	35
5.2 Obstacles to Airport Performance.....	39
5.3 Revenue Enhancement.....	40
SECTION 6: RECOMMENDED PLAN	
6.1 Recommended Management/Policy Actions.....	43
6.2 Revenue Enhancement Recommendations	44
6.3 Other Long Range Options	50
6.4 Cost-Efficiency Recommendations	51
6.5 Impact of Revenues/Expenses	51
6.6 Summary of Recommended Plan.....	54
SECTION 7: ECONOMIC IMPACT ASSESSMENT	
7.1 Goals and Methods of Analysis	58
7.2 Results of Analysis	59
7.3 Non-monetary Impacts.....	59
APPENDIX A: LEASE SUMMARIES.....	61
APPENDIX B: IMPLAN RESULTS	66

TABLE OF CONTENTS (Cont.)

LIST OF FIGURES

Figure 1 – Vermont Agency of Transportation Organization.....	6
Figure 2 – Hartness State Airport Organization	7
Figure 3 – Location Map.....	9
Figure 4 – Existing Airport Layout.....	10
Figure 5 – Terminal	14
Figure 6 – Private Hangars	15
Figure 7 – Development Plan	24
Figure 8 – Airport Service Area.....	28

LIST OF TABLES

Table 1 – Recommended Standards for Hartness as a Regional Service Airport.....	3
Table 2 – Runway Characteristics	8
Table 3 – Airport Reference Code	11
Table 4 – Runway Protection Zones.....	13
Table 5 – Tenant Lease Terms.....	18
Table 6 – Business Users at the Hartness State Airport.....	19
Table 7 – Uses in the Town of Springfield General Business District	21
Table 8 – Airport Service Area & Other Comparative Airports.....	26
Table 9 – Facility Comparisons	29
Table 10 – Service Comparison.....	30
Table 11 – Rates and Charges Comparison	31
Table 12 – Historical Operating Revenues	32
Table 13 – Baseline Forecast of Airport Operating Revenues	32
Table 14 – Baseline Forecast of Airport Operating Expenses.....	33
Table 15 – Baseline Forecast of Airport Net Operating Income / (Deficit)	34
Table 16 – Distance from Hartness State Airport to Regional Business Centers.....	35
Table 17 – Major Employers in Windsor County.....	36
Table 18 – Potential Demand Changes by Year 2012	52
Table 19 – Potential Increases Resulting from Revenue Enhancement Strategies.....	53
Table 20 – Recommended Plan Operating Revenue & Expense Comparison	54
Table 21 – Action Plan Trigger Points	56
Table 22 – Direct and Induced Economic Impacts.....	60

1. INTRODUCTION

The purpose of this business plan for Hartness State Airport (VSF) is to recommend potential means of improving the Airport's financial performance, identify means to enhance regional economic development due to the Airport's presence, and to examine methodologies for increasing operational efficiency.

1.1 VTrans Mission and Goals

In order to consider VSF in light of its environment, one must first consider the goals and mission of its operator, The Vermont Agency of Transportation (VTrans). The VTrans mission statement is as follows:

"Vermont's airport system will be accessible, safe and secure, meeting the needs of its business and recreational users, including implementing new technologies to support the future system. The airport system will be preserved and enhanced, while meeting Federal and State guidance and promoting responsible environmental stewardship and land use compatibility. Vermont's airports will be operated as business-oriented facilities focusing on creating opportunities for a return on the investment and will provide intermodal linkages to national transportation systems¹."

VTrans' goals are as follows²:

- Provide a system of airports that is accessible for people and goods from both the ground and the air throughout the State.
- Provide intermodal ground access opportunities and/or services such as rental car, taxi, bus, or bike.
- Preserve and enhance Vermont's existing airport systems infrastructure investment through maintenance and rehabilitation to meet future growth and demand as well as providing new infrastructure to meet future needs in support of the national air transportation system when needed.
- Plan for future airport development and protect public investment in airports through promotion of compatible land use in the vicinity of airports.
- Provide a safe and secure system of airports that meets State and Federal guidelines, including routine inspections of airports such as the 5010 Program.
- Seek adequate and stable funding, including FAA assistance, and assure appropriate staffing to support the Agency's mission.
- Make timely, sound infrastructure investments derived from airport master plans and based on priorities that are determined through coordination with Vermont's aviation stakeholders, including use of the Vermont Airport Capital Facilities Program.
- Maintain commercial air service at Rutland – Southern Vermont Regional Airport and support its development elsewhere in the State, as well as encourage additional commercial and cargo services where appropriate.

¹ Source: Executive Summary: Vermont Airport System and Policy Plan, September 2006

² IBID

- Maintain an up-to-date integrated database of air and landside facilities including capital plans and improvements, leaseholds, contacts, and relevant zoning as well as the system's performance measures.
- Strive to generate appropriate revenues from the operation of the State-owned airports in support of their continued operation and expansion utilizing a business-oriented approach.

1.2 Airport Classification

Hartness is classified within the State of Vermont as a Regional Service Airport. Such airports serve primarily general aviation activity, with a focus on serving business activity including small jet and multi-engine aircraft. Such airports serve a significant role in supporting the local and regional economies and connecting them to the State and national economies³. The Vermont Airport System and Policy Plan provides standards that a Regional Service Airport should meet. Those standards, and their status at Hartness, are noted in Table 1.

The Airport is also included in the *National Plan for Integrated Airport Systems* (NPIAS). The NPIAS is a national airport system plan for the development of public use airports in the United States prepared by the FAA. This plan identifies needed improvements in the national airport system for airports that are eligible for federal funding provided through the Airport Improvement Program (AIP). Expenditure of AIP funds is scheduled through the five-year Airport Capital Improvement Program (ACIP). The Airport's role in the NPIAS is that of a general aviation airport. General aviation activity at the airport is comprised of primarily single-engine and multi-engine propeller aircraft used for both business and recreational use. The airport also sees business jet activity on a relatively frequent basis.

1.3 Desired End Products

The final report that will result from this analysis includes the following:

- A well-defined mission statement for the airport.
- An evaluation of current airport business operating practices.
- The identification and evaluation of needs, opportunities, and challenges facing the Airport.
- A five-year projection of revenues and expenses at the Airport for the baseline case and alternative scenarios.
- Strategic planning recommendations for the Airport.
- Graphic materials for Airport promotion. These may include color ALPs, photos, and/or brochures depending upon the Airports' needs.
- An economic impact evaluation of the Airport, identifying jobs, income, and total output associated with the facility.

³ Vermont Airport System and Policy Plan, February 2007, Chapter 3, page 3.12.

Table 1: Recommended Standards for Hartness as a Regional Service Airport		
Objective	Recommended Minimum	Minimum Standard Not Met
Airport Reference Code	B-II	
Runway Length	5,000'	
Runway Width	75'	
Runway Strength	30,000 lbs	
Taxiway Requirements	Full Parallel Taxiway	X
Approach	Non-Precision 400'/1 mile	X
NAVAIDs	Rotating Beacon, Lighted Wind Indicator / Segmented Circle, REILs, VGSI, Appropriate Non-Precision Approach	X
Lighting	Medium Intensity Runway and Taxiway Lights	
Weather Reporting	AWOS or ASOS	
Ground Communications	Public Phone, Ground Communication Outlets or Remote Communication Outlets	
Hangar Space	38,850 sq. ft.	X
Apron Space	4,300 sq. ft.	
Terminal/Administration Building Space	2,500 sq. ft.	X
Fence Coverage	Entire Airport	X
Automobile Parking	56 spaces	
Fuel Service	Self-Serve AvGas and Jet A	X
FBO Requirements	Full Service	
Aircraft Maintenance	Full Service	
Ground Transportation	Rental Car Available	X

Source: Vermont Airport System & Policy Plan, Appendix D

This business plan will discuss the role of Hartness State Airport and will also address:

- **Airport Financial Performance:** Means to enhance revenue and improve efficiency in order to increase net revenues.
- **Attraction of Corporate Aviation:** Means and methods and needed infrastructure to attract and retain based corporate aviation.
- **Right-Sized Facility Recommendations:** Recommended facility developments that are warranted by current and projected aviation demands.
- **Community Relations:** The value of an Airport in serving its home base must continue to be communicated to the general public and their political representatives. Communication of these benefits helps to justify allocation of resources and support Airport activity and investment.
- **Economic Benefits:** Airport economic benefits are usually stated in terms of jobs, income, and output. In addition intangible benefits that accrue to the airport community may be considered equally important.

1.4 Report Outline

This report has been organized to include the following sections in order to address the issues described above and to produce the desired end products:

Section 1 - Introduction

Section 2 - Background and Management Structure

Section 3 - Existing Airport Characteristics

Section 4 - Financial and Economic Outlook

Section 5 - Business Climate and Plan Development

Section 6 - Recommended Plan

Section 7 - Economic Impact Analysis

Appendix A - Lease Summaries

Appendix B – IMPLAN Results

2. BACKGROUND AND MANAGEMENT STRUCTURE

Knowledge of the background and management structure of the Airport helps to identify some of the opportunities and challenges that are currently facing the Airport and which might face the Airport in the future. Management and operational structure affect the ability of the Airport to reach its potential. A clearly defined, current, and realistic mission statement for the Airport provides the oversight framework to benefit from opportunities as they arise. This analysis is geared toward the future and toward positioning the Airport to take the best advantage of its assets and strengths. As such, this section includes:

- Airport Mission and Goals
- Airport Management Structure

2.1 Airport Mission and Goals

As previously mentioned, the Airport's assigned NPIAS role is that of a general aviation airport. The Airport provides a base for recreational and business air transportation services for the local community, the region and for companies in and around Windsor County. Thus, the Mission Statement for the Hartness State Airport may be stated as:

“The mission of the Hartness State Airport is to provide safe, efficient, and fiscally sound airport facilities and services to the pilots and residents of Windsor County and Southeastern Vermont while also serving as an engine for regional economic development.”

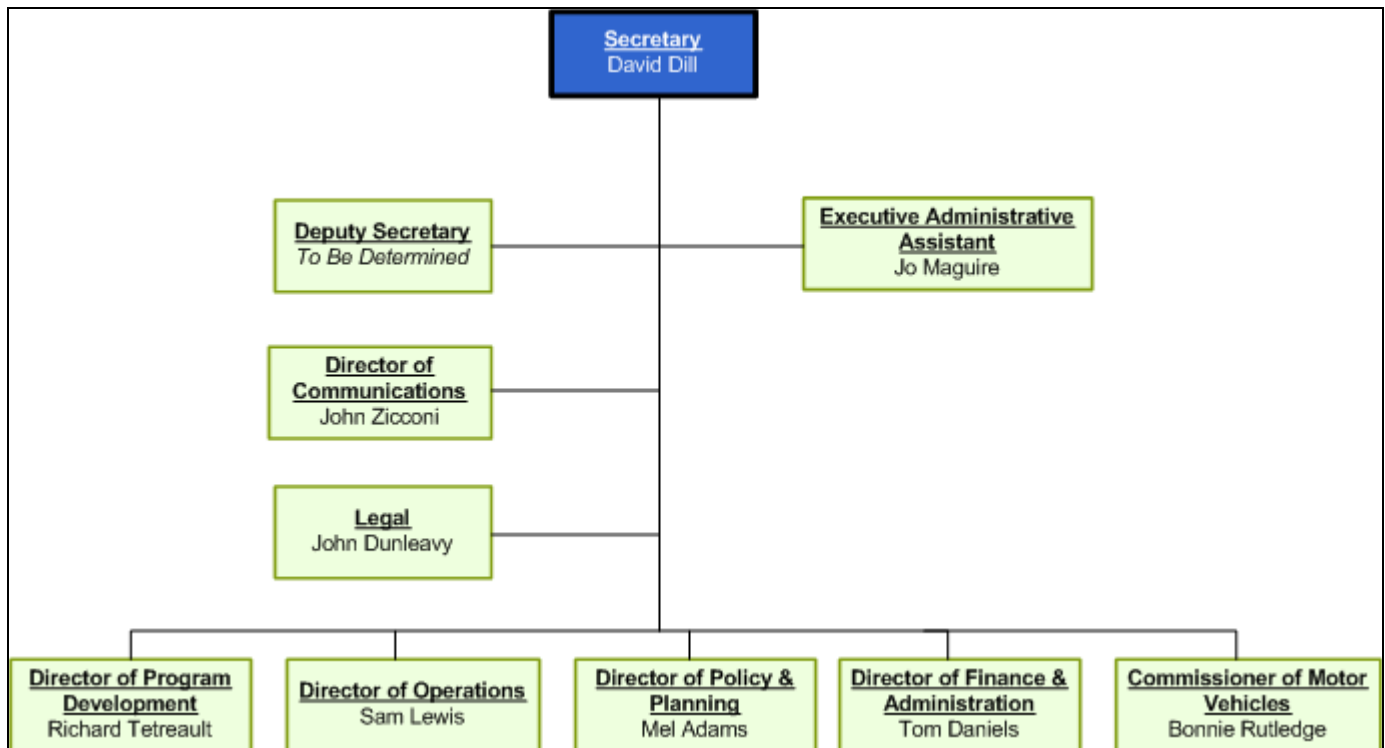
Program goals supporting this mission would include:

- Continue to operate the Airport safely and efficiently.
- Strive to manage expenditures and increase revenues at the Airport.
- Encourage private sector investment in the utilization and development of the Airport's facilities.
- Create an environment which facilitates business activity and access to the region's businesses.
- Pursue funding for implementation of necessary capital improvement projects to improve safety and usability of the Airport.
- Supplement economic development goals of VTrans as opportunities arise at the Airport.
- Encourage compatible public use of Airport facilities or property, where possible and appropriate.
- Craft a plan of physical development that corresponds to actual market need and implements the most efficient use of limited airport property.

2.2 Airport Management Structure

Hartness State Airport is owned by the State of Vermont and managed and operated by the Operations Division of the Vermont Agency of Transportation. The organizational chart for VTrans is shown in Figure 1. The Operations Division is one of five divisions of VTrans. The others are Program Development; Policy and Planning; Finance and Administration; and Motor Vehicles. Within the Operations Division are the Traffic Shop, nine highway maintenance districts, Aeronautics, Rail, and Public Transit. The Operations Division's pavement management, right-of-way, engineering, and environmental needs are met by the Program Development Division. The Operations Division's strategic planning and State/Federal relations needs are met by the Policy & Planning Division. Operation's budget and financial needs are met by the Finance & Administration Division. The Operations Division's enforcement needs are met by the Motor Vehicles Division.

Figure 1: Vermont Agency of Transportation Organization



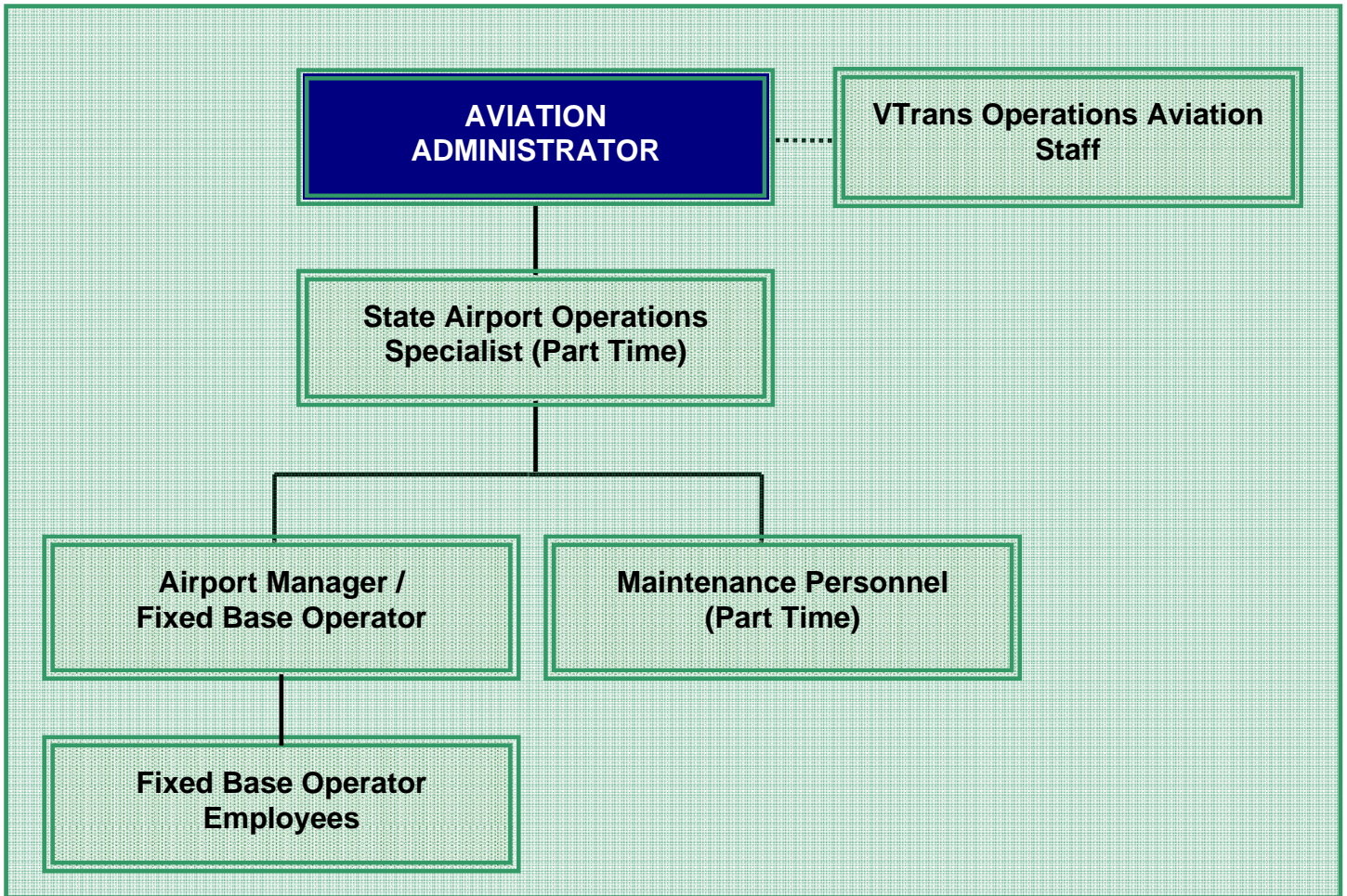
Source: Vermont Agency of Transportation (<http://www.aot.state.vt.us/VTransDivisions.htm>)

The Aeronautics program operates and manages the airport, administers airport consultant contracts and construction projects, and prepares capital improvement plans and annual state and Federal budget requests.

The VTrans Aviation Administrator manages all aspects of the aviation program. The State Airport Operations Specialist serves as Deputy Airport Manager for Hartness and also provides management assistance for Middlebury, Rutland, and Morse (Bennington) airports.

Approximately 10-15% of his time is available for Hartness. Also reporting to the VTrans Aviation Administrator are Airport Project Managers, an Airport Leasing Specialist, and a Planning Coordinator.

Figure 2: Hartness State Airport Organization



Source: McFarland Johnson, March 2008

3. EXISTING AIRPORT CHARACTERISTICS

3.1 Introduction

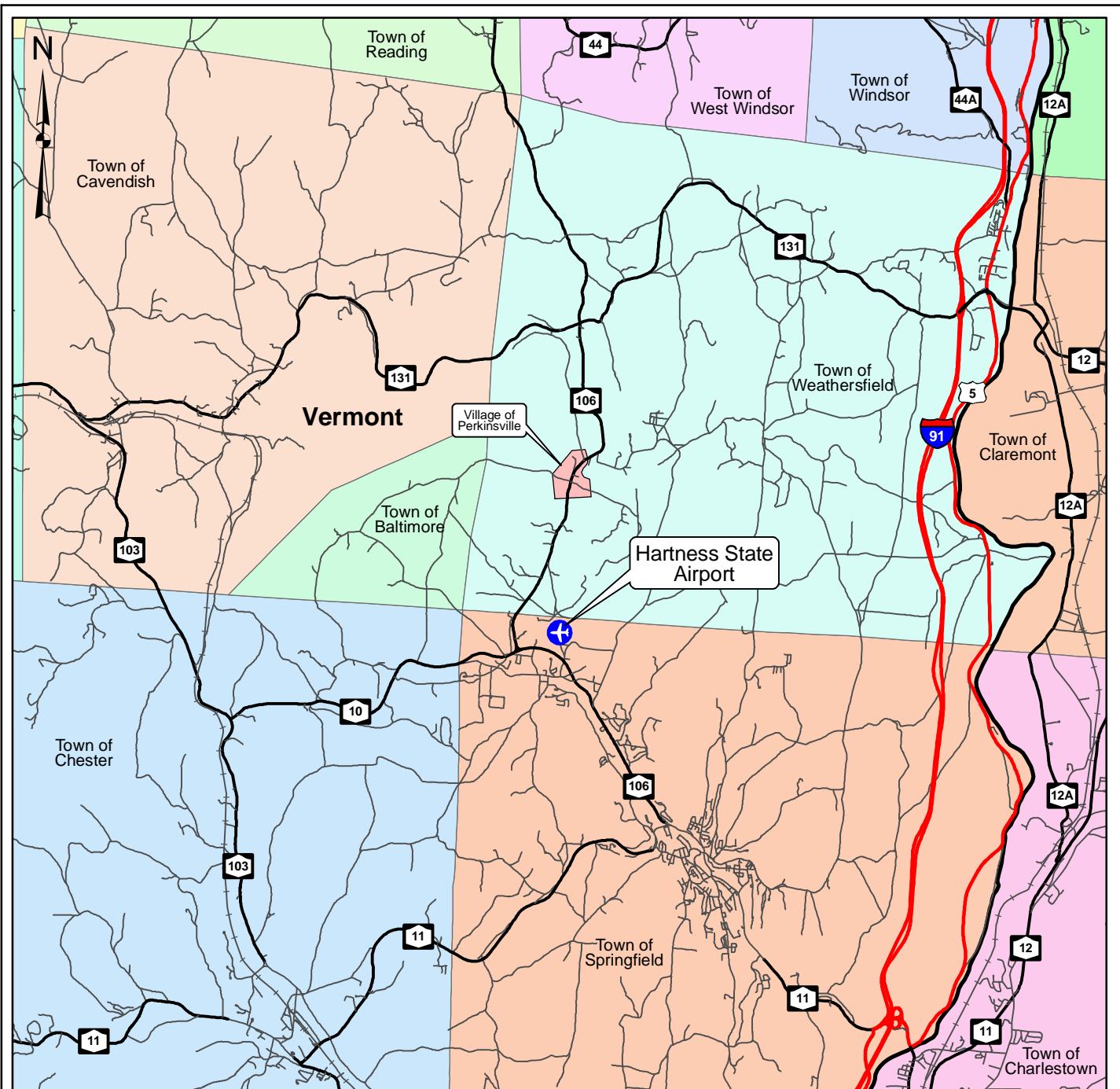
Hartness State Airport is located in southeastern Vermont in eastern Windsor County. The airport is mainly in the Town of Springfield, with a small portion of the facility located in the Town of Weathersfield. Springfield is one of the ten largest towns in the State. Downtown Springfield is located approximately three miles southeast of the airport. Access to the Springfield area from the north and south is provided via State Route 106 and Interstate 91 along the eastern side of the state. Eastern and western access is provided via State Routes 10 and 11. Access to the airport is gained via State Route 106 westbound from Springfield to Airport Road. The Airport location is shown in Figure 3.

Runways

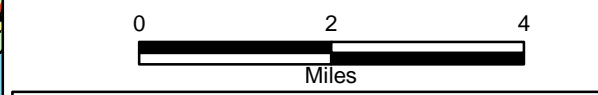
The airport has two runways. Runway 5-23 extends in a southwest-northeast direction while Runway 11-29 extends in a west-east direction. Table 2 summarizes the characteristics of the airfield. In addition to the Localizer (LOC)/Distance Measuring Equipment (DME) approach, Runway 5 also has an Area Navigation (RNAV/GPS) approach. There are also two circling approaches: a Localizer-A (LOC-A) and a Non-Directional Beacon-B (NDB-B). The layout of the airport is shown in Figure 4.

Table 2: Runway Characteristics				
Runways				
	5	23	11	29
Airport Reference Code	B-II		B-I	
Length	5,498'		3,000'	
Width	100'		75'	
Pavement Condition	Good		Good	
Approach Aids				
ILS	LOC/DME	No	No	No
VASI	Yes	No	No	No
REILs	Yes	No	No	No
MALSR	No	No	No	No
PAPI	No	No	No	No
Marking	Non-Precision		Visual	
Lighting	Medium Intensity Edge Lighting		Medium Intensity Edge Lighting	
Touchdown Point	Yes, no lights		Yes, no lights	
Gross Weight Limitations	SW: 32,000 lb DW: 45,000 lb		SW: 30,000 lb	
AWOS/ASOS	ASOS			

Source: AirNav, January 2008 (<http://www.airnav.com/airport/KVSF>)
2003 Airport Layout Plan Update, Page 2-10 & 3-5
Vermont Agency of Transportation



REGIONAL LOCATION



HARTNESS STATE AIRPORT
WINDSOR COUNTY, VERMONT

LOCATION MAP

SCALE :	DATE :	FIGURE :
AS SHOWN	MARCH 2008	3

K:\VTRANS\1-1689802 Biz Plans Phase 1\3 Draw\Hartness\GIS\Location.mxd

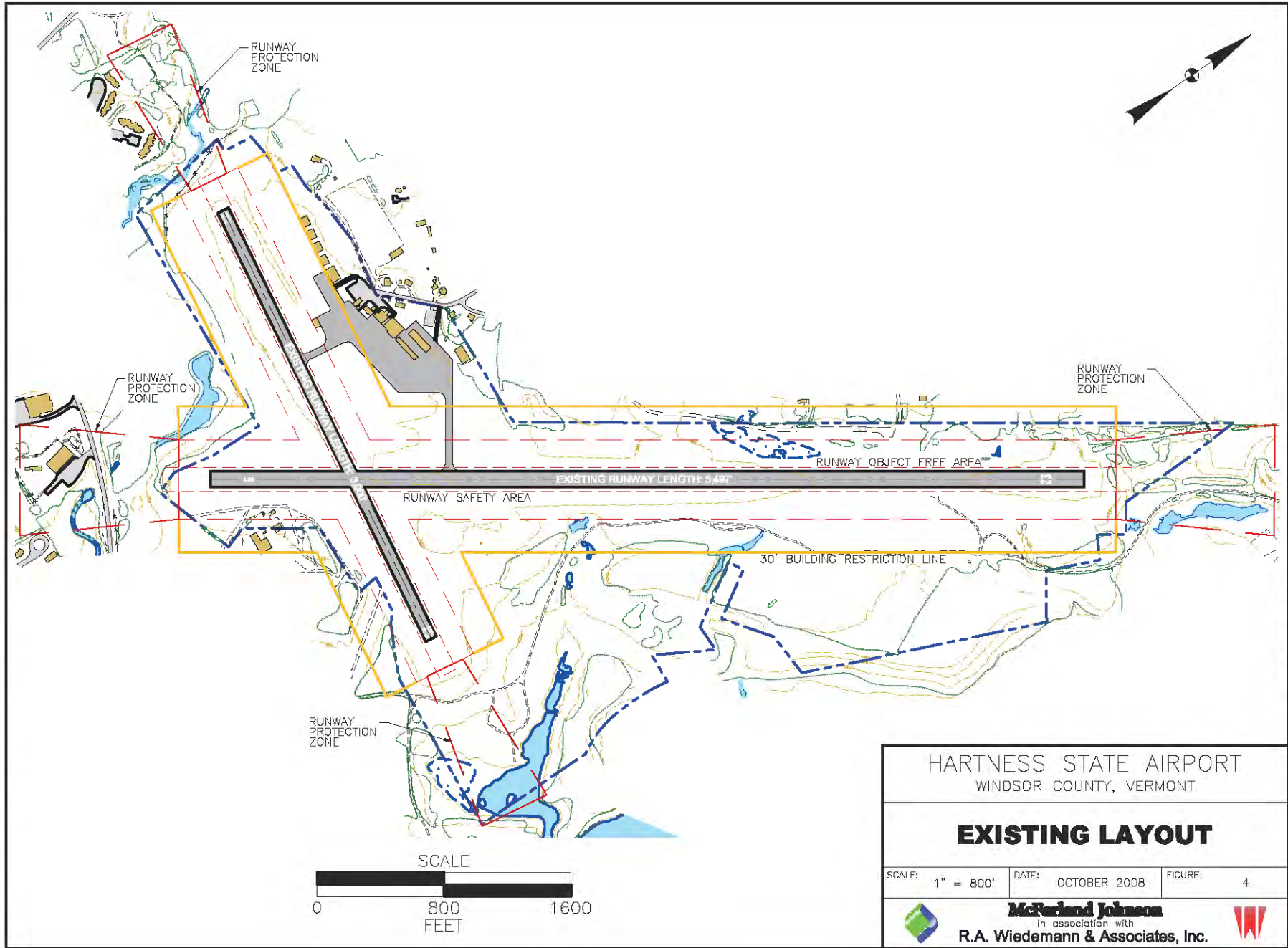


FIGURE 4: EXISTING LAYOUT

Taxiways

Hartness State Airport currently has two stub taxiways; “Alpha” and “Bravo.” Each taxiway is asphalt with medium-intensity taxiway lights and is 40 feet in width. Taxiway “Alpha” is 200 feet in length, while Taxiway “Bravo” is 500 feet in length. At present, there are no parallel taxiways to either runway at VSF. Aircraft taking off from the field are forced to taxi down the active runway and turn-around at the end. Similarly, arriving aircraft must taxi back to either Alpha or Bravo to leave the active runway.

Airport Reference Code

The Airport Reference Code (ARC) is based on two factors: The letters are based on a number 1.3 times the design aircraft’s stall speed (which is commonly denoted as the “Approach Speed”) and the roman numerals are based on the wingspan of the design aircraft. Table 3 below indicates the groupings to determine the aircraft reference code.

Aircraft Approach Category	Approach Speed
A	Less than 91 knots
B	91 knots or more but less than 121 knots
C	121 knots or more but less than 141 knots
D	141 knots or more but less than 166 knots
E	166 knots or more
Airplane Design Group	Wingspan
I	Up to but not including 49 feet
II	49 feet up to but not including 79 feet
III	79 feet up to but not including 118 feet
IV	118 feet up to but not including 171 feet
V	171 feet up to but not including 214 feet
VI	214 feet up to but not including 262 feet

Source: McFarland Johnson, March 2008

Hartness State Airport currently has an Airport Reference Code (ARC) of B-II. Each runway is designated with its own specific classification, with Runway 5-23 designated as a B-II, and Runway 11-29 as a B-I. The largest aircraft to operate at the airport include the Raytheon Hawker 800XP (wingspan of 51 feet), the Cessna Caravan (wingspan of 52 feet), the Beech King Air 200 (wingspan of 55 feet), and according to the airport manager, the Gulfstream V (wingspan of 93 feet). Aircraft with over 500 annual operations at the airport include the Cessna 172 Skyhawk (wingspan of 36 feet), and the Piper PA-28 (wingspan of 35 feet), both categorized as A-I aircraft⁴. The B-II ARC is a result of airport use by a variety of B-II aircraft on a semi-regular basis. The 2003 Airport Layout Plan Update indicates that the larger aircraft that currently utilize the field, including those mentioned previously as well as the Lear 35 and the

⁴ 2003 Airport Layout Plan Update. Pp. 3-4 – 3-5.

Cessna Citation II, require the long runway length associated with a runway designed for B-II aircraft. Several of the aircraft that utilize Hartness, fully loaded and operating on a warm summer day, would not be able to utilize the airport at its current runway length for takeoff. Furthermore, the Raytheon Hawker 800XP would not be able to takeoff or land. With the second longest runway in the State, the airport can accommodate many of these aircraft on a warm summer day at its current runway length, which is appropriate for B-II aircraft. Corporations like Scott's Miracle-Gro, NetJets, Flight Options, Citation Shares, and JELD-WEN presently operate business jets at the airport, with a growth expected in the future.

Obstructions

FAR Part 77 Imaginary Surfaces

The specification for airspace surrounding airports has been set forth in Federal Aviation Regulation (FAR) Part 77, Objects Affecting Navigable Airspace. This airspace is defined and delineated by a set of geometric surfaces referred to as "imaginary surfaces", which extend outward and upward from airport runways. Those imaginary surfaces identify the maximum acceptable height of objects beneath and within their boundaries. An object may be considered an obstruction to air navigation if it penetrates an imaginary surface.

The imaginary surfaces created under FAR Part 77 consist of five geometric surfaces that surround an airports runway. These surfaces are the primary, approach, transitional, horizontal, and the conical. If a surface is penetrated, the approach or departure minimums at that airport could be impacted.

There are many penetrations to the imaginary surfaces at Hartness State Airport. The 2003 Airport Layout Plan Update indicates that no approach to the airport is entirely clear. With the exception of four obstructions, the trees in the surfaces are off airport property. The Airport Layout Plan Update recommended immediate removal of the trees in the surface area on airport property. In terms of the other Part 77 surfaces, the transitional surface is penetrated by ground elevation to the west of Runway 5-23, and the conical and horizontal surfaces are penetrated to the north, south, east, and west by ground elevation obstructions. At present, there are 12 obstruction beacons installed in the vicinity of the airport.

Runway Protection Zones (RPZ)

The Runway Protection Zone (RPZ) is a controlled area that is generally kept clear of concentrated activity and development. The FAA recommends property acquisition and/or lease easements within the RPZ to assure necessary control over these areas. An RPZ is a trapezoidal area that begins 200 feet from each runway end that extends and diverges based on the type of aircraft that the facility expects to serve, and by the approach visibility minima for each runway end. Table 4 describes the RPZ's for all runway ends at the Airport.

Runway	Length (feet)	Inner Width (feet)	Outer Width (feet)	RPZ Acres
5	1,000	500	700	13.77
23	1,000	500	700	13.77
11	1,000	250	450	8.035
29	1,000	250	450	8.035

Source: Airport Design (FAA AC 150/5300-13), Page 19.

As of the 2003 Airport Layout Plan Update, Hartness State Airport did not control most of the land in the Runway Protection Zones through fee simple acquisition or avigation easements. Land and/or easement acquisitions are necessary to assure the Airport some form of control over current and potential land use in these areas. The Runway 29 RPZ is almost entirely on airport property and would not require the fee-simple acquisition of property or easements. The remaining three runway RPZs have significant areas out of the control of the airport:

- Runway 5: Greater than 75% of the RPZ is off airport property
- Runway 23: Approximately 33% of the RPZ is off airport property
- Runway 11: Greater than 75% of the RPZ is off airport property.

3.2 Existing Aviation Activity

Similar to many other small airports, Hartness State Airport caters to private individuals using the airport for discretionary uses including business use, recreational flying and flight training. The availability of a wide range of aviation services, a non-precision instrument approach procedure, and adequate runway length and width make the airport attractive to these users as well as transient aircraft operators.

According to the 2007 Vermont Airport System & Policy Plan Update, there were 37 aircraft based at the airport. This figure included 28 single engine aircraft, one multi-engine, and eight gliders or experimental aircraft. In terms of operations, the airport had 9,300 in 2005. The vast majority of these operations, 9,200, were general aviation while 100 were military.

In a February 2008 visit to Hartness State Airport, the airport manager indicated that there were 55 tenants at the airport, including 24 part-time tenants who lease space at the airport but are not considered based aircraft. Therefore, there are 31 year-round based aircraft at Hartness including 21 single engine aircraft, one multi-engine aircraft, and nine gliders, experimental aircraft, and balloons. In addition, the manager indicated an estimated 12,000 to 15,000 operations annually. This number falls between the figures estimated in the Vermont Airport System & Policy Plan Update and the Airport Layout Plan Update.

3.3 Existing Facilities

General aviation facilities support the many activities and services involved in storing and maintaining aircraft and in processing aircraft and passengers before and after use of the airside facilities. General aviation facilities at Hartness include aircraft hangars and aprons, a terminal building, aviation fuel facilities, and automobile parking lots. Well-maintained and affordable landside facilities are important to an airport's efficient operation and success.

Terminal

The terminal building is a one-story structure, 25 feet wide by 60 feet long, with 2,000 gross square feet (GSF). The terminal building includes a pilot lounge, a telephone, a conference room, restrooms, an office area, and counter space for the fixed base operator, Crown Point Aviation (CPA). In addition, the terminal maintains artifacts and pictures detailing the history of Hartness State Airport and the Springfield area. The terminal is pictured in Figure 5.

Figure 5: Terminal



Source: McFarland Johnson, September 2007

Automobile Access and Parking

Vehicles traveling to Hartness State Airport utilize Airport Road off State Route 106. Airport Road is maintained by the Town of Weathersfield. It is a narrow two-lane paved road with residential structures on both sides. The state maintains two parking lots at the airport. The larger lot is to the west of the terminal building. This parking area provides 51 marked spaces, intended for short-term use. The second lot is located to the northeast of the terminal building and is intended for airside parking, as it is secured from public access by an airport perimeter fence. This lot has 24 marked spaces, reserved for those with airside access.

Apron

The principal apron at VSF encompasses approximately 233,000 square feet and extends from the terminal building and the T-hangars south and east towards the runways. Within this area is a portion of the fuel farm (leased to CPA), 21 tie-downs operated by CPA, based aircraft

parking, and access to hangars along the southeast and northeast edges of the apron. According to the airport manager, there are 18 tie-down spaces currently available at Hartness.

Public-Use Hangars

According to the airport manager, there are presently four hangars at the airport available for public use. Each of these hangars is located to the east of the terminal building. Each hangar currently has a variety of tenants. The largest hangar has 12 aircraft stored within, while the other public hangars have four tenants each. These hangars are owned by VTrans and operated by CPA.

Private-Use Hangars

There are six parcels, each housing a conventional hangar located along the northwest edge of the terminal apron, that are individually leased through ground leases. The hangars on all six parcels are owned by the individual holding the ground lease. Four of the newest hangars are shown in Figure 6.

Figure 6: Private Hangars



Source: McFarland Johnson, September 2007

Fuel Farm

The fuel farm, with underground storage tanks, is located along the southwest edge of the terminal ramp and is operated by CPA. The fuel farm has the capacity to store 10,000 gallons of Jet A fuel and 10,000 gallons of 100 Low Lead (100LL) aviation fuel. This relatively large capacity allows the airport to take advantage of bulk fuel purchase discounts. 100LL aviation fuel is available self-serve, 24 hours a day, while Jet A fuel is full service and only available during the FBO's regular operating hours⁵. There is a plan in the future to open a self-serve, 24-hour a day, Jet A fuel pump⁶. The Vermont Agency of Transportation constructed the system and continues to own the fuel farm.

⁵ Airport Layout Plan Update, July 2003, page 2-13.

⁶ Vermont Airport System & Policy Plan Update, February 2007, Appendix E, Page E.5.

Deicing

Deicing is not currently provided by the FBO at Hartness State Airport. The airport manager indicated that CPA is considering the addition of deicing services if the demand for the service increases.

Security

According to the airport manager, VSF has a partial fence with gates that provides some security for the hangars and buildings off Airport Road. However, there is no fence around a large portion of the airport. This allows unauthorized persons to enter airport grounds. Hartness State Airport is in an area with several residences very close to the airport. The manager indicated that vandalism at the airport has been a problem in the past. The airport also has very little lighting; none of which is controlled by motion sensors.

Aircraft Rescue & Firefighting

As a general aviation airport with no scheduled passenger service, the FAA does not require the airport to have based Aircraft Rescue & Firefighting services at the airport. However, in the event of an emergency, the Springfield Fire Department will respond to the airport. The fire department is a full-service department with 12 career firefighters and 38 firefighters who receive pay per emergency call. In addition to fire services, the department will also respond to medical emergencies at the airport. The fire station is approximately six miles from the airport terminal⁷.

Airfield Maintenance

Maintenance to the facilities at the airport is provided by VTrans. Employees from VTrans District 2, based in Dummerston with nearby satellite offices in Springfield, Weathersfield, and Chester, provide services including runway plowing during wintry conditions and the mowing of grass.

3.4 Existing Tenants & Users

There are several tenants at Hartness State Airport. Descriptions of these tenants can be found below and a summary of the leases can be found in Table 5 at the end of this section.

Crown Point Aviation

Crown Point Aviation (CPA) is responsible for providing all FBO services at VSF. Services presently offered by CPA include: sales, service, charter and management of turboprop, jet and piston powered aircraft, pilot lounge, pilot supplies, Jet-A and 100 low-lead aircraft fuel,

⁷ Firedepartments.net (<http://www.firedepartments.net/Vermont/Springfield/SpringfieldFireDept.html>).

pre-heating, catering, and aircraft hangar space. The airport is attended by CPA from 8:00am until 5:00pm Monday through Friday, and 9:00am until 5:00pm Saturday and Sunday.

CPA leases five facilities at the Hartness State Airport. These facilities include the 2,000 square foot terminal discussed previously. In addition, CPA leases an 8,000 square foot storage hangar at the center of the northern end of the terminal apron and a hanger and maintenance building located between the storage hangar and the terminal. CPA also leases a 5,400 square foot maintenance hanger to the west of the terminal apron, and two T-hangers on the east end of the terminal apron, near Taxiway Alpha. The State of Vermont has given CPA the right to manage twenty-one tie-downs and the right to operate the fuel farm at the airfield. As with all lessees abutting the terminal apron, CPA has rights to area on the terminal apron for access and circulation to and from their hangers.

Pearl Industries

Pearl Industries leases a 5,920 square foot area west of the terminal building, known as Hanger Lot #3, adjacent to several private hangars. Within this area, Pearl constructed a 3,240 square foot hangar and access to Taxiway "E". Pearl bases a single-engine aircraft in the hangar; a Diamond DA-40 Diamond Star.

Emerald Eagle

New Hampshire-based Emerald Eagle leases an 8,000 square foot parcel (known as Hanger Lot #4), west of the terminal building and adjacent to the Pearl Industries hanger. On this parcel, Emerald has constructed a 4,800 square foot aircraft storage hanger, as well as a ramp from the front of the hanger to the taxiway. Emerald stores a Cessna 340 multi-engine aircraft in the hanger on a part-time basis. In addition, the hangar provides part-time parking to New Hampshire-based Optimum Manufacturing's Cessna 310 and to two privately-owned gliders.

Scott's Miracle-Gro

Scott's Miracle-Gro is currently constructing a hangar at Hartness State Airport to house a Cessna Citation jet. With a nearby farm, the airport manager indicated that Scott's has decided to build a hangar to store its jet that is used to bring company executives to Southeastern Vermont from their corporate headquarters in Marysville, Ohio.

Civil Air Patrol

The Civil Air Patrol (CAP) building does not have taxiway access and therefore does not have runway access. However, the building is utilized for training and meetings and does contain some office space. The building is located behind the terminal along Airport Road. According to the Airport Manager, CAP use of the airport has decreased over the past several years. However, with a change in the leadership of the local CAP, there are plans to reenergize the Springfield CAP chapter. The airport manager indicated that the CAP uses the airport mainly for glider flights. The CAP is also primarily responsible for emergency response for all incidents.

Lessee	Start	End	Renewal	Space	Rate/year	Location
Private Hangar	1/26/07	1/26/12	4-five yr.	3,944 sq ft	\$0.10/sq ft	Lot 5
Civil Air Patrol	2/13/93	2/13/08	4-five yr.	4,200 sq ft	No Charge	Off Airport Road
Emerald Eagle	1/26/07	1/26/12	4-five yr.	8,000 sq ft	\$0.10/sq ft	Lot 4
Pearl Industries	4/1/05	4/1/10	4-five yr.	5,920 sq ft	\$0.085/sq ft	Lot 3
Private Hangar	3/27/07	3/27/12	3-five yr.	4,875 sq ft	\$0.075/sq ft	Lot 1
Private Hangar	3/27/07	3/27/12	3-five yr.	4,875 sq ft	\$0.075/sq ft	Lot 2
Crown Point Aviation	8/2/05	8/2/10	3-five yr.	13,400 sq ft.	3% of gross income (minimum of \$624); 5% of proceeds from aircraft sales	Hangars, Terminal, Apron, Maintenance Building

Source: Vermont Agency of Transportation Leases

Corporate Aviation

With its 5,500' runway, many corporate users in Southeastern Vermont and Western New Hampshire choose the Hartness State Airport. According to the airport manager, Emerald Eagle and Optimum Manufacturing base aircraft at the airport, and in 2008, Scott's Miracle-Gro will complete a corporate hangar at the airport. In addition to these based aircraft and corporate hangars, over two dozen businesses use the airport on an occasional basis. These users of the airport are listed in Table 6.

Optimum Engineering	JBI Helicopter Service
Army National Guard	Flight Options
NetJets	Celtic Air
Citation Shares	Avantair
JELD-WEN ⁸	Scott's Miracle-Gro
Ritz Marine	Point Pleasant Marine
Alpha Flying	Heritage Flying
Whelen Engineering	Advanced Drainage
Comcast	Vermont Telephone
Prudential Securities ⁹	General Electric
Honeywell	Wal-Mart Stores, Inc. ¹⁰
Home	Sears Holdings

Source: Crown Point Aviation

3.5 Airport Development Plan

Development Considerations

Development considerations at the Hartness State Airport are mainly physical in nature. These consist of the following:

- Obstructions
- Environmental Considerations
- Taxiway Availability
- Land Use
- Available Development Areas

Obstructions

There are obstructions to all four runway ends at the Airport. The majority of these obstructions are caused by trees. In addition, large portions of the Runway Protection Zones (RPZs) for Runways 5, 23, and 11, which contain these obstructions, are off airport property.

⁸ JELD-WEN recently opened a manufacturing plant in the North Springfield Industrial Park

⁹ Prudential Securities brings employees from across the country into the airport once a year for a major gathering at a nearby resort. The airport manager indicated that that weekend is the busiest that the airport experiences.

¹⁰ The airport manager indicated that upper management from these retail stores' central offices utilize the airport when visiting existing or new operations in the region.

Environmental Considerations

The environment may have major implications upon future development at Hartness State. The area to the northeast of Runway 29 and to the east of Runway 23 is a wetland. In addition, the area to the south of Runway 11 and west of Runway 5 is also a wetland with the North Springfield Reservoir nearby. Furthermore, the northern part of the airport property is in the 100-year flood plain.

Taxiway Availability

Hartness State Airport currently has no parallel taxiways. The airport currently has two stub taxiways from each runway.

Land Use

Another consideration is surrounding land use. Zoning of the airport and surrounding property is different in each town. In Springfield, the area is zoned General Business. Permitted and conditional uses in the general business district can be found in Table 7. The General Business designation is amended in the area of the airport by the Airport Approach Overlay District. This overlay ensures that FAR Part 77 surfaces remain unobstructed. In Weathersfield, the land is unzoned and under the jurisdiction of the United States Army Corps of Engineers due to its proximity to the North Springfield Reservoir.

Existing land use near the airport is mainly commercial and the 2003 Master Plan Update indicates that the nearby parcels are compatible to the operations of an airport. However, there are several homes which abut the airport. While the improvements proposed at the airport should actually provide a better environment for residents in these areas, the noise associated with the airport could be a detractor and have a negative impact or be perceived as having a negative impact, even if, in fact, there is no impact. It was recommended that the towns consider changing their zoning ordinances in an effort to recognize the potential impacts of the airport to the community. Other areas around the airport are agricultural, forested, or are transportation corridors such as State Route 106.

Also in the general area of the Hartness State Airport is the North Springfield Industrial Park. The Springfield Regional Development Corporation associates the Airport with the industrial park in the marketing of available land. The park is approximately 1 mile south of the airport. Several local and regional companies have offices in this park, including major operations by JELD-WEN, an international manufacturer of windows & doors. JELD-WEN, which has a significant corporate flight department, is a regular user of the airport. Other companies located in this Industrial Park include Acrylic Designs, Kiosko, Vermont Timberworks, Lucas Industries, and IVEK. There are currently plans for another expansion in the park, with the construction of a new building and a major expansion of another building.

Available Development Areas

The amount of space available for development at the airport is limited. With wetlands occupying most of the eastern portion of the airport as well as the southwestern portion, many areas are not suitable for further development. Furthermore, the areas to the west of Runways 5 and 23 have a number of existing residences. The area to the south of Runway 5 contains an industrial park with space still available for additional development.

Permitted Uses		Conditional Uses		
Accessory Uses	Essential Services	Child Care Facility	Heavy Equipment Sales and Service	Public Safety Facility
Barns Used as Storage Establishments	Home Businesses (in existing Dwelling Units)	Church	Hotel / Motel	Recreation: Private Indoor
Home Occupation (in existing dwellings)	Personal Services	Automobile Repair Services	Manufacturing / Processing of Goods / Foods	Recreation: Private Outdoor (only if an extension of an existing recreation facility)
Accessory Dwelling	Professional Office	Bed and Breakfast	Mobile Home Sales and Service	Recreation Vehicle Sales and Service
Bank	Recreational: Public indoor	Building and Excavating Yard	Motor Vehicle Sales and / or Service	Repair Services (Excluding Automobile)
Bar	Restaurant (without drive through window)	Building Materials Supply	Outdoor Flea Market	Dwelling Unit: Multi-Family
Cultural Facilities	Restaurant (with drive through window)	Car Wash	Personal Storage Facility	School: Private (Day)
Dwelling Unit: Single Family (only in a Planned Unit Develop.)	Retail Sales	Fuel Storage and Distribution	Public Administrative Offices	Trucking Terminal
Dwelling Unit: Two-Family	Theater (Indoor)	Gasoline Station	Public Maintenance and Storage	Warehouse / Wholesale Distribution
		Healthcare Facility		

Source: Town of Springfield Zoning Bylaws, June 2007, Page 11.

Development Plan

The current signed 2003 Airport Layout Plan Update identifies several improvements that would need to occur in the next 20 years for the airport to keep up with its projected growth. The following improvements were recommended:

Airside

- Expansion of Runway Safety Areas (RSAs) for Runways 5, 23, and 11.
- Removal or marking of obstructions on all four runway ends

- Construction of a parallel taxiway to Runway 5-23

Landside

- Construction of a new apron and stub taxiway to connect the apron to the runways
- Construction of a new corporate/glider hangar to accommodate projected future demand for such space

Other Developments/Improvements

A number of additional improvements for the Hartness State Airport are listed in the 2007 Vermont Airport System & Policy Plan:

- Construction of 14,800 square feet of covered storage space
- 500 square foot addition to the airport terminal
- Extension of fencing around the entire airport grounds
- Implementation of self-serve capabilities for Jet-A fuel
- Airport Layout Plan Update in 2013

While the previously mentioned projects have been proposed through plans, due to funding availability and priorities, few have yet to be programmed for funding by the Vermont Agency of Transportation. The fiscal-year 2009 to 2013 VTrans Airport Capital Improvement Program indicates seven projects (three for Hartness, and four statewide) that are planned to occur or commence at the Airport within that time frame. The projects include:

- A snow removal equipment (SRE) building.
- A study of the runway safety areas and the removal of obstructions.
- The design and construction of a new partial parallel taxiway from the apron to Runway End 11.
- A statewide pavement maintenance plan.
- The completion of statewide business plans.
- The completion of statewide aviation planning items.
- The statewide introduction of Localizer Performance with Vertical Guidance (LPV) approach patterns.

In addition to those areas identified for development in the ALP and in the Vermont Airport System & Policy Plan, the following areas of the airport might also be able to accommodate development of facilities based upon review completed as part of this business plan:

Area 1, located north of the existing FBO hangar and northeast of the existing terminal would allow for the development of several hangars or an aircraft parking apron. The use of this property would require state acquisition of the land, followed by the rerouting of a private driveway to reach a residence just west of the airport, the reconstruction of the public parking lot in a new location and the construction of taxiways to the new development through the former

parking lot. In order for acquisition of this parcel for aviation-use, this site would need to be shown for acquisition and development on the Airport Master Plan and Airport Layout Plan drawings. This property does not currently appear in either document.

Area 2, located to the east of the FBO hangars and the CAP office, could provide space for a small hangar or apron. The area has good road access from Airport Road and is accessible to Runway 5-23 from Taxiway A. The proximity of this site to taxiway is ideal for aviation use.

Area 3, located to the west of the newly-constructed private hangars should be targeted towards aviation related development, due to a lack of access to Airport Road. With the proposed construction of the new Taxiway C to bring traffic to Runway 11-29, aviation-related development is ideal in this location. In the past several years, box hangars have appeared on lots near this area. With its relatively low slope, proximity to utilities, and the ability to develop small hangars behind the Building Restriction Line (BRL), this site is ideal for development.

The development plan completed for this business plan is depicted in Figure 7.

Airport Capital Improvement Program

Hartness State Airport and all public airports in Vermont are eligible for assistance in funding capital projects through the FAA Airport and Airway Improvement Program (AIP). As an eligible participating airport in the AIP program, the Airport is required to prepare, update annually, and submit to the FAA a five-year Airport Capital Improvement Program (ACIP) to apply for federal grants. Airport Improvement Program grants typically fund at least 90 percent of development costs for eligible projects.

AIP eligible projects include the planning, design, and construction of projects associated with public use non-revenue generating facilities and equipment of the Airport. Typical AIP eligible projects include: Airport Master Plans, Airport Layout Plans; land acquisition and site preparation; airfield pavements, e.g. runways, taxiways, and transient aprons; lighting and navigational aids; safety, security, and snow removal equipment; public use passenger terminal facilities that are not leased for exclusive use; and obstruction identification and removal. Items not typically eligible for AIP funding include revenue generating facilities such as hangars (at primary airports), automobile parking facilities, and private-use areas of terminal facilities. Fuel farms and hangars are potentially eligible for funding at non-primary airports such as Hartness State¹¹. The highest funding priority according to FAA's rating procedure is generally given to those projects that are safety-related such as runway safety area improvements, obstruction

¹¹ Per Vision 100-Century of Aviation Reauthorization Act, "The Secretary may decide that the costs of revenue producing aeronautical support facilities, including fuel farms and hangars, are allowable for an airport development project at a nonprimary airport if the Government's share of such costs is paid only with funds apportioned to the airport sponsor under section 47114 (d)(3)(A) (nonprimary entitlement) and if the Secretary determines that the sponsor has made adequate provision for financing airside needs of the airport."

K:\TRANS\1-1616002 R12 Plans Phase 1\1-3 Draw\Hartness\AutoCAD\Figures\DEVELOPMENT.dwg, 10/9/2008 10:31:13 AM

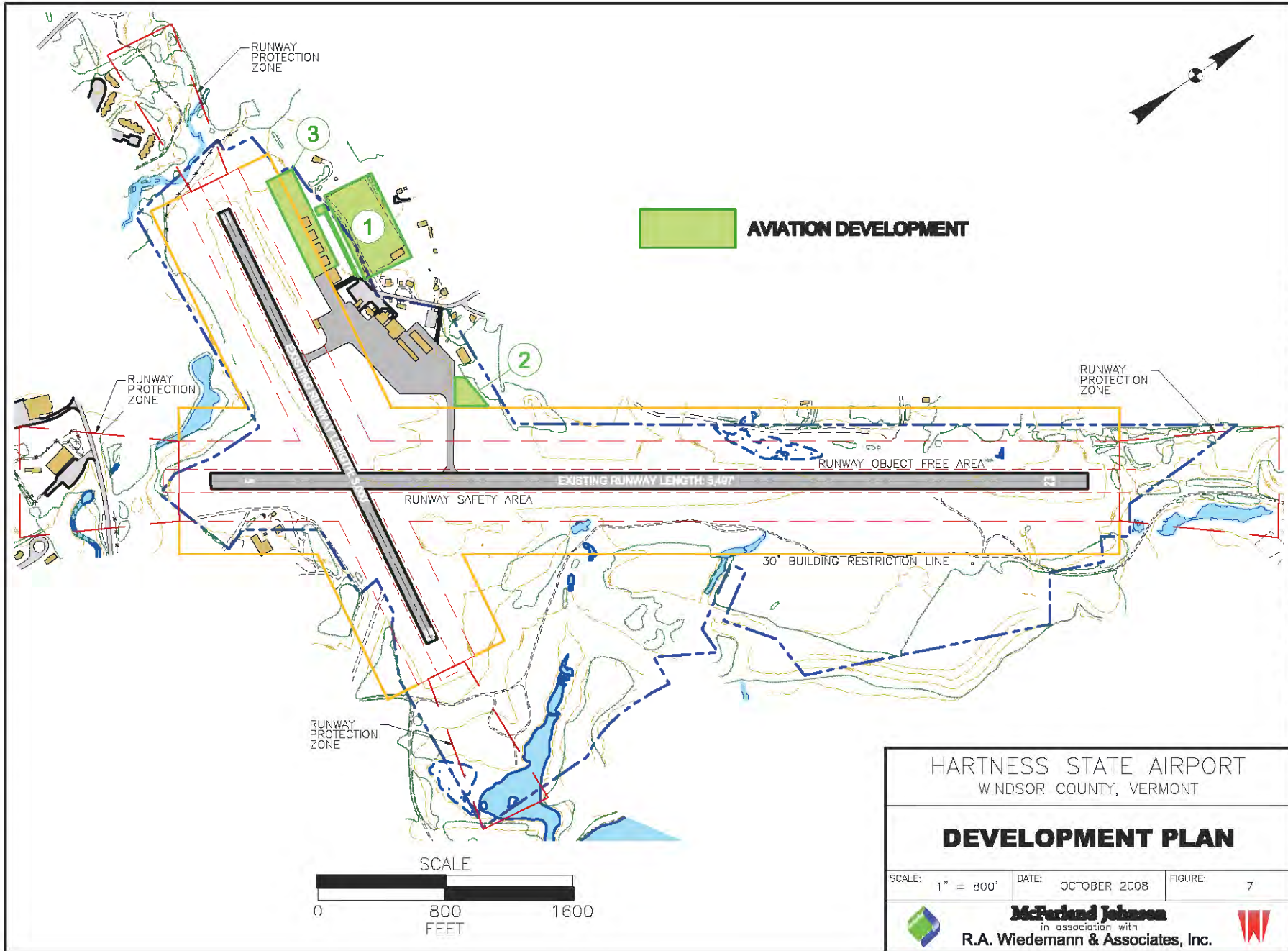




FIGURE 7: DEVELOPMENT PLAN

HARTNESS STATE AIRPORT WINDSOR COUNTY, VERMONT		
DEVELOPMENT PLAN		
SCALE: 1" = 800'	DATE: OCTOBER 2008	FIGURE: 7
 McFarland Johnson in association with R.A. Wiedemann & Associates, Inc.		

removal, and facility improvements to meet current FAA Airport Design Standards. Hartness State Airport received AIP funding in 2007 for the construction of a perimeter fence.

Local/Private Funding

Local funding of the airport is achieved via a budget determined by the Vermont Agency of Transportation, which is in turn funded by the State of Vermont. Annual budget amounts for the State-operated airports, including Hartness, are determined prior to the beginning of the State's fiscal year on July 1st.

Private investors are also a potential source of funds for revenue producing development. Tenants and/or investors may finance the construction of facilities from which they derive income. While direct revenues to the Airport are usually limited to the lease charges for the land underlying the facilities, the local sponsor does not need to obtain its own funding for these improvements. Additionally, the increased activity resulting from Airport improvements often increases the number of based aircraft or operations, which in turn generates additional revenue associated with fuel sales and other aviation services. Examples of private investment at airports include aviation business buildings for fixed based operators, fuel facilities, and non-aviation commercial development.

In the past, private investment at Hartness has been limited to the construction of individual hangars. VTrans has adopted the practice of providing ground leases for space upon which the lessee may construct their own structure. This is a strategy that many airports of all sizes have chosen in lieu of constructing hangars to lease themselves. This practice results in the construction of facilities and the growth of the Airport, but lessens the control that the Airport has over its property and reduces the Airport's future flexibility to grow and change as needs and/or technology change. Depending on the amount of control the Airport gives itself in the lease, this strategy may result in the construction of facilities that are not attractive or that are not maintained to the level that Airport management would prefer.

3.6 Market Analysis

Airport Service Area

Figure 8 illustrates the Airport Service Area and other nearby public-use airports. As with the other four airports (Rutland, Middlebury, Morse, and Knapp) for which business plans are also being prepared, a 30-mile circle is generally assumed to enclose each airport's Airport Service Area (ASA). Table 8 provides details about the public-use airports in the Hartness ASA and other comparative airports in the Northeast.

Table 8: Airport Service Area & Other Comparative Airports						
Airport	City & State	Distance from Hartness	Primary Runway Length	NPIAS Designation	Ownership	Other
Airport Service Area						
Hartness State	North Springfield, VT	N/A	5,498 ft.	General Aviation	Public (State)	
Claremont Municipal	Claremont, NH	8 miles	3,100 ft.	General Aviation	Public (Municipal)	
Parlin Field	Newport, NH	17 miles	3,450 ft.	General Aviation	Public (Municipal)	
Lebanon Municipal	West Lebanon, NH	22 miles	5,476 ft.	Commercial Service – Non Primary	Public (Municipal)	Scheduled passenger service provided by Colgan Air (US Airways)
Rutland - Southern Vermont Regional	North Clarendon, VT	25 miles	5,000 ft.	Commercial Service – Non Primary	Public (State)	Scheduled passenger service provided by Cape Air (JetBlue Airways) and scheduled cargo service provided by Wiggins Airways (UPS)
Other Comparative Airports						
Bethel Regional	Bethel, ME	98 miles	3,818 ft.	General Aviation	Public (Municipal)	
Lake Placid	Lake Placid, NY	84 miles	4,200 ft.	General Aviation	Public (Municipal)	
Northampton	Northampton, MA	61 miles	3,365 ft.	General Aviation	Private	

Source: McFarland Johnson, Inc, January 2008

Facilities

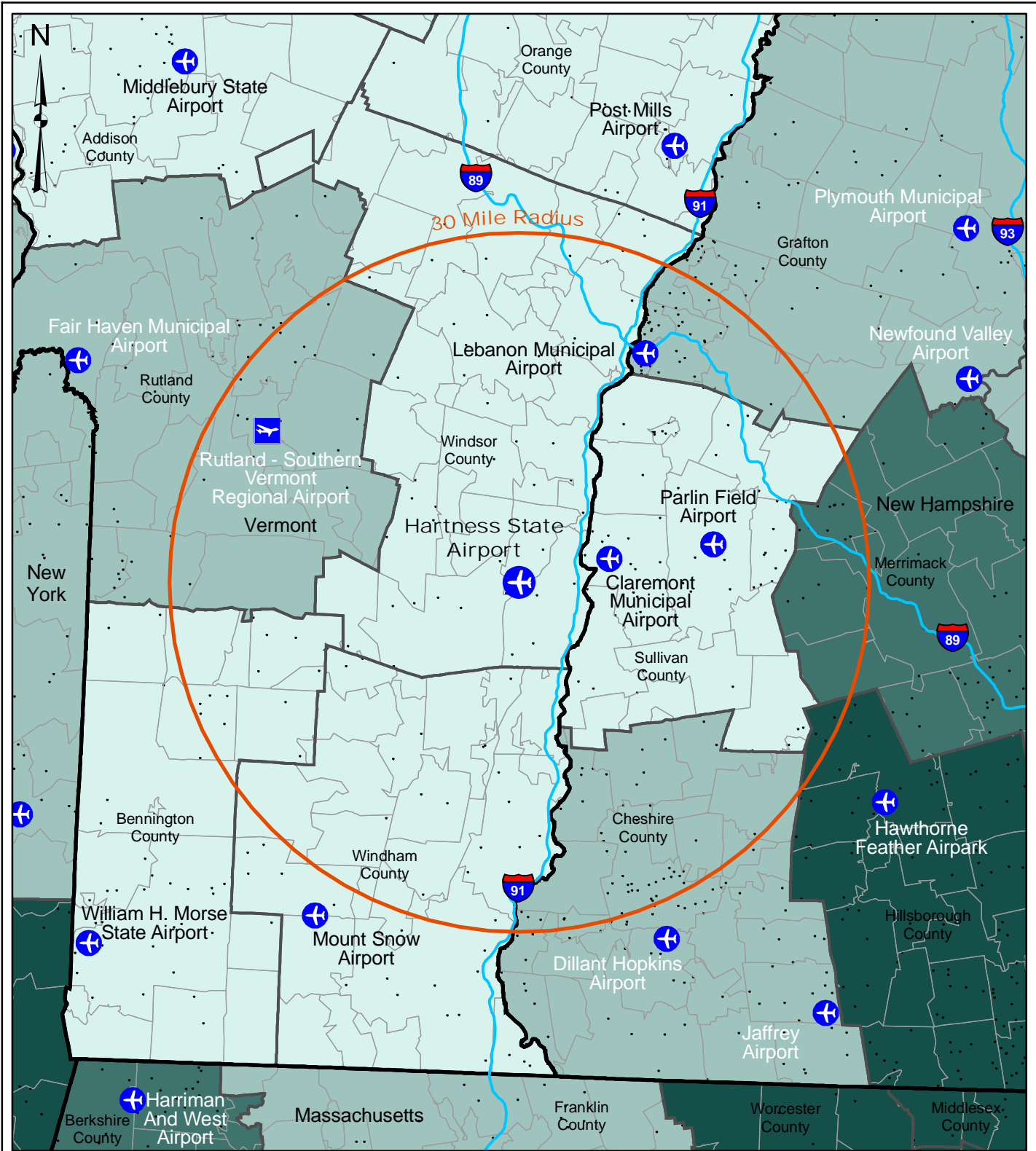
Table 9 provides a comparison of facilities at other airports within the Hartness State Airport ASA. All of the airports have paved runways. Of these, Hartness State has the longest at 5,498 feet. Only one airport, Lebanon, has a precision approach and nearly all of the airports have a minimum of a non-precision approach.

Aviation Services

Table 10 presents the availability of various aviation services at each of the area airports. Rutland, Lebanon, Lake Placid, and Hartness offer a full range of general aviation services. Minimal services are available at Claremont and Northampton, and no services are offered at Bethel Regional or Parlin Field.

Hangars and Tie-downs

Of the five airports within the Hartness State ASA, all have tie-down space available for rental and only Hartness and Lebanon have hangar space available for rent as the hangars at Rutland, Parlin, Lake Placid, Northampton, and Claremont are at capacity. Prices for various services available are shown on Table 11. The prices at Hartness State are about average if not below average compared to the other airports. The cost per night for a tie-down at Hartness is the lowest in the ASA, and the monthly fee is average for the ASA. When comparing the other airports outside of the ASA, the monthly rate for tie-down space is much lower than the prices at the other airports, with the exception of Bethel, which does not charge for tie-down space. For hangar space, the price for conventional and T-hangar space at the airport is average in both categories. The cost of Jet A fuel is also average at Hartness, while the price of 100LL fuel is below average.



Population by County

- 0 - 60000
- 60001 - 90000
- 90001 - 120000
- 120001 - 150000
- 150001 +

- Commercial Service
- General Aviation
- Service Area
- Zip Code Boundaries
- Registered Aircraft



HARTNESS STATE AIRPORT WINDSOR COUNTY, VERMONT		
SERVICE AREA		
SCALE: AS SHOWN	DATE: MARCH 2008	FIGURE: 8
McFarland Johnson <small>in association with</small> R.A. Wiedemann & Associates, Inc.		

Table 9: Facility Comparisons

Airport	Owned	Acres	ARC	Number Of Based Aircraft							Runway		NAVAIDs	Control Tower
				Jet	Multi	Single	Heli	Ultra-light / Gliders	Military	Total	First L x W	Second L x W	Best Approach	
Hartness State	Public	185	B-II	0	1	28	0	8	0	37	5,498' x 100' (Pavement)	3,000' x 75' (Pavement)	Non-precision (LOC/DME)	No
Rutland–Southern Vermont Regional	Public	345	C-II	2	3	50	1	1	0	57	5,000' x 100' (Pavement)	3,170' x 75' (Pavement)	Non-precision (LOC/DME)	No
Lebanon Municipal	Public	563	C-II	0	8	31	11	1	0	51	5,476' x 100' (Pavement)	5,200' x 100' (Pavement)	Precision (ILS/DME)	Yes
Claremont Municipal	Public	120	B-I	0	3	22	1	1	0	27	3,100' x 100' (Pavement)	N/A	Non-precision (NDB/GPS)	No
Parlin Field	Public	125	B-I	0	1	11	0	1	0	13	3,450' x 50' (Pavement)	1,950' x 80' (Turf)	Visual	No
TOTAL (Airport Service Area)				2	16	142	13	12	0	185				
Bethel Regional	Public	225	A-I	0	1	10	0	2	0	13	3,818' x 75' (Pavement)	N/A	Visual	No
Lake Placid	Public	35	B-I	0	2	22	0	1	0	25	4,200' x 60' (Pavement)	N/A	Non-precision (RNAV/GPS)	No
Northampton	Private	55	N/A	0	4	60	1	0	0	65	3,365' x 50' (Pavement)	N/A	Non-precision (VOR/DME)	No
TOTAL				2	23	234	14	15	0	288				

Sources:
 Airport Master Records as published January 2008 (<http://www.gcr1.com/5010web/>)
 Vermont Airport System and Policy Plan, Appendix D, Page D.2.
 New Hampshire State Airport System Plan Update (<http://www.nh.gov/dot/bureaus/aeronautics/sasp/documents/TR2Inventory.pdf>)
 Maine Aviation Systems Plan Update (<http://mainegov-images.informe.org/mdot/aviation/pdf/maspu.pdf>)

Table 10: Service Comparison

Airport	Frame Repairs	Power Repairs	Flight Instruction	Charter Service	Avionics	Aircraft Sales	Aircraft Rentals	Other
Hartness State	Major	Major	Y	Y	N	N	N	
Rutland – Southern Vermont Regional	Major	Major	Y	Y	N	Y	Y	Scheduled passenger service and scheduled cargo service
Lebanon Municipal	Major	Major	Y	Y	N	Y	Y	Scheduled passenger service
Claremont Municipal	Minor	Minor	Y	N	Y	N	N	
Parlin Field	N	N	N	N	N	N	N	Aerial photography available
Bethel Regional	N	N	N	N	N	N	N	
Lake Placid	Major	Major	Y	Y	N	Y	Y	Air ambulance service available
Northampton	Minor	Minor	Y	N	N	N	Y	Balloon rides available

Source: Airport IQ 5010 Airport Master Records as Published January 2008 (<http://www.gcr1.com/5010web/>), Interview with Airport Managers

Legend: N=No, Y=Yes

Table 11: Rates and Charges Comparison

Airport	Tie-Down		Conventional Hangars		T-Hangars		Lowest Fuel Price (\$/gallon)			GA Landing Fee
	\$/	Available	\$/	Available	\$/	Available	80 ll	100 ll	Jet A	
Hartness State	\$35 / month	Y	\$25 - \$100 / night. \$175 - \$300 / month	Y	\$175 - \$300 / month	Y	N/A	\$4.21 (s/s) \$4.60 (f/s)	\$4.94	N/C
Rutland – Southern Vermont Regional	\$45 / month	Y	\$300 / Month in State Hangar; \$400 / Month in other hangars.	N	Condo	N	N/A	\$4.79 (s/s) \$4.99 (f/s)	\$4.89 (s/s) \$5.09 (f/s)	Single – N/C Twin - \$35 Jet - \$75
Lebanon Municipal	\$50 - 65 / month	Y	\$850 / month (Under const.; \$2100 - \$2700 / month)	Y	\$475 - \$575 / month	Y	N/A	\$5.45 (f/s)	\$5.40 (f/s)	\$10 (Single) - \$125 (Jet)
Claremont Municipal	\$30 / month	Y	\$200 / month	N	\$200 / month	N	N/A	\$4.07 (s/s)	N/A	N/C
Parlin Field	\$15 / month	Y	\$50 / month	N	N/A	N/A	N/A	\$3.95 (s/s)	N/A	N/C
Bethel Regional	N/C	Y	N/A	N/A	N/A	N/A	N/A	\$4.77 (s/s)	N/A	N/C
Lake Placid	\$65 / month	Y	N/A	N/A	\$250 / month	N	N/A	\$4.40 (f/s)	N/A	Single – N/C Multi - \$20 Jet - \$60
Northampton	\$50 / month	Y	\$200 / month	N	\$200 - \$325 / month	N	N/A	\$4.89 (s/s)	N/A	N/C

Source: McFarland-Johnson, Inc. Telephone Survey, January 2008 – April 2008.

Legend: N/C = No Charge, N/A = Not Available, N=No, Y=Yes

4. FINANCIAL AND ECONOMIC OUTLOOK

This section identifies historical revenues and expenses attributable to Hartness State Airport and projects those revenues and expenses to the year 2012. This projection considers a baseline scenario with no revenue enhancement projects being undertaken. In other words, it projects the financial implications of continuing the Airport's operation as it is today. In a later section, alternative projections of financial performance will be developed based upon suggested improvements and revenue enhancement strategies being undertaken.

4.1 Baseline Forecast of Revenues

Little historical data is available regarding financial performance at Hartness State Airport. Complete records were available only for 2005 and as such, future revenues were projected using that year as a baseline. Table 12 presents 2005 baseline revenue and an estimate of revenue for 2006 and 2007.

Revenues	2005	2006*	2007*
Leases & Landing Fees	\$7,332	\$7,625	\$7,930
Aviation Fuel Taxes			
100 LL	\$2,609	\$2,713	\$2,922
Jet A	\$3,526	\$3,667	\$3,813
TOTAL REVENUE	\$13,467	\$14,005	\$14,566

*Estimated

It is against this limited historical background that the baseline forecast of operating revenues for Hartness State Airport is presented. Table 13 presents a conservative forecast of airport operating revenues, which assumes that the status quo will hold and that prices will increase at the rate of inflation (assumed to be 4 percent for the planning period).

Revenues	2005	2008	2009	2010	2011	2012
Leases & Landing Fees	\$7,332	\$8,248	\$8,577	\$8,920	\$9,277	\$9,648
Aviation Fuel Taxes						
100 LL	\$2,609	\$2,935	\$3,052	\$3,174	\$3,301	\$3,433
Jet A	\$3,526	\$3,966	\$4,125	\$4,290	\$4,462	\$4,640
TOTAL REVENUE	\$13,467	\$15,149	\$15,754	\$16,384	\$17,040	\$17,721

4.2 Baseline Forecast of Expenses

As with revenue information, the only complete historical data on expenses that is available is for 2005. As such, no significant historical trends could be cited. Instead, knowledge of general market trends was applied to the various cost categories and projected into the future. In this regard, labor costs were increased at two percent, which is one-half of the rate of forecast inflation. Historically at other airports, salaries and wages have increased more slowly than the Consumer Price Index (CPI) due to personnel turnover and part time employee usage. It is also known that insurance costs have been increasing faster than the rate of inflation. For this analysis, a seven percent rate was used. The cost of the WSI Weather Brief was held constant, while the remaining categories were increased at four percent, the projected rate of inflation over the period. Table 14 presents the results.

Expenses	2005	2008	2009	2010	2011	2012
Salaries and Wages						
Airport Manager	\$2,926	\$3,105	\$3,167	\$3,231	\$3,295	\$3,361
District MX Staff Labor	\$47,630	\$50,545	\$51,556	\$52,587	\$53,639	\$54,712
FBO Agreement	\$12,000	\$13,498	\$14,038	\$14,600	\$15,184	\$15,791
Total Operating- District	\$48,969	\$55,083	\$57,287	\$59,578	\$61,961	\$64,440
Total Operating- Aviation	\$0	\$0	\$0	\$0	\$0	\$0
WSI Weather Brief	\$2,040	\$2,040	\$2,040	\$2,040	\$2,040	\$2,040
Insurance (\$100K/ occurrence deductible)	\$1,120	\$1,372	\$1,468	\$1,571	\$1,681	\$1,798
Total Operating Expenses	\$114,685	\$125,643	\$129,556	\$133,607	\$137,800	\$142,142

4.3 Baseline Forecast of Net Operating Expenses

When the baseline forecasts of operational expenses are compared with the baseline forecasts of operational revenues, the net operating income/deficit can be projected. The baseline forecast of net operating costs is displayed in Table 15.

Table 15: Baseline Forecast of Airport Net Operating Income/(Deficit)			
Year	Operating Revenues	Operating Expense	Net Operating Income/(Deficit)
2008	\$15,100	\$125,600	(\$110,500)
2009	\$15,800	\$129,600	(\$113,800)
2010	\$16,400	\$133,600	(\$117,200)
2011	\$17,000	\$137,800	(\$120,800)
2012	\$17,700	\$142,100	(\$124,400)

The results of this baseline forecast indicate that if no additional revenue generating measures are taken, the State will have to cover this shortfall in operating revenues plus the local share of any capital development projects.

5. BUSINESS CLIMATE AND PLAN DEVELOPMENT

The business climate at the airport and within the region was reviewed to illuminate strengths and weaknesses prior to considering business plan alternatives. Upon review of the business climate, several preliminary business plan alternatives were developed to explore a variety of methods designed to increase revenues at Hartness State Airport.

5.1 Area-wide Factors Supporting Growth and Development of the Airport

There are a number of factors that support the potential growth and development of the Hartness State Airport. These factors are briefly described below.

Airport Size and Location

Hartness State Airport was the first airport in Vermont and has the second longest runway in the State, behind Burlington International. With nearly 5,500 feet of primary runway length, and an additional 3,000 foot crosswind runway, Hartness is adequate for all types of business jet aircraft. Much of the land that was available for development has been used to build private hangars in recent years. The undeveloped area near Runway End 11 cannot be developed at this time due to archeological findings.

Hartness State Airport is located three miles northwest of Springfield, in Windsor County. It is approximately seven miles from Vermont's border with New Hampshire. The distance from the Airport to major regional business centers is displayed in Table 16:

Nearby Cities	Driving Distance (miles)	Driving Time (hours)
Manchester, NH	94	1.75
Springfield, MA	101	2.0
Burlington, VT	103	2.0
Hartford, CT	127	2.25
Boston, MA	144	2.5
Providence, RI	199	3.5
Montreal, QU	207	4.0
New York City, NY	231	5.0

Recreational and cultural activities near Springfield and throughout Windsor County abound. Ski resort destinations, including Ascutney Mountain Resort, Magic Mountain, Okemo Mountain, Killington, Bromley, Mt. Snow and Stratton Mountain are all in close proximity to Springfield. Additionally, cross-country skiing is available at Greenfield Mountain National Forest, and snowmobiling on the network of local trails is popular. Wilgus State Park and Mount Ascutney State Park offer hiking trails and wonderful views. The area also offers a wide range of cultural activities, including historical sites, art venues, and the Stellafane Observatory National Historic Landmark, which is home to The Springfield Telescope Makers, Inc. and is considered the "Birthplace of Amateur Telescope Making."

Business Environment

With a 2005 population of 57,789, Windsor County had a 2005 population of 57,789 and is the largest county in the State in terms of area, and is comprised of 30 cities and towns. Some of Windsor County's major employers are displayed in Table 17:

Table 17: Major Employers in Windsor County		
Employer	Product/Service	Employees
Mt. Ascutney Hospital	Hospital	320
Springfield Hospital	Hospital	312
Newsbank, Inc	Electronic Publisher	260
Ascutney Mountain Resort	Ski Resort	250
Mack Molding	Injection-molded Plastic Parts	150
Earth Brothers LTD	Wholesale and Retail Produce	130
Great Rook Furniture	Furniture Manufacturer	97
Simon Pearce	Manufacturer	97
Network Management Services, Inc	Manages Doctors' Offices	59
VTEL	Telephone Company, Internet Provider	59

Source: Southern Windsor County Regional Planning Commission (SWCRPC), Southern Windsor County Regional Plan, 2003

Companies already utilizing Airport facilities and services include JELD-WEN, Scott's Miracle-Gro, HANCOR, Timpkin Aerospace, and Okemo Resort.

An interesting characteristic of the State of Vermont is the prevalence of "second-home" ownership; that is, persons who own homes in Vermont as a secondary residence, but who also own another home in another state. Statistics show that Vermont is second only to Maine in the percentage of second homes. Even with the national slump in the housing market, the Vermont housing market remains strong. In fact, according to U.S. Census Bureau estimates, Vermont was one of only two states that experienced an increase in the average sale price of residences in the third quarter of 2007 compared to the third quarter of 2006.

Industrial Parks

The Springfield region is fortunate to have three fully developed industrial parks in the area with two others being developed. The existing parks include the North Springfield Industrial

Park/Precision Park (2 miles from Hartness), the "See It Made" Park in Windsor (20 miles from Hartness), and the Ludlow Industrial Park (15 miles from Hartness). The "See It Made" Park houses "locally grown" companies whose production processes are on display. New parks being planned and developed include a commercial industrial park in Chester (10 miles from Hartness), and a new industrial park at Exit 7 in Springfield (7 miles from Hartness).

In addition to these industrial parks, there are a number of industrial sites and buildings for business expansion and relocation. These sites include:

	<u>Distance from Hartness</u>
Jones and Lamson Plant One	2.5 miles
Winstanley Facility	2.5 miles
Gear Works Facility	5 miles
Precision Valley Development Corporation	5 miles
Cone Blanchard	20 miles

Local and State Incentives & Programs

In addition to the industrial park locations in Windsor County, business growth is also encouraged through local and State incentives.

Local Incentives & Programs:

- **Regional Revolving Loan Funds:** Many local and regional loan funds exist throughout Vermont. These funds have been capitalized from a variety of sources, many with federal monies. The administrators of these funds are generally non-profit development corporation for the regional funds, while the local funds are most often overseen by the local government with the help of a loan committee. The loan funds may be used in conjunction with other sources to leverage additional monies or independently finance selected projects.

State Incentives & Programs:

- **Financial Services Companies Tax Credit:** Vermont offers a tax credit up to 75 percent off the State income tax, based on a formula that combines the company's in-state payroll and out-of-state revenues.
- **Sales And Use Tax Exemption:** Applies to building materials within any three consecutive years in excess of \$250,000 in purchase value used in the construction, renovation, or expansion of facilities that are used exclusively, except for isolated or occasional uses, for the manufacture of tangible personal property for sale.
- **Fuel and Electricity Sales Tax Exemption:** This exemption applies to electricity, oil and other fuels purchased for use in directly or indirectly manufacturing tangible personal property for sales.
- **Equipment Sales Tax Exemption:** Machinery and equipment used directly or indirectly in manufacturing tangible personal property for sale.

- **Industrial Fuels and Raw Materials Tax Exemption:** Motor fuels, except for railroad and jet fuel; component parts for manufacturing, packaging, and shipping materials; and newspapers and tangible property used as ingredients in the manufacture of newspapers are exempt from sales taxation. An exemption from property taxation is provided for plants and shrubs in commercial nurseries or greenhouses.
- **Pollution Control Equipment Tax Exemption:** Real and personal property used to control air or water pollution is exempt from property taxation.
- **Energy and Fuel Conservation Measures:** Alternative energy sources used to generate electricity or energy not sold or exchanged may be exempted by municipalities from property taxation.
- **Small Business Investment Tax Credit:** The small business tax credit allows a credit for investment provided the investment exceeds \$150,000. A company may receive a credit in the amount equal to 5 to 10 percent of its investments within the state of Vermont in plants, facilities, and machinery and equipment. Requirements vary depending upon the number of employees in the business
- **Payroll Tax Credit:** If a company increases its payroll, this opportunity provides a credit against income tax liability equal to a percentage of increased payroll costs. A company with sales less than \$10 million may receive a credit equal to 10 percent of its increased costs of salaries and wages in the applicable tax year.
- **Research and Development Tax Credit:** Qualified research and development expenditures can receive a 10% credit against income tax. Qualified R&D expenditures are those included in the IRS code.
- **Workforce Development Tax Credit:** A corporation can receive an income tax credit of 10 percent of its qualified training, education and work force development expenditures.
- **Export Tax Credit:** This provision allows exporting businesses to claim credit against income tax liability. The credit is the difference between income tax calculated under the existing state apportionment formula and the proposed formula, which double weights the sales factor and disregards "throwback" provisions.
- **Brownfields Property Tax Exemption:** Statewide education property tax exemptions are provided for expenditures incurred by a business for the construction of new, expanded or renovated facilities on contaminated property.
- **Vermont's Downtown Development Act:** Incentives include assistance with rehabilitation of certified historic or older buildings, sprinkler system rebates, reallocation of sales tax on construction materials, downtown transportation, related capital improvement fund, planning grant for qualifying for designation, and others.
- **Tax Increment Financing Districts (TIF):** The Vermont Economic Progress Council can approve applications from municipalities that wish to use the taxes generated on the excess property valuation for interest and principal repayment on bonded debt or prefunding future tax increment financing district debt. The use of TIF districts reduces out of pocket costs for developers whose projects will increase property values. In many cases, project financing by private interests may potentially be burdened by poor public infrastructure, which could make a

- much-needed project infeasible if private financing is all that is available.
- **The 504 Loan:** The program provides long term fixed rate financing to business through the sale of guaranteed debentures issued by certified development companies. Loan funds may be used for real estate or machinery and equipment but not for working capital or debt payment. The loan is limited to 40% of the project cost and is combined with bank financing and equity. The maximum loan amount is \$750,000 (up to \$1 Million for some projects) with loan terms of either 10 or 20 years depending on the use of the loan proceeds.

5.2 Obstacles to Airport Performance

In addition to the factors supporting growth and development of the Airport, there are a number of challenges to the attainment of stated goals and objectives for the financial performance of the Airport. Some of these potential obstacles include:

- **Industrial Development:** The growth of the economy of Southern Windsor County has not kept pace with the growth of either the national or statewide economies. A major reason behind the region's lagging economic performance rests with the decline of the manufacturing sector. According to the South Windsor County Regional Planning Commission (SWCRPC), between 1980 and 2000 the manufacturing sector lost a total of 2,821 jobs (42.5 percent loss) in Windsor County - much of it from the machine tool manufacturing decline. The State of Vermont lost 3.9 percent in this sector¹³ over the same time period.
- **Infrastructure Near Airport:** The land immediately around the Airport does not have municipal water or sewer service. This deficiency makes non-aeronautical development around the Airport difficult if only private financing is considered for such projects.
- **Slow Population Growth:** As mentioned previously, the manufacturing sector lost over 40 percent of its job base between 1980 and 2000. That loss translated into declining population. Although there has been a turnaround in the local economy with some new growth over the past two years, between 2000 and 2005, the population remained static, growing only from 57,500 to 57,800 persons. Slow population growth combined with an aging population works to reduce the active labor pool. By extension, this reduces opportunities for new companies to establish operations in the area. Vermont has recognized this statewide problem and the legislature has created the Next Generation Commission to develop a plan to encourage Vermonters to live and work in Vermont. Particular attention is given to the local workforce, its training and the critical marketplace needs.
- **Surface Access:** The current condition of Airport Road makes it largely unsuitable for increased traffic, particularly truck traffic. There is a truck driving school near the Airport that has contributed to pavement problems on Airport

13

Southern Windsor County 2002 Regional Plan

- Road. This makes the area less attractive to a potential start-up business.
- **Lack of State Investment in Aviation Facilities:** In the past, the State of Vermont has relied heavily on private investment to fund hangar development at Vermont's airports. If those investment funds are slow in materializing, it results in an obstruction to aviation growth at the State's airports. The attraction of based aircraft, including corporate aviation, relies in part on the availability of hangar facilities.

5.3 Revenue Enhancement

There are only two ways to increase net revenues for Hartness State Airport: increase revenues or cut costs. Having reviewed the business climate of the Airport and the region as a whole, the strategies presented below serve as the starting point for developing the Airport's business plan.

- **Runway Safety Area & Approach Surface Compliance:** The FAA has put a premium on Runway Safety Area (RSA) and Approach Surface compliance as first priorities for all airport development funding. VTrans is considering performing an obstruction study and RSA study for Hartness State Airport to determine what must be done to bring the Airport into compliance. Any FAA funding for other work at the Airport must be preceded by this study and remediation action, as appropriate.
- **Attraction of Corporate Aviation:** One of the best means for increasing revenue at Hartness State Airport is to attract more business and corporate aviation usage. When accomplished at other airports, increased corporate operations have led to new conventional hangar leases, increased levels of fuel sales, and increased use of maintenance services. Fuel sales will generate roughly \$0.20 per gallon in fuel taxes for the State, while based jet aircraft generate jobs for service and maintenance personnel, flight crews, etc. At the time of this writing (March 2008), there are plans underway for the construction of a conventional hangar for a transient jet operated by Scott's Miracle-Gro. Other local companies using the airport include JELD-WEN, HANCOR, Whelan Engineering, and Okemo Resort. These companies should be aggressively marketed and recruited to consider Hartness State Airport as a potential base of operations.
- **New or Improved Terminal Services, Amenities, and Activities:** To help attract businesses to the region, the State should consider providing services that are attractive to prospective companies. Such services include on-airport availability of rental cars, a conference room, and food services. The Airport is also used by private aircraft to access the nearby ski areas and second homes, making ground transportation a valuable service for both corporate and recreational travelers.

In the short term, a courtesy car or seasonal rental services are recommended for Hartness State Airport. However, to fully serve visitors to the area, the Airport might investigate the attractiveness of a more regular or on-demand capability for passenger transfers to and from ski resorts. For example, Killington Pico Ski Partners, the owner of Killington and Pico resorts, provides "The Bus," which offers transportation around Pico and

Killington, with service to Rutland on a regular basis. While Hartness State Airport might compete with Rutland-Southern Vermont Regional Airport for visitors to Killington and Pico Mountain, perhaps a new transportation service at Hartness State Airport could be provided for visitors to Ascutney Mountain Resort and Okemo Mountain Ski Resorts. Such a service might also travel as far south as Bromley Mountain and Magic Mountain Ski Areas during the winter months, and White Rocks National Recreation Area during spring/summer/fall tourist seasons.

Another example of transportation services offered by third-party interests was found at Jiminy Peak Resort, which has teamed-up with Danril Ski Tours in Hauppauge, New York (a community on Long Island). Danril Ski Tours offers a Jiminy Peak Shuttle, which runs 5 scheduled trips from Long Island on Saturdays and Sundays. Included in the price of the shuttle service are ski packages including lift tickets, ski rentals, and lessons. Of particular note is the distance between Long Island and Jiminy Peak at Hancock, Massachusetts, which is approximately 150 miles. The offering of such a service by private business, and the distance traveled, is testament to the economic viability of such a service.

In addition to convenient transportation services, many smaller airports have locally-themed restaurants or cafes that serve both passengers and the community.

- **Airport Branding:** Branding is the process of developing a unique selling identity for a product or service. In this regard, several airports in Vermont have renamed themselves or are considering renaming their facility. Manchester Airport in New Hampshire renamed itself Manchester/Boston Regional Airport in order to portray itself as an alternative to Boston Logan International Airport. Renaming often achieves greater clarity, visibility, and identity in the aviation market. This Business Plan asserts that Hartness State Airport may be successful in attracting more ski area visitors and potential condominium buyers to resorts such as Okemo or any of six other resorts that are within one hour of Springfield if the Airport's name reflected this proximity. A branding project might also include a formal marketing agreement with local businesses to formalize contributions and crystallize efforts to attract visitors to the Springfield area through shared promotional efforts, with increased market share as the desired outcome.
- **Hangar Development Options:** The State can increase revenues through the development of aircraft hangars. Currently, the State leases both hangars and land for hangars at the Airport. These hangars have been a significant source of Airport revenue, accounting for almost 55 percent of total revenue. If sufficient demand exists, the State can develop hangar space as needed. In addition to locations on airport property, the site of the former truck school adjacent to the airport could be acquired by the State and utilized in the long term for hangar development. The Airport Master Plan calls for the development of an additional set of 10 T-hangars and a corporate/glider hangar with associated aprons, access, and auto parking. At the present time, however, the best opportunity for hangar development that enhances revenue for Hartness State Airport is likely that of conventional hangar storage space, rather than T-hangars. Prevailing T-hangar rents in the region were found to be approximately \$250 per month, while finished conventional

hangar space could return between \$3,000 and \$4,000 per year for the land lease alone. If the State would consider serving as the owner/developer for conventional hangars, an additional \$20,000 - \$45,000 could be collected in rents per year.

Additionally, construction estimates for 10 T-hangars (\$625,000) have increased significantly over the past several years. Because of such high construction costs, T-hangar development has difficulty yielding enough rental revenues to cover debt service. For example, to finance the 10-unit T-hangar construction over 20 years at 7 percent interest, a debt service payment of \$58,200 annually would be required. This works out to \$485 per month for T-hangar rental fees - far in excess of the current market rates. Conversely, rental rates for conventional hangars are higher than those for T-hangars on a square-foot basis, and, conventional hangars have the added flexibility of housing either small aircraft (community hangar) or business jet aircraft (corporate hangar configuration). For a 5,000 square foot conventional hangar, assuming the same financing terms as the T-hangars (20 years at 7 percent interest), a debt service payment of \$39,600 annually would be required. This works out to a total of \$3,300 per month for hangar rental fees - which are not unreasonable for a corporate hangar lease. At Hartness, the need for airfield development (specifically expansion of existing Runway Safety Areas to meet current standards) will rule out the use of FAA entitlement grants to develop hangars until the airfield needs are satisfied. Thus, if VTrans wants to fund these projects, they will have to either use State grants or some type of debt financing.

It is important to note that conventional hangar space is envisioned for use by corporate aviation and jet operators; however, until the time that such a tenant is identified, and in response to the demand for additional hangar storage space from single and multi-engine operators, conventional hangars can be developed and utilized as community hangars.

- **Rates and Charges/Lease Agreement Structure:** Most of the leases with hangar users are within reasonable limits for amounts and terms. For land leases where tenants have constructed hangars, leases should include reversion clauses to the State of the hangar facilities at lease termination. These should transfer the ownership of the hangars from the developer to the State after a period of at least 20 years. While not explicitly stated in the current leases, the land leases offer renewals up to a total of 25 years, at which time it is assumed that ownership of the hangars would revert to the State at that time. Then, the State should be able to rent them for market rates. A summary of the current lease agreements, rates, and contract details is shown in Appendix A.
- **Additional/Specialty FBOs:** Specialty FBO's cause increased economic activity including attracting aircraft to the Airport, employing local residents, and purchasing supplies and materials. The specialty FBO services must be coordinated with the existing FBO (depending on the wording of its service contract) and should be based on the market that the Airport is trying to attract. For example, to be able to attract corporate aviation, an FBO that performs jet aircraft maintenance would be a good addition. This specialty trade, if not offered by current FBO should be recruited to support aviation development at Hartness State Airport. Other specialty trades that could be considered include aircraft painting and avionics repair and installation.

6. RECOMMENDED PLAN

The recommended business plan for Hartness State Airport focuses on two primary strategic areas: management/administrative actions and revenue enhancement strategies and actions. Revenue enhancement activities include attracting corporate aviation, building hangar facilities, and rate adjustments for FBO usage. Other activities that may enhance revenues in the longer run include seeking additional or new FBO investment.

As noted previously, major cost efficiency actions were not identified in this report. The Airport appears to already be running an efficient operation. Therefore, revenues will have to be increased in order to offset operating and capital improvement costs. Revenue and expense projections for the baseline option were presented in Section 4 of this report. They show a year 2012 operating deficit of \$124,400. If there is a desire to decrease these operating shortfalls, the range of options available is described below.

6.1 Recommended Management/Policy Actions

The Recommended Plan for Hartness State Airport begins with two very important management/policy actions, which are focused on ensuring the continued and long-term operational and financial viability of the Airport. The policy and/or management actions are as follows.

Runway Safety Area & Approach Surface Compliance

As stated in the previous section, The FAA has placed a premium on Runway Safety Area (RSA) and Approach Surface compliance as the first priority for all airport development funding. At the time of writing, VTrans is considering performing an obstruction study and RSA study for Hartness State Airport. The Study will determine what must be done to bring the Airport into compliance. It should be noted, that any FAA funding for other projects at the Airport must be preceded by this study and remediation action, as appropriate. Therefore, it is recommended:

VTrans should undertake an obstruction and RSA study and set forth a program of making improvements to obstructions at Hartness State Airport.

State Role in Hangar Development

The State currently does not take an active role in the construction of new hangar facilities, relying on private investment alone to initiate and complete such projects. While this certainly makes short-term economic sense, this tends to slow development at State-run airports and limits potential return to land-lease rates, which are significantly lower than facility lease rates.

If the State would consider developing hangars it then has the potential to significantly impact its revenue received from these facilities. This change on the State's part would require a

new policy perspective and more “hands on” coordination with each of its airports. It is likely that additional staff and financial resources would be needed to ensure that such a program was successful, and would also require significant capital investments on the part of the State. These requirements may be more than the State is able or willing to do. Another option would be to offer a lease of a significant portion of airport lands to a developer who will then construct, market, and manage hangar facilities on the Airport. While the resulting revenue from this effort is likely less than if the hangars were built by VTrans, the contributions of this developer will result in greater return than the piecemeal development that currently occurs. In either case, the State would benefit from a more formalized process for hangar development. Therefore, it is recommended that:

VTrans should consider developing hangar space or letting contracts to developers to construct and manage hangar space at Hartness State Airport.

In order to track and manage costs effectively, an accounting system is needed that will allocate these costs by airport by year. Currently, the accounting system permits only aggregate analysis of total costs. Effective business management of each facility requires that expense and revenue information be available by airport on a cost-category basis. Therefore, it is recommended that:

VTrans should consider modifying their accounting system to better track costs each year for each airport.

This should not require a significant change, since all of the costs are currently collected and totaled by airport. Once implemented, VTrans can then better analyze, understand, and control the allocation of its resources.

6.2 Revenue Enhancement Recommendations

The revenue enhancement recommendations did not focus on one strategic option to the exclusion of all others. Instead, a number of different revenue enhancement strategies are recommended for the Hartness State Airport, as follows.

Attraction of Corporate Aviation

Most airport sponsors have learned that corporate aviation helps “pay the bills” by contributing more to airport revenues than recreational general aviation activity. At Hartness State Airport, runway facility size and condition are more suitable for corporate activity than recreational uses, when compared to most other airports in the area, creating a real market advantage for the Airport. This is evidenced by significant usage by JELD-WEN. Additionally, the availability of land on the Airport makes development of corporate aviation facilities possible and somewhat flexible.

As stated previously, a good first step is to begin aggressive marketing activities to attract frequent transient users of the Airport to base corporate aviation operations at the Airport. Since the attraction of increased activity levels, and the recruitment of based business jets or fractional jet service is such a natural fit for the facilities in place at the Airport, and will provide a boost to fuel sales, maintenance, and demand for other services related to increased jet activity, it is recommended that:

Marketing efforts to attract corporate aviation should be instituted for Hartness State Airport.

The marketing pro forma in a subsequent section of this Plan (Table 19) shows a potential increase in revenues to VTrans of \$9,000 annually for a single business jet. Similar to VTrans, Crown Point Aviation has significant upside revenue potential for servicing business jets at Hartness State Airport. Potential fuel sales, maintenance activities, and other incidental services could provide a significant boost to current revenues for the FBO.

Given the potential for common benefits to both VTrans and the FBO, it would be beneficial to explore possible joint marketing opportunities for corporate aircraft. Obviously, much of the success in attracting business jets to the Airport will depend upon the level of business or recreational activity in the Springfield area. The basis for marketing would be some type of agreement between VTrans and Crown Point Aviation, where a marketing budget is developed and agreeable shares are contributed by both parties. The amount of money does not have to be large - these types of direct marketing campaigns can be accomplished on a modest budget. Additionally, VTrans will already have brochures for Hartness as a product of this business planning study. These brochures, combined with a targeted direct marketing campaign to corporations, can form the basis of a modest and successful marketing program. Thus, it is recommended that:

VTrans should work with Crown Point Aviation to establish the funding and scope for a marketing program.

The *Strategic Economic Development Plan* for Southern Windsor County Region (2003) identified a number of key industries that will likely play an important role in the future economic success of the region. The industries that the *Plan* listed include specialty food products, publishing, natural resource based manufactured products, engineered products and design support, in addition to professional, scientific, and technical services, traditional machine tools, and destination resorts and tourism.

While this should likely not be a significant focus of marketing efforts, recognition of large land-owners or those who own second homes in the area for vacation retreats might also be included in marketing efforts. Vermont appears to be bucking the national trend of falling home prices. As Vermont has the second highest percentage of second homes in the nation (14.6

percent) after Maine (15.6 percent)¹⁴ the housing market has remained relatively stable and even has grown as housing prices declined throughout most of the rest of the U.S. The Airport also services visitors to the local ski resorts of Okemo, Ascutney, and others. While most of these aircraft are based elsewhere, the itinerant activity generates fuel sales and overnight aircraft storage fees for the Airport. Therefore, it is recommended that:

Marketing via the Internet and possibly aviation publications should be used to promote Hartness State Airport as a destination for general aviation traffic desiring to access “the slopes.”

Such marketing could take the form of providing information (or at least a link to the Airport’s website) on the websites of the major ski vacation destinations, and in return, providing a similar level of information or linkage to the ski resort websites on the Airport’s website. In addition, informational material can be published on www.airnav.com and other regularly used airport informational websites, highlighting services and facilities at the Airport. Joint marketing efforts with the Airport’s FBO can be effective, depending on both parties willingness to contribute to such efforts.

When and if inquiries from new aircraft owners are made regarding basing their aircraft at Hartness State Airport, a follow-up program to respond to these inquiries should be developed. This program could include the provision of a “Welcome” package, providing information about Airport services, facilities, and land availability for hangar development, as well as information promoting the region and its amenities. Contacts for both VTrans and the FBO should be provided. The State should keep record of these inquiries, which can serve as justification for expanding hangar facilities at the Airport.

Airport Branding

Branding is the process of developing a unique selling identity for a product or service. One method is to rename a product to better identify its qualities that make it special or unique. Renaming the Airport could permit greater clarity, visibility, and identity to potential users of the airport. The current Airport name, Hartness State Airport, does nothing to reference Springfield or southeastern Vermont. The Airport could benefit significantly if potential users who are not familiar with the Vermont airport system could better recognize its geographic location. Smaller airports across the nation are changing their names to capitalize on their proximity to well-known locations. It is believed that the Airport could attract more ski area visitors through the use of a geographic location in its name. Potential options for renaming the airport could include Springfield – Southeastern Vermont Regional Airport, Hartness – Southeastern Vermont Regional Airport, Hartness Field at Springfield State Airport, Okemo Mountain State Airport, or Southeastern Vermont Skiptort. An important part of the rebranding effort will be creating a new look for the airport including a new logo and creating a website that is focused on the airport. Therefore, it is recommended that:

¹⁴ Source: U.S. Census Bureau, www.census.gov/hhes/www/housing/census/historic/vacation.html

VTrans should consider branding efforts for the Airport, supported with a new look, new logos, and an upgraded Internet website.

New or Improved Terminal Services, Amenities, and Activities

In order to better serve corporate aviation customers, amenities targeted towards their specific requirements are needed. These amenities include the availability of ground transportation and some type of food service at the Airport. The ground transportation can take the form of a courtesy car or a car rental outlet. While a courtesy car can be provided in the near term, a year-round rental car outlet may not be feasible until the post-2012 period when demand increases enough to support the service. Additionally, seasonal rental or regional shuttle service may be considered prior to 2012 to accommodate travelers flying in to visit local ski areas.

Food service can be provided through “automated retail” (vending machines) or through a restaurant. Airport restaurants are seldom significant money makers for the airport operator at general aviation airports (unless they are able to attract local customers), but they are usually provided both as a service and convenience to Airport patrons and visitors. As corporate aviation grows, restaurants and food service businesses located on-airport can provide catering to aircraft, providing revenue to the Airport and an additional amenity to airport users. Therefore, it is recommended that:

VTrans should provide a courtesy car and encourage the development of food services or facilities at Hartness State Airport to accommodate corporate aviation and the general public.

The Airport is used by private aircraft to access the nearby ski areas. It is possible that charter packages could be developed to take advantage of Hartness State Airport’s location near Okemo and Ascutney ski resorts. Economic development interests such as the Chamber of Commerce, in coordination with the ski areas, may desire to participate in the promotion of ski weekend packages with an air charter operation. VTrans should take an active role in facilitating coordination among the stakeholders to maximize the impact of a coordinated effort. With regard to tourism, it is recommended that:

VTrans should help coordinate the development and promotion of vacation packages by local ski area interests.

Other revenue generating activities such as fly-ins and pancake breakfasts, mini-air shows, and other community outreach programs should also be encouraged.

Hangar Development Options

The State can increase revenues through the development of aircraft hangars. In general,

two methods of aircraft hangar development can be used: State funded development and privately funded development. Both methods have positive and negative features. Briefly, the differences between the two methods can be described as follows. State development incurs higher risk (due to rental unit vacancies), but offers a higher degree of control and financial return. Private development lowers the financial risk to the State to zero, but offers lower financial returns to the Airport, since a third party (the developer) must also earn a return on the investment. In cases where grant money is available for the development of all or part of the hangars, the economic choice is clear - the public agency should develop the facilities.

At Hartness State Airport, the demand for hangar development has been estimated to include one 10-unit T-hangar and one corporate/conventional hangar in the near term. Several creative methods have been employed by airport sponsors to develop hangar facilities using both public and private investment. For public investment, State grants, FAA general aviation entitlement funding, or low-interest bond issues are preferred sources of funds. As stated previously, this Business Plan advises that the State should focus on public funding for hangar development of conventional hangars rather than T-hangars. The State owns three conventional hangars at Hartness and nine T-hangar spaces.

The State can continue its current practice and hope that there are enough aircraft owners with capital or borrowing capability to construct their own hangars. If more rapid growth is desired, and the State lacks the capital to build the facilities itself, the State should consider third-party private developers. In Vermont, this has taken the form of conventional hangar space construction being financed by an FBO (on land leased from the State) who then leases space within the facility to other tenants at a profit. An alternative to simply leasing land to the FBO would be to offer the rights to develop parcels of land through a competitively bid "Request for Proposals" (RFP). The State could then consider both the type of proposed development and the financial return (if it was bid, not set). This methodology could be used for hangar development as well as for development of other land located on airport property. Therefore, it is recommended that:

VTrans can continue to lease land directly to the FBO or other interested parties for development, and/or can offer leases through competitively bid "Requests for Proposals" to increase its potential return without investing in the construction of additional facilities.

The RFP process would quickly identify the potential market and interest from the development community for hangar construction simply through the level and quality of responses. The State could choose to, offer favorable financial terms that may interest development from local private firms; however, large returns to the State may take a number of years. If reduced rates are used to lure developers, those rates should be short term and capable of adjustment to market rates within a reasonable period of time.

As mentioned previously, conservative estimates for hangar construction reveal that conventional hangar development has a better chance of market success than T-hangars, simply because rental rates are higher per square-foot, which makes debt service more affordable and conventional hangars have more flexibility in rental responsibilities. If the State chooses to

develop the large conventional hangar recommended by this business plan, then it is recommended that:

VTrans should seek FAA and State grant money to finance all or part of the development of any hangars it constructs without private participation.

If VTrans is not interested in becoming a landlord to large numbers of individual aircraft hangar lessees, it can manage the process formally through either the FBO or on an airport or statewide basis via a contract with a property management service.

Rates and Charges Agreement Structure

Based upon analysis of the Airport's service area and general industry norms, the rate schedule for ramp parking and hangar storage at Hartness are considered reasonable. Therefore, the rate schedule and fees should not be raised at this time. Fuel flowage fees are collected through a default 3 percent gross fee charged to the FBO as a part of their lease with the State. This is also considered reasonable. Land lease rates for hangar owners cannot be adjusted except by mutual agreement. The current contracts provide for 5-year renewals with CPI adjustments at that time. There are no recommendations to raise these fees at this time.

The FBO's lease could be revised when it expires in July, 2009. In this regard, the FBO is paying a minimum of \$624 per month for rental of more than 25,000 square feet of hangar space. This equals less than \$0.30 per square foot for completed hangar space. While it is important to offer incentives to keep the FBO active and in business, the minimum rate could be doubled to \$1,250 per month and still be competitive with other airports in the region. This rate increase, or any substantial rate increase, should be implemented by VTrans over a period of several years to lessen the financial impact on the FBO. Thus, it is recommended that:

Rates for the FBO should be increased at the expiration of the current lease in July, 2009.

Alternately, the State may consider bidding out the opportunity to provide FBO services at Hartness State Airport and let the market determine the value of that opportunity (against a minimum bid established by the State). They can allow potential operators to bid the types of services they would offer and what they would pay the State for the opportunity to provide such services. This may be risky if the State believes there is little or no interest in providing the services, but may significantly impact revenue if two or more firms are willing to serve as the FBO.

For new leases, rates that are higher than those on older leases and which reflect the prevailing market rates for real estate in the area should be pursued. In order to do this, however, it is necessary to first obtain data to justify such higher rates. Also, future leases should allow for rate increases as market rate increases occur (or at least every few years). Therefore,

For new hangar development, land lease rates should be developed based on a study of the prevailing market lease rates for property of similar characteristics in the region and/or at other, competing airports, and should be written to allow rates to increase as market conditions change.

6.3 Other Long Range Options

Some of the revenue producing options presented in this Plan will likely not generate significant revenue at this point, but which may be worth pursuing in the future. These concepts should be considered when circumstances change or when aviation demand increases. There is one such option that should be kept on the “back burner” until the time or circumstances present opportunities:

Specialty FBOs

Specialty FBOs with the desire and financial resources to construct new hangar space would benefit the Airport. FBOs that offer maintenance for business jet aircraft, avionics repair and maintenance, paint shops, and aircraft refurbishment shops could attract clients from beyond Vermont. These companies can employ significant numbers of trained workers and provide incomes to local families. It is recommended that:

Marketing efforts should be directed toward bringing specialty FBO(s) to the Airport.

Part of the qualification and selection criteria should be a comparison of capitalization and investment capabilities of the candidate FBOs. It should be noted that an additional full service FBO is not appropriate at Hartness State Airport, since it would diminish and might destroy the business of the existing FBO. Rather, a specialty FBO that complements rather than competes with the existing FBO is needed. A careful examination of the existing contract between VTrans and the current FBO should be undertaken to determine if there are any limits on the addition of FBOs at Hartness State Airport.

Create Developable Land

As mentioned in a previous section, there may be an opportunity to acquire approximately six acres of land presently owned by Northeast Driver Qualifiers. This property has many potential uses in terms of aviation-related development at the airport. By reaching an agreement with a nearby property owner and relocating the driveway that currently passes between the existing airport property and this property to its perimeter, the land then becomes potentially developable for hangar or other aviation uses. In addition to the rerouting of the driveway, the airport parking lot would also need to be relocated, as a new taxiway to the

property would be required.

VTrans should consider the purchase of property now operated by Northeast Driver Qualifiers. VTrans could develop the property to be utilized for aviation-related uses.

Prior to acquisition of the property by the State, the property would need to be listed on a Master Plan as area to be acquired for aviation-related use. For this reason, it was assumed that revenues accruing from this action would occur in the post-2012 period.

6.4 Cost-Efficiency Recommendations

A management audit was not performed as a part of this airport business plan. Therefore assumptions concerning cost-efficiencies had to be taken from expense data rather than on-airport observations of activity. Examination of existing Airport cost categories revealed that all cost categories are within reasonable limits, with no significant savings to be accrued from reductions in services or materials. Therefore, the conclusions reached by this analysis indicate that there are no impacts to the current or forecast level of expenses resulting from cost-cutting or efficiency improving measures.

6.5 Impact on Revenues/Expenses

Quantifying the levels of additional potential revenue that would result from implementing the strategies listed above is highly subjective. The only reasonable method is one where the assumptions for each strategy are stated, along with the resulting impact. Then, if the assumptions are not met, deviations from the predicted revenues can be expected. It is believed that changes in revenues to the State would come primarily from increased airport development and aviation activity.

Changes in Aviation Activity

The first and most important step in determining the impacts of these strategies is to predict the change in aviation demand that would occur if each strategy were implemented. Table 18 presents a listing of the potential demand changes along with the assumptions used in estimating demand changes.

Table 18 - Potential Demand Changes by Year 2012			
Demand Change	Assumption	Operations	Based Aircraft
Current Activity		9,300	37
Corporate Aviation	Derived from marketing corporate aviation interests.	5%	1
Airport Branding	Airport name change to capture larger market base.	0%	0
New Terminal services	Most being done already - minor impacts to demand	0%	0
Hangar Development	Two 5,000 square foot community (conventional) hangars and one 5,000 square foot corporate hangar.	13%	10
Aviation/Non-Aviation Property Development	Supports development of new hangars and possible Airport Commercial Development.	0%	0
Additional/Specialty FBOs	New specialty FBOs can attract additional activity - paint shops, avionics, etc.	0%	0
Rates and Charges	Examine potential revenues from changes to rates and charges.	0%	0
Additional Potential Growth		18%	11
Total Potential Activity		11,000	48

As indicated in Table 18, the key revenue enhancement strategy for the State is the development of two 5,000 square foot conventional hangar for use as community hangars for the storage of at least 10 general aviation aircraft in the near term. These could be developed all at once or in stages, depending on the number of ready and qualified tenants, and interest from the development community. Also included is the development of a 5,000 square foot conventional hangar for use by a new based corporate aviation tenant. These developments, along with the other enhancement actions discussed in previous sections, will effectively increase activity at the Airport. Without these activities, revenue growth potential at the Airport will be limited.

Impact on Revenues

- **Attraction of Corporate Aviation:** The addition of one based business jet has a potential to increase VTrans revenues approximately \$7,000 to \$9,000 annually, depending upon the type of aircraft. This estimate is based upon the lease of a 5,000 square-foot conventional hangar for storage and fuel usage of approximately 500 to 600 gallons of Jet A fuel per week. Considering the extent to which conventional hangar rental fees and sales of jet fuel contribute to an airport's revenue, it is clear that jets based at Hartness State Airport have the potential to change the revenue picture for VTrans at the Airport.
- **Hangar Development:** VTrans can improve revenues through land leases for the recommended hangar facilities, and could add to that revenue stream if the State acts as owner/developer/landlord for the conventional hangars. At present, VTrans offers land leases at roughly \$0.10 per square foot per year; however, prevailing lease information from other Vermont airports and Regional facilities in New York reveal that land lease

rates could be raised to \$0.20 per square foot. Assuming that the one conventional hangar described above for a corporate aviation tenant, 5,000 square feet, would occupy approximately 10,000 square feet of property, the accompanying land lease could return approximately \$2,000 annually.

If the State acts as developer, owner, and landlord of the three community hangars (5,000 square feet each), debt service of approximately \$3,300 per month per unit could be expected if no FAA funding is utilized, and approximately \$2,200 per month per unit if FAA funding is utilized. These debt service estimates are based on the assumption that construction of one 5,000 square foot hangar will cost roughly \$425,000, which would be financed for 20 years at 7 percent, and would require an annual debt service payment of \$39,600. If FAA funding in the amount of \$150,000 were granted for this project, debt service would be reduced to \$26,400 annually, which accounts for the lower monthly costs noted.

- New or Improved Terminal Services, Amenities, and Activities:*** It is difficult to forecast significant revenue increases from such activities, particularly at small airports. However, over time, benefits from them can grow exponentially. Such improvements have a more qualitative than quantitative impact at Airports, as they generally contribute more toward the overall customer experience than operating revenues. However, while terminal services at general aviation airports may not be significant in terms of revenue, the impact on customer satisfaction is valuable, assisting significantly toward establishing an airport as an attractive gateway for travelers. Due to the more qualitative nature of benefits from terminal services and amenities, projections of future revenues at the Airport do not include an estimate of those generated from improved terminal services.

Table 19 presents a listing of how these potential demand increases could impact the revenue picture for Hartness State Airport if the assumptions for each scenario are met. Not included in the revenue projections is the non-aviation property development option. Also, it was not assumed that a specialty FBO could be attracted to the Airport within the 5-year planning timeframe. However, both of these recommendations should be included for the post-2012 period. Most of the recommendations in this plan call for incremental steps rather than revolutionary innovations. Actions with the greatest potential impact on revenues involve the development of hangars and the attraction of corporate aviation to the Airport.

Table 19 - Potential Increases Resulting from Revenue Enhancement Strategies						
Revenue Category	2006	2008	2009	2010	2011	2012
Leases & Landing Fees	\$7,625	\$8,248	\$8,577	\$16,432	\$19,796	\$23,160
Aviation Fuel Taxes	\$6,380	\$6,901	\$7,177	\$9,464	\$13,269	\$17,073
Miscellaneous	\$0	\$500	\$750	\$1,000	\$1,500	\$2,000
TOTAL REVENUE	\$14,005	\$15,649	\$16,504	\$26,896	\$34,565	\$42,233

Impact on Expenses

For this analysis, none of the additional revenue will impact or increase the level of expenses. Since it was assumed that the State would require private interests to construct hangar facilities, no capital costs or debt service expenses were assumed for the State. Increased tax revenue from fuel sales requires no additional investment from the State.

Comparison of Expenses & Revenues

When the enhanced revenue forecast is compared to the baseline projected operating expenses, the new net operating costs for the Airport can be predicted:

Table 20 - Recommended Plan Operating Revenue & Expense Comparison			
Year	Operating Revenues	Operating Expenses	Net Operating Costs
2008	\$15,700	\$125,600	(\$109,900)
2009	\$16,500	\$129,600	(\$113,100)
2010	\$26,900	\$133,600	(\$106,700)
2011	\$34,600	\$137,800	(\$103,200)
2012	\$42,200	\$142,100	(\$99,900)

The Baseline forecasts of revenues and expenses show an increasing operating deficit through the five year forecast period. Unlike the Baseline forecasts, the Recommended Plan comparison of revenues and expenses shows a decrease in the deficit over the period, shrinking from a high of -\$113,100 to -\$99,900. While not eliminating the operating deficit, the business plan trims \$53,900 from the projected deficits through the year 2012. Additional revenues could be earned with a more aggressive State policy of hangar development and non-aviation land development.

6.6 Summary of Recommended Plan

A number of recommendations have been made as a part of this business plan study, all with the primary goal of increasing net revenues at the Airport, with benefits including the increase of economic development and employment in the area. The recommended plan of action from this report rests on two primary strategic initiatives:

- 1) *Attraction of Corporate Aviation*
- 2) *Conventional Hangar Development*

To accomplish these strategic initiatives, and drawing on the discussions presented in previous sections of this business plan, specific recommendations have been determined by timeframe, as follows:

Immediate

- **1st Priority - Hangar Development:** VTrans should continue to lease land for hangar development to individual interests, but can also offer larger tracts of land for potential third party hangar developers, solicited through a “Request-for-Proposals” process.
 - For new hangar development, land lease rates should be developed based on a study of the prevailing market lease rates for property of similar characteristics in the region and/or at other, competing airports.
 - VTrans should seek FAA and State grant money to finance all or part of the development of any hangars it constructs without private participation. The FAA will participate in hangar development at the airport when all safety deficiencies at the airport have been corrected.

- **2nd Priority - Attract Corporate Aviation:** Marketing efforts to attract corporate aviation should be instituted for Hartness State Airport.
 - VTrans should work with Crown Point Aviation to establish the funding and scope of the marketing program.
 - Marketing via the Internet and possibly aviation publications should be used to promote Hartness State Airport as a destination for general aviation traffic desiring to access “the slopes.”

2008

- **1st Priority - Airport Branding:** New branding efforts for the Airport should be supported with a new look, new logos, and an upgraded Internet website.
 - As a part of Airport Branding, VTrans should help coordinate the development and promotion of vacation packages with local ski area interests.

2009-2012

- **1st Priority - Rates and Charges Adjustment:** Lease rates for the FBO should be increased at the expiration of the current lease in July, 2009. No other rate changes are recommended.
- **2nd Priority - Expand Airport Services:** VTrans should provide a courtesy car and encourage the development of food service facilities at Hartness State Airport to accommodate corporate aviation and the general public.

Other Items

- **Accounting:** VTrans should consider modifying their accounting system to better track costs each year for each airport.

Long Term

- **Attract Specialty FBO(s):** Marketing efforts should be directed toward the attraction of specialty FBO(s) for the Airport.
- **Create Developable Land:** VTrans should research the possibilities of acquiring the 6 acres of land northwest of the terminal building for future hangar development. The land is currently utilized for a truck driver training school. An

agreement with the owner of a nearby residential property would be required for the relocation of a privately owned driveway.

Timetable and Trigger Points

Table 20 presents a timetable of trigger points for implementation of the recommended plan, grouped by type of action (administrative, marketing, etc.).

Table 21 - Action Plan Trigger Points			
Action	Description	Trigger Point	Timeframe
Administrative			
System of Accounts	Modify accounting system to better track costs by category and airport.	Immediate	2008
Method for Developing Hangars	Examine potential means of hangar development to include developers or State construction	As soon as practical	2008
Marketing			
Branding	Consider renaming the Airport to recognize its location and the regional market it serves. Follow-up marketing with new logos, websites, etc.	Immediate	2008
Promotion of Tourism	Coordinate development and promotion of vacation packages by local ski area destinations with charter air service providers.	Immediate.	2008
Market Corporate Aviation	Begin marketing of corporate aviation using a combination of State and Crown Point Aviation resources.	After brochures become available	2008
Market Specialty FBO	Attract new specialty FBO or aviation business to the Airport.	When demand warrants	2012
Terminal Services, Amenities			
Ground Transportation	Provide a courtesy car in the near term with the goal of attracting a car rental outlet as activity increases through 2012,	Immediate - courtesy car Long term - rental outlet.	2009 2012
Food Service	Provide food service in the form of vending machines in the near term with the goal of attracting a restaurant location as activity increases through 2012.	Immediate - vending Long term - restaurant.	2009 2012
Airport Development			
Aircraft Hangars	Hangar construction should be undertaken as demand warrants. Private investment is encouraged and should be built into the State's procurement program.	Upon finding willing developers	2008
Hangar Development Funds	Seek FAA and State grant money for hangar development that is accomplished without private	At same time as hangar	2008

Table 21 - Action Plan Trigger Points			
Action	Description	Trigger Point	Timeframe
	participation. Consider the purchase of 6 acres of land adjacent to the airport currently utilized for a truck driver training school. It should be noted that the FAA would not fund hangar development at an airport until all runway safety and clear approach issues are addressed and deficiencies cured.	development	
Rates & Charges			
Hangar, Tie-down, and Landing Fees	Increases in hangar land lease rates to market prices. Leases should allow for periodic increases to maintain market rates.	For new contracts	2009

7. ECONOMIC IMPACT ASSESSMENT

The purpose of this section is to quantify the economic impact and contribution of Hartness State Airport to the local economy for both the existing situation and for the Recommended Plan. By showing the existing and newly created jobs, income, and total economic output, support for Airport projects may be generated. This analysis demonstrates the economic impacts of Airport and aviation use within Windsor County by tracing the movement of expenditures through the various economic sectors until the money is exported incrementally from the County through purchases of outside goods and services.

7.1 Goals and Methods of Analysis

The goal of this analysis was to quantify the following economic aspects of Hartness State Airport both for the existing situation and for the year 2012 Recommended Plan:

- **Direct Spending:** On-airport spending on employment, operations, and capital projects. Direct spending also includes off-airport spending by air travelers for rental cars, hotels, restaurants, etc. associated with the users and provision of airport services.
- **Induced Benefits:** Impacts created by the successive rounds of spending in the local economy until the original direct or indirect impact has been incrementally exported from the local area.
- **Jobs and Income:** Quantify the income generated by aviation and the number of jobs supported by the Airport.
- **Total Output in Dollars:** The combined impacts of direct, indirect, and induced spending.

To accomplish this goal, the study utilized the following simplified process and methodology:

- Collect baseline data from the existing statewide economic impact study¹⁵. These numbers were adjusted for inflation from the year 2003 to the year 2007 effectively increasing the original impacts by 13 percent.
- Apply regional multipliers to direct recommended plan capital costs and projected employment for 2012.
- Describe non-monetary impacts of Hartness State Airport and local aviation.

Recommended plan capital costs and projected employment for 2012 was estimated to include the following:

- One corporate jet operator employing a total of 3 full-time and 2 part-time personnel.

¹⁵ Simat, Helliesen & Eichner, Inc. (SH&E, Inc.), **Economic Impact of Vermont's Public-Use Airports**, April, 2003.

- Hangar construction estimated to average \$255,000 per year over the 5 year period. This number is derived from three 5,000 square foot corporate hangars (\$1,275,000).
- Additional visitor spending was estimated at \$105,000 annually.

These inputs were used with IMPLAN modeling to estimate the additional economic impacts resulting from implementation of the recommended plan. Appendix B presents the IMPLAN output detail associated with this estimated impact.

7.2 Results of Analysis

In 2003, VTrans completed an analysis of the economic impact of airports and published the *Economic Impact of Vermont's Public-Use Airports*³. According to that study, Hartness was estimated to have over \$1.2 million in economic impact in terms of business sales and public sector expenditures. Several local businesses, including HANCOR and area manufacturers, use the airport for company business. It is also used by the State Fish and Game Department, State Police, National Guard, Civil Air Patrol (CAP) and by local hospitals for medical helicopter refueling. According to the study, the airport is also used for private aircraft services by a number of second home owners and for tourism-related activities.

The economic impact methodology first identified the direct spending and employment at Hartness State Airport (called direct impacts) for the year 2012 recommended plan. Armed with this information, regional re-spending multipliers derived from IMPLAN software were applied to the data to determine the multiplied impacts of direct spending (called induced impacts). Table 22 presents a summary of Hartness State Airport's direct and induced economic impacts for both the baseline case and the year 2012.

7.3 Non-monetary Impacts

There are a number of non-monetary benefits of aviation that have not been mentioned in this analysis. Some of these benefits include:

- **Transportation Benefits:** Defined as the time saved and cost avoided by travelers who use airports rather than the next best alternative. Hartness State Airport provides access to the National Air Transportation System.
- **Stimulation of Business:** Airports have been shown in other studies to be an important factor in the attraction and siting of new businesses in a community. This is particularly true for businesses with over 100 employees.
- **Aeromedical Evacuation:** Airports often serve as bases for aeromedical evacuation teams or flight services. This life-saving function has intrinsic value that often cannot be adequately quantified.
- **Recreation:** Roughly 60 percent of general aviation travel is for recreational purposes. This includes the valuable tourist trade which brings economic activity to the study region.

Table 22 - Direct and Induced Economic Impacts				
Item	Year 2003 Impacts	Year 2007 Impacts**	Recommended Plan Add-on Impacts	Total 2012 Impacts
Direct Impacts				
On-Airport Income*	\$152,123	\$171,899	\$107,000	\$278,899
On-Airport Expenditures	\$434,658	\$491,164	\$1,065,900	\$1,557,064
On-Airport Employment	5	5	7	12
Off-Airport Income*	\$124,879	\$141,113	--	\$141,113
Off-Airport Expenditures	\$382,327	\$432,030	--	\$432,030
Off-Airport Employment	9	9	--	9
Induced Impacts				
Induced Direct and Indirect	\$395,918	\$447,387	\$450,400	\$897,787
Total Induced Employment Impacts	7	7	5	12
Grand Total Dollar Impacts	\$1,212,903	\$1,370,580	\$1,516,300	\$2,886,880
Grand Total Income Impacts*	\$409,240	\$462,441	\$243,300	\$705,741
Grand Total Employment Impacts	21	21	12	33

* Includes indirect incomes from visitor spending and capital development. This is a subset of the total impacts and is already included in the output number.

** Inflated for CPI change - roughly 13 percent over the period. Employment not inflated.

All of the factors point to a value of an airport that is not easily quantified. The impacts that were estimated within the body of this report are only one facet of the overall picture. Hartness State Airport enjoys a significance that is much larger than these numbers can estimate. It is part of a scarce resource that needs support, protection, and appreciation from all the citizens that benefit from its operation, both directly and indirectly.

APPENDIX A

SUMMARY OF LEASE AGREEMENTS, RATES, AND CONTRACT DETAILS

Lessee / Tenant Description	Physical Facilities	Amount	Additional Terms	Term Length	Begin/End Date	Renewal Options
Lease between the State of Vermont and a Private Hangar Owner	65' x 75' lot upon which Lessee will build a 60' x 54' hangar	Rent \$366 annually At the end of the first 5 year period and at the end of each succeeding 5 year periods, the amount of annual rent shall be adjusted to reflect any increase in the Consumer Price Index	The Lessee will pay all charges for all utilities and all taxes, duties and assessments If Lessee sublets space they have to pay 10% of the annual gross income received from the sublet to AOT The Lessee shall carry insurance in compliance with the General Conditions	5 years	3/27/2002 3/26/2007	If the Lessee performs all of its obligations under this lease satisfactorily and timely, it shall have the right to renew this lease at the end of its term for 4 additional periods of 5 years, not exceeding a total period of 25 years
Lease between the State of Vermont and a Private Hangar Owner	80' x 74' lot 3 upon which Lessee will construct a 60' x 54' hangar	Rent: \$503 annually At the end of the first 5 year period and at the end of each succeeding 5 year periods, the amount of annual rent shall be adjusted to reflect any increase in the Consumer Price Index	Must start construction under a year of the signing of this lease The Lessee shall carry insurance in compliance with the General Conditions The Lessee will pay all charges for all utilities and all taxes, duties and assessments If Lessee sublets space he will have to pay 10% of the annual gross income received from the sublet to AOT	5 years	4/01/2005 3/31/2010	If the Lessee performs all of its obligations under this lease satisfactorily and timely, it shall have the right to renew this lease at the end of its term for 4 additional periods of 5 years, not exceeding a total period of 25 years

Lessee / Tenant Description	Physical Facilities	Amount	Additional Terms	Term Length	Begin/ End Date	Renewal Options
Lease between the State of Vermont and a Private Hangar Owner	100' x 80' lot 4 upon which Lessee will construct a 80' x 60' hangar	Rent: \$800 annually At the end of the first 5 year period and at the end of each succeeding 5 year periods, the amount of annual rent shall be adjusted to reflect any increase in the Consumer Price Index	Must start construction under a year of the signing of this lease The Lessee shall carry insurance in compliance with the General Conditions The Lessee will pay all charges for all utilities and all taxes, duties and assessments If Lessee sublets space he will have to pay 10% of the annual gross income received from the sublet to AOT	5 years	1/26/2007 1/25/2012	If the Lessee performs all of its obligations under this lease satisfactorily and timely, it shall have the right to renew this lease at the end of its term for 4 additional periods of 5 years, not exceeding a total period of 25 years
Lease between the State of Vermont and a Private Hangar Owner	68' x 58' lot 5 upon which Lessee will construct a 48' x 38' hangar	Rent: \$394 annually At the end of the first 5 year period and at the end of each succeeding 5 year periods, the amount of annual rent shall be adjusted to reflect any increase in the Consumer Price Index	Must start construction under a year of the signing of this lease The Lessee shall carry insurance in compliance with the General Conditions The Lessee will pay all charges for all utilities and all taxes, duties and assessments If Lessee sublets space he will have to pay 10% of the annual gross income received from the sublet to AOT	5 years	1/26/2007 1/25/2012	If the Lessee performs all of its obligations under this lease satisfactorily and timely, it shall have the right to renew this lease at the end of its term for 4 additional periods of 5 years, not exceeding a total period of 25 years

Lessee / Tenant Description	Physical Facilities	Amount	Additional Terms	Term Length	Begin/End Date	Renewal Options
Amended Lease between the State of Vermont and Crown Point Aviation, Inc	<p>Hangar and maintenance building (No. 1 on Exhibit A)</p> <p>New 100' x 80' storage hangar (No. 2 on Exhibit A)</p> <p>60' x 90' maintenance hangar (No. 3 on Exhibit A)</p> <p>Old T-hangar (No. 4 on Exhibit A)</p> <p>Terminal Building- Crown Point Aviation has limited use of the counter and office space</p>	<p>Monthly rent in the amount of 3% of gross monthly income but not less than \$624</p> <p>Included in the monthly rent is: 5% of all sales of aircraft held for resale and sale of assets of the business being conducted at the Airport</p> <p>8% of the proceeds received from car rental services</p> <p>Security deposit of \$1,100</p> <p>At the end of the first 5 year period and at the end of each succeeding 5 year periods, the amount of annual rent shall be adjusted to reflect any increase in the Consumer Price Index</p>	<p>Crown Point Aviation has the right to manage 21 tiedowns</p> <p>Crown Point Aviation has the right to operate the fuel farm</p> <p>A statement of all gross income connected with the leased premises during each preceding month shall be included with each monthly rental</p> <p>Crown Point Aviation shall pay all taxes imposed upon the business, aircraft, inventory, leasehold improvements, equipment, or buildings of CPA</p> <p>Insurance policy should be no less than \$1,000,000 per occurrence-combined single limit \$1,000,000 general aggregate \$1,000,000 products/completed products aggregate \$50,000 fire legal liability</p>	5 years	8/01/2005 7/31/2009	If the Lessee performs all of its obligations under this lease satisfactorily and timely, it shall have the right to renew this lease at the end of its term for 3 additional periods of 5 years, not exceeding a total period of 20 years
Amendment No. 1 to the Lease between the State of Vermont and the Civil Air Patrol, Inc		There are no fees for the term of this lease		5 years	2/14/2003 2/13/2008	

Lessee / Tenant Description	Physical Facilities	Amount	Additional Terms	Term Length	Begin/ End Date	Renewal Options
Lease between the State of Vermont and a Private Hangar Owner	65' x 75' lot upon which Lessee will construct a 60' x 54' hangar	Rent: \$366 annually At the end of the first 5 year period and at the end of each succeeding 5 year periods, the amount of annual rent shall be adjusted to reflect any increase in the Consumer Price Index	The Lessee shall carry insurance in compliance with the General Conditions The Lessee will pay all charges for all utilities and all taxes, duties and assessments If Lessee sublets space he will have to pay 10% of the annual gross income received from the sublet to AOT	5 years	3/27/2002 3/26/2007	If the Lessee performs all of its obligations under this lease satisfactorily and timely, it shall have the right to renew this lease at the end of its term for 4 additional periods of 5 years, not exceeding a total period of 25 years

APPENDIX B
IMPLAN RESULTS

Springfield-Hartness, VT, Economic Impact –

Employment

<i>NAICS Aggregated Sector</i>	<i>Direct</i>	<i>Indirect</i>	<i>Induced</i>	<i>Total</i>
Ag, Forestry, Fish & Hunting	0.0	0.0	0.0	0.0
Mining	0.0	0.0	0.0	0.0
Utilities	0.0	0.0	0.0	0.0
Construction	1.3	0.1	0.0	1.3
Manufacturing	0.1	0.1	0.0	0.2
Wholesale Trade	0.0	0.1	0.0	0.1
Transportation & Warehousing	4.0	0.3	0.0	4.3
Retail trade	0.3	0.2	0.2	0.7
Information	0.0	0.1	0.0	0.1
Finance & insurance	0.0	0.0	0.0	0.1
Real estate & rental	0.0	0.2	0.1	0.3
Professional- scientific & tech services	0.0	0.5	0.1	0.6
Management of companies	0.0	0.0	0.0	0.0
Administrative & waste services	0.0	1.1	0.0	1.1
Educational services	0.0	0.0	0.1	0.1
Health & social services	0.0	0.0	0.3	0.3
Arts- entertainment & recreation	0.3	0.1	0.0	0.4
Accommodation & food services	1.1	0.6	0.2	1.8
Other services	0.0	0.1	0.1	0.2
Government & non NAICS	0.0	0.2	0.0	0.2
Total	7.1	3.5	1.2	11.8

Multiplier: 1.66

Income

<i>NAICS Aggregated Sector</i>	<i>Direct</i>	<i>Indirect</i>	<i>Induced</i>	<i>Total</i>
Ag, Forestry, Fish & Hunting	\$0	\$653	\$462	\$1,115
Mining	\$0	\$209	\$17	\$225
Utilities	\$0	\$1,044	\$488	\$1,532
Construction	\$44,684	\$2,442	\$325	\$47,452
Manufacturing	\$4,135	\$4,356	\$597	\$9,087
Wholesale Trade	\$954	\$4,163	\$1,667	\$6,784
Transportation & Warehousing	\$15,468	\$12,656	\$1,327	\$29,451
Retail trade	\$7,650	\$4,218	\$6,018	\$17,887
Information	\$91	\$4,391	\$694	\$5,176
Finance & insurance	\$0	\$2,435	\$1,121	\$3,555
Real estate & rental	\$419	\$3,869	\$1,240	\$5,529
Professional- scientific & tech services	\$2,403	\$18,671	\$1,844	\$22,917
Management of companies	\$0	\$42	\$5	\$47
Administrative & waste services	\$0	\$19,087	\$683	\$19,771
Educational services	\$0	\$205	\$2,015	\$2,220
Health & social services	\$0	\$3	\$11,733	\$11,736
Arts- entertainment & recreation	\$4,976	\$319	\$502	\$5,796
Accommodation & food services	\$26,238	\$10,245	\$3,135	\$39,618
Other services	\$0	\$1,180	\$2,319	\$3,499
Government & non NAICS	\$31	\$9,136	\$771	\$9,938
Total	\$107,049	\$99,325	\$36,960	\$243,334

Multiplier: 2.27

Output

<i>NAICS Aggregated Sector</i>	<i>Direct</i>	<i>Indirect</i>	<i>Induced</i>	<i>Total</i>
Ag, Forestry, Fish & Hunting	\$0	\$1,312	\$504	\$1,816
Mining	\$0	\$2,493	\$217	\$2,710
Utilities	\$0	\$4,533	\$2,131	\$6,664
Construction	\$300,006	\$5,442	\$858	\$306,307
Manufacturing	\$12,617	\$17,408	\$2,727	\$32,752
Wholesale Trade	\$2,524	\$11,017	\$4,410	\$17,951
Transportation & Warehousing	\$601,429	\$21,790	\$2,934	\$626,154
Retail trade	\$18,685	\$10,857	\$15,346	\$44,888
Information	\$399	\$20,390	\$3,285	\$24,074
Finance & insurance	\$0	\$7,652	\$3,956	\$11,608
Real estate & rental	\$2,514	\$22,464	\$7,216	\$32,194
Professional- scientific & tech services	\$3,136	\$43,381	\$4,511	\$51,029
Management of companies	\$0	\$146	\$17	\$163
Administrative & waste services	\$0	\$86,122	\$1,797	\$87,920
Educational services	\$0	\$394	\$3,889	\$4,282
Health & social services	\$0	\$8	\$22,588	\$22,596
Arts- entertainment & recreation	\$15,750	\$1,482	\$1,453	\$18,685
Accommodation & food services	\$73,569	\$29,872	\$9,212	\$112,653
Other services	\$0	\$2,904	\$4,684	\$7,589
Government & non NAICs	\$146	\$45,091	\$23,927	\$69,164
Total	\$1,065,927	\$334,759	\$115,664	\$1,516,349

Multiplier: 1.49

Tax Impact

Enterprises (Corporations)	Total	Empl. Comp.	Prop. Income	Household Ex	Enterprises Ind. Bus Tax	Totals	
Corporate Profits Tax					\$7,588	\$7,588	
Indirect Bus Tax: Custom Duty					\$596	\$596	
Indirect Bus Tax: Excise Taxes					\$1,608	\$1,608	
Indirect Bus Tax: Fed NonTaxes					\$729	\$729	
Personal Tax: Estate and Gift Tax						\$0	
Personal Tax: Income Tax				\$18,748		\$18,748	
Personal Tax: NonTaxes (Fines- Fees						\$0	
Social Ins Tax- Employee Contribution		\$11,781	\$2,529			\$14,310	
Social Ins Tax- Employer Contribution		\$11,955				\$11,955	
Federal Government NonDefense	Total	\$23,736	\$2,529	\$18,748	\$7,588	\$2,933	\$55,533
Corporate Profits Tax					\$1,474	\$1,474	
Dividends					\$1,682	\$1,682	
Indirect Bus Tax: Motor Vehicle Lic					\$388	\$388	
Indirect Bus Tax: Other Taxes					\$1,301	\$1,301	
Indirect Bus Tax: Property Tax					\$17,223	\$17,223	
Indirect Bus Tax: S/L NonTaxes					\$1,403	\$1,403	
Indirect Bus Tax: Sales Tax					\$7,797	\$7,797	
Personal Tax: Estate and Gift Tax						\$0	
Personal Tax: Income Tax				\$5,967		\$5,967	
Personal Tax: Motor Vehicle License				\$481		\$481	
Personal Tax: NonTaxes (Fines- Fees				\$1,611		\$1,611	
Personal Tax: Other Tax (Fish/Hunt)				\$228		\$228	
Personal Tax: Property Taxes				\$213		\$213	
Social Ins Tax- Employee Contribution		\$54				\$54	
Social Ins Tax- Employer Contribution		\$217				\$217	
State/Local Govt NonEducation	Total	\$271	\$0	\$8,500	\$3,156	\$28,113	\$40,040
Total		\$24,196	\$2,529	\$27,248	\$10,743	\$31,046	\$95,762