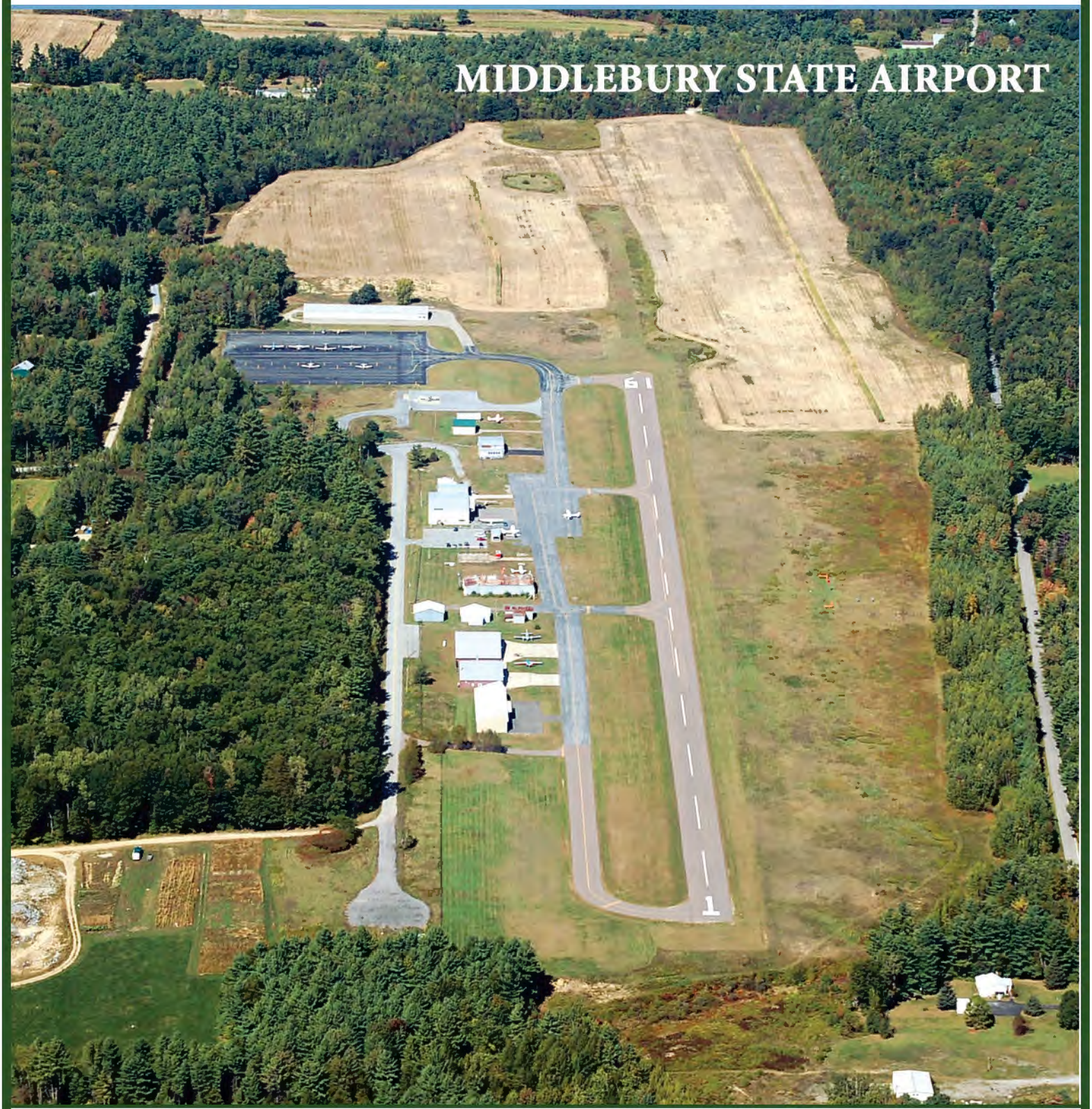
September 2008

VTrans

Vermont Agency of Transportation

STATEWIDE AIRPORT BUSINESS PLANS



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1. INTRODUCTION

The purpose of this business plan for Middlebury State Airport (6B0) is to recommend potential means of improving the Airport's financial performance, identifying 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 Middlebury State Airport 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 while 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 systems."[1]

VTrans' goals are as follows[2]:

- 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 system's 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 State 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, 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

Middlebury is classified within the State of Vermont as a Local Service Airport. Such airports are considered to have community importance, primarily serving recreational and personal flying activities. The airport serves a contributing role in the local economy. These airports may serve some corporate/business aviation users, including jet activity; in addition to flight training, but primarily provide storage and facilities for piston-driven single and multi-engine aircraft.[3] The Vermont Airport System and Policy Plan provides several objectives that a Local Service Airport should meet. Those objectives are noted in Table 1.

Table 1: Recommended Standards for Middlebury as a Local Service Airport

Objective	Recommended Minimum	Minimum Standard Not Met
Airport Reference Code	B-I	
Runway Length	4,000'	X
Runway Width	75'	X
Runway Strength	12,500 lbs	
Taxiway Requirements	Connectors or Turnarounds, Partial Parallel Desired	
Approach	Non-Precision 1,000'/3 miles	X
NAVAIDs	Rotating Beacon, Lighted Wind Indicator / Segmented Circle, VGSI, Appropriate Instruments for Non-Precision Approach	X
Lighting	Medium Intensity Runway Lights	X
Weather Reporting	AWOS or ASOS	X
Ground Communications	Public Phone, Ground Communication Outlets or Remote Communication Outlets as needed	
Hangar Space	45,000 sq. ft.	X
Apron Space	7,400 sq. ft.	
Terminal/Administration Building Space	1,500 sq. ft.	
Fence Coverage	Operations Area at Minimum	X
Automobile Parking	63 spaces	
Fuel Service	Self-Serve AvGas, Jet A as needed	
FBO Requirements	Limited Service	
Aircraft Maintenance	Limited Service	
Ground Transportation	Loaner Car Available, Rental Car Desired	X

Source: 2007 Vermont Airport System & Policy Plan, Appendix D

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

The Airport is also included in the *National Plan for Integrated Airport Systems* (NPIAS) as a general aviation facility. 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.

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 and marketing. These may include color ALPs, photos, and/or brochures depending upon the Airport's needs.
- An economic impact evaluation of the Airport, identifying jobs, income, and total output associated with the facility.

In addition to the items noted above, this business plan will seek to identify Middlebury's role in serving the aviation needs of its community and region 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 improvements 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 - Baseline Financial and Economic Outlook
Section 5 - Business Climate and Plan Development
Section 6 - Recommended Plan
Section 7 - Economic Impact Assessment
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 future challenges that the airport must overcome. 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, while minimizing its weaknesses. 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 air transportation services for the local community and the region. Thus, the Mission Statement for the Middlebury State Airport may be stated as:

> "The mission of the Middlebury State Airport is to provide a safe, efficient, and fiscally sound airport for pilots, residents, and visitors to the Western Vermont region. The airport aims to support local and regional economic development for residents, educational institutions, and businesses".

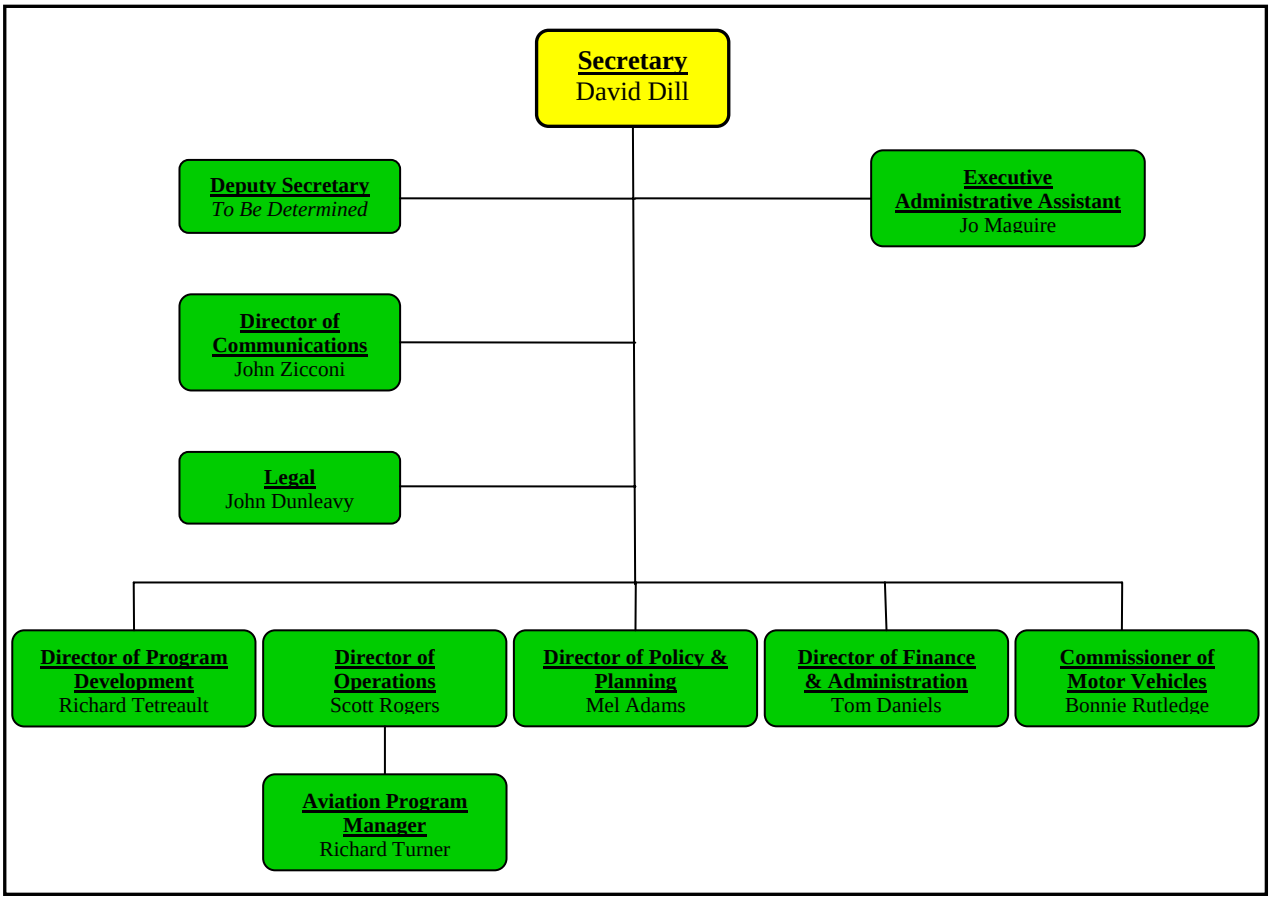
Program goals supporting this mission would include:

- Continue to operate the Airport safely and efficiently
- Provide convenient, user-friendly facilities and services for tenants and visitors.
- 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

Middlebury 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 being Program Development, Policy and Planning, Finance & 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: VTrans Organization

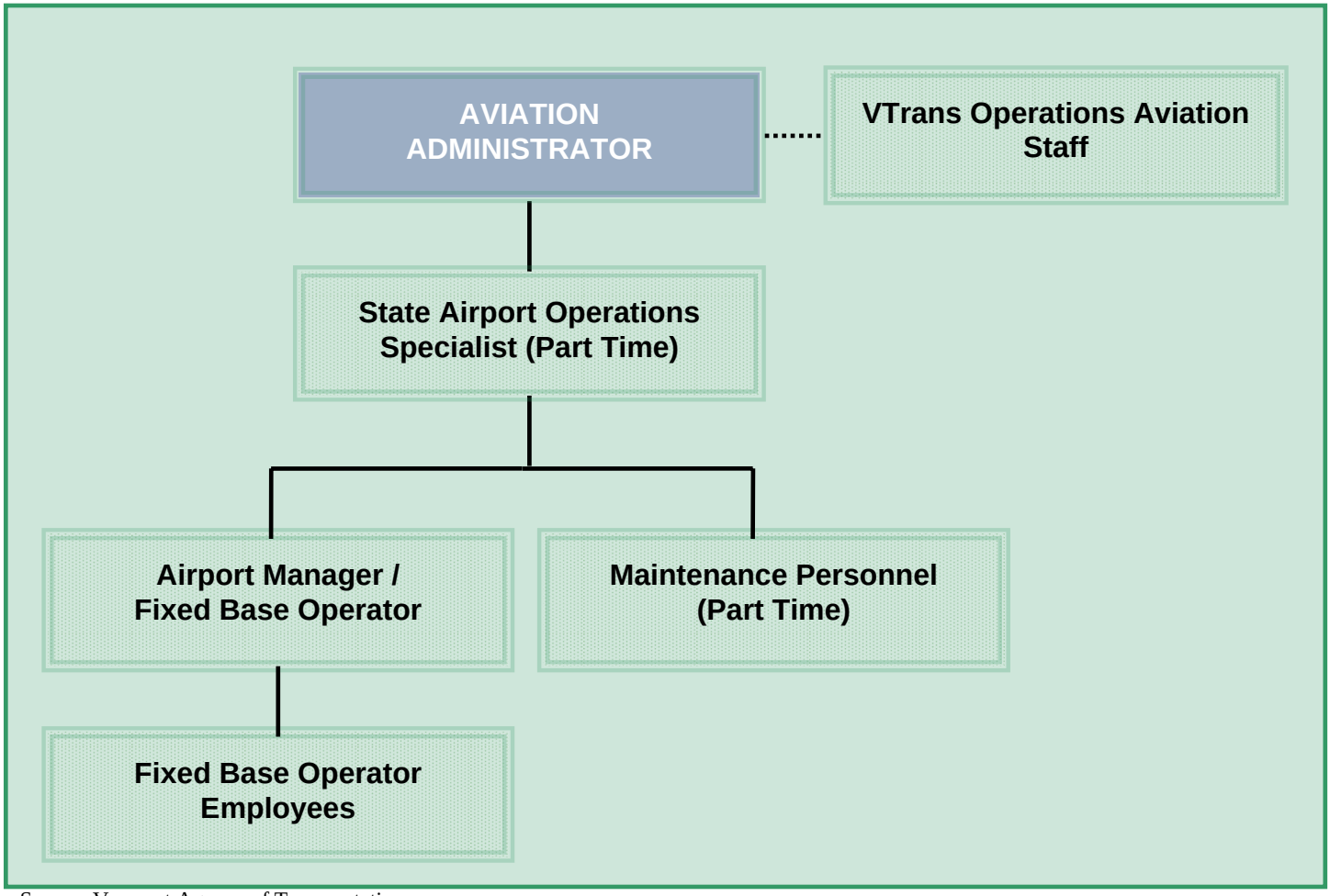


Source: Vermont Agency of Transportation

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 Middlebury and also provides management assistance for Hartness (Springfield), Rutland, and Morse (Bennington) airports. Approximately 10-15% of his time is available for Middlebury. Also reporting to the VTrans Aviation Administrator are Airport Project Managers, an Airport Leasing Specialist, and a Planning Coordinator.

Figure 2: Middlebury State Airport Organization



Source: Vermont Agency of Transportation

3. EXISTING AIRPORT CHARACTERISTICS

3.1 Introduction

Middlebury State Airport is located in western Vermont in south central Addison County. The airport is entirely in the Town of Middlebury, one of the ten largest towns in the state. The town center of Middlebury, which is also the shire town of the county, is located approximately six miles northwest of the airport. Access to the Middlebury area is provided via a number of different routes. From the east and west, access is provided via State Route 125. North and south access is provided via U.S. Route 7, State Routes 30 and 116, and Interstate 89, with an exit approximately 35 miles from the airport. Access to the airport is gained via State Route 116 to Airport Road. State Route 116 can be accessed from Middlebury on State Route 125. The Airport location is shown in Figure 3.

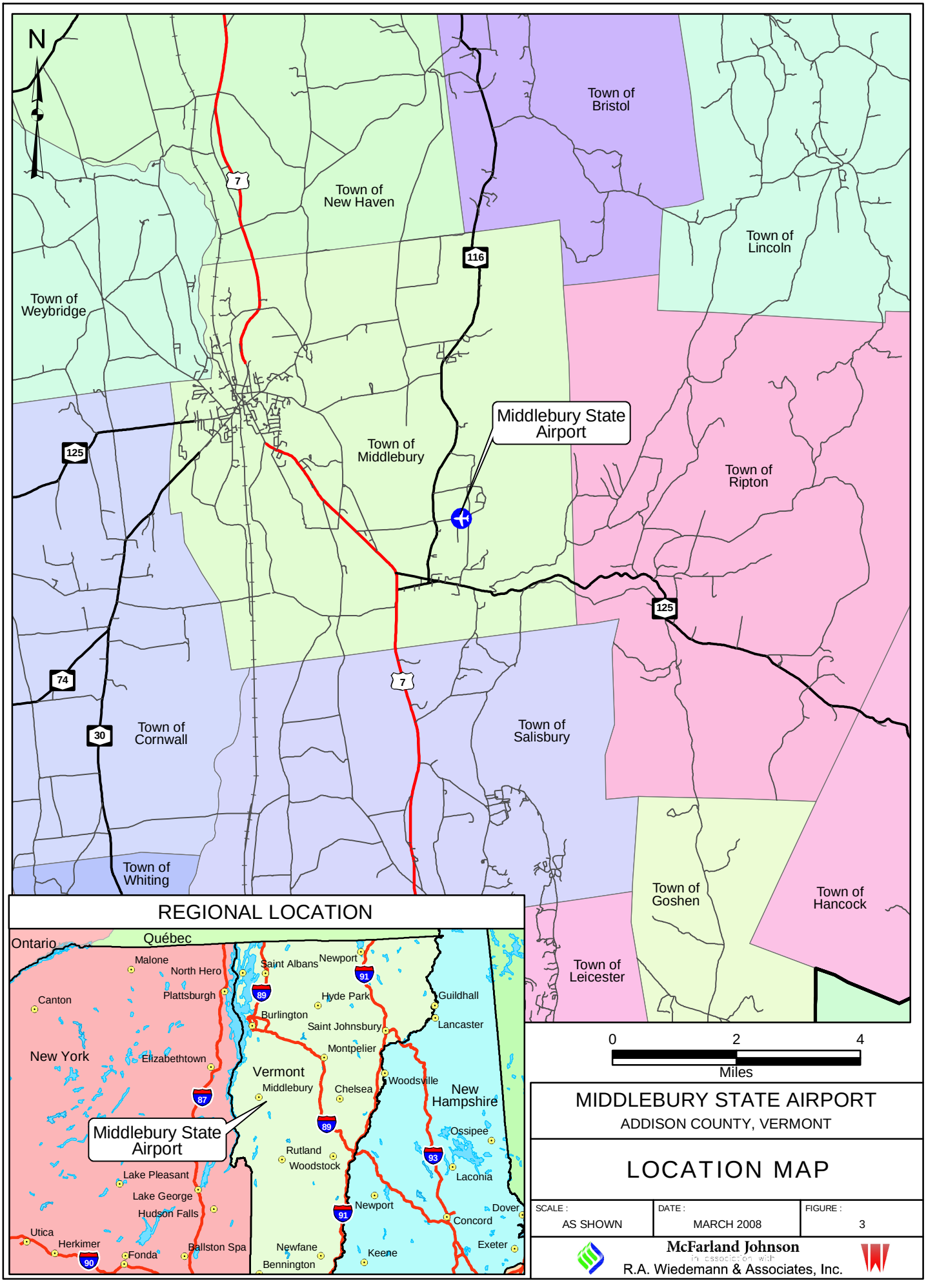
Runways

The airport has one runway. Runway 1-19 extends in a north-south direction. Table 2 summarizes the characteristics of the runway. Figure 4 shows the existing layout of the airport and its facilities.

Table 2: Runway Characteristics

	Runways	
	1	**19**
Airport Reference Code	B-I	
Length	2,500’	
Width	50 ft	
Pavement Condition	Good	
NAVAIDS		
ILS	No	No
VASI	No	No
REILs	No	No
MALSR	No	No
PAPI	No	No
Marking	Visual	
Lighting	None	
Touchdown Point	None	
Gross Weight Limitations	Single Wheel: 12,500 lbs.	
AWOS/ASOS	None	

Source: AirNav, January 2008 (http://www.airnav.com/airport/6B0)
FAA Airport Master Record, as of April 2008



MIDDLEBURY STATE AIRPORT

ADDISON COUNTY, VERMONT

LOCATION MAP

SCALE :	DATE :	FIGURE :
AS SHOWN	MARCH 2008	3

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R.A. Wiedemann & Associates, Inc.

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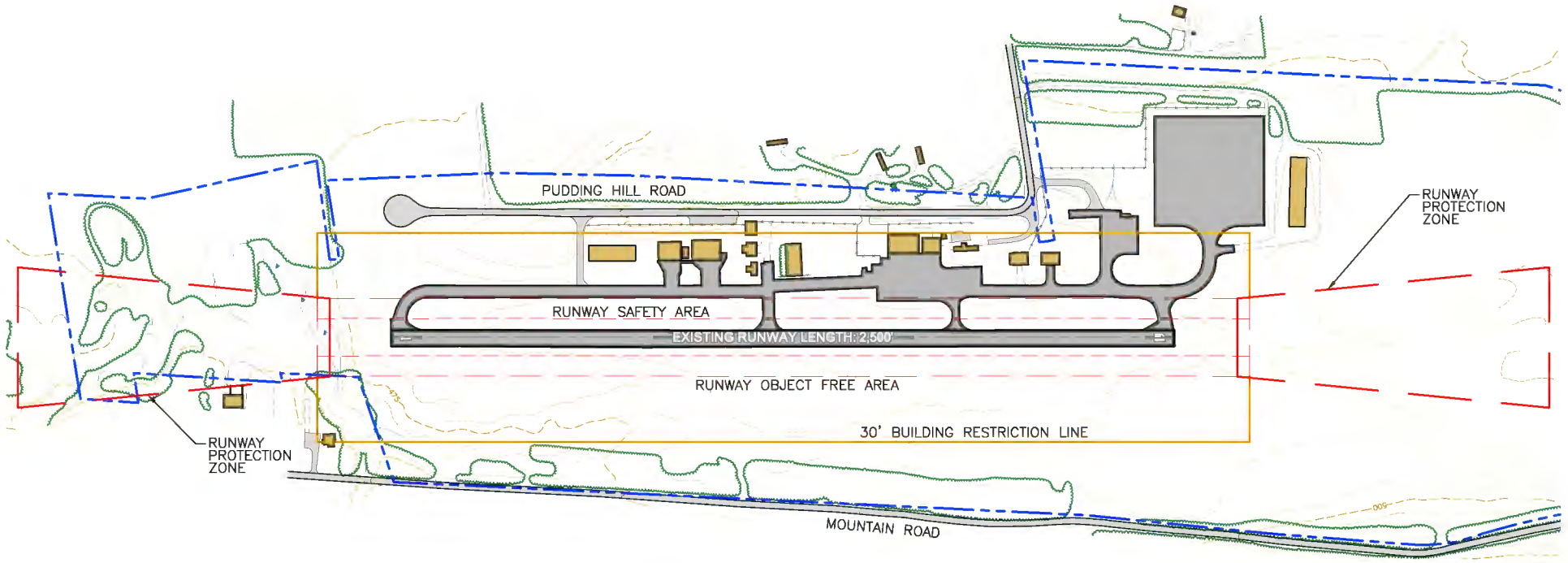

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MIDDLEBURY STATE AIRPORT
ADDISON COUNTY, VERMONT

EXISTING LAYOUT

SCALE:	DATE:	FIGURE:
AS SHOWN	SEPTEMBER 2008	4

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Taxiways

Middlebury currently has four taxiways; "Alpha," "Bravo," "Charlie," and "Delta." Each taxiway is asphalt with no taxiway lights. Taxiway "Alpha" is the parallel taxiway to the runway, while the remaining taxiways are stubs that connect the runway to Taxiway "Alpha" and the aprons. Table 3 provides details about each of the taxiways.

Table 3: Taxiway Characteristics

	A	B	C	D
Length	2,875'	138'	100'	102'
Width	38'	38'	23'	41'
Pavement Condition	Excellent/Fair*	Excellent	Excellent	Excellent
Lighting	None	None	None	None
Type	Parallel	Stub	Stub	Stub
Location / Function	Parallel Taxiway	Access from T-Hangars	Access from Main Apron	Access from North Aircraft Parking Area

Source: Airport Layout Plan Update, May 2003.
Note: * - The southern portion of Taxiway A is in excellent condition, while the northern portion is only in fair condition.

Airport Reference Code

The Airport Reference Code (ARC) is based on two factors: The letters are based on a number 1.3 times the aircraft's stall speed (which is commonly denoted as the "Approach Speed") and the roman numerals are based on the wingspan of an aircraft. Table 4 below indicates the groupings to determine the ARC. The ARC for an airport is based on the largest aircraft that frequently uses the airport, with the term "frequently" defined as 500 operations or more.

Table 4: Airport Reference Code (ARC)

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, 2008.

The airport manager indicated that the largest aircraft to utilize the airport is a DC-3 (wingspan of 95 feet); but such operations are rare. Other large aircrafts that operate at the airport according to the 2003 Airport Layout Plan Update include the Beech King Air C90 (wingspan of 50 feet), the Cessna Caravan (wingspan of 52 feet), and the Embraer 110 (wingspan of 50 feet). However, the only aircraft with over 500 annual operations at the airport is the Cessna 172 Skyhawk (wingspan of 36 feet).

Middlebury State Airport currently has an Airport Reference Code (ARC) of B-I. The code was changed in the 2003 Airport Layout Plan Update. Previously, the ARC for the airport was A-I. The ALP update recommended the change when considering the increased usage of the airport by larger aircraft. These aircraft would benefit from a longer and wider runway. Furthermore, the 2007 Vermont Airport System & Policy Plan indicated that the airport be designated a Local Service Airport. Local Service Airports in Vermont should have an ARC of B-I, which Middlebury now has.

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 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.

Penetrations to the imaginary surfaces at Middlebury State Airport are minimal. The 2003 Airport Layout Plan Update indicates that there are a few trees in the Runway 01 approach surface that are considered obstructions. Some of these obstructions have been cleared since the update was completed.

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 ensure 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 5 describes the RPZ's for the runway ends at the Airport.

Table 5: Runway Protection Zone Requirements				
Runway End	Length (feet)	Inner Width (feet)	Outer Width (feet)	RPZ Acres
1	1,000	250	450	8.035
19	1,000	250	450	8.035

Source: Airport Layout Plan Update, May 2003.

Middlebury State Airport controls nearly all of the land in the Runway Protection Zones. According to the 2003 Airport Layout Plan Update, all of the Runway 19 RPZ is on airport property and 80% of the Runway 1 RPZ is on airport property. Of the 20% of the RPZ not on airport property, only 0.2 acres of that land, or approximately 2.5% of the RPZ, is not controlled via avigation easement[4].

Runway Safety Areas (RSA)

The Runway Safety Area surface surrounding the runway is capable of reducing the risk to airplanes of damage and injuries to their occupants resulting from overshoots, undershoots, or excursions from the runway. At Middlebury State Airport, the RSA width should be 120 feet, or 60 feet from the runway centerline in each direction. The RSA length should be 240 feet from each runway end. At present, Middlebury complies with RSA standards for runway width and for length off the Runway 19 end. However, the airport is not in compliance for length off the Runway 1 end, where only 150 feet is available[5].

3.2 Existing Aviation Activity

Similar to many other small general aviation airports, Middlebury State Airport primarily caters to private individuals using the airport for recreational flying and flight training. The FBO indicated that even though flight training is not provided at Middlebury, flight schools from other airports use Middlebury's runway for practice. There is also a limited amount of business and corporate related flight activity (see Page 18, "Corporate Aviation"). The facilities available at the airfield, as well as its paved runway, and taxiway availability make Middlebury an attractive option for local flyers although the limited runway length reduces the ability for use by most business jet aircraft and other larger turboprop aircraft.

According to the 2007 Vermont Airport System & Policy Plan Update, there were 50 aircraft based at the airport. This figure included 42 single engine aircraft, three multi-engine, three jets (Fouga Magisters), and two gliders or experimental aircraft. The airport manager has indicated that there are now only two jets at the airport. In terms of operations, the Airport had 32,250 in 2005. The majority of these operations, 31,450, were general aviation while the remaining 800 were military.

[4] Airport Layout Plan Update, May 2003, page 2-11.
[5] Airport Layout Plan Update, May 2003, page 2-10.

In a February 2008 interview, the airport manager estimated that the airport has approximately 20,000 to 25,000 operations annually, with the potential to see a much larger number if a proposed runway extension is completed. This figure is lower than both estimates from the Airport Layout Plan Update in 2003 and the Airport System & Policy Plan Update in 2007. The airport manager indicated that an acoustical counter was installed at the airport in an attempt to count operations without a control tower. The data for State fiscal year 2008 indicated approximately 10,000 annual operations occurred at the airport. The manager also indicated that the number of based jets has decreased to two since the publication of the System and Policy Plan Update.

3.3 Existing Facilities

Landside and Aviation-Support facilities accommodate the many activities and services involved in storing and maintaining aircraft and in processing aircraft before and after use of the airside facilities. Landside facilities at Middlebury include aircraft hangars and aprons, an FBO office/terminal, aviation fuel facilities, and automobile parking lots. Well-maintained and affordable landside facilities are important to an airport's efficient operation and success.

FBO Office/Terminal

The office for the FBO, also serving as a small terminal for arriving and departing pilots, is a one-story structure of 5,400 square feet (SF). As with most general aviation terminal buildings, there are a number of functional areas and services provided within, including some hangar space used by the FBO for maintenance. The building includes a pilot lounge, a briefing room, restrooms, and a telephone. The building is owned by the State.

Automobile Access and Parking

Vehicles traveling to Middlebury State Airport will utilize Airport Road (Town Road 26) off State Route 116. From Downtown Middlebury, airport users will travel east on State Route 125 until heading north on Route 116. Once at the airport, there are three parking lots for automobile parking. The main lot is paved with 32 marked parking spaces. This lot is located near the FBO Office/Terminal. The second lot is near the north ramp and has room for 25 automobiles. The final lot is near the southern hangars at the airport and provides parking for 15 vehicles. In addition to the aforementioned parking lots, each hangar also has several spaces for tenant use.

Apron

The aprons at Middlebury encompass approximately 170,000 square feet. The principal apron can be found northwest of Runway 19 and can handle 42 aircraft while the secondary

apron is in front of the terminal building with space for 10 aircraft. There is also a small fuel apron located between the two parking aprons. The tie-down spaces are owned by the State of Vermont and operated under a lease by J&M Aviation, the Airport's FBO.

Hangars

There are several conventional and T-hangars at the airport. Hangar specifications and lease terms are detailed in Appendix A.

Fuel Farm

The under-ground fuel tank is located at a fuel apron between the terminal apron and the north apron at the Airport. The fuel tank is in the northwestern section of the fuel apron. The fuel tank stores 100 Low Lead (100LL) aviation fuel. 100LL aviation fuel is available self-serve, 24 hours a day.[6] The airport manager indicated that Jet A fuel would likely be offered at the airport if a proposed runway expansion is completed. The Vermont Agency of Transportation constructed the system and continues to own the fuel farm, but the facility is operated under a lease to the FBO.

Deicing

Deicing services are not available at Middlebury State Airport. J&M Aviation cited a lack of demand as the reason that they do not offer this service.

Security

Middlebury has one partial fence along Airport Road, with gates that prevent automobile and pedestrian entry along the residential road. However, along the School House Road side of the runway, there is no fence to deter pedestrians from entering airport property. The airport manager noted that pedestrians enter airport property regularly on foot, all-terrain vehicle, and snowmobile.

Aircraft Rescue & Firefighting

As a small airfield with no commercial traffic, Middlebury State Airport does not have Aircraft Rescue & Firefighting (ARFF) services on airport property. The airport is served by the Middlebury Fire Department, which responds in the event of an emergency at the airport. The MFD is an all-volunteer fire department with two stations. The main fire station is approximately six miles away from the airport, while a secondary station is only two miles from the airfield. Medical emergencies would be attended to by the Middlebury Volunteer Ambulance Association, with headquarters six miles away from the airport.

[6] Airport Layout Plan Update, May 2003, page 2-18.

Airfield Maintenance

Maintenance of the facilities at Middlebury is accomplished by the Vermont Agency of Transportation District 5. VTrans District 5 currently has its headquarters in Colchester and has a maintenance garage in Middlebury. VTrans is responsible for the removal of snow and ice during wintry conditions as well as the mowing of the grass at the airport during the summer months.

3.4 Existing Tenants & Users

There are several tenants at the Middlebury State Airport. Descriptions of several of these lessees are below:

J&M Aviation

J&M Aviation (J&M) is responsible for providing all FBO services at Middlebury and also serves as the airport manager. J&M provides a variety of services including aircraft sales and major repair service, aircraft painting, aircraft rental, a pilot lounge, 100LL aircraft fuel, aircraft hangars, and apron space.

J&M Aviation leases two buildings at the airfield and has constructed a small hangar on one parcel of leased land and the FBO Office/Terminal/Maintenance Facility on the other parcel. The small hangar is 900 SF while the FBO Office building is approximately 5,400 SF. J&M has been given the right to manage all tie-down spaces at the airport as well as the fuel farm for the State of Vermont.

Downey Corporation

Downey Corporation is based at Middlebury State Airport and offers specialty FBO-type services. According to their website, they have been located at Middlebury State Airport since 1980. The company provides maintenance services to airplanes from throughout the Northeast. Maintenance services include avionics installation, composite repair, and control surface repair. The company also deals in aircraft modification[7]. Downey works out of one hangar at the southern portion of the airport and utilizes 43,400 square feet of space for its operations. Regional airline CommutAir previously used Downey to paint their aircraft at the Middlebury State Airport. However, the airport manager indicated that CommutAir's move to Cleveland and discontinuation of service in the New England area would likely eliminate that company's usage of the paint facility at Middlebury for further painting needs.

[7] Downey Corpoation. (http://www.downeycorporation.com).

Foster Brothers Farm, Inc.

Foster Brothers Farm has a lease with the airport for agricultural purposes. Foster Brothers Farm uses 44.8 acres of land toward the north of Runway 19. The airport manager indicated that this land is used for growing corn.

Lemon Fair Mosquito Control

According to the airport manager, Lemon Fair Mosquito Control is presently in the process of constructing a hangar at the Airport. In previous years, crop dusters had been based at the Airport. With recent increases in the occurrence of West Nile Virus, the need to control the mosquito population is growing and as such, the company's services are in much higher demand, leading to the need for a hangar to house its aircraft.

Corporate Aviation

While Middlebury State Airport currently has a relatively short and narrow runway, there is a limited amount of corporate traffic that utilizes the airport for maintenance and local business purposes. In addition to the traffic generated by CommutAir's use of the facility for painting, although such use is declining, other corporations that use the airport, or which have used the Airport in recent years include New England Diesel Aviation, which is currently inactive, Lawrence Miller Consulting, and Bristol Electronics. In addition, Middlebury College, a private liberal arts school with approximately 2,400 students located 6 miles from the airport, brings a large number of users to the airport. These users include students and parents of students at the college, as well as prospective students and visitors to the college.

3.5 Airport Development Plan

Development Considerations

There is a variety of constraints to development at the Middlebury State Airport. Constraints that should be considered include the following:

- Terrain
- Farmland Soils
- Land Use
- Available Development Areas
- Resident Concerns

Terrain

The terrain at Middlebury State Airport could be an impediment to aviation and non-aviation development at the airport. There is a moderate rise in elevation off the Runway 01 end as well as to the east and west of the airport along Airport Road and School House Road. These

slopes decrease towards the northern end of the airport, creating a minimal impact to future development in that area.

Farmland Soils

According to the 2003 Airport Layout Plan Update, parts of Middlebury State Airport are located on what the United States Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) has determined to be prime farmland soil. While most development is not expected to affect this soil, the NRCS should be consulted before any future development commences.

Land Use

Another consideration is surrounding land use. All airport property, as well as the runway protection zones (RPZ), is zoned as part of the Airport District. According to the Middlebury Zoning Ordinance, uses are limited in this district. Approved conditional uses can be found in Table 6.

Table 6: Conditional Uses in the Airport District
Airport Manager Residence
Bed & Breakfast
Contractor Storage Yard and/or Shop
Equipment / Vehicle Rental and/or Sale
Garden Center and/or Nursery
Governmental Use and/or Public Utility Substation
Public Park
Soil, Sand, Gravel Extraction
Storage Trailer Storage
Warehouse and/or Rental Storage Facility

Source: Town of Middlebury Zoning and Subdivision Regulations, February 2008, Pg. 67
Note: There are no permitted uses in the Airport District

The area to the west of the airport is zoned Agricultural Rural Residential. Examples of uses this district allows include residential dwellings (one and two-family), as well as bed & breakfasts and agriculture by right. With Zoning Board approval, examples of uses include schools, nursery schools, museums, sawmills, and commercial fruit & vegetable stands. The area to the east is zoned Medium Density Residential. Uses allowed by right include one and two-family homes, as well as bed & breakfasts, and churches, libraries, museums, rooming houses, schools, and public parks, all with Zoning Board approval[8].

The airport vicinity is predominantly agricultural and forested to the west of the airport. There are several residences in this area. The 2003 Airport Layout Plan Update indicated that the noise-levels associated with aircraft utilizing the field would not be considered a nuisance to the

[8]Town of Middlebury Zoning and Subdivision Regulations. February 2008, Pp. 61-62.

area. The planned short and long-term development of the airport, including the possible extension of the runway, will not have an effect on the noise-level in the area surrounding the Airport to any significant extent. The 2007 Middlebury Town Plan, which supported development at the airport to the extent that "Airport improvements will provide some additional safety, but are not sufficient to allow industrial jet operations or larger aircraft[9]."

Available Development Areas

With its present runway length, there is not a large amount of space for further aviation development at Middlebury State Airport, nor is there demand to develop it. However, the expansion of the runway will make a larger amount of space available and practical for development. There is a large tract of land available west of the Runway 19 end that could be developed for airside, landside, or non-aviation related uses. Another ideal site for non-aviation related development is on the eastern side of the runway, directly across from the north and fuel aprons along Mountain Road. While there is no taxiway access from this site, it would provide an ideal site for other types of commercial or industrial development. In the future, with the development of a taxiway, this land could also be utilized for aviation-related development.

Resident Concerns

The proposed extension of the runway and taxiway at the airport has brought some dissension among the residents in the vicinity of the airport. According to the airport manager, recent public meetings have brought outcries about the development of the airport. The manager indicated that there is a belief in the community that flying is "only for the wealthy" and that the runway extension is occurring because of backing by Middlebury College. Before development continues at the Airport, the misunderstanding of current and future airport use needs to be alleviated in hopes that residents can better understand the purpose of the general aviation airport in their community. Further, residents must understand that commercial service is not a possibility at Middlebury State Airport. An investment in educating the public about what the Airport is and what it will be might pay significant dividends as expansion of the runway is pursued.

Development Plan

The 2003 Airport Layout Plan Update indicates 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 and their status is noted:[10]

Airside Recommendations

- Extension of Runway 19 by at least 1,200 feet to bring it to 3,700 feet in length
    - This project has not been completed but is currently in the planning & design stages, which may proceed over several years.

[9] Town of Middlebury Plan, June 2007, Pg. 125.
[10] Airport Layout Plan Update, May 2003, pages 7-4 – 7-5.

- Extension of Taxiway "Alpha" to correspond to the extension of Runway 19
  - This project will correspond with the construction of the runway expansion.
- Widen Runway 19 by 10 feet to a total of 60 feet to accommodate B-I aircraft
  - This project will correspond with the construction of the runway expansion.
- Expansion of Runway Safety Areas (RSAs) for Runway 01 immediately and Runway 19 after the proposed extension
  - This project has not been completed.
- Addition of over 35,000 SF to aircraft parking aprons
  - This project has not been completed.
- Removal of tree obstructions in the approach surface of Runway 01
  - This project has been partially completed.

Landside Recommendations

- Construction of a T-hangar complex north of the existing south apron
  - This has not been completed.
- Construction of two corporate hangars (including a new administration building) south of the Downey Corporation hangars
  - A new hangar building has been completed south of the Downey hangar and a new administration building was constructed to the north of the Downey hangar.
- Installation of security fencing in locations that are deemed to be at risk for unauthorized public access in the short term, and surrounding the entire airport in the long term
  - The installation of a partial perimeter fence has occurred.
- Construction of an airport picnic area including tables and barbeque grills.
  - This project has been completed.

Other Developments/Improvements

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

- Widening of runway by 25 feet, an additional 15 feet over the ALPU recommendation
- Environmental impact statement for runway extension and widening
- Installation of Visual Glide Scope Indicators (VGSIs)
- Installation of a Rotating Beacon
- Installation of a Lighted Windcone
- Installation of Medium Intensity Runway Lights (MIRLs)
- Installation of an Automated Weather Observation System (AWOS) or Automated Surface Observation System (ASOS)
- Addition of one new automobile parking space
- Airport Layout Plan Update (2013)

While the previously mentioned projects have been proposed through plans, few have yet to be considered for funding by the Vermont Agency of Transportation. While the installation of the rotating beacon, lighted wind cone, and MITLs could benefit the airport to initiate night operations, several hazard beacons would also be required on the mountain ridge to the east of the airport. The mountain ridge is located in the Green Mountain National Forest, which could preclude the State from receiving permits to install hazard beacons. In addition, local opposition towards the airport by neighbors may further deter plans to install lighting and to institute night operations. If the airport remains available for daytime operations only, these lighting systems recommended above would be unnecessary.

The fiscal-year 2009 to 2013 VTrans Airport Capital Improvement Program indicates seven projects (three for Middlebury and four statewide) that are planned to occur (or at least commence) at the airport within that time frame. The projects include:

- A snow removal equipment (SRE) building.
- The design and construction of the expansion to Runway 19 and Taxiway A as well as the expansion of the runway safety area (RSA).
- The construction of a new t-hangar.
- A statewide pavement maintenance plan.
- The completion of individual business plans for multiple airports across Vermont.
- The completion of statewide aviation planning items.
- The statewide introduction of Localizer Performance with Vertical Guidance (LPV) approach patterns (dependent upon a 3,200' or greater runway landing length).

The Development Plan for Middlebury is illustrated in Figure 5. The Development Plan identifies areas that could be developed including measures discussed in the 2003 Airport Layout Plan Update, the 2007 Airport System & Policy Plan Update, and areas identified in this Airport Business Plan. The Development Plan, at this point, includes basic ideas for locations and types of development, and will serve as a basis for the full Development plan presented in Section 6 of this Business Plan and is discussed in terms of five development areas:

Area 1: This area, located south of the newly developed hangars near the Downey Corporation hangars and east of Airport Road could allow for additional aviation-related development. The airport manager indicated that this area was the preferred space for development. This site has a significant slope and would require moving of soil. However, this could be turned into an asset, as the soils removed from this area could potentially be used as fill-dirt to support the development of other areas at the Airport.

Area 2: This area, located to the north of the north apron and the existing condo hangar could provide space for several hangars or other aviation-related developments. The area has good road access from Airport Road and is accessible to the runway from Taxiway D through an already constructed apron for the adjacent condo hangar. This site is relatively flat and is ideal for aviation development. If the runway is extended, a new parallel taxiway and stub taxiway would be constructed to prevent aircraft from having to taxi on the runway.

Area 3: This area, located adjacent to Area 2, is also ideal for aviation-related development. This area would be most suitable for development after the development of Area 2. This area is suitable for any type of aviation-related development. With the current availability of apron space at the airport, a new apron may not be necessary. However, this site would be suitable for additional T-hangars if the demand is present.

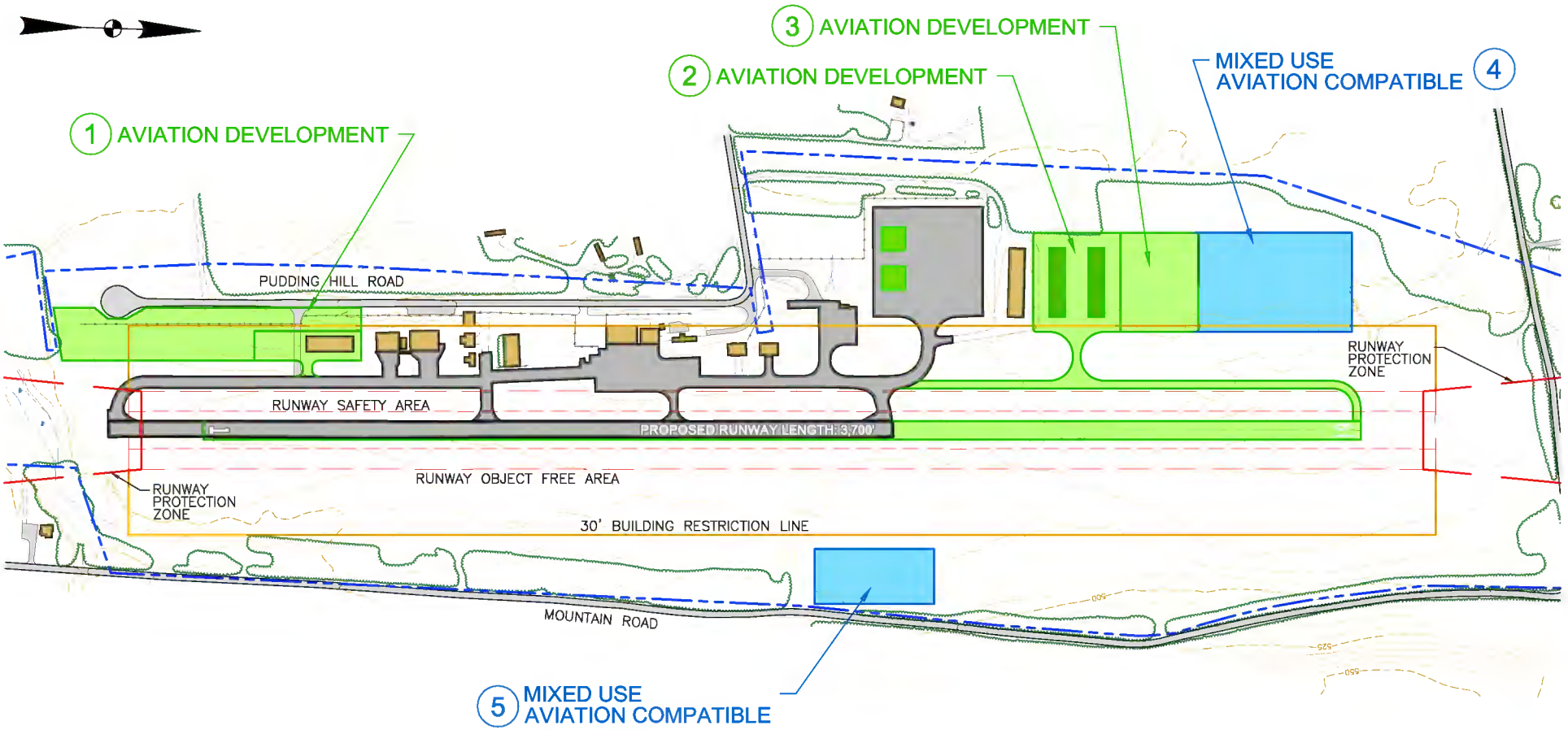
Area 4: This area, located adjacent to Area 3 is ideal for mixed-use aviation compatible development. With the amount of space presently devoted to aviation-related development, this space would be ideal for compatible development. Compatible development could include industrial or commercial use that meets the guidelines of the Town of Middlebury Zoning Regulations. Road access to this site could be accomplished by Airport Road to the south or Munson Road to the north. An access road to both would need to be constructed. In addition, part of the area is presently forested with evergreen trees. These trees would likely need to be removed for development to occur on the plot.

Area 5: This area, located east of the north apron area opposite the runway, is suitable for mixed-use aviation compatible development. The land on east side of the runway is completely undeveloped and is relatively uneven. The area for proposed development is flat with direct access to Mountain Road. While the airport manager indicated that this area could be utilized for aviation-related development, it seems unlikely that the demand for this type of development at the airport would become substantial enough to make the development of the network of taxiways required for aviation-related development economically feasible. The development of an industrial use on this lot would be the ideal use of the land.

Airport Capital Improvement Program

Middlebury State Airport, and all public airports in Vermont, is eligible for assistance funding capital projects through the FAA Airport and Airway Improvement Program (AIP). As an eligible participating airport in the AIP program, the airport sponsor is required to prepare, update annually, and submit to 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; selected passenger terminal facilities; and obstruction identification and removal. Items not typically eligible for AIP funding include airport marketing, maintenance equipment, automobile parking facilities, and private-use areas of terminal facilities and other revenue generating facilities. Hangars and fuel farms are eligible for AIP funding at non-primary airports on a case-by-case basis. The highest funding priority according to FAA's rating procedure is given to those projects that are safety-related such as runway safety area improvements, obstruction removal, and facility improvements to meet current FAA Airport Design Standards. While the State of Vermont has



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MIDDLEBURY STATE AIRPORT
ADDISON COUNTY, VERMONT

DEVELOPMENT PLAN

SCALE:	DATE:	FIGURE:
AS SHOWN	SEPTEMBER 2008	5

McFarland Johnson
in association with
R.A. Wiedemann & Associates, Inc.

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received AIP funds in the recent past for statewide projects that have included some improvements at Middlebury State Airport, the airport last received a grant for a specific project in fiscal year 2005.

The Statewide Airport Capital Improvements Program (ACIP) for FY 2007-2011 includes three projects for Middlebury State Airport. The first project is the extension of the runway with taxiway and safety area design. The second project is the construction of the runway and taxiway extension. The final project is the construction of a nested T-hangar. These projects are considered the 3rd, 33rd, and 47th highest priorities for the State.

Local/Private Funding

Local funding of publicly-owned airports is usually accomplished through a public sponsor's general fund. This expenditure may be offset by airport-generated revenues. Public bodies may also issue general obligation (GO) or revenue bonds. These bonds are usually reserved for large capital projects. A GO bond is backed by the full faith and credit of the issuing party. Statutory restrictions often limit the amount that can be borrowed in relation to the tax base of the issuing government.

A revenue bond is backed by a promise to pay the principal and interest represented by the bond with revenues generated by the project it funds. Revenue bonds must be evaluated by independent underwriters, and the proposed bonds must demonstrate a reasonable expectation of repayment. Revenue bonds may not always meet this test since some airport facilities generate more indirect benefits to the community than direct revenues.

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 Middlebury has been limited to enhancement of the FBO facilities and 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 at little or no cost to the State, 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.

The airport manager indicated in an interview that several private donors, including current and potential tenants at the airport, have made significant pledges towards the cost of the proposed runway expansion at the Airport. These pledges have occurred because of the benefits that the longer runway will have for the Airport and how the runway expansion would make the Airport more useful for the donors. However, the airport manager noted that the continued delays in the completion of the runway expansion could adversely affect the pledges.

3.6 Market Analysis

Airport Service Area

Figure 6 illustrates the airport service area and other nearby public-use airports. A 30-mile circle is assumed to enclose each airport's Airport Service Area (ASA). Table 7 provides details about the public-use airports in the Middlebury ASA, as well as several comparable airports in the Northeast. In addition to the facilities mentioned in this section, there are a number of private airports that are not open to the public within the ASA. These are not considered in this analysis because their impact on Middlebury State is minimal.

Table 7: Airport Service Area & Other Comparable Airports

Airport	City & State	Distance from Middlebury	Primary Runway Length	NPIAS Designation	Ownership
Airport Service Area					
Middlebury State	Middlebury, VT	N/A	2,500 ft.	General Aviation	Public (State)
Basin-Harbor	Vergennes, VT	19 miles	3,000 ft.	N/A	Private
E.F. Knapp State	Berlin, VT	30 miles	5,002 ft.	General Aviation	Public (State)
Shelburne	Shelburne, VT	27 miles	2,250 ft.	N/A	Private
Ticonderoga	Ticonderoga, NY	17 miles	4,040 ft.	General Aviation	Public (Municipal)
Warren - Sugarbush	Warren, VT	16 miles	2,575 ft.	General Aviation	Private
Other Comparable Airports					
Hartness State	North Springfield, VT	46 miles	5,498 ft.	General Aviation	Public (State)
W.H. Morse State Airport	Bennington, VT	66 miles	3,703 ft.	General Aviation	Public (State)
Berlin Regional	Berlin, NH	120 miles	5,200 ft.	General Aviation	Public (Municipal)
Saratoga County	Saratoga Springs, NY	65 miles	4,700 ft.	General Aviation	Public (County)
Turners Falls	Montague, MA	87 miles	3,013 ft.	General Aviation	Public (Municipal)

Table 7: Airport Service Area & Other Comparable Airports					
Airport	**City & State**	**Distance from Middlebury**	**Primary Runway Length**	**NPIAS Designation**	**Ownership**
Bean Municipal	Rangeley, ME	94 miles	3,200 ft.	General Aviation	Public (Municipal)

Source: McFarland Johnson, Inc, 2008

Facilities

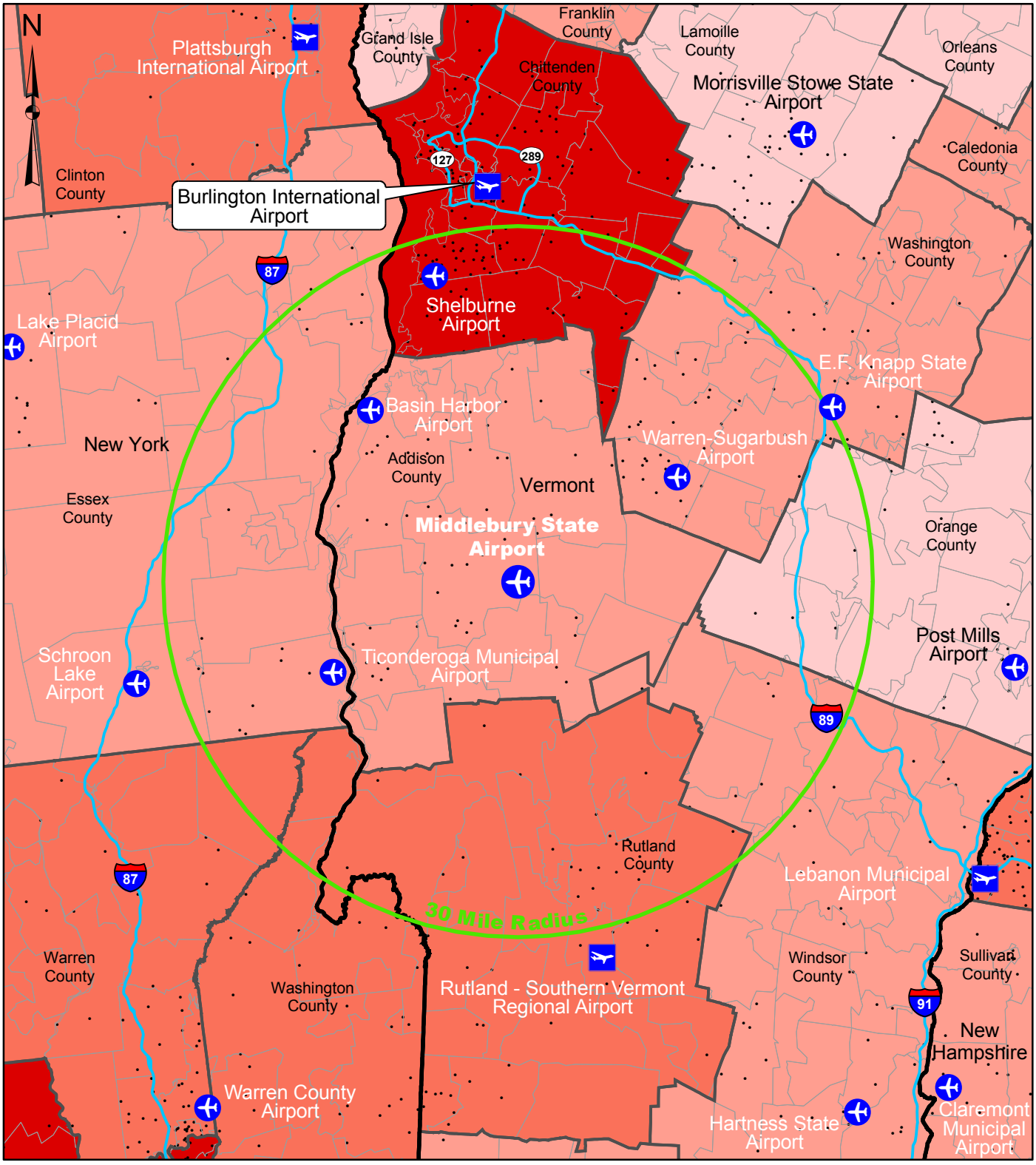
Table 8 provides a comparison of facilities at other airports within the Middlebury State Airport ASA as well as at the other comparable airports. Four of the six airports in the ASA have paved asphalt runways while two have turf runways and one has a gravel runway. Of these airports, E.F. Knapp State Airport (Montpelier) has the longest runway at 5,002 feet.

Aviation Services

Table 9 presents the availability of various aviation services at each of the airports. None of the airports provides a full range of general aviation services. Saratoga County offers the largest variety of services. Middlebury, Bean Municipal, Turners Falls, and E.F. Knapp offer many different services, but are lacking in several categories. Minimal services are available at Shelburne, Ticonderoga, Berlin, and Warren-Sugarbush, and no services are offered at Basin-Harbor.

Hangars and Tie-downs

Table 10 presents different aircraft storage space options available at airports in the ASA and their costs as well as landing fees and fuel costs. At present, tie-down parking at Middlebury is average when compared to the other airports at $45 per month. The cost for conventional hangar space at the airport is average to below average compared to the other airports. While the costs for hangar space and tie-downs are average, the price for 100LL fuel is one of the highest in the ASA as well as among the other comparable airports, but slightly lower then many of the other airports.



Population by County

- 0 - 30000
- 30001 - 60000
- 60001 - 90000
- 90001 - 120000
- 120001 +

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

MIDDLEBURY STATE AIRPORT

ADDISON COUNTY, VERMONT

SERVICE AREA

SCALE :	DATE :	FIGURE :
AS SHOWN	SEPTEMBER 2008	6

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Table 8: Facility Comparisons[11]

Airport	Owned	Acres	ARC	Number Of Based Aircraft							Runway		NAVAIDs (Best Approach)	Control Tower
				Jet	Multi	Single	Heli	Ultra-light / Gliders	Military	Total	First L x W	Second L x W		
Middlebury State, VT	Public	156	B-I	3	3	42	0	2	0	**50**	2,500' x 50' (Asphalt)	N/A	Visual	N
Basin-Harbor, VT	Private	14	Small	0	0	0	0	0	0	**0**	3,000' x 90' (Turf)	N/A	Visual	N
E.F. Knapp State, VT	Public	259	B-II	0	2	55	0	0	0	**57**	5,002' x 100' (Asphalt)	4,022' x 100' (Asphalt)	Precision (ILS)	N
Shelburne, VT	Private	23	Small	0	0	53	0	5	0	**58**	2,250' x 60' (Turf)	N/A	Visual	N
Ticonderoga, NY	Public	60	B-I	0	0	10	0	0	0	**10**	4,040' x 60' (Asphalt)	N/A	Non-precision (RNAV/GPS)	N
Warren – Sugarbush, VT	Private	125	Small	0	0	20	0	50	0	**70**	2,575' x 30' (Asphalt)	N/A	Visual	N
TOTAL (Airport Service Area)				**3**	**5**	**180**	**0**	**57**	**0**	**245**				
Hartness State, VT	Public	185	B-II	0	1	28	0	8	0	37	5,498' x 100' (Asphalt)	3,000' x 75' (Asphalt)	Non-precision (LOC/DME)	N
W.H. Morse State, VT	Public	100	B-II[12]	0	18	24	2	6	0	50	3,703' x 75' (Asphalt)	N/A	Non-precision (RNAV/GPS)	N
Berlin Regional, NH	Public	575	B-II	0	1	25	0	0	0	**26**	5,200' x 100' (Asphalt)	N/A	Non-precision (VOR/DME)	N
Saratoga County, NY	Public	300	D-II	0	2	59	0	8	0	**69**	4,700' x 100' (Asphalt)	4,000' x 100' (Asphalt)	Non-precision (VOR/DME)	N
Turners Falls, MA	Public	227	N/A	0	0	30	0	0	0	**30**	3,013' x 75' (Asphalt)	N/A	Non-precision (VOR/GPS)	N

[11] Airport Master Records as published January 2008 (http://www.gcr1.com/5010web/)

Bean Municipal, ME	Public	125	B-I	0	3	13	0	0	0	16	3,200' x 75' (Asphalt)	N/A	Non-precision (NDB/GPS)	N
TOTAL				**3**	**11**	**307**	**0**	**65**	**0**	**386**				

Sources:
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 9: Service Comparison

Airport	Frame Repairs	Power Repairs	Flight Instruction	Charter Service	Avionics	Aircraft Sales	Aircraft Rentals	Other
Middlebury State, VT	Major	Major	N	N	Y	Y	N	Airport has a major aircraft painting operation
Basin-Harbor, VT	N	N	N	N	N	N	N	Seasonal Airfield (Closed Late Fall until Early Spring)
E.F. Knapp State, VT	Major	Major	Y	N	N	N	Y	Crosswind runway closed during winter months. Commercial cargo service available via Wiggins Airways (UPS).
Shelburne, VT	Major	Major	Y	N	N	N	Y	
Ticonderoga, NY	N	N	N	N	N	N	N	
Warren – Sugarbush, VT	N	N	Y	Y	N	N	Y	
Hartness State, VT	Major	Major	N	Y	N	Y	N	
W.H. Morse State, VT	Major[12]	Major[12]	N	Y	N	N	N	Cargo charter available
Berlin Regional, NH	Minor	Minor	Y	Y	N	N	N	
Saratoga County, NY	Major	Major	Y	Y	N	Y	Y	
Turners Falls, MA	Major	Major	Y	N	N	N	Y	
Bean Municipal, ME	Minor	Minor	Y	Y	N	N	Y	

Source: Airport IQ 5010 Airport Master Records as Published January 2008 (http://www.gcr1.com/5010web/) N=No, Y=Yes

[12] According to an interview with the current FBO, these services are no longer available to the public, but rather, only for their own fleet.

Table 10: Rates and Charges Comparison

Airport	Tie-Down		Conventional Hangars		T-Hangars		Lowest Fuel Price ($/gallon)		GA Landing Fee
	$/	Available	$/	Available	$/	Available	100ll	Jet A	
Middlebury State, VT	$45-$65 / month	Y	$250 - $275 (Condo) / month	N	$250 - $275 / month	N	$5.70 (s/s)	N/A	N/C
E.F. Knapp State, VT	$45 / month	Y	$100 / month and higher	N	N/A	N/A	$5.80 (f/s)	$5.90 (f/s)	N/C
Ticonderoga, NY	N/C	Y	N/A	N/A	N/A	N/A	N/A	N/A	N/C
Basin-Harbor, VT	No Information Available								
Shelburne, VT									
Warren – Sugarbush, VT									
Hartness State, VT	$35 / month	Y	$175 – $300 / month	Y	$175 – $300 / month	Y	$4.20 (s/s) $4.54 (f/s)	$5.54 (f/s)	N/C
W.H. Morse State, VT	$30 / month	Y	$3,600 / month	Y	N/A	N/A	$5.89 (s/s) $6.14 (f/s)	$6.04 (f/s)	N/C
Berlin Regional, NH	$15 / month (Turf)	Y	N/A	N	Privately Owned ($0.10 / sq. ft.)	N	$5.10 (f/s)	$5.20 (f/s)	N/C
Saratoga County, NY	$40 / month	Y	$250 / month	Y	$375 - $400 / month (Small, Unheated) $1150 - $1250 / month (Large, Heated)	N	$5.10 (s/s) $5.40 (f/s)	$4.40 (f/s)	N/C
Turners Falls, MA	Single $45 / month Multi $100 / month	Y	Single $250 / month Multi $325 / month	Y	N/A	N/A	5.99 (s/s)	N/A	N/C

Table 10: Rates and Charges Comparison

Airport	Tie-Down		Conventional Hangars		T-Hangars		Lowest Fuel Price ($/gallon)		GA Landing Fee
	$/	Available	$/	Available	$/	Available	100ll	Jet A	
Bean Municipal, ME	$25 / month	Y	Privately owned ($0.31/SF/Year for Hangar Space, $0.05/SF/Year for Apron)	N	Privately owned ($0.25/SF/Year for Hangar Space, $0.05/SF/Year for Apron Access)	N	6.00 (s/s)	6.00 (s/s)	N/C

Sources: McFarland-Johnson, Inc. Telephone Survey, November 2007 - January 2008., Fuel data, provided by Airnav.com , current as of November 10, 2008.
Legend: N/C = No Charge, N/A = Not Available, N=No, Y=Yes, s/s = Self-Service, f/s = Full-Service

4. BASELINE FINANCIAL AND ECONOMIC OUTLOOK

This section identifies historical revenues and expenses attributable to Middlebury State Airport and projects those revenues and expenses to the year 2012. This projection only considers a baseline scenario with no revenue enhancement projects being undertaken. In other words, what are 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 marketing pro-formas.

4.1 Baseline Forecast of Revenues

Information concerning historical revenues centered on the year 2005, with some additional information for years 2004 and 2006. This data gave an indication of the direction of growth of the revenue base. Table 11 shows those historical revenues, along with estimated tax revenues from the fuel sold at Middlebury State Airport. As shown, the leases and landing fees have increased slightly over the three-year history.

Table 11 - Historical Operating Revenues

Revenues	2004	2005	2006
Leases & Landing Fees	$18,020	$18,741	$19,491
Aviation Fuel Taxes*			
100 LL	$4,832	$5,025	$5,226
Jet A	$0	$0	$0
TOTAL REVENUE	$22,852	$23,766	$24,717

* Estimated for years 2004 and 2006

It is against this historical background that the baseline forecast of revenues for Middlebury State Airport is presented. Assumptions used in developing the projections included tying the forecast growth of general aviation operations to the use of fuel and linking the forecast of based aircraft to the need for aircraft storage. The FAA's Terminal Area Forecasts were used as forecast indicators of activity. Forecasts presented in the 2007 Vermont Airport System and Policy Plan were considered, however the use of those forecasts did not have an appreciable impact on the results. For Middlebury, the Terminal Area Forecasts are static, showing no growth or decline. Thus, their effects are neutral on revenue growth. Another assumption used in the baseline projections of revenues was that prices would reflect the rate of inflation (projected at 4 percent through the period).

Table 12 presents the baseline forecast of airport operating revenues, which is a conservative view of Middlebury State Airport's financial future.

Table 12 - Baseline Forecast of Airport Operating Revenues

Revenues	2005	2008	2009	2010	2011	2012
Leases & Landing Fees	$18,741	$21,081	$21,924	$22,801	$23,713	$24,662
Aviation Fuel Taxes						
100 LL	$5,025	$5,652	$5,879	$6,114	$6,358	$6,613
Jet A	$0	$0	$0	$0	$0	$0
TOTAL REVENUE	$23,766	$26,733	$27,803	$28,915	$30,071	$31,275

As shown, the baseline forecast indicates that revenue will to grow from $23,766 in 2005 to $31,275 by the year 2012.

4.2 Baseline Forecast of Expenses

Only one year of historical data, 2005, was available and as such, no significant historical trends could be cited. Instead, knowledge of general trends was applied to the various cost categories and projected into the future. In this regard, labor costs were increased at 2 percent, which is one-half of the rate of forecast inflation. Historically at other airports, salaries and wages have increased more slowly than the 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 7 percent rate was used. The WSI Weather Brief expense line was held constant, while the remaining categories were increased at the projected 4 percent rate of inflation. Table 13 presents the results.

Table 13 - Baseline Forecast of Airport Operating Expenses						
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	$8,069	$8,563	$8,734	$8,909	$9,087	$9,269
FBO Agreement	$12,000	$13,498	$14,038	$14,600	$15,184	$15,791
Total Operating - District	$12,199	$13,722	$14,271	$14,842	$15,436	$16,053
Total Operating - Aviation	$0	$0	$0	$0	$0	$0
WSI Weather Brief	$1,680	$1,680	$1,680	$1,680	$1,680	$1,680
Insurance ($100K/ occurrence deductible)	$421	$516	$552	$590	$632	$676
Total Operating Expenses	$37,295	$41,084	$42,442	$43,852	$45,314	$46,830

Baseline operating expenses were predicted to increase from $37,295 in 2005 to $46,830 by the year 2012, amounting to a 27 percent increase.

4.3 Baseline Net Operating Costs

When the baseline operational costs are compared with the baseline forecasts of operational revenues, the net operating costs for the Airport can be predicted as follows in Table 14:

Table 14 - Baseline Net Operating Income/(Deficit)			
Year	Operating Expense	Operating Revenues	Net Operating Income/(Deficit)
2008	$41,100	$26,700	($14,400)
2009	$42,400	$27,800	($14,600)
2010	$43,900	$28,900	($15,000)
2011	$45,300	$30,100	($15,200)
2012	$46,800	$31,300	($15,500)

As shown, the net operating deficit is anticipated to grow from $14,400 in 2008 to $15,500 by the year 2012. Hence, the results of the baseline forecast indicate that if no additional revenue generating measures are taken, the State will have to cover this shortfall in operating revenues plus any local share of 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 alternatives were developed to explore different methods of increasing revenues. These revenues could be used to reduce the projected operating deficit and/or to pay for portions of the local share of capital development projects. In order to present these alternatives, this section is organized to include the following:

- Area-wide Factors Supporting Growth and Development of the Airport
- Obstacles to Airport Performance and Goal Attainment
- Revenue Enhancement

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

There are a number of factors in the local area that now support the potential growth and development of Middlebury State Airport. These factors are briefly described below.

Regional Profile

Historically an agricultural community, Middlebury has drawn on natural resource industries such as marble quarries, timber, and dairy for employment. As the modern economy has expanded into advanced manufacturing and service-sector industries, the County has experienced some development and expansion as well, including BF Goodrich (formerly Simmonds Precision), which employs 700 in Vergennes. Today, the largest employer in Addison County is Middlebury College, with approximately 1,260 employees. While manufacturing is thought to have regained employment levels enjoyed in the 1980's, growth overall has been slow over the last two decades. While all natural resource industries are still important elements in the local economy, the past 15 years have brought a steady shift toward different segments. The Addison County Economic Development Corporation (ACEDC) has recognized this shift and is aggressively targeting emerging industries to offer future economic security. Among the industries identified that offer the best opportunities for future economic growth are high technology, financial services, and publishing. Based on a detailed study conducted by the ACEDC[12], it is these areas where the most significant benefits to the County can be anticipated.

Today, a breakdown of Addison County employment by economic sector shows that 42 percent of total employment is in the Services sector; 14 percent is Retail Trade; Government makes up 9 percent; Agriculture employs 9 percent; and Manufacturing employs 9 percent[13]. The remaining 17 percent is distributed throughout the other employment sectors. Typically,

12 Addison County Comprehensive Economic Development Strategy - Economic Impact Study of Critical Sectors, June 2003.

13 Addison County Economic Development Corporation, Economic Report: December 2006

general aviation users are drawn from manufacturing, businesses, corporations, and professional services such as engineers, physicians, attorneys, college faculty, and entrepreneurs.

Second-home ownership in Vermont is very high. Even with the slump in the nationwide housing market, national statistics show that Vermont was one of only two states that had an increase in the sales price of housing in the third quarter of 2007 compared the third quarter of 2006.

Several local businesses benefit greatly from the Airport. The Downey Corporation uses the Airport for air travel in order to locate potential aircraft for renovations. Middlebury College uses the Airport for guest speakers, parents, and officials visiting the area. The Airport is used frequently as a base for mosquito spraying operations and the Vermont State Police use the airport for drug enforcement operations.

Industrial Parks

One measure of a community's economic growth potential is the extent to which industrial and/or commercial space is available to accommodate business growth. In Addison County, a variety of individual retail, office, and commercial/industrial facilities are currently on the market for sale and/or lease. Such facilities can be found in downtown Middlebury, New Haven, Vergennes, and Cornwall. For businesses seeking vacant land for new construction, Addison County is home to the following industrial parks:

- ***Catamount Business Park:*** Catamount Business Park comprises approximately 10 acres, and is situated west of US Route 7 and just north of downtown Middlebury. The Park is about 6 miles from the Airport. The park contains approximately 30,000 square feet of space available.
- ***Middlebury Industrial Park:*** Middlebury Industrial Park is located on Pond Lane, which is accessed via Mainelli Road off Exchange Street, on the north side of town. The Park consists of approximately 90 acres, with 37 acres available for development, and is located 7 miles from the Airport
- ***Vergennes Industrial Park:*** Vergennes Industrial Park is located in the Town of Vergennes, approximately 17 miles from the Airport. The Park covers approximately 45 acres.

These industrial parks offer a range of options for relocation and/or expansion of businesses in Addison County.

Local and State Incentives & Programs

Consideration of the local business climate in Addison County can be further understood through a review of State incentives and programs available to support the growth and expansion of businesses in the area. Such incentives and programs, in addition to available buildings and industrial parks, create an environment where businesses can mature within the same

community. As such, business growth in the area of Middlebury State Airport is encouraged through local and State incentives.

Local Incentives & Programs:

- ***Revolving Loan Fund I (RLF I):*** The Addison County Economic Development Corporation's (ACEDC) original Revolving Loan Fund was established to assist new and emerging manufacturing firms in the early stages of their development, when access to capital is most difficult. Loans from this fund range between $5,000 and $20,000. Funding can be up to 100% of a project.
- ***Revolving Loan Fund II (RLF II):*** ACEDC's second generation loan program provides funding to established operations in the next phase of their development. Loans range between $20,000 and $75,000. Funding is limited to 40% of a project, with a "true" equity contribution of 10% required at time of closing.
- ***Business Plan Development:*** the Vermont Small Business Development Center provides no-cost assistance in the development of a business plan. A business Specialist is housed part time at Addison County Economic Development Corporation

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 Tax Exemption:*** Vermont offers a sales tax exemption on certain building materials in excess of $1 million.
- ***Fuel and Electricity Sales Tax Exemption:*** This exemption applies to sales of electricity, oil and other fuels used directly or indirectly in 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 components 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 was retroactively amended (effective January 1, 1998) to allow a credit for the first dollar of investment, not only dollars expended over $150,000, provided the

investment exceeds $150,000. A company may receive a credit in an 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:*** The Payroll Tax Credit 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 credit for up to 10 percent of its increased costs of salaries and wages in the applicable tax year.
- ***Research and Development Tax Credit:*** The Research and Development Tax Credit provides a 10 percent tax credit against income tax for qualified research and development expenditures. 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 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 are 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 factors that support growth and development of Middlebury State Airport, there are a number of factors that present challenges to such growth, and the attainment of stated goals and objectives for the financial performance of the Airport. This section focuses on local & Airport-specific factors that currently reduce the airport's ability to increase utility and improve financial performance:

- ***Airport Runway Length:*** Perhaps the largest constraint on the financial performance of the Airport is its runway length. At 2,500 feet, Middlebury State Airport has the shortest paved runway in the state airport system. 2,500 feet is less than the recommended runway length for 75% of small aircraft. The short runway length, together with the moderate level of annual aviation demand, impacts the demand for development of additional aviation facilities; the types of aircraft that can currently be accommodated and attracted, which, in turn, may limit the types of airport users; and the type of FBO that can survive economically with this base. The limited runway length will not support business jet or large multi-engine turboprop aircraft. There are two small Fouga Magister jet trainer aircraft based at Middlebury; however, they are not used regularly and their runway needs are very different from modern business jet aircraft in general use. Runway length at the Airport effectively eliminates a major economic sector from using and supporting the Airport. While there are many businesses that use single engine aircraft, their use does not generally result in higher airport revenues than personal use single engine aircraft. The 2,500' length also limits the use of small twin engine propeller aircraft during hot or wet/slippery conditions. Thus, a significant target for revenue production - multi-engine propeller aircraft and small business jet/Very Light Jet aircraft - is lost or reduced due to the short runway length.

- ***Slow Socioeconomic Growth:*** The growth in population and income in Addison County has been somewhat stagnant in recent years. Unemployment has risen from 3.2 percent in 2006 to 3.7 percent in 2007, but is still less than the average unemployment for Vermont which is 3.9. Unless there is an influx of new population, the opportunities for new large companies are limited. 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.

- ***Capital Investment Sources:*** In the past, the State of Vermont has relied heavily on private investment to fuel hangar development at Vermont's airports. If this remains the preferred method for airport development, continued delay in aviation growth at the State's airports could occur if those investment funds are slow in materializing. Additionally, the attraction of based aircraft, including corporate aviation, relies in part on the availability of existing hangar facilities.

- ***Local Community Support:*** Support from the local citizenry for expansion of the runway is important to gain since it helps in all phases of the project implementation and without community support, the Airport may not reach its potential. To date, most of the Airport users are in support of the runway extension, as are a number of local businesses. There are some mixed feelings from the town residents, based on their perception of the Airport's limited usefulness to the "average citizen."

5.3 Revenue Enhancement

There are two ways to improve the financial position of Middlebury State Airport: increase revenues or cut costs. Revenue enhancement strategies, which are the primary focus of this business plan, are discussed below. Having reviewed the business climate of the Airport and the region as a whole, these strategies serve as the starting point for developing the Airport's business plan. Elements of these strategies include the following:

- ***Lengthening of the Runway:*** The 2003 Master Plan recommended that Middlebury State Airport extend its 2,500 foot runway to at least 3,700 feet of usable runway. Currently the Airport sits 490 feet above sea level and under normal conditions this adds 3 percent to all takeoff and landing distances due to the thinner air. This makes the current usable length of Middlebury's runway 2,425 feet long when compared to sea level conditions. Extending the runway would have an immediate impact on Airport activity and would enable more business type aircraft. Current users of the airport would enjoy better safety margins landing and taking off on a longer runway and could use their aircraft to their full potential. Additionally, with a 3,700-foot runway, Very Light Jet (VLJ) usage is possible, which would further increase the revenue possibilities of the facility.

- ***Attraction of Business and Small Corporate Aviation:*** To increase economic development in the area, the Airport could attract more business aviation. Because of rising fuel prices, recreational flying has decreased, while business flying has either remained the same or increased. To maintain activity levels, general aviation airports are learning that the attraction or encouragement of business aviation is one of the best methods of improving revenue.

  Corporations and businesses that have had twin engine aircraft in the past, or could not afford the costs of owning a jet aircraft, may now have the ability to buy a lower-cost VLJ aircraft. These aircraft are not only relatively inexpensive compared to traditional corporate jet aircraft, they may require shorter runway lengths. Eclipse Aviation has more than 2,500 Eclipse 500 jet aircraft on backorder. The FAA has estimated that between 400 and 500 VLJ's will join the General Aviation fleet each year through 2020[14]. New York and other states are preparing their smaller general aviation airports to accept these and other business type aircraft. Similarly, Vermont in general and Middlebury State

[14] FAA Aerospace Forecast Fiscal Years 2007-2020

Airport specifically are encouraged to prepare for more business aviation. Table 15 shows a list of several VLJ's and their listed runway length requirements. There are more than 15 VLJ manufacturers, and there are currently 11 VLJ air taxi operators that can fly users to almost any airport.

Table 15 - Very Light Jet Information

Aircraft	Seats	IFR Range (nm)	Price (millions)	Runway Length (feet)
Eclipse 500- Eclipse Aviation	5/6	1,300	$1.52	2,342*
Mustang - Cessna Aircraft	6	1,167	$2.54	3,110*
Honda Jet – Honda	7/8	1,180	$3.65	3,120**
Independence - Spectrum	6/9	2,000	$3.65	3,000*
SmartJet - Maverick Jets	5	1,250	$0.9	1,500***
Victory - Epic Aircraft	4/5	1,200	$1.0	2,400*
SPn - Grob Aerospace	6	1,800	$7.3	3,000****
SoloJet - Maverick Jets	5	1,200	$1.25	1,575*****

Source: http://www.very-light-jet.com, manufacturer's websites, and manufacturer communication
** - Based on Maximum Takeoff Weight*
*** - Based on the distance required to climb to 35 feet above the runway plus a 15% factor*
**** - Based on a 50 foot obstacle and 10 degrees of flap*
***** - Based on a balanced field length*
****** - Based on the use of no flaps*

- ***Jet Fuel Sales:*** In the past, J&M Aviation owned a fuel truck with the intent of using it to distribute Jet A Fuel. This vehicle has been sold due to financial reasons and lack of utility. With the potential influx of more business aviation at the airport after lengthening the runway, J&M should consider offering Jet A Fuel again. This can be dispensed from a truck or a stationary tank, whichever is most financially feasible for J&M. However, the preference would be in truck, which is more maneuverable. It should be noted that J&M has expressed a strong desire to expand their offerings, including Jet A fuel, should the runway be extended.

- ***Market Research:*** Understanding user profiles helps to better design services and marketing efforts. For Middlebury State Airport, it is reported by J&M Aviation that 70 percent of the users of the Airport are from out of state. Much of this activity involves visitors, faculty, students, and parents traveling to Middlebury College. For marketing purposes, a survey should be distributed to arriving pilots and passengers at the airport by the FBO to track profiles of Airport users. This would not only help the Airport understand what type of patrons use the Airport,

but how the Airport can better serve them. Sample questions that could be asked include, but are not limited to:

- Are you traveling for business or pleasure?
- How often to you fly into Middlebury State Airport?
- What is your average length of stay in the area?
- Why did you choose Middlebury State Airport?
- What do you like/dislike about the Airport?
- What amenities would you like to see offered at Middlebury State Airport?
- How do services and amenities at Middlebury State Airport compare with other airports that you use?
- Comments/Questions?

The survey would help identify what amenities users need so that available funding & marketing efforts could be directed toward those amenities. As such, this would provide the FBO and the State with an idea of the strengths and weaknesses of their facilities and services from the end user's prospective. They can use this information to market existing and future users. In addition, Middlebury State Airport could team with Middlebury College and work out a marketing plan where information about that airport is distributed at new student orientations.

- ***Convert Tie-Downs to Hangars:*** One method of increasing revenues without having to rely on increases in aviation activity is to offer existing based aircraft users the opportunity to upgrade from tie-down space to aircraft hangar space. Currently, Middlebury has 52 tie-down spaces and 21 hangar spaces, which are occupied or otherwise in use for aircraft storage, parts storage, and aircraft maintenance, accounting for 126,940 square feet of space. With a total of 53 based aircraft and no available hangar storage, it appears that when hangar storage is available at the Airport, it is quickly occupied. The main apron area is significant, totaling 18,850 square yards, of which 9,700 square yards is used for 42 tie down spaces. If a portion of this area can be converted into hangar storage, the Airport can offer "ready" sites for developers, which will reduce construction costs, while maintaining adequate space for tie-down storage. In order for this option to be considered, the FAA would need to provide prior permission, as FAA funding was utilized for the construction of the apron space.

- ***Hangar Development Options:*** 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 79 percent of total revenue. The Airport Master Plan calls for the development of a T-hangar complex and two corporate hangars (including a new administration building). VTrans has allocated $250,000

to the development of a 10-unit T-hangar building within their five-year capital development program, which would likely not be enough by itself for a 10-unit facility. Further investment would be required for a 10-unit T-hangar to come to fruition. For this plan, it was assumed that hangar rents of $250 per month per unit could be achieved for this T-hangar building. Based on current market conditions, it is believed that this rent per unit could be achieved based on the high demand for hangar space in the region.

In addition to T-hangar space, it was assumed that 10,000 square feet of conventional hangar space would be developed within the five-year planning timeframe. This space could be developed either in the form of two 5,000 square foot buildings or one 10,000 square foot hangar. It was also assumed that the conventional hangar space would be developed by private interests, leasing land from VTrans at $0.15 per square foot. In total, the hangar space plus hangar apron footprint was assumed to total 20,000 square feet. Revenues from this development were estimated at $3,000 per year.

- ***Aviation and Non-Aviation Property Development:*** Currently, there are three tracts of land that are available for development at Middlebury State Airport. The first tract of land is approximately 7.4 acres, and is located west of Runway end 19. The second tract of land is approximately 2.7 acres, and is situated south of the Downey Corporation hangars. These two areas would be appropriate for aviation or non-aviation development. The third tract of land is about 1.6 acres, and is located along Mountain Road on the eastern side of the runway. While there is no runway access from this site, it could be used for non-aviation types of commercial or industrial development. In all there is approximately 11.7 acres of land that is currently available for development. Revenue from these areas could be used in the future to offset airport operational and capital expenditures. As the airport was constructed utilizing FAA funds, permission from the FAA would be required prior to any non-aviation use of airport property.

- ***Rates and Charges/Lease Agreement Structure:*** Most of the leases with hangar tenants appear to reflect common industry limits and terms; however, future land leases where tenants have constructed hangars can include reversion clauses, which return the ownership of hangars to the State at the end of the lease. If the reversion clauses are included, at the conclusion of the lease term, the State will be able to offer hangar space to the broader market of aviation tenants. This is not explicitly stated in the current leases, the land leases offer renewals up to a total of 25 years. It is assumed that ownership of the hangars would revert to the State at that time. Thereafter, the State should be able to rent hangars for market rates. As mentioned briefly in this section, current lease rates, while reasonable, appear lower than necessary when compared to other airports in nearby states. A

summary of the current lease agreements and their terms was presented earlier in the inventory section of this report.

6. RECOMMENDED PLAN

The recommended business plan for Middlebury State Airport focuses on two primary strategic areas: administrative policy actions and revenue enhancement strategies and actions. Revenue enhancement activities include the primary efforts of attracting small corporate and business aviation, and building hangar facilities, while at the same time, developing aviation and non-aviation Airport property for revenue production.

As noted previously, major cost efficiency actions were not identified in this report as cost efficiency was not the focus of this study and therefore received only cursory review. However, the Airport appears to be running an efficient operation under the existing management and financial structure. Therefore, if the net financial position of the Airport is to be improved, revenues will have to be increased. The following options are available in each of the strategic areas described below.

6.1 Recommended Administrative Policy Actions

Currently there is a private pilot association in the Middlebury area that has expressed interest in contributing a portion of the local share of the cost of the runway extension. More information is needed to make a business decision; however, it is important to engage this pilot association and the ACEDC with regard to their potential financial assistance. If the offer is genuine, then efforts to secure State and Federal funding for the extension should begin as quickly as possible. Therefore, it is recommended that:

VTrans should embrace and encourage the private funding aspect of expanding the runway.

Commensurate with increased State involvement, is a better system to track and manage costs effectively. Specifically, a State accounting system is needed that will allocate investment, costs, and revenues, for each airport annually, 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 alteration will not require a significant data gathering effort, since cost information is currently accounted for by airport, just not reported in that manner. Once implemented, VTrans can 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 Middlebury State Airport.

Runway Extension and Related Improvements

Currently, Middlebury State Airport has the shortest paved runway in the State airport system. Adding 1,200 feet to the useable runway length, and 25 feet of useable runway width, would have an immediate impact on Airport activity and would enable current users to maximize their utility of the airport while allowing more business type aircraft to use the airport. Not only would current users of the Airport enjoy increased safety and efficiency margins, but it would also open the door to more corporate and business activity. A longer runway may also allow for a full regime of flight training operations, which could help support a flight training program at the airport. This could create a significant source of revenue for J&M Aviation and VTrans through hangar rents, fuel tax, and maintenance fees. In order to maximize the value of the runway extension, instrument approach improvements are also needed, and onsite automated weather reporting, to maximize the potential for increased business use. Therefore, it is recommended that:

VTrans should extend the Middlebury State Airport runway from 2,500 feet to a usable length of 3,700 feet, as well as widen the runway by 25 feet to a useable width of 75 feet to and improve instrumentation to enable larger business aircraft to use the Airport.

Attraction of More Business Aviation

Having a strong business aviation base has helped many airports by providing a higher source of airport revenue than recreational general aviation. Now that fuel costs have reached $5 to $6 per gallon or more, recreational flying has been hit fairly hard. The business component of general aviation continues to operate without much decrease due to the ability to pass costs along to the customer. With a runway extension, it is believed that the Airport would be able to attract more business aircraft, thereby increasing the number of based aircraft leases and the amount of fuel sold at the Airport. A runway extension may also help support a successful flight training program, since a 2,500’ length may preclude many training operations. Flight training could result in a wide spectrum of airport and FBO advantages. Therefore, it is recommended that:

Marketing efforts to attract business aviation users should be undertaken for Middlebury State Airport. This effort should reflect an improvement in runway length.

Already, the Downey Corporation, Lawrence Miller Consulting, Bristol Electronics, and Middlebury College use the airport for business purposes.

Both VTrans and the FBO, J&M Aviation, have a common interest in attracting business aviation to Middlebury State Airport. Financial pro formas illustrate a potential increase in revenues to VTrans of $5,000 annually for one turboprop aircraft and $7,000 annually for one VLJ. Similar to VTrans, J&M Aviation has significant upside revenue potential for servicing twin-engine propeller aircraft and VLJ's at Middlebury State Airport. Given these common interests, it would be beneficial to explore possible joint marketing opportunities for corporate and business aircraft. Thus, it is recommended that:

VTrans should work with J&M Aviation to establish the funding and scope of a marketing program for business aviation.

Discussions with local economic development interests indicate that targeted industries for Middlebury include education, manufacturing, health care, and tourism. Another user of general aviation aircraft involves landowners with second homes in the area. Vermont has the second highest percentage of second homes in the nation (14.6 percent) after Maine (15.6 percent)[15]. The Airport also serves faculty, parents, students, and visitors to Middlebury College. 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 aviation publications should be used to promote Middlebury State Airport as a destination for general aviation traffic desiring to access Addison County and Middlebury College

Such marketing could take the form of providing information (or at least a link to the Airport's website) on the website of Middlebury College. In addition, informational material can be published on www.airnav.com, and other aviation related 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.

[15] U.S. Census Bureau (www.census.gov/hhes/www/housing/census/historic/vacation.html)

For marketing purposes, surveys should be distributed at the airport to arriving pilots and passengers to track trends of Airport users. This would not only help the Airport understand what type of patrons use the Airport, but how the Airport can better serve them. It would give Middlebury State Airport an idea of the strengths and weaknesses of their facilities and services. They can use this information to market existing and future users. In addition, VTrans and the FBO could team with Middlebury College and work out a plan where information about the Airport is distributed at new student orientations. Therefore, it is recommended that:

Surveys should be distributed at Middlebury State Airport to gain useful information about airport users for marketing purposes.

Community Relations

Currently, community sentiments regarding Middlebury State Airport are mixed. Some residents believe that the only reason there is a push for a runway expansion is because Middlebury College wants the Airport to expand. The economic benefits associated with the Airport are not always effectively communicated to local residents. In particular, the value of the Airport in serving the aviation needs of the larger region may not be appreciated by the general public and Middlebury and Addison County representatives. Communication of these benefits helps to justify allocation of resources to the Airport. Therefore, it is recommended that:

Economic local & regional benefits of the Airport documented in this report should be publicized in the local area.

New or Improved Terminal Services, Amenities, and Activities

In order to service business aviation, amenities fitted to corporate and business aviation clients are needed. These amenities generally include the availability of ground transportation. This 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. Having rental cars available at the Airport at the start and end of each semester would facilitate use of the Airport by Middlebury College staff and students. The agency that provides such service might also provide on-call car rental services. Therefore, it is recommended that:

VTrans should provide a courtesy car at Middlebury State Airport to accommodate business use of the Airport. An attempt should be made to reach an agreement with a car rental company to provide on-call services.

With the influx of business aviation expected at the airport if lengthening the runway occurs, J&M Aviation should be prepared to offer Jet A fuel. Potential fuel sales from business aircraft could provide a significant boost to current revenues for the FBO, and 24/7 Jet A availability increases the attractiveness of the airport to business users. Therefore, it is recommended that:

VTrans and J&M Aviation should be prepared to offer self-service Jet A fuel if the expansion of the runway is completed.

Hangar Development Options

Several methods of hangar development are available to the State. Two options - State funded and privately funded development - have positive and negative features involving the trade-offs of investment risk and potential reward. Should the State take the lead role in financing development, higher risk (due to potential rental unit vacancies) might be offset by a higher degree of control and financial return. Conversely, if private interests are sought for financing hangar development, financial risk to the State would essentially be eliminated; however, lower financial returns would be expected and development might not advance at the pace that the State desires.

A third option for hangar development at Middlebury State Airport would be for VTrans and the FBO to work together toward the development of hangar facilities, with the State providing funding and serving as owner and would have the responsibility to build the facility and the associated apron, parking, roads, etc., while the FBO would perform as rental agents and property managers for the facilities. This development alternative would endeavor to take advantage of both the strengths of VTrans, such as procurement and administration of public grants for the project, and the FBO, who are oftentimes more closely tied to local and regional business aviation interests, and likely has more experience in direct leasing of aviation properties. The FBO will be paid a portion of the rental fee for their services, including maintaining the hangars.

At Middlebury State Airport, the Airport Layout Plan Update calls for the development of a T-hangar complex and two corporate hangars (including a new administration building). As mentioned, VTrans has allocated $250,000 to the development of a 10-unit T-hangar building within their five-year capital development program. While more funding will likely be needed,

as hangar cost estimates at other airports across the northeast have surpassed $500,000 for a 10-unit T-hangar, it was assumed that VTrans would provide for the development of the T-hangars. In order to alleviate the cost to VTrans for the development of this hangar, FAA funding should be sought. However, funding cannot be awarded until the deficiency in the Runway 1 RSA has been corrected due to recent FAA funding priorities. For this plan, it was assumed that hangar rents of $250 per month per unit could be achieved for this T-hangar building, which is competitive with other airports in the region and can be achieved based on the current demand for hangar space. Further, it was assumed that the hangar could be placed on an existing tie-down apron, with prior approval from the FAA, thereby lowering site prep costs. Therefore, it is recommended that:

VTrans should request FAA funding to develop 10 T-hangar Spaces at Middlebury State Airport possibly converting some tie-down area to T-hangar space. This funding cannot be granted until improvements to the Runway 1 RSA are completed.

In addition to T-hangar space, it was assumed that 10,000 square feet of conventional hangar space would be developed within the five-year planning timeframe. This space could be developed either in the form of two 5,000 square foot buildings or one 10,000 square foot hangar. It was also assumed that the conventional hangar space would be developed by private interests, leasing land from VTrans at $0.15 per square foot. In total, the hangar space plus hangar apron footprint was assumed to total 20,000 square feet. Revenues from this development were estimated at $3,000 per year. To locate private investment for this project, it is recommended that:

VTrans should solicit for a third-party hangar developer, solicited through a "Request-for-Proposals" process.

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 offer favorable financial terms that would potentially entice development from private interests; 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.

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 consumer hangar storage at Middlebury State Airport are considered reasonable. Therefore, the rate schedule and fees should not be raised at this time. Fuel flowage fees are collected through the State tax on fuel, estimated at $0.20 per gallon. This is also considered reasonable. Land lease rates for existing hangar owners cannot be adjusted except by mutual agreement. The current contracts provide for 5-year renewals with CPI adjustments at that time. Therefore, it is recommended that:

No change should be made to rates and charges for tie-down fees, fuel or flowage fees; however the State should adjust land rent rates at the allowed 5-year intervals.

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 can be obtained. In this regard, it is recommended that new land leases should start at $0.15 per square foot. However, it is necessary to obtain data to justify such higher rates. 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.

6.3 Other Long Range Options - Aviation and Non-Aviation Development

As discussed, there are three tracts of land that are available for development at Middlebury State Airport, offering more than 11.5 acres in total. The first tract of land is 7.4 acres located west of Runway 19 end which could be used for airside, landside, or non-aviation related development. The second tract of land is 2.7 acres south of the Downey Corporation hangars that could also be used for airside, landside, or non-aviation related development. The third tract of land is 1.6 acres located along Mountain Road on the eastern side of the runway and can be used for non-aviation uses. Development on this land should be compatible with Airport activity and non-aviation uses must be approved by the FAA. To realize this option, the State must actively pursue marketing of the property through the local commercial real estate community. Additionally, since VTrans is not in the business of local economic development planning or the construction of commercial property, a combination of local public agencies and private interests would have to work together to make it happen. The Airport's involvement would be as a land contributor to the project.

If these parcels of Airport land are sold for the project, the proceeds may need to be used to reimburse FAA for its share of the property. If the property is sold, the sponsor may submit an application to utilize the proceeds to fund another eligible airport improvement project. However, if the land is leased, all revenues could be used to benefit the operational and capital needs of Middlebury State Airport. Thus, to create a long-term revenue stream for the Airport, a lease arrangement for Airport property must be a part of any development deal. The prospect of creating additional revenue through the lease of this land for private business use is an attractive option for the community and for the Airport. Therefore, it is recommended that:

VTrans should consider developing aviation and non-aviation land for revenue generation purposes.

If undeveloped Airport land is made available for non-aviation purposes, it could be leased for between $0.15 and $0.20 per square foot. The 7.4 acre parcel could lease for between $48,400 and $64,500 per year, if developed fully. Light industrial/warehouse uses in the area return rates between $6 and $7 per square foot and class A and B office space can be leased for $12 per square foot[16]. In order to preserve its options for the future, it is recommended that the State lease rather than sell Airport property. The timing of such a plan is difficult to predict; therefore, revenues from this action were not included in the marketing pro-forma. As such, this business plan assumes that revenue from this development would be realized after 2012.

6.4 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 step in determining the impacts of the revenue enhancement strategies presented in the previous sections of this business plan is to predict the change in aviation demand that would occur if each strategy were implemented. Table 16 presents a listing of the potential demand changes along with the assumptions used in estimating demand changes.

[16] Commercial Real Estate Broker located in Addison County, 4/10/2008

Table 16 - Potential Demand Changes by Year 2012			
		Operations	Based Aircraft
Current Activity		25,000	53
Demand Change	Assumption		
Attraction of Business Aviation	Derived from marketing business aviation interests and attracting business aviation users to local business parks.	5%	2
Terminal services	Minor impacts to demand	0%	0
Hangar Development	10 new T-hangar spaces within 5 year period along with 2 corporate hangars.	15%	10
Aviation/Non-Aviation Property Development	Supports development of new hangar area and possible expansion of Airport Industrial Park.	0%	0
Rates and Charges	Examine potential revenues from changes to rates and charges.	0%	0
Additional Potential Growth		20%	12
Total Potential Activity		30,000	65

The key strategic initiative for the State is the lengthening of the runway, and the development of a 10-unit T-hangar (estimated revenues to begin in 2011) and 10,000 square feet of conventional hangar space (revenues to being after 2012). These developments, along with the other enhancement actions discussed in previous sections, will effectively increase activity at the Airport. In this business plan, these strategies are assumed to create sufficient interests to attract one multi-engine turboprop and one VLJ-type aircraft along with other tenants to occupy the T-hangar units. Without these activities, revenue growth potential at the Airport will be limited. Table 17 presents a listing of how these potential demand increases could impact the revenue picture for Middlebury State Airport, if the assumptions for this scenario are met. Demand for space in these new hangars, as well as at other potential developments at the airport, could be affected by delays in the construction of the proposed runway and taxiway extension. Delays to the extension, which would likely bring completion of construction outside of the scope of this business plan, would decrease the revenue predictions in Table 17 to figures similar to those located in the baseline forecast (Table 12).

Table 17 - Potential Increases Resulting from All Revenue Enhancement Strategies						
Revenue Category	2006	2008	2009	2010	2011	2012
Leases & Landing Fees	$19,491	$21,081	$21,924	$24,301	$55,273	$58,984
Aviation Fuel Taxes						
100 LL	$5,226	$5,652	$5,879	$6,114	$7,358	$7,653
Jet A	$0	$0	$0	$0	$5,300	$10,600
Total Revenue	**$24,717**	**$26,733**	**$27,803**	**$30,415**	**$67,931**	**$77,237**

Impact on Expenses:

For this analysis, it is reasonable to assume that none of the revenue enhancement strategies will significantly impact or increase the Airport's expenses. Since it was assumed that VTrans would use State development grants, if available, or private interests to construct hangar facilities, no capital costs or debt service expenses were assumed for the State. Additionally, increased tax revenue from fuel sales requires no investment from the State. Therefore, potential increases in Airport expenses were assumed to reflect the baseline forecast of operating expenses shown previously in Table 13.

Comparison of Expenses & Revenues

When the forecast of potential revenue increases resulting from all revenue enhancement strategies is compared to the forecast of operating expenses for Middlebury State Airport, a forecast of future net operating costs for the Airport can be considered. Table 18 presents this comparison:

Table 18 - Recommended Plan Operating Revenue & Expense Comparison			
Year	Forecast Operating Revenues	Baseline Operating Expenses	Forecast Net Operating Costs
2008	$26,733	$41,084	($14,351)
2009	$27,803	$42,442	($14,639)
2010	$30,415	$43,852	($13,437)
2011	$67,932	$45,314	$22,618
2012	$77,237	$46,830	$30,407

Comparison of the baseline operating expenses and forecasted levels of operating revenues indicates a decreasing operating deficit through the first two years of the forecast. In 2011 the operating deficit is eliminated altogether. Implementation of the business plan strategies anticipates an operational surplus of $30,407 in 2012. Additional revenues could be earned if strategies more aggressive than those specifically discussed in this business plan are pursued.

6.5 Summary of Business Plan Recommendations

A number of recommendations have been made as a part of this business plan study, all with the ultimate goal of increasing net revenues at Middlebury State Airport. Many of these strategies have additional benefits to the Addison County area, such as increasing economic development and employment in the local community. Specific recommendations by timeframe are as follows:

2009

- ***1st Priority - Hangar Development:*** VTrans should lease land for 10,000 square feet of conventional hangar development 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 develop 10 T-hangar spaces at Middlebury State Airport possibly converting some tie-down area to T-hangar space.

- ***2nd Priority - Attract Business Aviation:*** Marketing efforts to attract business aviation through the use of multi-engine propeller and VLJ aircraft should be undertaken for Middlebury State Airport.
  - -VTrans should work with J&M Aviation to establish the funding and scope of a marketing program for business aviation.
  - -Marketing via the Internet and possibly other aviation publications should be used to promote Middlebury State Airport as a destination for general aviation traffic desiring to access Middlebury College

2010-2013

- ***1st Priority - Begin Runway Expansion Process:*** VTrans should extend the Middlebury State Airport runway from 2,500 feet to a usable length of 3,700 feet and from 50 feet of useable width to 75 feet in order to enable larger business aircraft to use the Airport.
  - -VTrans should embrace and encourage the private funding aspect of expanding the runway.
  - -Economic benefits of the Airport documented in this report should be publicized in the local area.

- ***2nd Priority - Expand Airport Services:*** VTrans should provide a courtesy car at Middlebury State Airport to accommodate business use of the Airport.
  -Middlebury State Airport should be prepared offer Jet A fuel when the expansion of the runway is complete.

Other Items

- ***Accounting:*** VTrans should consider modifying their accounting system to better track costs each year for each airport.
- ***Rates and Charges:*** No change should be made to rates and charges for tie-down fees or fuel flowage fees.
  -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, can be obtained.

Long Term

- ***Aviation and Non-Aviation Property Development:*** VTrans should consider developing aviation and non-aviation land for revenue generation purposes.

Timetable and Trigger Points

Table 19 presents a timetable and listing of trigger points for implementation of the recommended plan, grouped by type of action (administrative, marketing, etc.).

Table 19 - 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	Immediate
Private Funding of Local Share of Runway Development	Embrace and encourage the offer of private funding for local share of runway development costs.	As soon as practical	2008
Marketing			
Market Business Aviation	Begin marketing of business aviation using a combination of State and J&M Aviation resources.	After brochures become available	2009 - 2012
Promotion of Middlebury College and Local Tourism	Coordinate development and promotion of Middlebury College and the Airports role in transportation	Immediate	2008
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
Airport Development			
Runway Extension	Extend the runway by 1,200 feet for a total usable length of 3,700 feet.	As soon as funding becomes available	2010 - 2013
Aviation and Non-Aviation Property Development	Engage local commercial real estate leaders and chamber officials to identify opportunities for commercial/industrial development on/near the Airport	As soon as demand develops.	Post - 2012
Aircraft Hangars	Hangar construction should be pursued through continued land leases, State hangar development, and/or offers of land to third-party developers through RFP process for hangar development.	Once a critical mass of confirmed/bank approved tenants can be achieved.	2009 - 2012
Rates & Charges			
Lease Rate Study	Land lease rates should be developed based on a study of prevailing market lease rates for property of similar characteristics in the region and/or at competing airports.	Upon generating new leases	2008 - 2012

7. ECONOMIC IMPACT ASSESSMENT

The purpose of this section is to quantify the economic impact and contribution of Middlebury 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, a greater understanding of the true impact the Airport has in the Addison County area, and support for Airport projects may be significantly enhanced. This analysis demonstrates the economic impacts of Airport and aviation use within Addison 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 Middlebury State Airport both for existing conditions and for the year 2012 Recommended Plan:

- ***Direct Spending:*** On-airport spending concerning 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 conduct the analysis, the study utilized the following simplified process and methodology:

- Collect baseline data from the existing statewide economic impact study[17]. 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 Middlebury State Airport and local aviation.

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, Middlebury State Airport was estimated to have over $20.9 million in annual economic impact in terms of

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

business sales and public sector expenditures. The study found that although estimated business use of Middlebury State Airport as a percentage of total annual operations was relatively low, several local businesses benefited greatly from the Airport such as the Downey Corporation, where the ability to operate on-site at the airport was an important factor in deciding where to located their business. Other business users of the Airport include Lawrence Miller Consulting, Bristol Electronics, and Middlebury College. The Airport is also used occasionally by Vermont State Police, the National Guard, and mosquito spraying operations.

The economic impact methodology first identified the direct spending and employment at Middlebury 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 20 presents a summary of Middlebury State Airport's direct and induced economic impacts for both the baseline case and the year 2012.

Table 20 - 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	$205,199	$231,230	$290,700	$521,930
On-Airport Expenditures	$2,015,000	$2,270,620	$1,465,200	3,735,820
On-Airport Employment	15	15	6	21
Off-Airport Income	$2,393,852	$2,697,533	-	$2,697,533
Off-Airport Expenditures	$10,454,688	$11,780,956	-	$11,780,956
Off-Airport Employment	77	77	-	77
Induced Impacts				
Induced Direct and Indirect	$8,467,923	$9,542,153	$839,700	$10,381,853
Total Induced Employment	101	101	4	105
Grand Total Monetary Impacts	$20,937,611	$23,593,729	$2,304,900	$25,898,629
Grand Total Income Impacts*	$5,162,279	$5,817,159	$570,900	$6,388,059
Grand Total Employment Impacts	193	193	10	203

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

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. Middlebury 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 50 percent of commercial airline travel and 60 percent of general aviation travel is for recreational purposes. This includes the valuable tourist trade which brings economic activity to the study region.

All of the above 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. Middlebury State Airport enjoys a significance that is much larger than these numbers can estimate. It is part of an increasingly scarce system of general aviation facilities that needs support, protection, and appreciation from all the citizens that benefit from its operation, both directly and indirectly.

Appendix A:
Lease Summaries

Lessee / Tenant Description	Physical Facilities	Amount	Additional Terms	Term Length	Begin/End Date	Renewal Options
Memorandum of lease between State of Vermont And a Private Hangar Owner	One (1) parcel of land measuring 55 ft. x 60 ft., known as Hangar C, upon which tenant is to own and occupy a hangar for personal and private use.	Not Available	No option to purchase or right of first refusal. Lessee may not sublease the premises without written consent of the Lessor.	5 years	8/1/2006 7/31/2011	Four (5) year renewals Must give written notice at least six months before the expiration of each existing term.
Memorandum of lease between State of Vermont And a Private Hangar Owner	One (1) parcel of land measuring 156 ft. x 60 ft., upon which tenant is to construct, own, and occupy a hangar for personal and private use.	$556.00 per year. The Consumer Price Index (CPI-U) is used for changes to rental fees.	No option to purchase or right of first refusal. Lessee may not sublease the premises without written consent of the Lessor.	5 years	5/25/2004 5/24/2009	Four (5) year renewals Must give written notice at least six months before the expiration of each existing term.
Memorandum of lease between State of Vermont And a Private Hangar Owner	One (1) parcel of land measuring 68 ft. x 68 ft., upon which tenant is to construct, own, and occupy a hangar for personal and private use.	Not Available	No option to purchase or right of first refusal. Lessee may not sublease the premises without written consent of the Lessor.	5 years	8/26/2003 8/25/2008	Four (5) year renewals Must give written notice at least six months before the expiration of each existing term.
Memorandum of lease between State of Vermont And a Private Hangar Owner	One (1) parcel of land measuring 70 ft. x 100 ft., upon which tenant is to construct, own, and occupy a hangar for the storage of a crop-duster type aircraft used to control the breeding of mosquitos.	Not Available	No option to purchase or right of first refusal. Lessee may not sublease the premises without written consent of the Lessor.	5 years	4/11/2007 4/10/2012	Four (5) year renewals Must give written notice at least six months before the expiration of each existing term.

Lessee / Tenant Description	Physical Facilities	Amount	Additional Terms	Term Length	Begin/End Date	Renewal Options
Memorandum of lease between State of Vermont And a Private Hangar Owner	One (1) parcel of land measuring 99 ft. x 114 ft, and its currently constructed aircraft maintenance hangar, measuring 60 ft. x 70 ft.,. upon which tenant is to own and occupy a hangar for personal and private use.	Not Available	No option to purchase or right of first refusal. Lessee may not sublease the premises without written consent of the Lessor.	5 year	12/14/2006 12/13/2011	Four (5) year renewals Must give written notice at least six months before the expiration of each existing term.
Memorandum of lease between State of Vermont And a Private Hangar Owner	One (1) parcel of land measuring 40 ft. x 50 ft., upon which tenant is to construct, own, and occupy a hangar for personal and private use.	Not Available	No option to purchase or right of first refusal. Lessee may not sublease the premises without written consent of the Lessor.	5 years	7/1/1987 6/30/1992	Four (5) year renewals Must give written notice at least six months before the expiration of each existing term.
Memorandum of lease between State of Vermont And J&M Aviation	Two (2) parcels of land containing two lessor-owned buildings; a 60 ft. x 90 ft. maintainence hangar and a 30 ft. x 30 ft. storage hangar, upon which tenant is to occupy for use as part of the Fixed Base Operators facilities.	Not Available	No option to purchase or right of first refusal. Lessee may not sublease the premises without written consent of the Lessor.	5 years	11/16/2005 11/15/2010	Four (5) year renewals Must give written notice at least six months before the expiration of each existing term.
Memorandum of lease between State of Vermont And a Private Hangar Owner	One (1) parcel of land measuring 67 ft. x 60 ft., upon which tenant is to construct, own, and occupy a hangar for personal and private use.	$393.00 per year. The Consumer Price Index (CPI-U) is used for changes to rental fees.	No option to purchase or right of first refusal. Lessee may not sublease the premises without written consent of the Lessor.	5 years	10/21/2003 10/20/2008	Four (5) year renewals. Must give written notice at least six months before the expiration of each existing term.
Memorandum of lease between State of Vermont And a Private Hangar Owner	One (1) parcel of land measuring 80 ft. x 80 ft., upon which tenant is to construct, own, and occupy a 60 ft. x 60 ft. hangar for personal and private use.	$544.00 per year. The Consumer Price Index (CPI-U) is used for changes to rental fees.	No option to purchase or right of first refusal. Lessee may not sublease the premises without written consent of the Lessor.	5 years	11/9/2005 11/8/2010	Four (5) year renewals. Must give written notice at least six months before the expiration of each existing term.

Lessee / Tenant Description	Physical Facilities	Amount	Additional Terms	Term Length	Begin/End Date	Renewal Options
Memorandum of lease between State of Vermont And a Private Hangar Owner	One (1) parcel of land measuring 45 ft. x 60 ft., known as Hangar B, upon which tenant is to own and occupy a hangar for personal and private use.	$556.00 per year. The Consumer Price Index (CPI-U) is used for changes to rental fees.	No option to purchase or right of first refusal. Lessee may not sublease the premises without written consent of the Lessor.	5 years	7/7/2005 7/6/2010	Four (5) year renewals Must give written notice at least six months before the expiration of each existing term.
Amendment No. 3 to Memorandum of Lease between the State of Vermont and a Private Hangar Owner	One (1) parcel of land measuring 230 ft. x 58 ft., upon which tenant owns and occupies a hangar for personal and private use.	$1208.00 per year. The Consumer Price Index (CPI-U) is used for changes to rental fees.	Not Available	5 years	4/27/1989 4/26/1994	Four (5) year renewals Must give written notice at least six months before the expiration of each existing term.
Amendment No. 1 to Memorandum of Lease between the State of Vermont and a Private Hangar Owner	One (1) parcel of land measuring 62 ft. x 66 ft., upon which tenant owns and occupies a 42 ft. x 36 ft. hangar for personal and private use.	$409.00 per year. The Consumer Price Index (CPI-U) is used for changes to rental fees.	Not Available	5 years	2/11/2004 2/10/2009	Four (5) year renewals Must give written notice at least six months before the expiration of each existing term.
Amendment No. 3 to Memorandum of Lease between the State of Vermont and a Private Hangar Owner	One (1) parcel of land measuring 140 ft. x 47 ft., upon which tenant owns and occupies a 72 ft. x 37 ft. hangar, lean-to, and deck, for personal and private use.	$605.00 per year. The Consumer Price Index (CPI-U) is used for changes to rental fees.	Not Available	5 years	5/4/1988 5/3/1993	Four (5) year renewals Must give written notice at least six months before the expiration of each existing term.

Lessee / Tenant Description	Physical Facilities	Amount	Additional Terms	Term Length	Begin/End Date	Renewal Options
Amendment No. 7 to Memorandum of Lease between the State of Vermont and a Private Hangar Owner	One (1) parcel of land measuring 138 ft. x 125 ft., upon which the lessee owns and occupies a hangar for an aircraft maintenance business.	$1,788.00 per year. The Consumer Price Index (CPI-U) is used for changes to rental fees.	Lease revised when Lessee sold ½ of the business utilizing the facilities to another party. Amendment indicates that lessor would pursue a lease with the new party.	5 years	12/29/1983 12/28/1988	Four (5) year renewals Must give written notice at least six months before the expiration of each existing term.
Amendment No. 2 to Memorandum of Lease between the State of Vermont and a Private Hangar Owner	One (1) parcel of land upon which the lessee owns and occupies structures for an aircraft maintenance business.	$149.00 per month. The Consumer Price Index (CPI-U) is used for changes to rental fees.	Not Available	10 years	11/8/1998 11/7/2008	None Must give written notice three to six months before the expiration of the term if the lessee desires to continue using the premises.
Amendment No. 1 to Memorandum of Lease between the State of Vermont and an agricultural user	One (1) parcel of land upon which the lessee utilizes 44.8 acres of land for agricultural purposes	$450.00 per year.	Not Available	Not Available	5/1/1988	Not Available
Amendment No. 4 to Memorandum of Lease between the State of Vermont and a Private Hangar Owner	One (1) parcel of land measuring 50 ft. x 50 ft., upon which tenant owns and occupies a 32 ft. x 40 ft. hangar for personal and private use.	$503.00 per year. The Consumer Price Index (CPI-U) is used for changes to rental fees.	Not Available	5 years	7/11987 6/30/1992	Four (5) year renewals Must give written notice at least six months before the expiration of each existing term.

Appendix B:
IMPLAN Results

Middlebury Airport, VT Add-on Economic Impact

Employment

NAICS Aggregated Sector	*Direct*	*Indirect*	*Induced*	*Total*
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	4.0	0.0	0.0	4.0
Manufacturing	0.1	0.1	0.0	0.2
Wholesale Trade	0.0	0.1	0.0	0.1
Transportation & Warehousing	1.3	0.7	0.0	2.0
Retail trade	0.1	0.2	0.4	0.7
Information	0.0	0.0	0.0	0.1
Finance & insurance	0.0	0.2	0.1	0.2
Real estate & rental	0.0	0.1	0.0	0.1
Professional- scientific & tech services	0.0	0.6	0.1	0.7
Management of companies	0.0	0.0	0.0	0.0
Administrative & waste services	0.0	0.1	0.0	0.2
Educational services	0.0	0.0	0.1	0.1
Health & social services	0.0	0.0	0.5	0.5
Arts- entertainment & recreation	0.0	0.0	0.0	0.1
Accommodation & food services	0.0	0.1	0.2	0.3
Other services	0.0	0.1	0.2	0.2
Government & non NAICs	0.0	0.3	0.0	0.3
Total	5.5	2.6	1.8	9.8

Multiplier: 1.78

Income

NAICS Aggregated Sector	*Direct*	*Indirect*	*Induced*	*Total*
Ag, Forestry, Fish & Hunting	$0	$1,000	$1,936	$2,936
Mining	$0	$342	$58	$400
Utilities	$0	$250	$402	$652
Construction	$133,020	$3,352	$804	$137,176
Manufacturing	$13,794	$6,142	$2,218	$22,154
Wholesale Trade	$1,434	$6,142	$3,688	$11,264
Transportation & Warehousing	$134,449	$57,219	$1,467	$193,135
Retail trade	$5,230	$12,122	$19,962	$37,314
Information	$30	$3,516	$1,074	$4,620
Finance & insurance	$0	$16,394	$5,230	$21,624
Real estate & rental	$260	$2,118	$1,496	$3,874
Professional- scientific & tech services	$2,392	$38,192	$5,330	$45,914
Management of companies	$0	$0	$0	$0
Administrative & waste services	$0	$4,842	$1,110	$5,952
Educational services	$0	$2,526	$6,706	$9,232
Health & social services	$0	$2	$29,290	$29,292
Arts- entertainment & recreation	$0	$452	$894	$1,346
Accommodation & food services	$12	$3,316	$8,158	$11,486
Other services	$0	$1,438	$6,082	$7,520
Government & non NAICs	$50	$22,424	$2,504	$24,978
Total	$0	$0	$0	$0
	$290,671	$181,789	$98,409	$570,869

Multiplier: 1.96

Output

NAICS Aggregated Sector	*Direct*	*Indirect*	*Induced*	*Total*
Ag, Forestry, Fish & Hunting	$0	$1,740	$3,320	$5,060
Mining	$0	$4,476	$782	$5,258
Utilities	$0	$1,134	$1,824	$2,958
Construction	$460,450	$7,236	$2,210	$469,896
Manufacturing	$53,962	$23,168	$13,004	$90,134
Wholesale Trade	$3,798	$16,260	$9,762	$29,820
Transportation & Warehousing	$707,362	$87,953	$3,357	$798,673
Retail trade	$15,562	$30,692	$50,218	$96,472
Information	$164	$15,030	$5,738	$20,932
Finance & insurance	$0	$59,870	$22,196	$82,066
Real estate & rental	$1,590	$12,346	$8,404	$22,340
Professional- scientific & tech services	$3,372	$101,316	$12,928	$117,616
Management of companies	$0	$0	$0	$0
Administrative & waste services	$0	$19,364	$3,686	$23,050
Educational services	$0	$4,240	$12,058	$16,298
Health & social services	$0	$8	$58,526	$58,534
Arts- entertainment & recreation	$0	$2,384	$2,328	$4,712
Accommodation & food services	$40	$9,722	$24,788	$34,550
Other services	$218,696	$7,018	$14,404	$240,118
Government & non NAICs	$242	$110,214	$75,996	$186,452
Total	$1,465,238	$514,171	$325,529	$2,304,938

Multiplier: 1.57

Tax Impact

	Empl. Comp.	Prop. Income	Household Ex	Enterprises	Ind. Bus Tax	Totals
Enterprises (Corporations)						
Corporate Profits Tax				$15,204		$15,204
Indirect Bus Tax: Custom Duty					$1,310	$1,310
Indirect Bus Tax: Excise Taxes					$3,530	$3,530
Indirect Bus Tax: Fed NonTaxes					$1,600	$1,600
Personal Tax: Estate and Gift Tax						$0
Personal Tax: Income Tax			$45,078			$45,078
Personal Tax: NonTaxes (Fines- Fees						$0
Social Ins Tax- Employee Contribution	$15,714	$14,011				$29,725
Social Ins Tax- Employer Contribution	$15,945					$15,945
Federal Government NonDefense Total	$31,659	$14,011	$45,078	$15,204	$6,439	$112,392
Corporate Profits Tax				$15,204		$2,954
Dividends				$3,370		$3,370
Indirect Bus Tax: Motor Vehicle Lic					$846	$846
Indirect Bus Tax: Other Taxes					$2,831	$2,831
Indirect Bus Tax: Property Tax					$37,475	$37,475
Indirect Bus Tax: S/L NonTaxes					$3,054	$3,054
Indirect Bus Tax: Sales Tax					$16,966	$16,966
Personal Tax: Estate and Gift Tax						$0
Personal Tax: Income Tax			$14,363			$14,363
Personal Tax: Motor Vehicle License			$1,119			$1,119
Personal Tax: NonTaxes (Fines- Fees			$3,802			$3,802
Personal Tax: Other Tax (Fish/Hunt)			$520			$520
Personal Tax: Property Taxes			$505			$505
Social Ins Tax- Employee Contribution	$54					$54
Social Ins Tax- Employer Contribution	$214					$214
State/Local Govt NonEducation Total	$267	$0	$20,309	$6,324	$61,172	$88,073
Total	$31,927	$14,011	$65,388	$21,529	$67,611	$200,465