CHAPTER 3: SYSTEM INVENTORY

3.1 INTRODUCTION

This chapter presents an inventory of existing facilities at the 25 public-use airport facilities currently identified as part of the New Hampshire Airport System and will serve as the basis of the remaining chapters of this study. According to the FAA's Airport Master Records (form 5010), as of January 2014, there are a total of 140 airports in the State of New Hampshire, which includes all privately-owned airports, landing fields, and heliports. However, this study focuses on the 25 of those airports that are open to the public.

For system planning purposes, the New Hampshire State Airport System Plan (NHSASP) considers only public-owned, public-use airports included in the National Plan of Integrated Airport Systems (NPIAS). The NPIAS identifies nearly 3,400 existing and proposed airports that are significant to national air transportation and thus eligible to receive Federal grants under the Airport Improvement Program (AIP). Therefore, this study focuses on airports that are eligible for federal funding. **Figure 3-1** displays system airports by NPIAS status. Data and facility information for non-NPIAS airports was collected and provided by the New Hampshire Department of Transportation, Bureau of Aeronautics (BOA).

3.2 SUMMARY OF EXISTING SYSTEM

Figure 3-1 illustrates the location of the public use airports currently included in the New Hampshire aviation system. These airports are categorized as follows:

- **Basic:** Airports in the Basic category are those that typically focus on serving smaller aircraft for clear weather flying.
- **Local:** Airports in the Local category are similar to Basic Airports however, Local Airports offer a greater diversity of services, experience usage by a greater diversity of twin-engine piston aircraft, and may accommodate occasional light turbine aircraft.
- **Regional:** Airports in the Regional category are those that provide all the services and facilities of Basic and Local Airports with more advanced infrastructure for a greater variety and volume of operators and users. Typically located proximate to more populated areas, Regional Airports provide services for a wide range of recreational and corporate users and are often an alternative to larger airports for active business and personal travelers.
- **National:** Airports in the National category are those that have the capability to provide a full complement of services and facility infrastructure required by users to access national and sometimes international markets. Typically, National Airports are those that have infrastructure to accommodate use by jet aircraft and business/corporate aircraft operators.


NH STATE AIRPORT SYSTEM PLAN
FIGURE 3-1:
NPIAS AIRPORTS
NPIAS
Non-NPIAS
DATE: MAY 2014
QUEBEC
N
Gifford
Errol
Berlin Regional
MAINE
Mt. Washington Regional
Gorham
Twin Mountain
Franconia
Dean Memorial
VERMONT
Plymouth Municipal
Moultonboro
Lebanon Municipal
Newfound Valley
Laconia Municipal
Parlin
Alton Bay
Claremont Municipal
Skyhaven
ATLANTIC OCEAN
Concord Municipal
Portsmouth Int'l
Hawthorne Feather
Hampton
Dillant Hopkins
Manchester Boston Regional
Jaffrey-Silver Ranch
Boire
0
20
40
Miles
MASSACHUSETTS
Prepared By:
McFarland Johnson
Source: GRANIT, Natural Earth.

- **Primary**: Airports in the Primary category fulfill the highest level of access for aviation users in the state with their role being the provision of scheduled airline commercial service.

3.2.1 STATE AIRPORTS SUMMARIES

This section provides a brief summary of the airports that are within the State's aviation system. The airport information is summarized by airport role and the descriptions of each present the character of the airports and the areas the airport serve, as well as any unique activities associated with the facilities.

General Aviation Basic Airports

Alton Bay Ice Runway/Seaplane Base (B18)

Alton Bay Ice Runway/Seaplane Base (B18) (Alton Bay) in the Lakes region is a winter season airport with a plowed ice runway located on the southeast corner of Lake Winnipesauke in the Town of Alton. The airport operates from January to February and offers a unique experience for the aviation community. The runway is 2,600 feet x 100 feet. The Bureau of Aeronautics works with the volunteers who manage the ice runway during the winter season to develop an airport layout that provides the necessary aviation facilities while also addressing safety needs for people on the ice. During the winter season, this is one of New Hampshire's busiest airports with nearly 100 aircraft arriving each weekend.

Dean Memorial Airport (5B9)

Dean Memorial Airport (5B9) is located in the Mt. Washington region of the state in the Town of Haverhill in Grafton County. The airport is a public use airport owned by the Town of Haverhill and operated by an airport commission comprised of municipal and airport officials. The airport was identified for inclusion into the NPIAS program as part of the 2003 NHSASP and accepted into the program in 2010.

There are no Fixed Base Operator (FBO) services provided at the airport but the airport does have self-serve 100 Low Lead (LL) fuel. The aircraft based at the airport are the primary generators of activity however, the airport does see several itinerant flights during the summer. The airport has a very successful annual "Airport Day" held in the summer that attracts the local community to the airport, helping to increase the airport's visibility within the community.

Errol Airport (ERR)

Errol Airport (ERR) is located in the Great North Woods region of the State in the Town of Errol in Coos County. The airport is a privately

887

Every year Dean Memorial Airport hosts an "Airport Awareness Day" which includes exhibits and airplane rides. As of 2011, the Experimental Aircraft Association's Young Eagles program has introduced aviation to 887 children at Dean Memorial Airport's Airport Awareness Day events.

owned airport open to the public. The airport has a 3,680-foot x 75-foot gravel runway and several based aircraft. The airport has a hangar and several turf tie-downs. A paved helipad was constructed in 2008 using a state grant and a grant from the Tillotson Fund to support helicopter operations in a safe manner that otherwise wouldn't be able to use the gravel runway surface.

Gorham Airport (2G8)

Gorham Airport (2G8) is located in the White Mountain region of the state. The Gorham Airport is owned and operated by the Town of Gorham in Coos County. Day-to-day airport operation and management are coordinated on a part-time basis with the Town of Gorham Water and Sewer Commission and a part-time volunteer airport manager. The 2,667-foot turf runway facility is open seasonally from spring through fall. The airport sits atop a protected aquifer and doesn't allow aircraft fueling in order to help protect the aquifer from spills.

Moultonboro Airport (5M3)

The Moutlonboro Airport (5M3) is located in the Lakes region of the State in the Town of Moultonboro in Carroll County. Located on the northern side of Lake Winnipesauke, the airport is a privately owned, public-use facility and has a 3,625-foot x 50-foot paved runway. The airport has several hangars and a tiedown apron, as well as a maintenance hangar. Moultonboro Air Base LLC, the FBO offers aircraft maintenance, fuel and aircraft tiedowns.

Hawthorne Feather Airpark (8B1)

Hawthorne Feather Airpark (8B1) is a privately owned, public-use airport located in the Monadnock region of the state in the Town of Hillsboro in Hillsborough County. The airport has a paved 3,260-foot x 75-foot runway and has 100LL fuel. It is used primarily by local pilots for recreational use.

Newfound Valley Airport (2N2)

Newfound Valley Airport (2N2) is located in the Lakes region in the town of Bristol in Grafton County. The airport is a privately owned, public-use facility that is managed by a full-time airport manager and a small group of volunteers, which are based aircraft owners. There are several based aircraft and a small hangar at the airport. The runway is a 1,900-foot x 40-foot paved surface runway.

26

Years

Hawthorne-Feather Airpark is the site of the former Nathaniel Hawthorne Aviation College. For 26 years, Nathaniel Hawthorne was the premier aviation college in the region having closed in 1988.

Plymouth Municipal Airport (1P1)

Plymouth Airport (1P1) is located in the Lakes region of the State in the Town of Plymouth in Grafton County. The Town of Plymouth owns and operates the airport with a part-time airport manager. The airport has a 2,380-foot x 90-foot turf runway, a small terminal building and a small hangar. The airport is open three seasons because the Town does not plow the runway during the winter and aircraft operations are not possible during that time.

Franconia Airport (1B5)

Franconia Airport (1B5) is located in the White Mountain region of the State. The airport is situated in the Town of Franconia in Grafton County. The airport is a privately owned, public-use facility with a turf runway, which is open from spring until fall depending on runway conditions. The Franconia Soaring Association, a gliding club for members and non-members, primarily uses the facility. As a lodging facility neighboring the airport, the Franconia Inn (owner of the Airport), uses the facility within its marketing campaign to attract guests who are interested in taking advantage of the opportunity to experience gliding in the White Mountains.

Twin Mountain Airport (8B2)

Twin Mountain Airport (8B2) is located in the Mt. Washington region of the State in the Town of Twin Mountain in Coos County. The airport is a privately owned/public-use airport with a paved 2,640-foot x 60-foot runway. The airport has a small terminal building and a tiedown apron for aircraft.

Gifford Field (4C4)

Gifford Field (4C4) is the northernmost public use airport in the New Hampshire system. The airport is located in the Great North Woods region in the Town of Colebrook in Coos County. Gifford Field is a privately owned, public-use facility. The 2,440-foot turf runway at Gifford Field is open spring through late fall. Recreational and some business flights occur here.

General Aviation Local Airports

Claremont Municipal Airport (CNH)

Claremont Municipal Airport (CNH) is located within the Dartmouth-Lake Sunapee region of the state in the City of Claremont in Sullivan County. The airport is owned and operated by the City of Claremont. The Claremont Airport Advisory Board serves in

Franconia Inn

Franconia is owned by the Franconia Inn, located just across the street from the airfield. The Inn focuses on the airport's glider activity in its own marketing campaign as a way to attract visitors to Franconia, which also happens to be the long time home of poet Robert Frost.

an advisory function to the City Council relative to airport operations. Due to the limited availability of funds, the airport relies on a part-time airport manager, who is also the City Fire Chief and volunteers to assist with airport maintenance.

The airport, located near the border of Vermont, sees activity from both New Hampshire and Vermont and has a 3,000 foot x 100 foot runway. One of the primary factors in this split of activity is that NH fuel taxes allow for lower fuel prices at Claremont. These lower fuel prices attract aircraft to the airport and generate additional revenue for the airport. CNH Aviation is the FBO located at the airport and offers flight training and aircraft maintenance.

Mt. Washington Regional (HIE)

The Mt. Washington Regional Airport (HIE), located in the Mt. Washington region of the state, is owned by the Town of Whitefield in Coos County and is operated and managed by the Mt. Washington Regional Airport Commission. The Commission is comprised of surrounding towns in a voluntary cooperative financial agreement to support the airport. Each member town in the Commission supports the airport by voluntarily providing revenue (as a line item in their annual budget) based on a suggested amount per town resident.

The airport's location in the Mt. Washington region provides easy access to two reputable resorts: Mountain View Grand Resort & Spa, and Omni Mount Washington Resort, which is home to and Omni Bretton Arms Inn at Mount Washington. Portions of the itinerant operations that occur during the summer months are corporate turboprop/jet aircraft and charter aircraft that transport passengers to these two resorts. The airport also sees aircraft during the winter that are travelling to the various ski resorts in the region.

The airport has a 4,002 foot x 75 foot runway and a Localizer Performance with Vertical Guidance (LPV) approach. The airport's current master plan shows an extension of the runway up to an additional 1,000' to allow the airport to more efficiently accommodate corporate jet aircraft. Discussions with airport management indicated that the lack of Jet-A fuel is an issue for attracting more jet and turboprop traffic to the airport. As such, the airport is considering installing Jet-A tanks to support the projected corporate traffic once the runway extension has been built.

Jaffrey Airport - Silver Ranch (AFN)

Jaffrey Airport–Silver Ranch (AFN) is also located in the Monadnock region of the state in the Town of Jaffrey in Cheshire County. The airport is a privately owned, public-use airport. The owners operate and manage the facility full-time as well as a busy charter service. The airport has a

58

Years

Mt. Washington Regional Airport has provided general aviation services in the White Mountains for over 58 years.

2,982-foot x 134-foot paved runway with several large box hangars for aircraft storage. The airport also has several tiedown aprons and 100LL fuel. The airport is used primarily for recreational flights and due to its close proximity to the Massachusetts border. AFN sees flight training activity from nearby airports in MA as well as NH.

Hampton Airfield (7B3)

Hampton Airfield (7B3) is located in the Seacoast region in the Town of North Hampton in Rockingham County. The airport is a privately owned, public-use airport. The airport has an active 2,100-foot turf runway open year round. The airport has a large number of privately owned hangars on either side of the runway. The airport offers maintenance services as well as aircraft restoration services. The airport also has a small restaurant, which attracts recreational aircraft, as well as a small ice cream stand that attracts local residents during the summer months. During the summer, the airport has banner towing services and scenic flights along the beaches.

Parlin Field (2B3)

Parlin Field (2B3) is located in the Dartmouth-Lake Sunapee region of the state in the Town of Newport in Sullivan County. Parlin Field is owned and operated by the Town of Newport with a part-time airport manager. The elected five member Parlin Field Airport Commission exists as an advisory mechanism to Newport selectmen. The airport has a paved 3448-foot x 50-foot runway, a 2,140-foot x 80-foot turf runway, 100LL fuel and a tiedown apron. The airport has several businesses located on the airfield including; Edmonds Aircraft Service, which does maintenance and aircraft restoration services and the Lil' Red Baron restaurant, which is open year round and attracts aircraft from NH and neighboring states.

Skyhaven Airport (DAW)

Skyhaven Airport (DAW) is located in the Lakes region of the state in the City of Rochester in Strafford County. It is about 20 miles northwest of Portsmouth International Airport at Pease. The airport was owned by the State of New Hampshire, but was transferred to the Pease Development Authority in 2009 and is now being staffed by aviation personnel from Portsmouth International Airport at Pease. The airport is a small active general aviation airport whose activity is primarily recreational in nature but also serves corporate and medical helicopter operations. The airport has a 4,000 ft x 600 ft

1946

Legend has it that in 1946 the original owners bought 17 parcels of land to make up what was to be a gladiola farm. Once all parcels were obtained, they opened an airport instead! Although it has never been proven to be true, the airport now grows gladiolas in front of the café to make good on the promise. Hampton Airfield offered continuous Piper Cub training since 1946.

runway. The only aviation business tenant on the airport is an aircraft maintenance shop.

General Aviation Regional Airports

Berlin Regional Airport (BML)

Berlin Regional Airport (BML) is located in the Town of Milan, just north of the City of Berlin, in Coos County and within in the Great North Woods region of the state. The Berlin Airport Authority owns the facility with financial and administrative operations coordinated through the City of Berlin. The Airport Authority is comprised of a seven-member agency with representation from the City of Berlin, Town of Milan and Coos County. The airport manager coordinates day-to-day operation and management.

The airport has a 5,200 foot x 100 foot runway. The airport is primarily used by small general aviation aircraft and serves a notable amount of training activity due to the available instrument approaches at the airport. The airport also serves an important role in emergency medical evacuation and support facility for search and rescue operations. The airport's location in the northern portion of the state and the availability of Jet-A fuel are key factors to the airport's importance to the Great North Woods region.

The airport's primary business is a part time maintenance shop that provides seasonal aircraft maintenance service and part time flight instruction.

Laconia Municipal Airport (LCI)

The airport is located in the Lakes region on the south side of Lake Winnipesauke in Belknap County. The airport is owned by the City of Laconia and located in the Town of Gilford. An Airport Authority was established by state legislature and has nine members with the Mayor of Laconia as the Authority Chairperson. The Authority is primarily advisory in nature. The City of Laconia formally acts as the sponsor.

The airport's location near Lake Winnipesauke attracts a variety of aviation activity, much of it recreational in nature. Due to a large number of vacation homes located along the lake, the airport sees a large number of corporate jets and turboprop aircraft that are used to transport homeowners to their homes or bring campers to historical lakeside camp sites. This aviation traffic is unique among the New Hampshire airports and accounts for a large portion of activity during the summer.

The airport has a 5,890 ft x 100 ft runway. It also has two full-service

43

Times

Flying from Berlin Regional Airport, Carmeno Onofrio landed on the summit of Mt. Washington 43 times in 1947 with his J-3 Cub aircraft.

FBOs including; Sky Bright Aviation, which services corporate activity at the airport, and Emerson Aviation that serves smaller general aviation aircraft. The airport recently added a new tenant, C-R Helicopters, who expanded to Laconia to supplement their existing operation at Boire Field in Nashua.

Concord Municipal Airport (CON)

Concord Municipal Airport (CON) is located in Merrimack County, in the Merrimack Valley region of the State in the State's Capitol. The airport is owned and operated by the City of Concord. The City's General Services Administration oversees the airport in terms of building and grounds maintenance and plowing. Concord Aviation Services is the airport's full service FBO and serves as the airport manager under contract to the City. The City's Airport Advisory Committee, which reports to the Concord City Council, serves in an advisory role relative to airport financial and administrative operations.

The airport is an active general aviation airport and sees a mix of corporate, business and recreational flights. Corporate activity is associated with businesses in the City as well as St. Paul's School. The airport also serves corporate aircraft associated with two NASCAR races held at the New Hampshire Motor Speedway in July and September each year.

The airport has a 6,005 ft x 100 ft runway. Concord Aviation Services provides FBO services at the airport including maintenance, flight training, hangar and tiedown parking and fuel. Other notable tenants include Craig Avionics, which specializes in aircraft avionics installations, the New Hampshire State Police and the Army National Guard facility housing UH-60 Medevac helicopters. Numerous private aircraft owners lease aircraft and hangar space at the airport as well.

Dillant-Hopkins Airport (EEN)

Dillant-Hopkins Airport (EEN) is located in the Monadnock region of the state in the Town of Swanzey, Cheshire County. The airport is owned and operated by the City of Keene. The facility has a full-time manager who oversees maintenance, administration and operation of the airport. The airport has a 6,200 ft x 100 ft runway and can accommodate all types of aircraft from single-engine piston aircraft to large corporate jets.

The airport sees a mix of corporate turboprop and jet aircraft, along with recreational flights and flight training by smaller piston aircraft during the summer. The airport has one full-service FBO, Monadnock Aviation, which provides a variety of aviation services including fueling services. Green River provides similar services, but does not provide fueling services. A major tenant on the airfield is C&S Aviation, which is a corporate flight department that owns a Bombardier

$455

$455 – The cost to get a private pilot license administered by Robert Fogg, owner of Fogg's flying service at Concord Municipal Airport in 1930.

Challenger and other aircraft.

General Aviation National Airports

Boire Field (ASH)

Boire Field (ASH) is located in the City of Nashua in Hillsborough County, which is in the Merrimack Valley region of the state. The airport is owned by the City of Nashua and operated and managed by the Nashua Airport Authority. The airport authority was created by State Legislation whose members are appointed by the Mayor of Nashua. The facility has a full-time manager and several operations and administration staff who are employed by the airport authority. The airport has a business park that serves a number of non-aviation businesses.

Busiest

Boire Field is the busiest general aviation airport in NH and also has the largest based aircraft fleet out of all the state's airports.

The airport is the busiest general aviation airport in the state serving general aviation and corporate activity and also has the largest based aircraft population of the State's airports. The airport's runway is 6,000 ft x 100 ft. The airport's operations have declined over the past two years as Daniel Webster College (located adjacent to the airport) eliminated the aviation flight program, which resulted in a loss of flight training operations. The aviation flight program made up a large component of annual aircraft operations. However, the airport's business tenants are active and growing and they have served to stabilize activity for the airport. The airport is also a key facility serving corporate activity associated with the high-tech and financial companies located in the Greater Nashua area including BAE and Fidelity Investments.

Major aviation businesses on the airport include Nashua Jet and Infinity Aviation, both of which provide fuel services. Fixed Based Operator (FBO) services on the airfield include flight training, aircraft maintenance and hangar storage. In addition to the FBOs, there are several successful aircraft maintenance facilities including CR Helicopters, which provides helicopter training and maintenance services. Non-aviation businesses include the Midfield Café, a restaurant providing breakfast and lunch, and the Nashua Pilot Shop.

Primary Commercial Service Airports

Lebanon Municipal Airport (LEB)

The airport is located in the Dartmouth-Lake Sunapee region in the City of Lebanon in Grafton County. It is located along the New Hampshire/ Vermont border where Interstate 89 crosses into the State of Vermont. The Airport is owned and operated by the City of Lebanon.

The airport is one of three commercial air service airports in the state and has air service provided by Cape Air, which operates to Boston and

New York. The airport is one of the largest airports in the region and has an active general aviation base. The airport has one FBO, Granite State Air, that provides a variety of aviation services including maintenance, flight training and aircraft hangar and tiedown. The other major tenant is Sharkey's Helicopter, which services and sells piston and turbine helicopters nationally and internationally. The airport has a 5,496 ft x 100 ft runway.

A number of industries located in Lebanon use the airport, allowing executives and visitors to access their facilities quickly using charter aircraft or corporate aircraft instead of flying to and driving from other airports. Several companies also have corporate turboprop and jet aircraft located at the airport or use charter services provided by businesses on the airport.

The airport serves the City of Lebanon as a transportation gateway to the region, but also contributes as an economic generator for the City of Lebanon. The airport generates jobs through staff operating and managing the airport as well as jobs related to the many tenants located at the airport including airline, rental car companies, FBO and aviation service providers. Outside of on-airport jobs, activity generated by the airport supports job creation within the City of Lebanon through the use of local services such as hotels, rental cars and restaurants located in Lebanon.

Manchester-Boston Regional Airport (MHT)

The Manchester-Boston Regional Airport (MHT) is northern New England's largest airport and is owned and operated by the City of Manchester. The airport is located in the Merrimack Valley region of the State in the County of Hillsborough and is one of three commercial service airports in New Hampshire. American, Delta, Southwest, and United Airlines currently serve the airport. Manchester-Boston Regional offers air travelers non-stop and direct service to leading U.S. Cities.

The airport has one FBO, Wiggins Airways, which provides a variety of aviation services to corporate and general aviation aircraft. Wiggins also provides cargo support services to Federal Express and UPS. The FBO also provide services, such as fueling and deicing to the airlines serving the airport. The FBO recently built an additional hangar capable of accommodating large corporate aircraft.

Portsmouth International Airport at Pease (PSM)

Portsmouth International Airport at Pease (PSM) is located in the Seacoast region of NH in the City of Portsmouth in Rockingham County. The Pease International Tradeport, a former U.S. Air Force base,

4th

Largest

Once a final stop for military bombers and fighters before transiting the Atlantic to Europe during WWII, Manchester-Boston-Regional Airport now serves as New England's fourth-largest airport by passenger volume and third largest airport by cargo volume.

opened for civilian use in 1991 and is owned and operated by the Pease Development Authority (PDA). The airport occupies approximately 900 acres of the 4000-acre Pease International Tradeport property. The airport has had scheduled commercial passenger service periodically over the years, and initiated new commercial air service in 2013 by Allegiant Air.

The airport's terminal not only serves Allegiant, but also military charters bringing back military personnel from Europe and the Middle East. The airport is also home to the NH Air National Guard aerial tanker squadron serving the military fueling needs of the Northeast and overseas missions. The squadron of KC-135 Stratotankers will soon be converting to the new KC-46A tankers, a military version of the Boeing 767. The airport is known for the Pease Greeters, a community group of volunteers that welcomes military personnel as they arrive back in the United States.

The airport has a number of tenants who provide general aviation services at the airport including Port City Air, which is the FBO at the airport. The FBO offers flight training, aircraft maintenance, and hangar and tiedown storage. Port City Air also services Boeing 747 cargo freighters on technical stops to refuel or as required, clear U.S. customs. Plane Sense is the other major tenant at the airport. Plane Sense offers fractional shares in Pilatus PC-12 corporate turboprop aircraft as well as charter services with the PC-12 throughout the Northeast and along the East Coast. Their headquarters facility is comprised of offices and a large maintenance hangar that is located on the flight line of the airport.

3.2.2 PRIVATE FACILITIES NOT IN STATE SYSTEM

Outside of the twenty-five airports making up NH's system of airports, there are over 80 other small privately owned, private use airports registered with the Bureau of Aeronautics. These airports are comprised of the following types of facilities:

- **Private Airports (Private Use)** – Similar to public airports, private airports often have the same types of facilities to support basic flying; however, the airport is owned by a private entity. As a private facility these airports are not subject to federal oversight, nor are they eligible for federal assistance. One example is Brookline Airport in Brookline, NH, which has a paved 1,900-foot runway and has 15 based aircraft that are stored in a number of single and multi-aircraft hangars and T-hangars located on the airfield.

- **Private Airstrip (Private Use)** – Located primarily on personal property, these private airstrips are comprised of turf, gravel or paved runways. Aircraft are stored either in or under small shelters or in aircraft specific buildings. These strips are usually for day use only and have no lights for night use.

- **Heliports** – Many of the heliports in NH are privately owned and located on or near office buildings or on private residential property. They have turf or prepared surfaces and are used primarily during the day. As an example, JBI Helicopters, which provides helicopter services throughout New England, has a facility with several helipads located in Pembroke, NH.

  In addition to these types of facilities, many of the larger hospitals have certified trauma units. As part of this certification, the hospitals have helipads for emergency helicopters and are typically used by Dartmouth-Hitchcock Advanced Response Team helicopters. Dartmouth Hitchcock and Concord Hospital are two of the State's hospitals with emergency helicopter helipads.

- **Seaplane Bases** – NH has many lakes and large ponds that are capable of accommodating small single engine aircraft that are equipped with floats. A number of seaplane bases are located around the state, several of which are located on Lake Winnipesauke and include Loons Nest and Winter Harbor. Access from the lake to land is typically provided by a special use dock.

- **Fly-in Community** - Windsock Village in Ossipee, NH is a fly-in community that has a private 4,000-foot' turf runway. Residential homes are located on either side of the runway and many of them have small hangars, much like an automobile garages, to store their aircraft. There were about 24 aircraft located on the airfield in 2014.

Hosptial Helipad

3.2.3 REVIEW OF PREVIOUS SYSTEM PLAN

The 2003 NHSASP focused on the economic analysis of the system with the intent of preserving the existing system of airports and funding future needs of the system. Funding for the NHSASP was obtained through a Transportation Equity Act for the 21st Century (TEA-21) grant in order to conduct an economic analysis of the system of airports. The study also provided elements of a traditional system plan in order to identify the aviation funding needs necessary to move forward.

The 2003 NHSASP identified three fundamental objectives upon which the study was developed. Those objectives stated the following:

- Clearly identify the relationship between airports and economic development.

- Develop a program to increase investments by local and state agencies in airports.

- Identify the key constituencies to target the promotion of the economic value of airports to the State.

From these three objectives, goals for the study were identified and included the following:

- Identify the specific role of each airport in terms of economic development.

- Develop a system plan suited to meet the goals of airport users, the

State's citizens, and the Bureau of Aeronautics.

- Develop strategies to preserve airports, and identify the investment required to maintain and enhance airports.
- Develop strategies to enhance statewide intermodal access.

Following a comprehensive inventory, a side-by-side analysis of the aviation system and the economic benefits of the aviation system were completed. Forecasts of aviation activity were developed and were based on current and anticipated aviation trends at that time. The data was then used in an economic model to develop an economic analysis defining the primary and secondary economic benefits generated by each of the airports and then aggregated to a state level economic impact. From this analysis, the findings were developed into a series of recommendations. Key recommendations included the following:

System Capacity

- The system of airports meet the current and future capacity needs of the state.
- Monitor adjacent states for any changes in state laws that would affect activity in NH, as well as changes at adjacent airports in the bordering states that could affect NH airports.
- Revise entry criteria for NH airports inclusion into the NPIAS program.
- Work to include Dean Memorial Airport (Haverhill) in the NPIAS program.
- Support and promote North Country airport projects to enhance access to this region.

Financial and Economic

- Partner with the congressional delegation to increase FAA funding for NH airports.
- Direct revenue from the aviation fuel tax from the General Fund to airport improvements.
- Identify innovative funding sources to fund airport development needs.
- Develop a comprehensive education program highlighting the business use of airports.
- Develop a program in collaboration with Department of Resources and Economic Development (DRED) to help market airports to reduce budget shortfalls through innovative development on the airport.

Bureau of Aeronautics

- Develop a program to preserve the existing system of airports, possibly through changes to current legislation.
- Develop a statewide aviation steering committee to review the

system and to make recommendations as appropriate to manage and enhance the system of airports.

Intermodal Transportation

- Identify opportunities to provide alternate transportation at airport such as courtesy cars at general aviation airports.
- Evaluate the potential for shuttle services serving Manchester-Boston Regional Airport from the new park and ride facility at Exit 4 on Interstate 93.

Environmental Issues

- Develop general environmental guidelines to educate airports.

Airport Security

- Work with aviation and security organizations to monitor and implement security measures at the general aviation airports.

Several of the recommendations that were implemented and completed include:

- Inclusion of Dean Memorial Airport into the NPIAS airport.
- Support of projects at North Country Airports to enhance approaches at Mt. Washington Regional Airport and Berlin Regional Airport.
- Designation of NH as a Block Grant State for AIP funding and the BOA as the administrator of the federal grant program for the state.

3.3 INVENTORY PROCESS

The inventory is an important element of the NHSASP as it serves as the basis of information that all other analyses are developed. As such, an extensive and comprehensive data collection process was initiated to collect all of the relevant data for this study effort. Two types of data were collected from the airports: 1.) airport specific data such as airside and landside facilities, and 2.) economic data specific to the airports, tenants and airport users.

The inventory process involved the following steps:

- Collection of data from BOA files including grant summaries, Capital Improvement Programs and Airport Layout Plan data.
- Comprehensive Airport Inventory and Data survey to collect both qualitative as well as quantitative data through face-to-face interviews.
- The Airport Management Economic Impact Survey collected relevant economic data such as employment, payroll and other economic data for the Airport Economic Analysis.
- Airport Economic Tenant Survey collected economic data for key airport tenants.
- Airport User Surveys were placed at the FBOs to collect economic

data of airport users that included items such as spending data and purpose of trip.

Outside of the BOA data, the Airport Inventory and Data Survey provided most of the data on the airports. The questionnaire was extensive and collected qualitative information such as airport facilities and activity, but also quantitative information, such as issues with the community, aviation outreach and community participation.

Visits and interviews were conducted at each of the NPIAS airports. BOA staff contacted and collected inventory for the Non-NPIAS airports. The visits provided an opportunity to understand the issues facing the airport and obtain an understanding of the diverse aviation activity occurring at each facility.

As part of the airport visits, information pertaining to the Airport Management Economic Impact Survey was collected. The economic data included payroll, staffing, capital improvements and operating expenses. The survey also identified key tenants to visit and obtain additional data for the economic analysis. Follow-on visits to the airport tenants were conducted to collect their economic data. A copy of the Airport Tenant Survey may also be found in **Appendix 3-A**. Finally, Airport Users Surveys were left with the FBOs to collect data about airport users. The survey asked for the purpose of the visit, places visited and money spent.

The data collection process was very successful and collected the necessary data for the system plan analysis as well as the economic analysis. A copy of each of the four surveys used during the inventory process is presented in **Appendix 3-A** of this report.

3.4 AIRPORT INVENTORY DATA

This section presents data collected for New Hampshire system airports via the inventory process previously described. Data for system airports is organized and presented in the following sections:

- General Airport Information
- Airside Facilities
- Landside Facilities and Services
- Airport Activity Data

3.4.1 GENERAL AIRPORT INFORMATION

General airport information from the survey is presented in **Table 3-1**, and includes the following:

- Airport Name: The official name of each facility.
- Airport Identifier: The three-character code assigned to each airport by the FAA.

- Associated City: The primary city served by each airport.
- NPIAS Status: The current classification of the airport in the NPIAS.

New Hampshire has 12 airports in the NPIAS. Manchester-Boston Regional is a Primary Airport, Lebanon Municipal is a Commercial Service Airport, and Boire Field is a Reliever Airport. The remaining nine airports are General Aviation Airports. As noted in **Table 3-1**, Jaffrey Airport-Silver Ranch, Parlin Field, and Plymouth Municipal are designated as General Aviation Airports by the NPIAS; however, these facilities are not officially part of the NPIAS system and are not funded by the AIP. These designations are a holdover from a previous period when the State was pursuing their inclusion into the NPIAS. The remaining 13 airports, including the three airports noted above, are privately owned/ public-use airports that make up the remaining airports that comprise NH's system of airports.

Concord Municipal Airport

3.4.2 AIRSIDE FACILITIES

This section presents and summarizes airside facility information collected for system airports. Airside facilities include runways, taxiways, associated visual and navigational aids (NAVAIDS), and the communication and weather reporting infrastructure utilized to support aircraft operations. This information for New Hampshire's system airports is described in the following sections, and presented in **Tables 3-2** and **3-3**:

- Runway Information
- Runway Lighting
- Taxiway Coverage
- Approach Type
- Visual and Navigational Aids (NAVAIDS), Weather Reporting, and Communications

Aircraft storage facilities, including hangars and apron are described and summarized together in Section 3.4.3, Landside Facilities.

Table 3-1 – NHSASP - General Airport Information

AIRPORT NAME	AIRPORT IDENTIFIER	ASSOCIATED CITY	NHPIAS STATUS
Berlin Regional	BML	Berlin	General Aviation
Boire Field	ASH	Nashua	Reliever
Claremont Municipal	CNH	Claremont	General Aviation
Concord Municipal	CON	Concord	General Aviation
Dean Memorial	5B9	Haverhill	General Aviation
Dillant-Hopkins	EEN	Keene	General Aviation
Laconia Municipal	LCI	Laconia	General Aviation
Lebanon Municipal	LEB	Lebanon	Commercial Service
Manchester-Boston Regional	MHT	Manchester	Primary
Mt. Washington Regional	HIE	Whitefield	General Aviation
Portsmouth International at Pease	PSM	Portsmouth	General Aviation
Skyhaven	DAW	Rochester	General Aviation
Alton Bay	B18	Alton Bay	None
Errol	ERR	Errol	None
Franconia	1B5	Franconia	None
Gifford Field	4C4	Colebrook	None
Gorham	2G8	Gorham	None
Hampton Airfield	7B3	Hampton	None
Hawthorne-Feather Airpark	8B1	Hillsboro	None
Jaffrey Airport-Silver Ranch	AFN	Jaffrey	General Aviation[1/]
Moultonboro	5M3	Moultonboro	None
Newfound Valley	2N2	Bristol	None
Parlin Field	2B3	Newport	General Aviation[1/]
Plymouth Municipal	1P1	Plymouth	General Aviation[1/]
Twin Mountain	8B2	Twin Mountain	None

Source: McFarland Johnson, Inc.

Runway Information

Runways represent the most essential and primary factor for evaluating the utility and market area for an airport. The primary runway's length, surface type, and width are critical for determining which aircraft can safely operate at an airport, and therefore serve as one of the first infrastructure items considered in a system plan.

As shown in **Table 3-2**, eight of the system airports have a primary runway length greater than 5,000 feet. The longest runway in the system is at Portsmouth International, which boasts an 11,321-foot runway. For planning purposes, a runway length of 5,000 feet or greater is typically benchmarked as the minimum for airports to serve turbo-prop and jet aircraft most often in service by business/corporate operators.

The shortest paved runways at system airports are 3,000 feet or less and are found at Newfound Valley (1,990 feet), Dean Memorial (2,511

Table 3-2 – NHSASP – Primary Runway and Taxiway Facilities

AIRPORT NAME	Primary Runway Length	Primary Runway Width	Primary Runway Lighting	Taxiway Coverage	Best Approach
Berlin Regional	5,200	100	High	Turnaround/Stub	Non-Precision
Boire Field	6,000	100	High	Full	Precision
Claremont Municipal	3,098	100	Medium	Partial	Non-Precision
Concord Municipal	6,005	100	High	Full	Precision
Dean Memorial	2,511	58	Non-Std	Stub	Non-Precision
Dillant-Hopkins	6,201	100	High	Partial	Precision
Laconia Municipal	5,890	100	High	Full-DBL	Precision
Lebanon Municipal	5,496	100	Medium	Full	Precision
Manchester-Boston Regional	9,250	150	High	Full	Precision
Mt. Washington Regional	4,002	75	Medium	Partial	Non-Precision
Portsmouth International at Pease	11,321	150	High	Full	Precision
Skyhaven	4,000	100	Medium	Full	Non-Precision
Alton Bay	2,600	100	None	None	Visual
Errol	3,680	75	None	None	Visual
Franconia	2,305	150	None	Full	Visual
Gifford Field	2,466	75	None	Full	Visual
Gorham	2,667	70	None	None	Visual
Hampton Airfield	2,100	170	None	None	Visual
Hawthorne-Feather Airpark	3,260	75	Medium	Partial	Visual
Jaffrey Airport-Silver Ranch	2,982	134	Low	Partial	Non-Precision
Moultonboro	3,475	50	Non-Std.	Stub	Visual
Newfound Valley	1,990	40	None	None	Visual
Parlin Field	3,448	50	Non-Std.	Full	Visual
Plymouth Municipal	2,380	90	None	Full	Visual
Twin Mountain	2,660	60	Low	None	Visual

Source: McFarland Johnson, Inc., FAA 5010 Form

feet), Twin Mountain (2,660 feet), and Jaffrey Airport-Silver Ranch (2.982 feet). Five system airports offer secondary, or crosswind runways (not shown in T**able 3-2**). These airports are: Manchester-Boston Regional (7,650 feet), Lebanon Municipal (5,200 feet), Dillant-Hopkins (4,001 feet), Concord Municipal (3,200 feet) and Parlin Field (2,140 feet – turf surface). There are also five (5) system airports whose main runways are turf and include Franconia (2,305 feet) Gifford Field (2,466 feet), Gorham (2,667 feet), Hampton Airfield (2,100 feet) and Plymouth Municipal (2,380 feet). Unique to New Hampshire, Alton Bay Ice Runway/Seaplane Base is a seasonal airport with a 2,600 foot runway where the surface is ice.

In terms of primary runway widths, two system airports offer primary runways of 150 feet in width eight system airports have primary runways of 100 feet in width. Four airports have a primary runway is 75 feet wide. The remaining airports have runway widths that range from 40 feet to 70 feet. Crosswind runways described range in width from 50 to 150 feet.

Runway Lighting

Runway lighting provides the use of the airport at night or use during poor weather conditions. The types of runway lighting include High Intensity Runway Lighting (HIRL), Medium Intensity Runway Lighting (MIRL) and Low Intensity Runway Lights (LIRL). As shown in **Table 3-2**, seven airports have HIRLs, five airports have MIRLs, and two have LIRLs. Three airports have non-standard lighting; these lighting systems do not meet current FAA lighting design criteria. The remaining seven airports have no lighting.

Taxiway Coverage

Table 3-2 also presents the type of taxiway coverage for each system airport's primary runway. A full-length taxiway is a taxiway that spans the entire length of the primary runway. A partial-length taxiway spans only part of the length of its associated runway. Runways without a taxiway system may have a turnaround at one or both ends of the runway for aircraft to reverse direction and perform other operations off the runway. Additionally, stub taxiways are also shown for system airports without parallel taxiways. A stub taxiway is defined as one that connects a runway to a parallel taxiway or an adjacent apron area. An airport's taxiway "coverage" contributes to the runway's capacity for accommodating higher volumes of aircraft operations, such that aircraft have taxiway pavement available to perform off-runway operations prior to take-off and after landing. In this way, parallel taxiways offer greater coverage than turnarounds and stub taxiways.

As shown, eleven system airports offer a full parallel taxiway, with Laconia Municipal offering two full parallel taxiways to serve the primary runway. Five airports have a partial parallel taxiway, three airports have stub taxiways connecting the terminal apron with the runway, and the remaining airports have no taxiways, requiring aircraft to backtaxi to either depart or taxi to the terminal apron upon landing.

Approach Type

During periods of low visibility, pilots rely on NAVAIDS and instruments to operate aircraft to a point when a runway element is visually acquired. An instrument approach procedure is the means by which pilots perform such operations; however, not all airports offer an instrument approach. Therefore, operations at airports without an instrument approach have visual approaches only. An approach is referred to as precision (used during the most restrictive visibility conditions), non-precision, or circling approach (used under the least restrictive conditions). Precision approaches have both lateral and vertical guidance equipment, while non-precision offer lateral guidance only.

As presented in **Table 3-2**, seven of NH's system airports have precision approach procedures and six system airports have non-precision approaches. The remaining twelve airports have visual approaches with no approach procedures. The primary approach systems in place for primary runways at system airports are Instrument Landing Systems (ILS) and non-precision approaches such as Area Navigation Global Positioning Systems (RNAV/GPS). For system planning purposes, the most important consideration for evaluating approach systems is the existence or lack of these systems - not the specific type of equipment installed.

Visual and Navigational Aids (NAVAIDS), Weather Reporting, and Communications

In addition to runway lighting and approach procedures at system airports, system planning considers other visual and NAVAIDS, and weather reporting and air traffic communications facilities that aid in safe operations for aircraft operators. **Table 3-3** lists the availability of Air Traffic Control Towers (ATCT), communications systems, approach lighting and vertical guidance systems, weather reporting equipment, and visual aids such as rotating beacons, wind indicators, and segmented circles.

ATCT/ATC Communications Systems

Table 3-3 displays the presence of ATCT facilities and air traffic control (ATC) radio systems at system airports. As shown, New Hampshire system airports with ATCT are Boire Field, Lebanon Municipal, Manchester-Boston Regional, and Portsmouth International. At airports without an ATCT, a radio frequency is provided for pilots using airports to communicate with one another. Operating procedures at airports without towers require the pilot to state their operational intentions, whether operating in the airport traffic pattern or ground movements on the airport runway and taxiway system. The remaining airports within the system have an ATC radio communication system.

Approach Lighting and Vertical Guidance Systems

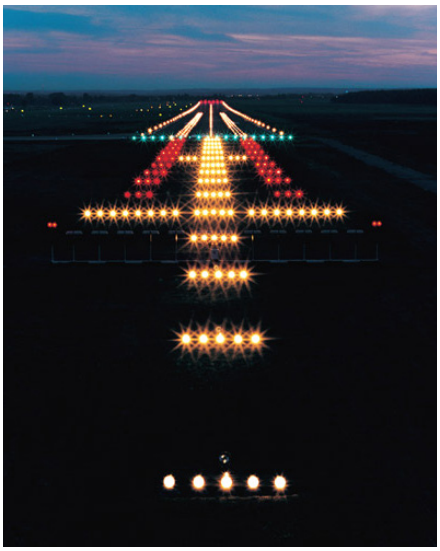
Approach Lighting Systems (ALS) are a configuration of sequenced signal lights that guide pilots on approach to the runway threshold. An ALS is typically installed to serve runways with an instrument approach procedure. Approach lights also provide additional visual guidance for nighttime approaches under Visual Flight Rules (VFR) or poor weather conditions during Instrument Flight Rules (IFR). **Table 3-3** shows that six system airports that offer an ALS.

Table 3-3 also shows that Vertical Glideslope Indicators (VGSI) are available at eleven system airports. VGSI equipment installations at system airports vary among Visual Approach Slope Indicators (VASI) and Precision Approach Path Indicators (PAPI).

Weather Reporting

Automated weather reporting systems are a great benefit to pilots. The most common types of weather reporting systems are Automated Weather Observing Systems (AWOS) and Automated Surface Observation Systems (ASOS). ASOS report wind, visibility, cloud height, temperature, dew point, pressure, and precipitation. There are several variations of AWOS, ranging from AWOS I to AWOS II, and AWOS III to AWOS III-P; however, for system planning purposes, the most important consideration for weather reporting systems is the existence or lack of this capability, not the specific type of equipment installed.

As shown in **Table 3-3**, ten system airports offer weather reporting systems. System airports without automated weather reporting systems are Claremont Municipal, Dean Memorial, and Portsmouth International.



Approach Lighting System

Other Visual Aids

The NHSASP inventory process also collected and recorded information regarding the following visual aids at system airports:

- **Rotating Beacon:** A rotating beacon helps pilots locate the airport at night and during periods of low visibility. Fifteen airports have a rotating beacon, the remaining airports do not.
- **Wind Indicator:** A wind indicator provides wind direction information to pilots, and is often lighted for night operations. All but two system airports have wind indicators, seventeen of which are lighted.
- **Segmented Circle:** A segmented circle shows pilots information on the traffic pattern visually, without use of ATC communication. Six system airports have a segmented circle.

Table 3-3 – NHSASP – Navigational Aids and Weather Reporting Capability

AIRPORT NAME	ATCT / CTAF Comms	Approach Lighting / Visual Guidance	Weather Reporting	Rotating Beacon	Wind Indicator	Segmented Circle
Berlin Regional	No / Yes	- / Yes	ASOS	Yes	Lighted	Yes
Boire Field	Yes / Yes	Yes / Yes	ASOS	Yes	Lighted	No
Claremont Municipal	No / Yes	- / Yes	No	Yes	Lighted	Yes
Concord Municipal	No / Yes	Yes / Yes	ASOS	Yes	Lighted	No
Dean Memorial	No / Yes	- / -	No	No	Lighted	No
Dillant-Hopkins	No / Yes	Yes / Yes	AWOS	Yes	Lighted	Yes
Laconia Municipal	No / Yes	Yes / Yes	AWOS	Yes	Lighted	Yes
Lebanon Municipal	Yes / Yes	- / Yes	ASOS	Yes	Lighted	Yes
Manchester-Boston Regional	Yes / Yes	Yes / Yes	ASOS	Yes	Lighted	No
Mt. Washington Regional	No / Yes	- / Yes	ASOS	Yes	Lighted	No
Portsmouth International at Pease	Yes / Yes	Yes / Yes	ATIS	Yes	Lighted	No
Skyhaven	No / Yes	- / Yes	ASOS	Yes	Lighted	Yes
Alton Bay	No / Yes	- / -	No	No	None	No
Errol	No / Yes	- / -	No	No	Lighted	No
Franconia	No / Yes	- / -	No	No	Yes	No
Gifford Field	No / Yes	- / -	No	No	Yes	No
Gorham	No / Yes	- / -	No	No	None	No
Hampton Airfield	No / Yes	- / -	No	No	Lighted	No
Hawthorne-Feather Airpark	No / Yes	- / -	No	Yes	Yes	No
Jaffrey Airport-Silver Ranch	No / Yes	- / -	ASOS	Yes	Lighted	No
Moultonboro	No / Yes	- / -	No	Yes	Lighted	No
Newfound Valley	No / Yes	- / -	No	No	Yes	No
Parlin Field	No / Yes	- / -	No	Yes	Lighted	No
Plymouth Municipal	No / Yes	- / -	AWOS	No	Yes	No
Twin Mountain	No / Yes	- / -	No	No	Yes	No

Source: McFarland Johnson, Inc., FAA 5010 Form

3.4.3 LANDSIDE FACILITIES AND SERVICES

This section presents and summarizes landside facility information collected for system airports. Landside facilities include terminal buildings, other airport buildings, fuel farms, hangars, T-hangars, aprons, automobile parking facilities and services such as flight training, aircraft rental, snow removal, and courtesy cars. Landside facility information for New Hampshire's system airports is described in following sections, and presented in **Tables 3-4, 3-5**, and **3-6**:

- Fuel Services
- Aircraft Storage
- Operator and Passenger Services

Fuel Services

In terms of the airport "business", fueling at airports especially general aviation airports, often provides the most significant source of revenues. For system planning purposes, airports that offer aircraft fuels and fueling services to meet user demand is important. **Table 3-4** presents fueling services available at system airports.

As shown, seventeen of New Hampshire's system airports offer AvGas (100LL) fuel and eight of the system airports offer Jet A fuel. Motor vehicle fuel (MoGas) is offered at many airports; however, this is not a distinguishing characteristic for aviation system planning purposes.

The service aspect of fueling at system airports is represented by whether airports offer 24-hour or part-time availability. Part time availability of fuel at airports can include after hours or on-call fueling services made through prior arrangement at airports that are not attended 24-hours a day. **Table 3-4** presents hourly availability of fueling services and self-fueling availability at system airports. As shown, thirteen system airports offer 24-hour fueling and eleven system airports offer self-fueling services.

Aircraft Storage

Aircraft storage at airports consists primarily of hangars and tie-down/apron parking. Hangar types vary from airport to airport, but typically include T-hangars and conventional or "box" hangars. T-hangars are individual covered units constructed in multi-bay buildings, most suitable for storing single-engine piston aircraft and small twin-engine aircraft. Conventional hangars are free-standing, covered buildings for storing larger twin-engine and jet aircraft. **Table 3-5** lists the types of aircraft storage facilities available at each system airport.

Use of conventional hangars depends on aircraft size and ownership, such that some are constructed by private individuals or businesses for the storage of business/corporate aircraft, whereas others are used to store multiple aircraft as a "community" hangar. Community hangars can be owned by the sponsor, private operators, or on-airport businesses

such as a FBO or SASO offering a range of services to airport users.

The third option for storing aircraft at an airport is on a parking apron utilizing tie-down spaces. Aircraft tie-down spaces are individual, outdoor locations where aircraft are tied-down and stored. Larger airports will maintain paved tie-down spaces, while smaller general aviation facilities often have grass tie-down areas.

Table 3-4 – NHSASP – Fueling Services Available

AIRPORT NAME	AvGas	Jet A	Fuel Farm Ownership	24-Hour/ PT/ After Hours/ On-Call	Self Fueling
Berlin Regional	Yes	Yes	Sponsor	24 Hours	AvGas
Boire Field	Yes		Sponsor	PT/On-Call	No
Claremont Municipal	Yes	Yes	Sponsor	24 Hours	No
Concord Municipal	Yes	No	Sponsor	PT/On-Call	No
Dean Memorial	Yes	Yes	Sponsor	On-Call	Yes
Dillant-Hopkins	Yes	No	Sponsor/FBO	24 Hours	Yes
Laconia Municipal	Yes	Yes	FBO	24 Hours	Yes
Lebanon Municipal	Yes	Yes	FBO	PT/On-Call	No
Manchester-Boston Regional	Yes	Yes	FBO	24 Hours	No
Mt. Washington Regional	Yes	Yes	Sponsor	24 Hours	Yes
Portsmouth International at Pease	Yes	No	FBO	24 Hours	No
Skyhaven	Yes	Yes	Sponsor	24 Hours	Yes
Alton Bay	No	No	-	-	-
Errol	No	No	-	-	-
Franconia	No	No	-	-	-
Gifford Field	No	No	-	-	-
Gorham	No	No	-	-	-
Hampton Airfield	Yes	No	-	24 Hours	Yes
Hawthorne-Feather Airpark	Yes	No	Sponsor	24 Hours	Yes
Jaffrey Airport-Silver Ranch	Yes	No	-	24 Hours	Yes
Moultonboro	Yes	No	-	24 Hours	Yes
Newfound Valley	No	No	-	-	-
Parlin Field	Yes	No	Sponsor	24 Hours	Yes
Plymouth Municipal	No	No	-	-	-
Twin Mountain	No	No	-	-	-

Source: McFarland Johnson, Inc., FAA 5010 Form

As shown, system airports offer the full range of aircraft storage options, from T-hangars to conventional hangars to tie-downs. As reported by each airport via survey, nine system airports have 261 T-hangar units and 101 conventional hangars. Ownership of these hangar facilities is split between sponsors and private interests, with 35 percent of T-hangars and 27 percent of conventional hangars owned by airport sponsors.

Table 3-5 – NHSASP – Aircraft Storage Available

Airport Name	T-Hangars Total	T-Hangars Ownership (Sponsor/ Private)	Conventional Hangars Total	Conventional Hangars Ownership (Sponsor/ Private)	Hangar Waiting List	Based / Trans Tie-Downs
Berlin Regional	2	0/2	13	0/13	No	1 / 2
Boire Field	0	-	1	1 / 0	No	0
Claremont Municipal	6	6 / 0	12	12 / 0	Yes	15 / 0
Concord Municipal	21	0 / 21	5	4 / 1	No	49 / 29
Dean Memorial	4	2 / 2	3	1 / 2	No	4 / 4
Dillant-Hopkins	52	32 / 20	12	5 / 7	No	54 / 0
Laconia Municipal	47	0 / 47	17	0 / 17	No	37 / 45
Lebanon Municipal	32	16 / 16	4	2 / 2	Yes	12 / 18
Manchester-Boston Regional	21	0 / 21	5	0 / 5	No	50 / 9
Mt. Washington Regional	0	-	14	0 / 14	Yes	0 / 12
Portsmouth International at Pease	30	0 / 30	8	0 / 8	No	28 / 0
Skyhaven	34	34 / 0	1	1 / 0	Yes	26 / 0
Alton Bay	0	-	0	-	No	- / -
Errol	0	2	0	-	No	- / -
Franconia	0	-	0	-	No	- / -
Gifford Field	0	-	0	-	No	- / -
Gorham	0	-	0	-	No	- / -
Hampton Airfield	0	-	0	-	No	- / -
Hawthorne-Feather Airpark	0	-	1	0/1	No	- / -
Jaffrey Airport-Silver Ranch	4	0/4	1	0/1	No	- / -
Moultonboro	6	0/6	1	0/1	No	- / -
Newfound Valley	0	-	0	-	No	- / -
Parlin Field	2	0/2	3	1/2	Yes	6/2
Plymouth Municipal	0	-	0	-	No	- / -
Twin Mountain	0	-	0	-	No	- / -

Source: McFarland Johnson, Inc., FAA 5010 Form

Completed surveys indicated that system airports also have 395 tie-down spaces, of which 276 (approximately 70 percent) are utilized for based aircraft. The survey also included space for reporting data pertaining to hangar waiting lists. As indicated in **Table 3-5**, four system airports maintain waiting lists for existing or current hangar storage at the time of the survey.

General Aviation Services

Airports offer a range of services to operators and passengers, whether they are managed by the airport sponsor, FBOs, or other on-airport service providers. **Table 3-6** presents a snapshot of services offered at each system airport. The following summarizes services reported in the airport surveys:

- **Terminal Building:** Terminal facilities can be provided by either the airport sponsor or an FBO. Ten system airports have sponsor-owned terminal buildings; Boire Field and Dean Memorial Airports do not have a terminal facility.
- **Fixed Base Operator:** FBO's provide critical services for operators and their passengers, and oftentimes serve as the "face" of an airport to these two groups of primary users. As indicated in **Table 3-6**, eight system airports have FBOs. Boire Field, Laconia Municipal, and Portsmouth International each reported two FBOs. System airports without FBOs are: Claremont Municipal, Dean Memorial, Mt. Washington Regional, and Skyhaven.
- **Catering:** Catering services refers to the availability of on-site meal services. On-site catering includes services offered by on-airport restaurants and local restaurants and/or catering service companies that are known to offer catering to their local airport. Five system airports offer catering services.
- **On-Site Rental Car:** On-site rental car services are important for passengers arriving to an airport, providing easy transition from air to ground transportation and transfer to local destinations, whether for business or recreational purposes. Six system airports offer on-site rental car outlets.
- **Courtesy Car:** A courtesy car is one that is maintained on-airport by the sponsor, FBO, or other service provider, which is offered to aircraft crews and operators free of charge. Seven system airports offer a courtesy car for these purposes.
- **Based Flight Instruction:** The existence of based flight instruction refers to a flight school that is established and located at an airport, as opposed to individual flight instructors that offer instruction services on a more limited basis. Nine system airports reported based flight instruction availability at their airport.
- **Airframe Repairs:** Airframe repair services at airports can include both minor and major repairs by technicians certified to repair single-engine piston, multi-engine, and jet engine aircraft. As shown, eleven system airports offer some level of airframe repairs, with minor repairs

Table 3-6 – NHSASP – Operator and Passenger Services Available

AIRPORT NAME	Terminal Building	FBO	Catering	On-Site Car Rental	Courtesy Car	Based Flight Ins.	Airframe Repairs[1]	Powerplant Repairs[1]
Berlin Regional	Yes	Yes	No	No	No	Yes	Min	Min
Boire Field	No	Two	No	No	Yes	Yes	Yes	Yes
Claremont Municipal	Yes	No	No	No	No	No	Min	Min
Concord Municipal	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Dean Memorial	No	No	No	No	No	No	No	No
Dillant-Hopkins	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Laconia Municipal	Yes	Two	Yes	Yes	Yes	Yes	Yes	Yes
Lebanon Municipal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Manchester-Boston Regional	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mt. Washington Regional	Yes	No	No	No	No	Yes	Yes	Yes
Portsmouth International at Pease	Yes	Two	Yes	Yes	Yes	No	Yes	Yes
Skyhaven	Yes	No	No	No	No	Yes	Min	Min
Alton Bay	No	No	No	No	-	-	No	No
Errol	No	No	No	No	-	-	No	No
Franconia	Yes	No	No	No	No	Yes	No	No
Gifford Field	No	No	No	No	-	-	No	No
Gorham	No	No	No	No	-	-	No	No
Hampton Airfield	Yes	Yes	No	No	-	Yes	Yes	Yes
Hawthorne-Feather Airpark	No	No	No	No	-	-	No	No
Jaffrey Airport-Silver Ranch	Yes	No	No	No	-	Yes	Yes	Yes
Moultonboro	Yes	Yes	No	No	-	-	Yes	Yes
Newfound Valley	No	No	No	No	-	-	No	No
Parlin Field	Yes	Yes	No	No	No	No	Yes	Yes
Plymouth Municipal	Yes	No	No	No	-	-	No	No
Twin Mountain	Yes	No	No	No	-	-	No	No

Source: McFarland Johnson, Inc., FAA 5010 Form
1/Note: Entry for Airframe and Powerplant repairs indicates "Yes" for Major and Minor Repair Services and "Min" for Minor Repair Services only.

available at Berlin Regional, Claremont Municipal, and Skyhaven. Major airframe repairs are offered at eight airports. Dean Memorial is the only system airport that does not offer airframe repairs.

- **Powerplant Repairs:** Powerplant repair services at airports can include both minor and major repairs by technicians certified to repair single-engine piston, multi-engine, and jet engine aircraft. The same breakdown of system airports offering airframe repairs noted above applies to powerplant repairs.

- **Avionics Repairs:** Avionics repair services refers to whether radio, navigation instrument, and other electronic gear repairs are available at the airport. **Table 3-6** shows that five system airports offer avionics repairs.

Table 3-6 – NHSASP – Operator and Passenger Services Available Con't

AIRPORT NAME	Avionics Repair	Aircraft Sales	Snow Removal	Deicing	Oxygen	Lavatory	Ground Transport	Hotels - 3 Miles	Dining - 3 Miles
Berlin Regional	No	No	Yes	No	No	No	Yes	2	2
Boire Field	Yes	No	Yes	Yes	Yes	No	Yes	4	10+
Claremont Municipal	No	No	Yes	No	No	No	No	3	20+
Concord Municipal	Yes	No	Yes	No	No	No	Yes	6	10+
Dean Memorial	No	No	Yes	No	No	No	No	No	No
Dillant-Hopkins	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Laconia Municipal	No	Yes	Yes	No	No	Yes	No	No	No
Lebanon Municipal	No	Yes	Yes	Yes	Yes	Yes	Yes	8	60+
Manchester-Boston Regional	Yes	No	Yes	Yes	Yes	Yes	Yes	4	6+
Mt. Washington Regional	No	No	Yes	No	No	No	Yes	4	5
Portsmouth International at Pease	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	50
Skyhaven	No	No	Yes	No	No	No	Yes	Yes	Yes
Alton Bay	No	No	Yes	No	No	No	Yes	Yes	Yes
Errol	No	No	Yes	No	No	No	Yes	Yes	Yes
Franconia	No	No	No	No	No	No	No	Yes	Yes
Gifford Field	No	No	Yes	No	No	No	Yes	Yes	Yes
Gorham	No	No	Yes	No	No	No	Yes	Yes	Yes
Hampton Airfield	No	No	Yes	No	No	No	Yes	Yes	Yes
Hawthorne-Feather Airpark	No	No	Yes	No	No	No	Yes	Yes	Yes
Jaffrey Airport-Silver Ranch	No	No	Yes	No	No	No	Yes	Yes	Yes
Moultonboro	No	No	Yes	No	No	No	Yes	Yes	Yes
Newfound Valley	No	No	Yes	No	No	No	Yes	Yes	Yes
Parlin Field	Yes	No	Yes	No	No	No	Yes	Yes	Yes
Plymouth Municipal	No	No	Yes	No	No	No	Yes	Yes	Yes
Twin Mountain	No	No	Yes	No	No	No	Yes	Yes	Yes

Source: McFarland Johnson, Inc., FAA 5010 Form

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- **Aircraft Sales:** Aircraft sales refer to businesses located on-airport that sell aircraft, but does not include aircraft sold by private individuals. Four system airports have businesses that are engaged in aircraft sales.
- **Snow Removal:** The survey inquired about the existence of snow removal equipment on each system airport. All system airports offer some level of snow removal.
- **Deicing:** Deicing services include primarily chemical and radiant (an available heated hangar) deicing services. As shown, five system airports offer deicing services.
- **Oxygen:** This indicates whether oxygen, either in bulk or for individual use, is available for purchase at system airports. As indicated in **Table 3-6**, five system airports offer oxygen for operators.

- **Lavatory:** Lavatory services provide sanitary disposal of aircraft lavatory holding tanks. Four system airports provide lavatory services for operators.

- **Ground Transportation:** Ground transportation at airports includes the availability of bus service, taxi service, intermodal connectivity with local transit lines, as well as private limousine or executive coach providers. Nine system airports reported the availability of ground transportation for operators and passengers.

- **Hotels within Three Miles:** For operators and passengers alike, the availability of hotels or other lodging options in close proximity to an airport is important. The airport survey inquired as to the number of hotels within a three-mile radius to each system airport. **Table 3-6** shows that all system airports aside from Dean Memorial offer varying levels of lodging options within three miles.

- **Restaurants within Three Miles:** As with hotels, the availability of restaurants in close proximity to an airport is important for operators and passengers. The airport survey inquired as to the number of restaurants within a three-mile radius to each system airport. **Table 3-6** shows that all system airports aside from Dean Memorial and Laconia Municipal offer numerous dining options within three miles.

3.4.4 AIRPORT ACTIVITY DATA

This section presents and summarizes airport activity information collected for system airports. Activity at an airport can be useful in evaluating an airport's role within New Hampshire's system, as activity levels are a strong indicator of market demand, the justification for expanded facilities. Activity at an airport is measured in terms of based aircraft and operations. Both aircraft type and operations will be one factor evaluated for the system's current performance, as well as to classify the system's airports' roles for the future.

Table 3-7 displays the most recent count available for each system airport's total number of based aircraft by type. As noted, counts were provided by airport management when available, or FAA 5010 data was utilized.

Operations at general aviation airports are often difficult to account for accurately. This is because there is no means of tabulating operations at most general aviation airports. Even at facilities with ATCT, operations counts are only recorded during operating hours, after which operations are estimated.

Table 3-8 provides information regarding the most recent general aviation activity level estimated at each airport, and the type of operations (one landing and one takeoff equals two operations). These operation estimates are from two sources: estimates from airport management and FAA 5010 data. FAA 5010 data was utilized where no estimate was provided by airport management.

General Aviation Activity Overview

The diversity in the general aviation activity in NH is as varied as the general aviation industry itself. Airports across the state support all types of recreational, leisure, and business aviation on a year-round basis. At the time of the previous system plan in 2003, the general aviation industry was considered relatively stable. While weakened by the effects of September 11, 2001, the effects were not as far reaching as it was for the airlines and commercial aviation.

General aviation activity however was greatly impacted by the sharp increased in the price of oil in 2008 that nearly tripled the cost of aviation fuel (Both 100LL and Jet-A). This fuel spike occurred just prior to the economic recession in 2008-2009. All segments of general aviation activity were affected by the fuel costs and weak economy with reductions in both recreational and corporate activity occurring on the national level.

The general aviation industry, both recreational and corporate, has stabilized in recent years. A detailed discussion of the trends affecting the growth of general aviation can be found in *Chapter 5, Aviation Forecast*.

Table 3-7 – NHSASP – Based Aircraft

AIRPORT NAME	Single	Multi	Jet	Helo	Other	Military	Total
Berlin Regional	22	0	0	0	0	0	22
Boire Field	182	23	16	9	4	0	234
Claremont Municipal1/	17	3	0	0	1	0	21
Concord Municipal	70	5	0	2	3	10	90
Dean Memorial1/	12	0	0	0	0	0	12
Dillant-Hopkins1/	69	8	2	1	0	0	80
Laconia Municipal	161	29	3	8	0	0	161
Lebanon Municipal1/	39	8	0	13	1	0	61
Manchester-Boston Regional	49	5	8	2	0	0	64
Mt. Washington Regional	22	4	0	1	2	0	29
Portsmouth International at Pease1/	89	13	12	3	0	8	114
Skyhaven	59	2	0	2	13	0	76
Alton Bay	0	0	0	0	0	0	0
Errol	2	0	0	0	0	0	2
Franconia	1	0	0	0	11	0	12
Gifford Field	7	0	0	0	0	0	7
Gorham	3	0	0	0	0	0	3
Hampton Airfield	75	0	0	3	7	0	82
Hawthorne-Feather Airpark	9	0	0	0	1	0	10
Jaffrey Airport-Silver Ranch	0	0	0	0	0	0	0

Table 3-7 – NHSASP – Based Aircraft Con't

Moultonboro	15	2	0	0	1	0	18
Newfound Valley	7	0	0	0	0	0	7
Parlin Field	25	0	0	1	2	0	28
Plymouth Municipal	0	0	0	0	4	0	0
Twin Mountain	1	0	0	0	0	0	1

Source: McFarland Johnson, Inc., FAA 5010 Form

Table 3-8 – NHSASP – Operations

AIRPORT NAME	Air Carrier	Air Taxi	GA Local	GA Itinerant	Military	Total Operations	Total GA Operations
Berlin Regional	0	100	8,000	4,000	100	12,200	12,000
Boire Field	0	318	26,624	26,286	26	55,764	52,910
Claremont Municipal	0	0	5,900	4,600	0	10,500	10,500
Concord Municipal	0	3,000	20,000	30,000	7,000	60,000	50,000
Dean Memorial	0	0	1,040	260	0	1300	1,300
Dillant-Hopkins	0	7,204	31,053	7,455	3,314	49,027	38,508
Laconia Municipal	0	427	39,483	3,710	105	43,725	43,193
Lebanon Municipal	0	8,347	13,665	12,187	334	34,533	25,852
Manchester-Boston Regional	31,457	19,711	2,319	10,332	136	63,955	12,651
Mt. Washington Regional	0	20	3,000	4,000	10	7,030	7,000
Portsmouth International at Pease	617	5,956	19,699	2,344	7,712	36,329	22,043
Skyhaven	0	0	12,000	5,000	0	17,000	17,000
Alton Bay	0	0	0	600	0	600	600
Errol	0	25	300	300	10	635	635
Franconia	0	0	4,000	200	0	4,200	4,200
Gifford Field	0	0	350	250	0	600	600
Gorham	0	0	500	200	30	730	730
Hampton Airfield	0	0	30,000	7,500	10	37,510	37,510
Hawthorne-Feather Airpark	0	0	1,500	1,500	0	3,000	3,000
Jaffrey Airport-Silver Ranch	0	900	1,400	4,900	100	7,300	7,300
Moultonboro	0	100	1,500	3,000	100	4,700	4,700
Newfound Valley	0	0	1,400	100	10	1,510	1,510
Parlin Field	0	50	1,400	1,600	0	3,050	3,050
Plymouth Municipal	0	0	2,000	1,000	30	3,030	3,030
Twin Mountain	0	0	100	500	0	600	600

Source: McFarland Johnson, Inc., FAA 5010 Form

3.5 COMMERCIAL SERVICE OVERVIEW

In 2003, the commercial aviation industry was rebounding from the effects of September 11, 2001 and the economy was relatively strong. Also at this time, the regional competitive market consisted of no major low fare airline presence at Logan International, whereas Southwest Airlines offered nearly 30 flights at their peak at Manchester-Boston Regional Airport. Since that time low fare airlines like jetBlue and Southwest Airlines have added over 100 daily flights at Boston Logan.

In addition to the changes in the airport competitive environment, the airline competitive environment has also changed tremendously since 2003. Airlines have encountered increasing costs both for crews and especially fuel costs for their operations. To counter the increased operational costs, the entire industry has undergone a round of consolidation that has cut the number of major airlines operating in the US by half. Major airlines like America West, Continental, Northwest, Air Tran, and US Airways, have all merged with, or have been acquired by other airlines. With this consolidation, the airlines have also scaled down hub locations as an effort to reduce capacity and increase fares to offset higher costs. These capacity cuts affected airports of all sizes across the country.

Manchester-Boston Regional Airport

Manchester-Boston Regional Airport

At the time of the previous system plan, Manchester-Boston Regional was experiencing tremendous growth as a result of congestion at Boston's Logan International Airport and the traffic associated with the "Big Dig" in Boston. As the construction projects completed and low fare airlines expanded in Boston, regional passenger booking behavior changed. The result of the changes in the airport and airline competitive environments has resulted in a reduction in passenger traffic at Manchester-Boston Regional that is down near 50 percent from peak levels. As airlines merged and reduced capacity, airline hubs in places like Pittsburgh, Cincinnati, and Cleveland, that each had service to/from Manchester at one time, have all been eliminated as connecting airports.

Today, the airport is served by American Airlines (formerly US Airways), Delta Air Lines, Southwest Airlines and United Airlines. Many of these flights are operated by regional affiliates. Key non-stop destinations include Atlanta, Baltimore, Charlotte, Chicago, Detroit, New York, Orlando, Tampa and Washington, DC. These airports provide one-stop connections to hundreds of destinations throughout the country and around the world.

While historical trends paint an unfavorable picture, the regional airport environment with it's now level playing field has stabilized. Passenger traffic is not expected to return to levels near the previous peak in the next few years; however, a more steady and traditional growth pattern is anticipated. A more detailed discussion of the market dynamics for passenger service at the Manchester-Boston Regional airport can be found in their recent master plan update.

In addition to scheduled passenger service, Manchester-Boston

accommodates a robust amount of air cargo activity ranking number6 in the Northeast in terms of total air cargo landed weight in 2012. Both UPS and FedEx operate several flights per day on large aircraft such as the Airbus A300-600F and McDonnell Douglas MD-11. These air cargo flights are also supported by feeder activity from Wiggins Airways a New Hampshire-based airline that flies a fleet of Cessna 208 Caravans throughout the Northeast to support both UPS and FedEx.

Portsmouth International Airport at Pease

Scheduled passenger service resumed at Portsmouth International in the Fall of 2013 with service to Florida on Allegiant Airlines. Portsmouth International has had scheduled service intermittently in the past on airlines including Allegiant, Skybus (defunct), and Pan Am (defunct). Allegiant Airline service consists of less than daily service on mainline sized aircraft such as the MD80 and Airbus 320 to Florida. As the service grows, additional destinations and weekly frequencies are added. While this type of service adds tens of thousands of passengers to the airport, this type of service does not connect the local area to the national air transportation network of major airlines.

Lebanon Municipal Airport

Commercial Air Service at the Lebanon Municipal Airport is provided in conjunction with the Essential Air Service (EAS) Program which subsidizes service to rural communities that lack access to otherwise affordable air service. Cape Air operates a nine seat Cessna 402 with service to Boston Logan and White Plains, NY. The service to White Plains includes complementary ground transportation to Manhattan. Due to the limited size of the aircraft operated by Cape Air, the airport is not required to satisfy the same FAR Part 139 certification requirements of other commercial service airports that have service on aircraft larger than nine seats. Lebanon has served over 10,000 enplanements in recent years classifying the airport as a Primary Commercial Service airport by the FAA.

3.6 SUMMARY

The data in this inventory represents the basis for the evaluation to measure the effectiveness of the airports within the State. The next chapter, *Chapter 4, Current Statewide Airport System Performance,* establishes the facility and service objectives for the recommended features for the different types of airports. The data presented in this inventory chapter will be measured against the established system parameters.

APPENDIX 3-A