



Massachusetts



massDOT
Massachusetts Department of Transportation
Aeronautics Division

Massachusetts Statewide Airport Economic Impact Study

Executive Summary

Aviation: Our Link to Economic Prosperity

Airports provide connectivity to worldwide markets and destinations, sustaining the Bay State's rapidly expanding business community and its world renowned tourist destinations.

For the Commonwealth of Massachusetts, the sound of commerce and the life of its residents resonate through its commercial service and general aviation airports. Each of these 39 public-use airports, from the largest to the smallest, contributes to the Commonwealth's economy and to the quality of life enjoyed by Massachusetts businesses, residents, and visitors. As major economic catalysts, Massachusetts' airports are responsible for generating billions of dollars in economic benefit and supporting thousands of jobs. It is through this diverse system of airports that aviation contributes significantly in helping to sustain, lead, and diversify the Commonwealth's economy.

This report summarizes the significant economic benefit that Massachusetts derives each year from its public-use airports. Sponsored by the Massachusetts Department of Transportation (MassDOT) Aeronautics Division and funded by the Federal Aviation Administration (FAA), this study is a continuation of an overall planning effort

initiated by the Aeronautics Division in 2009 with the Massachusetts Statewide Airport System Plan (MSASP). While the MSASP examined the structure and long-term development of the statewide airport system as a whole, the goal of the statewide airport economic impact study is to show how aviation serves as an economic engine for the Commonwealth, as well as documenting some of the many other benefits that air transportation brings to its host communities. Like the MSASP, the planning process for the statewide airport economic impact study was guided by a Project Management Team (PMT), chaired by MassDOT Aeronautics, and comprised of volunteer representatives from the FAA and various other national and local aviation leaders and stakeholder groups. Both the MSASP and the Massachusetts Statewide Airport Economic Impact Study efforts are key initiatives that directly support MassDOT Aeronautics' defined mission statement:

Promote aviation throughout the Commonwealth, while providing an efficient, integrated airport system that will enhance airport safety, economic development, and environmental stewardship.

—MassDOT Aeronautics Division Mission Statement



Study Overview

The 39 public-use airports in Massachusetts are important transportation resources as well as significant economic engines. The analysis presented in this study considers the annual economic impacts accrued in 2010 associated with airport business operations, on-airport construction, military aviation, visitors who arrive via commercial airlines, and visitors who arrive on privately-owned general aviation aircraft. These impacts are reported for each airport in terms of employment, payroll, and total economic activity.

Overall, Massachusetts public-use airports generate \$11.9 billion in total annual economic activity, including \$4.9 billion in total annual payroll resulting from 124,369 jobs that can be traced to the aviation industry. In addition to these economic benefits, airports in Massachusetts provide a number of health, welfare, and safety benefits, the impacts of which are beyond conventional measurement. Services such as medical transport and evacuation, flight training, law enforcement flights, wildlife management, military exercises, and search and rescue operations, all contribute directly to the quality of life of those who live and work in Massachusetts.

Massachusetts Public-Use Airport System

Massachusetts' system of public-use airports is comprised of nine commercial service and 30 general aviation airports. While most of the system's 39 airports are publicly-owned, 11 are privately-owned and operated.

The **MassDOT Aeronautics Division** supports the operation and development of 36 of these airports through:

- Grant funding
- Airport inspections
- Technical guidance
- Statewide planning initiative
- Aviation education outreach
- Communication with local, state and federal officials

The **Massachusetts Port Authority (Massport)** owns and operates the remaining three airports: Boston Logan International Airport, Laurence G. Hanscom Field, and Worcester Regional Airport.

TOTAL ECONOMIC IMPACTS OF MASSACHUSETTS' PUBLIC-USE AIRPORTS



Total Jobs
124,369



Total Payroll
\$4.9 billion



Total Economic Activity
\$11.9 billion

“Aviation boosts local economies and creates new markets at home and abroad. From the business trips and vacations we take, to the products and services we enjoy, aviation makes it all happen.”

—Federal Aviation Administration

Study Process

There are many ways that airports can produce economic benefits within their communities. On-airport businesses such as airlines, flight schools, fixed-base operators (FBOs), corporate flight departments, aircraft maintenance businesses, as well as various government entities (e.g. airport sponsors, the FAA, military air facilities, and the Transportation Security Administration (TSA)) are responsible for thousands of jobs and extensive capital projects at airports throughout the Commonwealth. Additionally, visitors who arrive on commercial airlines or on private aircraft also create economic activity through local spending for hotels, restaurants, retail, and entertainment. All of these actions contribute directly to creating additional jobs and greater local economic benefits.

The economic impacts generated by the 39 Massachusetts airports were calculated using an FAA-approved methodology that involved on-site data gathering and active survey efforts to tabulate the direct impacts of airports and their tenants. A sampling of visitors using commercial service and general aviation, as well as data from the Massachusetts Office of Travel & Tourism, were utilized to assess visitor spending habits.

Industry accepted ratios were then used to convert this spending into Massachusetts-specific jobs and payroll.

Note that as airport direct impacts are released into the statewide economy, they create subsequent ripples throughout the economy through multiplier impacts. For example, when FBO employees use their salary to buy groceries at a local store, their spending helps support that store and its employees. That spending then re-circulates or multiplies in local economies until the benefits ultimately leak outside of the state. For this study, multiplier impacts were calculated using Massachusetts-specific multipliers. In general, for every \$100 spent by aviation-related businesses, an additional multiplier impact of \$56 is created within Massachusetts. The total economic impact is the sum of the direct on-airport, direct visitor, and multiplier impacts.

The quantitative benefits of the airport system are expressed as jobs, payroll, and output. Output can be thought of as a measure of annual economic activity or spending.



How Aviation's Benefits Are Quantified

Economic Impact Types

Direct Impacts

include both on-airport and visitor impacts. On-airport impacts are those benefits associated with on-airport businesses, government tenants, and capital construction projects. Visitor impacts generally take place off-airport and are attributable to visitor spending.

Multiplier Impacts

consist of indirect and induced impacts. Indirect impacts are related to the re-circulation of monies spent locally by on-airport businesses. Induced impacts are those impacts resulting from the re-circulation of employee payroll within the economy.

Total Economic Impacts

are the combination of all direct and multiplier impacts.

Impact Measures

Employment

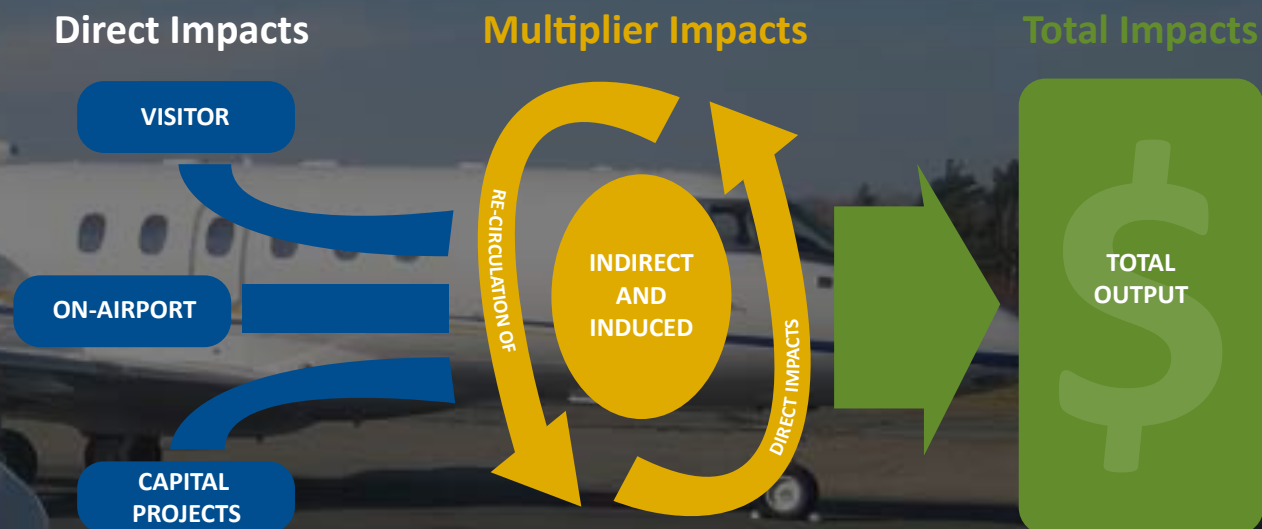
measures the number of full-time equivalent (FTE) jobs related to airport activity. Two part-time employees count as one full-time employee. In the case of seasonal employment, two seasonal full-time employees count as one year-round full-time employee and four seasonal part-time employees count as one year-round full-time employee.

Payroll

measures the total annual wages, salary, and benefits paid to all workers whose employment is directly attributable to airport activity.

Economic Activity (Output)

measures the value of goods and services related to airports in Massachusetts. The output of on-airport businesses is typically assumed to be the sum of annual gross sales and average annual capital expenditures. For those organizations where gross sales is not applicable (such as a government agency), output is estimated as the sum of annual payroll, annual expenses, and average annual capital expenditures.



“I use general aviation to reach more than 100 customers who are located up and down the East Coast.”

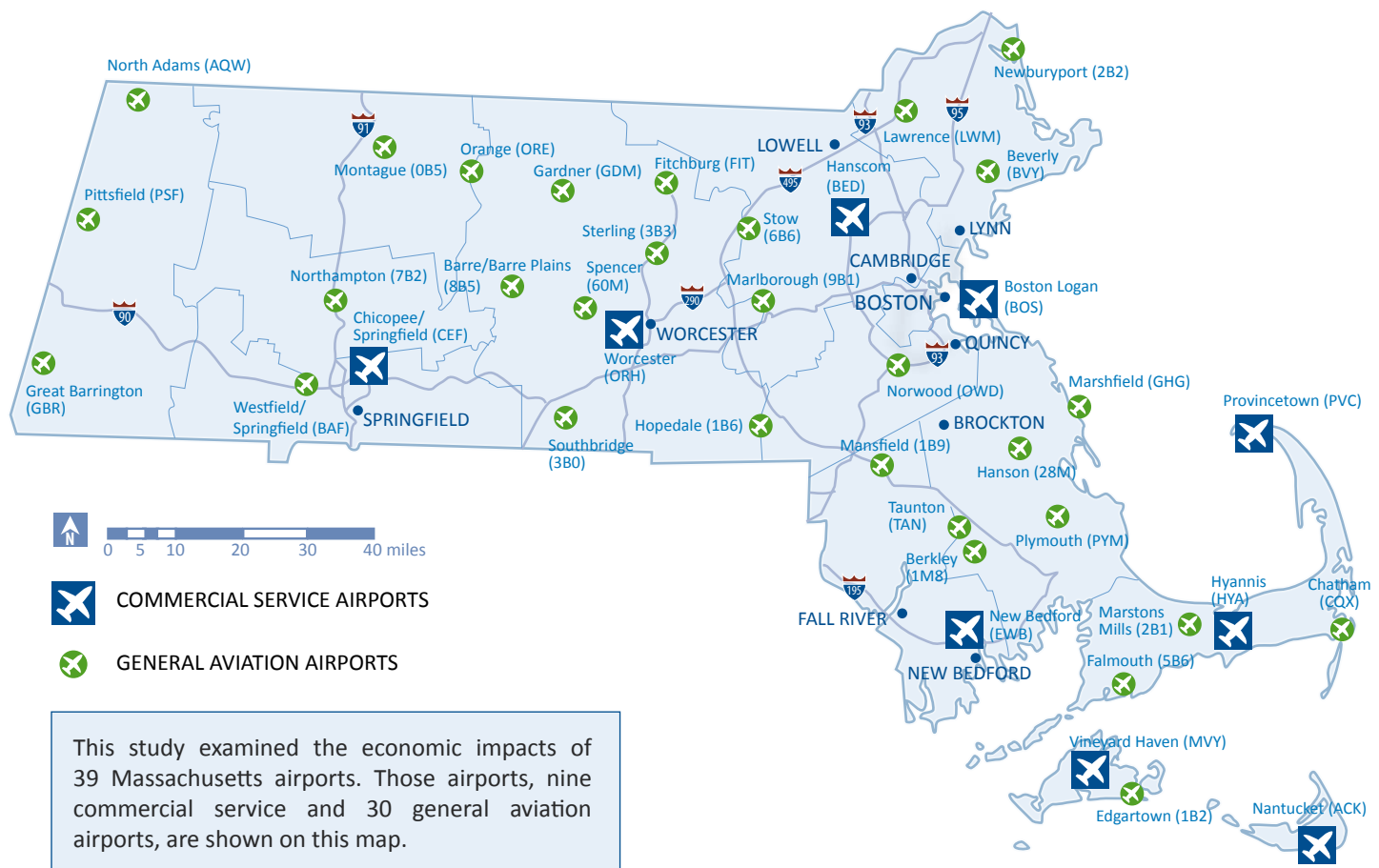
—Massachusetts Business Owner

Summary of Total Impacts by Airport

COMMERCIAL SERVICE AIRPORTS

| Associated City | Airport Name | Total Employment | Total Payroll | Total Output |
|-----------------------------------|---|------------------|-----------------|------------------|
| Bedford | Laurence G. Hanscom Field* | 11,765 | \$701,389,000 | \$1,408,507,000 |
| Boston | Boston Logan International Airport | 94,552 | \$3,535,892,000 | \$8,865,164,000 |
| Chicopee/Springfield | Westover Air Reserve Base/Metropolitan Airport* | 5,484 | \$229,098,000 | \$324,113,000 |
| Hyannis | Barnstable Municipal Airport-Boardman/Polando Field | 2,246 | \$74,445,000 | \$227,349,000 |
| Nantucket | Nantucket Memorial Airport | 4,017 | \$120,822,000 | \$401,804,000 |
| New Bedford | New Bedford Regional Airport | 234 | \$8,301,000 | \$26,356,000 |
| Provincetown | Provincetown Municipal Airport | 343 | \$9,480,000 | \$27,743,000 |
| Vineyard Haven | Martha's Vineyard Airport | 1,003 | \$30,398,000 | \$94,663,000 |
| Worcester | Worcester Regional Airport | 418 | \$13,980,000 | \$51,453,000 |
| COMMERCIAL SERVICE AIRPORTS TOTAL | | 120,062 | \$4,723,805,000 | \$11,427,152,000 |

* Includes economic impacts associated with military operations located on the airport. See page 9 for specific military totals.



GENERAL AVIATION AIRPORTS

| Associated City | Airport Name | Total Employment | Total Payroll | Total Output |
|---------------------------------|--|------------------|---------------|---------------|
| Barre/Barre Plains | Tanner-Hiller Airport | 2 | \$14,000 | \$268,000 |
| Berkley | Myricks Airport | 2 | \$21,000 | \$27,000 |
| Beverly | Beverly Municipal Airport | 213 | \$7,023,000 | \$21,954,000 |
| Chatham | Chatham Municipal Airport | 144 | \$4,319,000 | \$12,947,000 |
| Edgartown | Katama Airpark | 19 | \$568,000 | \$1,789,000 |
| Falmouth | Falmouth Airpark | 5 | \$139,000 | \$823,000 |
| Fitchburg | Fitchburg Municipal Airport | 105 | \$3,957,000 | \$11,257,000 |
| Gardner | Gardner Municipal Airport | 8 | \$267,000 | \$1,121,000 |
| Great Barrington | Walter J. Koladza Airport | 38 | \$1,026,000 | \$2,590,000 |
| Hanson | Cranland Airport | 3 | \$141,000 | \$183,000 |
| Hopedale | Hopedale Industrial Park Airport | 13 | \$348,000 | \$793,000 |
| Lawrence | Lawrence Municipal Airport | 220 | \$8,039,000 | \$23,469,000 |
| Mansfield | Mansfield Municipal Airport | 59 | \$1,624,000 | \$9,087,000 |
| Marlborough | Marlboro Airport | 20 | \$415,000 | \$2,581,000 |
| Marshfield | Marshfield Municipal Airport - George Harlow Field | 58 | \$2,559,000 | \$8,086,000 |
| Marstons Mills | Cape Cod Airfield | 10 | \$196,000 | \$810,000 |
| Montague | Turners Falls Airport | 34 | \$1,370,000 | \$4,342,000 |
| Newburyport | Plum Island Airport | 2 | \$33,000 | \$151,000 |
| North Adams | Harriman-and-West Airport | 135 | \$5,367,000 | \$16,949,000 |
| Northhampton | Northampton Airport | 24 | \$622,000 | \$1,973,000 |
| Norwood | Norwood Memorial Airport | 386 | \$15,649,000 | \$51,394,000 |
| Orange | Orange Municipal Airport | 109 | \$3,300,000 | \$9,419,000 |
| Pittsfield | Pittsfield Municipal Airport | 125 | \$4,919,000 | \$17,963,000 |
| Plymouth | Plymouth Municipal Airport | 301 | \$12,046,000 | \$48,514,000 |
| Southbridge | Southbridge Municipal Airport | 17 | \$509,000 | \$1,789,000 |
| Spencer | Spencer Airport | 6 | \$63,000 | \$349,000 |
| Sterling | Sterling Airport | 13 | \$364,000 | \$1,053,000 |
| Stow | Minute Man Air Field | 94 | \$2,821,000 | \$8,580,000 |
| Taunton | Taunton Municipal Airport - King Field | 23 | \$705,000 | \$2,202,000 |
| Westfield/Springfield | Westfield-Barnes Regional Airport* | 2,119 | \$59,492,000 | \$180,772,000 |
| GENERAL AVIATION AIRPORTS TOTAL | | 4,307 | \$137,916,000 | \$443,235,000 |

* Includes economic impacts associated with military operations located on the airport. See page 9 for specific military totals.

ALL AIRPORTS TOTAL

| | |
|------------------|------------------|
| Total Employment | 124,369 |
| Total Payroll | \$4,861,721,000 |
| Total Output | \$11,870,387,000 |



Massport Airports

The Massachusetts Port Authority (Massport) plays an important role for the Massachusetts Statewide Airport System as owner and operator of Boston Logan International Airport, Laurence G. Hanscom Field, and Worcester Regional Airport. Massport's defined mission is to operate as an integrated world-class transportation network that promotes economic growth and opportunity, enhances the quality of life of New England residents and protects the freedom to travel safely, securely, efficiently and cost-effectively. In meeting its responsibility to connect New England with the world, Massport also strives to always be a good steward by treating colleagues and customers with respect, embracing diversity and minimizing the impact of transportation services on their neighbors and the environment.

In fulfillment of that Massport mission, Boston Logan International Airport and Laurence G. Hanscom Field, New England's preeminent commercial service airport and general aviation airport respectively, make significant contributions to the overall economic benefits generated by the Massachusetts airport system. Including Worcester Regional Airport, a largely untapped commercial service airport serving New England's second largest city, Massport airports generate approximately \$10.3 billion or 87 percent of the state airport system's total annual economic activity. This includes nearly 107,000 Massachusetts jobs with a total annual payroll estimated at nearly \$4.3 billion.

ECONOMIC IMPACT OF MASSPORT AIRPORTS

**BOSTON LOGAN INTERNATIONAL
AIRPORT (BOS)**
\$8.9 BILLION
85.9%

**WORCESTER REGIONAL
AIRPORT (ORG)**
\$51.5 MILLION
0.5%

**TOTAL ECONOMIC IMPACT
\$10.3 BILLION**

**LAURENCE G. HANSCOM
FIELD (BED)
AIR FORCE BASE**
\$1.2 BILLION
11.2%

**LAURENCE G. HANSCOM
FIELD (BED)
CIVILIAN AIRPORT FACILITIES**
\$249 MILLION
2.4%



Additional Areas of Analysis

Qualitative Benefits

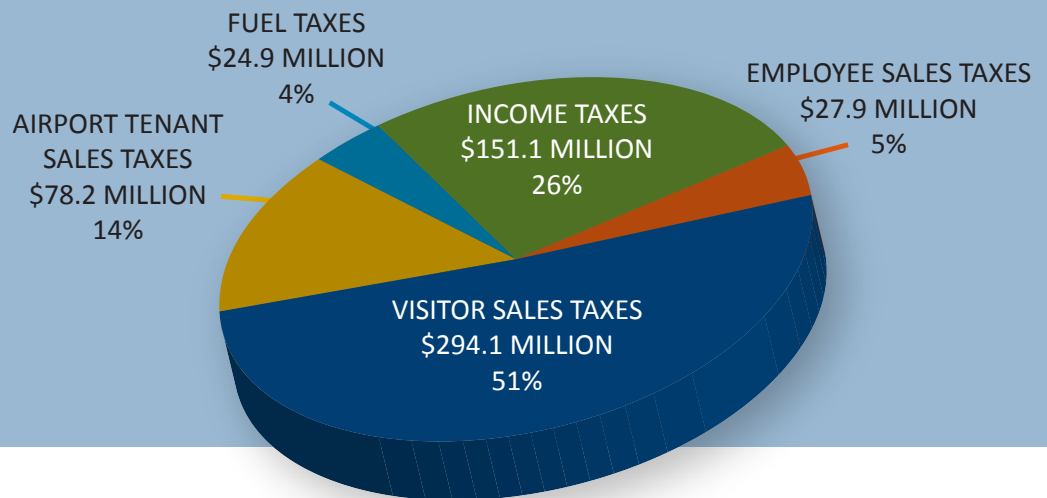
In addition to substantial annual economic benefits, Massachusetts' airports provide many qualitative benefits related to health, welfare, and safety that help to preserve and improve the overall quality of life in the Commonwealth. These qualitative benefits include:

- Facilitating emergency medical transport
- Providing police support
- Supporting aerial surveying, photography, and inspection operations
- Conducting search-and-rescue operations
- Supporting the U.S. military and other government organizations
- Providing youth outreach activities



Tax Receipt Impacts

Massachusetts airports annually generate more than \$576 million in tax revenues for the Commonwealth through a variety of airport-related activities.



Airport Valuation

Airports are nearly irreplaceable infrastructure assets for Massachusetts that have been built and developed over generations. In order to actually replicate the Commonwealth's existing airport system (excluding Logan International), it would cost in excess of \$5.5 billion in today's dollars.

AIRPORT VALUATION ANALYSIS

| Airport Type | Estimated Airport Replacement Cost |
|--|------------------------------------|
| Commercial Service* | \$3,896,496,000 |
| General Aviation | \$1,593,141,000 |
| TOTAL | \$5,489,637,000 |
| *Boston Logan International Airport not included | |



Unique Segments of Aviation

The Massachusetts Statewide Airport Economic Impact Study included three case studies of unique segments of aviation in Massachusetts.

Military Aviation

Dating back to colonial America, Massachusetts has a long and storied military tradition that includes all branches of service. In addition to its many military bases and research facilities, Massachusetts is home to four active military air facilities that support multiple service branches. Additionally, due to their proximity to Boston-area technology resources, these facilities are on the cutting edge of military research and development. In return for the strategic military value that these bases provide to the nation, Massachusetts also realizes a significant economic benefit that results from those military-related activities, including providing employment for residents, sales revenue for companies, and tax revenues for state and local governments.



ECONOMIC IMPACT OF MILITARY AVIATION

| Military Air Facility | Employment | Payroll | Output |
|-----------------------------------|---------------|----------------------|------------------------|
| Hanscom AFB | 10,214 | \$625,959,000 | \$1,158,616,000 |
| Westover AFB | 5,214 | \$218,933,000 | \$294,057,000 |
| Westfield-Barnes Regional Airport | 1,625 | \$33,772,000 | \$111,680,000 |
| Otis Air National Guard Base | 871 | \$51,039,000 | \$68,445,000 |
| Total | 17,924 | \$929,703,000 | \$1,632,798,000 |



ECONOMIC IMPACT OF CAPE & ISLANDS

| Airport Name | Employment | Payroll | Output |
|------------------------|--------------|----------------------|----------------------|
| Barnstable Municipal | 2,246 | \$74,445,000 | \$227,349,000 |
| Cape Cod Airfield | 10 | \$196,000 | \$810,000 |
| Chatham Municipal | 144 | \$4,319,000 | \$12,947,000 |
| Falmouth Airpark | 5 | \$139,000 | \$823,000 |
| Provincetown Municipal | 343 | \$9,480,000 | \$27,743,000 |
| Katama Airpark | 19 | \$568,000 | \$1,789,000 |
| Martha's Vineyard | 1,003 | \$30,398,000 | \$94,663,000 |
| Nantucket Memorial | 4,017 | \$120,822,000 | \$401,804,000 |
| Total | 7,787 | \$240,367,000 | \$767,928,000 |

Cape & Islands

One of the most distinctive facets of the Massachusetts airport system is its importance to the transportation capacity and economic vitality of the Cape and Islands. Comprised of Cape Cod, Martha's Vineyard and Nantucket Island, this region represents one of Massachusetts' most iconic and precious natural resources. Through its airports, aviation has become intertwined within the fabric of the region's character - part of what makes the Cape and Islands one of the world's premier travel destinations. Roles that airports specifically play for the area include:

- Meeting demands for aviation access to and from the region
- Meeting demands for aviation access within the region
- Providing fast, all-season emergency transportation services
- Providing recreational opportunities for residents and visitors alike

Aircraft Maintenance Service Facilities

Aircraft are highly engineered machines that need unique care and maintenance. Aircraft maintenance service facilities located at airports throughout Massachusetts provide a variety of airframe and powerplant services as well as aircraft customization and avionics sales and repair. Many of these activities take place at businesses dedicated to aircraft maintenance, but a number of other on-airport businesses, most notably fixed-base operators, also attribute some of their economic impact to maintenance activities. The technicians at these businesses have years of knowledge and experience and provide high quality workmanship. Massachusetts’ aircraft maintenance businesses are capable of providing a range of services for everything from piston-powered aircraft to turbine-powered jets at facilities ranging in size from small, one-person shops to large repair stations with over 100 employees.

One of the most notable examples of aircraft maintenance service facilities at Massachusetts’ airports is Gulfstream Aerospace Corporation’s service center at Westfield-Barnes Regional Airport. Gulfstream designs, develops, manufactures, services, and supports one of the world’s most technologically advanced business-jet aircraft. Gulfstream’s service center at Westfield-Barnes Regional is a certified FAA and European Aviation Safety Agency Part 145 repair station, which means the facility is capable of performing maintenance, repairs, alterations, and inspections on aircraft registered in the United States and European Union (EU) countries. The service center plays a critical role in servicing business jet aircraft in the high-traffic New York and Boston metropolitan areas.

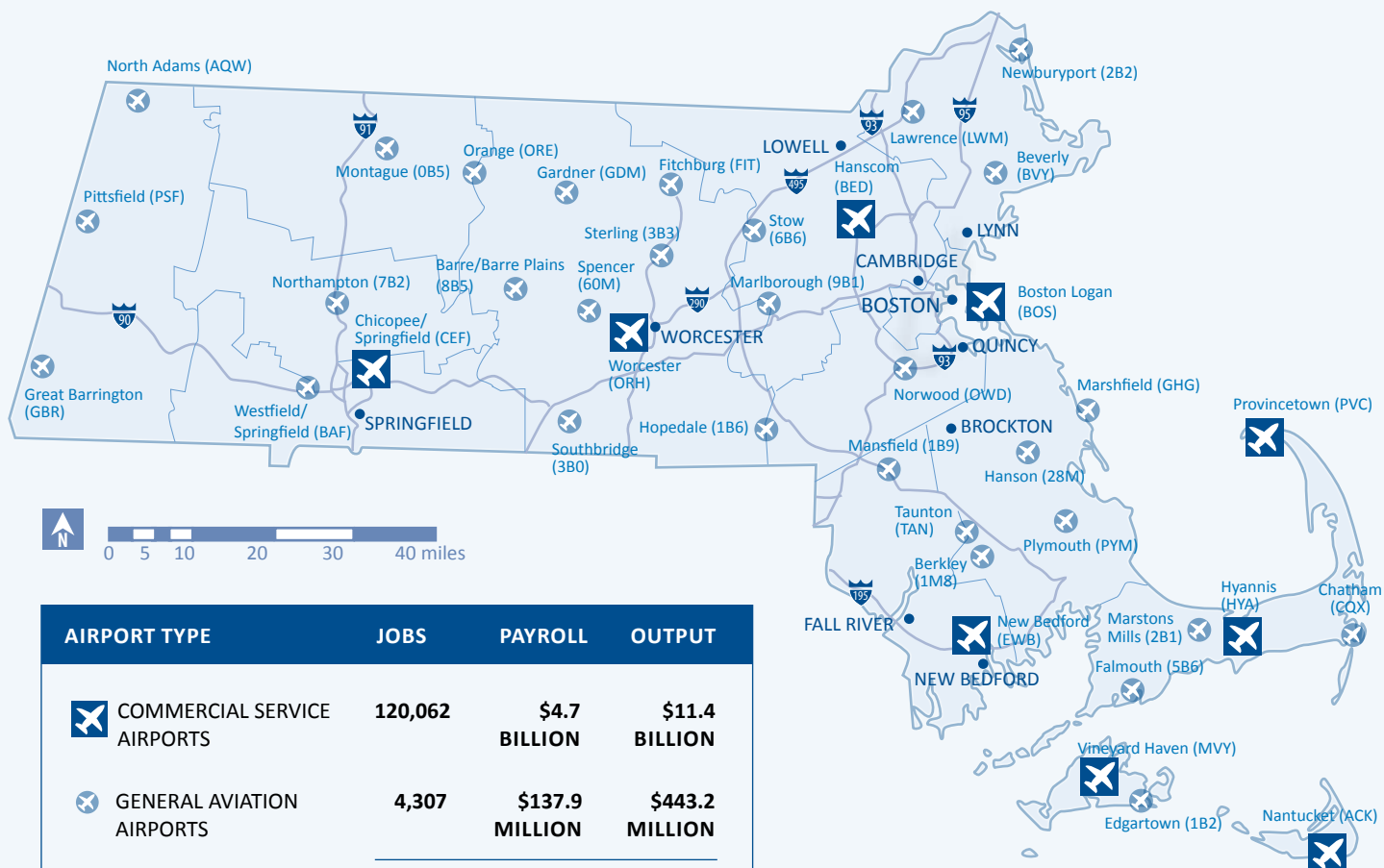
| ECONOMIC IMPACT OF AIRCRAFT MAINTENANCE | |
|--|---------------|
| Aircraft Maintenance Service Businesses: | 63 |
| Total Jobs: | 773 |
| Total Payroll: | \$40,284,000 |
| Total Output: | \$110,127,000 |



“Westfield is an important location for Gulfstream. The New York area has the most business-jet traffic in the world and the Boston area is also a business-jet hub. Westfield supports operators elsewhere in the Northeast and in Canada, Europe, and the Caribbean. The site’s long reach and capabilities are tremendous assets to Gulfstream.”

—Gulfstream Aerospace Corporation





MassDOT Aeronautics Division Mission Statement:

Promote aviation throughout the Commonwealth, while providing an efficient integrated airport system that will enhance airport safety, economic development, and environmental stewardship.

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- MassDOT Aeronautics Division
- Aircraft Owners and Pilots Association (AOPA)
- Cape Air
- Former Massachusetts Aeronautics Commission
- Massachusetts Airport Management Association (MAMA)
- Massachusetts Office of Business Development (MOBD)
- Massachusetts Port Authority (Massport)
- MassDOT Office of Transportation Planning (OTP)
- National Business Aviation Association (NBAA)
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