

AIRPORTS

Grade B-

Overview

Overall, the condition of Maine's airport system is good. However airports face a funding challenge. The agencies continue to prioritize projects based on safety needs and then capacity enhancements. For 2007, just over \$25 million was allocated from federal funding. Based on today's funding levels, a minimum \$100 million shortfall will occur over the next 20 years for planned airport capital development needs.

Introduction and Background

Maine is served by two small hub¹ commercial service airports, Portland and Bangor,² as well as more than 145 Federal Aviation Administration (FAA) registered regional, municipal and private facilities located throughout the state. However, for this analysis, only the 36 publicly owned facilities are evaluated. The other 100 plus facilities are almost exclusively privately owned and ineligible for federal funding. Herein, airports are described by "levels,"³ depending on capabilities:

- Level I airports have at least one runway with precision approach capabilities.
- Level II airports have at least one runway with non-precision capabilities.
- Level III and IV airports are those with sufficient visual approach capabilities.

Commercial Service Airports - There are six airports in the state that provide scheduled commercial service: Augusta State, Bangor International, Hancock County-Bar Harbor, Knox County Regional-Rockland, Northern Maine Regional-Presque Isle, and Portland International Jetport.

Primary General Aviation Airports – In addition to the six commercial service airports, the Maine Aviation System Plan (MASP) has identified three additional airports as Level I facilities including Auburn-Lewiston, Sanford and Waterville.

Secondary General Aviation Airports– For purposes of this analysis, the other 27 state system airports are categorized as "secondary." In the MASP, these facilities are described as Level II, III or IV.

Condition and Adequacy

Thirty-seven runways at 28 airports were included in a March 2006 to November 2007 study sponsored by Maine Department of Transportation (MaineDOT), which concluded that overall airport conditions are good.

¹ The term "hub" is used by FAA to identify very busy commercial service airports as measured by passenger enplanements. Primary commercial service airports are grouped into four categories. Large hubs are those airports that each account for at least one percent of total U.S. passenger enplanements; medium hubs for between 0.25 percent and one percent, small hubs for between 0.05 percent and 0.25 percent, and non-hubs for less than 0.05 percent of all enplanements, but more than 10,000 annual enplanements.

² Based on 2006 data presented in National Plan of Integrated Airport Systems (NPIAS)

³ Levels used to categorize state publicly owned airports were developed in the Maine State Aviation System Plan and are not recognized as an official descriptor by FAA or other national regulatory agencies.

Of the 37 runways, 46 percent (17 runways), were in excellent condition, and 54 percent (20 runways) fell into lower category conditions. It was concluded that the overall runway conditions averaged to be in very good condition with an average pavement condition index (PCI) of 81. The 28 airports assessed also averaged a rating of good, according to the taxiway rating scale and the apron rating scale.⁴

For Level I airports to meet airside infrastructure requirements, there must be at least one runway with precision approach capabilities. The six Commercial Service and three Primary General Aviation facilities have this capability. Level II airports have at least one runway with non-precision capabilities. In review of MASP data, it appears that all 36 facilities reviewed also meet this objective.

For landside facilities, such as hangar storage, MASP has benchmarked data for various level airports that indicates that Level I facilities have the largest shortfall. This is driven by the lack of general aviation (GA) aircraft hangar storage at the Portland Jetport. A proposed GA complex on the airport's south side would address this shortfall, if approved.

Airfield capacity is not an issue for any Maine airports. MASP notes that only the Portland Jetport will approach 60 percent of airfield capacity (Annual Service Volume - ASV) by 2010.

As noted in the MASP, 35 percent of the state, from a geographical perspective, is within a 30-minute drive from a public airport. Approximately 98 percent of the state's residents live in this drive-time parameter. This percentage drops only slightly—to 90 percent—if further refined to the percentage of Maine residents within a 30-minute drive time from airports with charter services or scheduled service. However, the two major airports in the state, Portland and Bangor, are not easily accessible to all state residents.

Safety issues for state airports are assessed in this report by their compliance with airspace requirements and runway safety areas. Based on MASP data, 78 percent of runway approach zones for Level I airports are obstruction-free. This percentage decreases for smaller facilities—approximately 42 percent of all state airport approaches require attention to mitigate obstructions. Compliance with mandated runway safety areas has improved during the past decade, with only 22 percent of Maine airport runways requiring upgrades or modifications.

Investment Needs

To discuss future investment needs for Maine system airports, it is important to understand the interrelationship of respective funding sources including, federal (primarily FAA), state (MaineDOT), local (the sponsoring municipality), and occasionally private investments.

Currently, Maine airports listed in the National Plan of Integrated Airport Systems (NPIAS) are eligible to receive funding from three basic sources, including federal, state and local sources, for eligible projects.⁵ Federal funding is provided by the FAA, with oversight of approved Congressional limits set-forth in the Airport Improvement Program (AIP). The AIP allows expenditures from the Aviation Trust Fund. As of late fall 2008, the AIP is in the process of a final two year reauthorization. To keep the funding stream open, Congress enacted a temporary reauthorization bill for 2008 that will allow eligible projects to move forward. AIP legislation is anticipated to continue funding 95 percent of all eligible project costs. For 2007, the FAA dedicated more than \$25 million for eligible projects in Maine.

⁴ Based on measurements of roughness, surface distress, skid resistance and deflection, pavements can be assigned a score that reflects their overall condition. This score, sometimes called a pavement condition index (PCI), quantifies a pavement's overall performance and can be used to help manage pavement networks.

⁵ Most eligible projects are for an airport's publicly used infrastructure, including runways, taxiways, aprons, airspace maintenance, navigational aids and related land acquisition, etc. Those projects that have revenue producing potential are typically excluded.

Table 1 FAA AIP funding for New England states

FAA AIP FUNDING						NPIAS AIRPORTS	2007 \$ / AIRPORT (MIL)
State	2003	2004	2005	2006	2007		
Connecticut	8,001,524	9,463,558	4,729,826	9,721,270	17,531,094	14	1.25
Massachusetts	38,344,750	37,957,497	51,773,213	36,617,353	37,185,760	28	1.32
Maine	22,414,137	27,449,065	18,366,880	15,681,693	25,160,189	36	.70
New Hampshire	18,985,842	17,550,830	21,126,784	35,819,755	36,483,310	15	2.43
Rhode Island	7,385,825	12,195,181	20,138,498	25,653,884	17,399,079	6	2.89
Vermont	4,019,612	3,703,707	10,898,416	4,720,775	3,122,798	13	.24

For most eligible airport projects funded through the AIP, MaineDOT will typically fund 2.5 percent of project costs. State funding is available for all publicly owned airports in Maine. Tax revenue from airport activities, aircraft registration, fuel tax and use tax on the sale of aircraft is deposited into the State Transportation Aviation Rail Transportation Fund (STAR).⁶ The disbandment of the previous State Airport Fund Program in 2003 is important to consider. The previous state funding program set aside a certain amount specifically for airports. With the creation of the STAR account, the state eliminated an annual \$2 million dedicated fund that was split 80 percent state to 20 percent local to supplement critical AIP projects.

As noted in Table 1, Maine is ranked near the bottom of other New England states, only ahead of Vermont, in terms of AIP expenditures per airport.

Under current AIP funding requirements, the local airport sponsor is responsible for the remaining 2.5 percent for eligible projects. Since most airports in the state do not operate with a surplus, local funding needs are paid by the town's annual budget. A typical runway project can cost \$3 million to \$5 million, including planning, design, permitting, mitigation and construction. Small towns' budgets may have a funding requirement in excess of \$100,000.

Between 2008 and 2025, the total cost to fund the Maine airport system's capital programs could reach an estimated \$579 million, according to MASP.⁷ If averaged out over the 20-year planning period, approximately \$29 million will be required on an annual basis.

Security requirements in the aftermath of September 11, 2001 have led to mandatory upgrades and personnel additions, which, previously, were mostly unfunded and became the responsibility of the state or local government to address. These requirements include training and educational requirements for airport staff. Such security capital expenditures negatively impact the ability to readily secure matching local funds for AIP-funded projects and delay other critical infrastructure improvements and upgrades.

Examining Maine's recent funding history indicates that when all federal, state and local sources are considered, annual investments in Maine's commercial and public general aviation airports have been slightly more than \$24 million per year. The single most important component of funding is the health and viability of the AIP. With recent

⁶ The State Transit, Aviation and Rail Transportation fund was established as an enterprise account through the Department of Administrative and Financial Services. Money disbursed from the STAR Transportation Fund may be used for the purpose of purchasing, operating, maintaining, improving, repairing, constructing and managing the assets of the STAR Transportation Fund including buildings, structures, improvements and equipment.

⁷ These costs are presented in a "top-down" approach within the MASP, in other words, specific airport development projects are not necessarily reflected therein. Although known larger capital projects such as the proposed terminal improvements at the Portland Jetport and a possible replacement airport for Machias are not specifically identified, it is likely that the overall average for each airport's benchmark is an accurate reflection of the system's capital needs.

airline bankruptcies, increasing fuel costs and anticipated economic challenges, it is reasonable to assume there will be additional reductions in AIP funding. Based on current funding, a minimum \$100 million shortfall is possible through 2025 for all airport capital development needs. If MASP's assumptions regarding funding cuts in AIP come to fruition, this shortfall could easily more than double over the next 20 years.

Conclusions and Recommendations

Overall, the condition of Maine's airport system is good. The challenge in the future will be maintaining the relative health of the airport system given the constraints to local, state and federal funding. The FAA and MaineDOT staffs have worked well with various local sponsors in prioritizing various projects based on safety needs first, followed by capacity enhancements. Maine ASCE gives airports a grade of **B-**.

If the Maine airport system is to maintain existing infrastructure, achieve overall compliance with FAA mandates and design guidelines, and provide improvements to address economic and capacity enhancement needs, Maine ASCE makes the following recommendations:

- Work with the U.S. congressional delegation to ensure reauthorization of a fully funded AIP and to maintain federal funding at 95 percent. Without a federal program allowing funding from the Aviation Trust Fund, it will be all but impossible for the state and local budgetary processes to undertake even the basic safety capital expenditures recommended in the MASP and airport master plans; and
- Re-establish a state/local program similar to the previous State Airport Fund Program. It is appropriate for this to be user fee driven, which will help maintain infrastructure for those projects not eligible for AIP funding.

Sources:

Interviews with aviation experts in Maine including:

Jeffrey Northgraves, Knox County Regional Airport; John Guimond, Augusta State Airport; Jeni O'Brien, Maine DOT; Douglas Hazlett, Houlton International Airport; and Paul Bradbury, Portland International Jetport

1. <http://mainegov-images.informe.org/mdot/aviation/pdf/maspu.pdf> (Maine Aviation System Plan)
2. <http://mainegov-images.informe.org/mdot/aviation/pdf/economicimpacts.pdf> (Economic Impact of Aviation in Maine)
3. http://www.faa.gov/airports_airtraffic/airports/planning_capacity/npias/ (National Plan of Integrated Airport Systems)
4. <http://www.maine.gov/mdot/aviation/aviation-home.php> (Maine Department of Transportation – Airports and Aviation)
5. <http://www.nasao.org/> (National Association of State Aviation Officials)