

# MAINE AVIATION SYSTEMS PLAN UPDATE



EXECUTIVE SUMMARY

In 2001, the Maine Department of Transportation, Office of Passenger Transportation (OPT) initiated an update of the 1995 Maine Aviation Systems Plan. Various phases of the plan were completed between 2001 and 2005 as funds were made available from the Federal Aviation Administration (FAA). The plan guides OPT and enables them to efficiently and effectively allocate funds needed to preserve or upgrade Maine's system of 36 public airports.

The Maine Aviation Systems Plan Update provides the Maine Department of Transportation, Office of Passenger Transportation with an important tool to monitor the ability of the airports to meet performance measures identified through the aviation system planning process. The Maine Aviation Systems Plan Update allows OPT to demonstrate how their decisions address system deficiencies and increase the overall performance of the airport system in Maine.

The Maine Aviation Systems Plan Update included three separate phases as follows:

## PHASE I (2001-2002)

- Establishment of system goals
- Identification of airport assets
- Assignment of airport roles
- Projection of future aviation demand
- Analysis of current adequacies and deficiencies

## PHASE II (2003)

- Development of recommendations to meet future system needs

## PHASE III (2005)

- Estimation of future funding needs
- Development of implementation plan



In order for the Maine Aviation System to meet the goals and performance measures established in the Systems Plan, an estimated \$325 million would need to be invested in Maine's airports through 2021. Federal, state, and private funding would be needed to ensure that system goals are met.

The Maine Aviation Systems Plan Update is a top down planning study that must still be implemented by the airports from the bottom up. It is possible that local constraints (community, financial, physical, or environmental) may make it impossible for individual airports to meet all objectives outlined in the Systems Plan. The Maine Aviation Systems Plan Update provides OPT and the airports in Maine with a plan to help improve the performance of the 36 publicly-owned airports.





This study analyzed the 36 publicly-owned airports in Maine. All of the airports in the Maine Airport System serve the needs of general aviation aircraft. The facilities at the general aviation airports in Maine vary, ranging from turf strips that primarily serve recreational needs to runways in excess of one mile that accommodate the most demanding business jets.

In addition, 6 of the airports in Maine have scheduled commercial airline service. Maine's commercial airports include:

- Augusta State Airport
- Bangor International Airport
- Hancock County-Bar Harbor Airport
- Knox County Regional Airport
- Northern Maine Regional Airport
- Portland International Jetport

Of the 6 commercial service airports, 4 of these airports currently receive airline operating subsidies from the federal Essential Air Service Program. Federal subsidies are used to underwrite the cost of service for carriers serving Augusta, Bar Harbor, Rockland, and Presque Isle.



## MAINE'S EXISTING AIRPORT SYSTEM



### Airport Name

- 1 Auburn-Lewiston Municipal
- 2 Augusta State
- 3 Bangor International
- 4 Bar Harbor
- 5 Belfast Municipal
- 6 Bethel Regional
- 7 Biddeford Municipal
- 8 Caribou Municipal
- 9 Central Maine Regional
- 10 Charles A. Chase Memorial
- 11 Dewitt Field
- 12 Deblois Flight Strip
- 13 Dexter Regional
- 14 Eastern Slopes Regional
- 15 Eastport Regional
- 16 Greenville Municipal
- 17 Houlton International
- 18 Islesboro Municipal
- 19 Knox County Regional
- 20 Lincoln Regional
- 21 Lubec Municipal
- 22 Machias Valley
- 23 Millinocket Municipal
- 24 Newton Field
- 25 Northern Aroostook Regional
- 26 Northern Maine Regional
- 27 Oxford County Regional
- 28 Pittsfield Municipal
- 29 Portland International
- 30 Princeton Municipal
- 31 Rangeley Municipal
- 32 Sanford Regional
- 33 Stonington Municipal
- 34 Sugarloaf Regional
- 35 Waterville Robert Lafleur
- 36 Wiscasset Municipal

Using Federal and State objectives, input from the prior Maine Aviation Systems Plan, guidance from the Project Advisory Committee, and input from Office of Passenger Transportation (OPT) and Federal Aviation Administration (FAA), seven goals for the Maine Airport System were identified and adopted for use in the Maine Aviation Systems Plan Update. These goals are as follows:

- 1 – QUALITY OF LIFE** To promote an airport system that improves Maine’s quality of life by supporting health, welfare, and safety-related services and activities.
- 2 – CAPACITY** To have an airport system that adequately serves current and forecast demand.
- 3 – AVIATION OUTREACH** To encourage and recognize system airports that support aviation programs and outreach opportunities in Maine.
- 4 – SAFETY/STANDARDS** To provide for a safe airport system, as measured by compliance with applicable FAA standards.
- 5 – ECONOMIC SUPPORT** To advance a system of airports that is supportive of Maine’s economy, ensuring that the airport system is matched to Maine’s socioeconomic and demographic characteristics.
- 6 – FLEXIBILITY** To protect and support an airport system that maintains the flexibility to respond to changes in future needs in Maine, while considering the environment.
- 7 – ACCESSIBILITY** To provide an airport system that is easily accessible from both the ground and the air.

In parallel with the Systems Plan, OPT has worked closely with the individual system airports and their host communities to develop airport-specific actions needed to meet local goals. Local airport goals provide OPT with insight into how goals and recommendations from the Systems Plan align with each community’s vision for its airport.



Aviation activity projections are essential for determining and phasing future improvements. Maine-specific factors, as well as regional and national trends in general aviation and commercial aviation, were considered in the development demand projections.

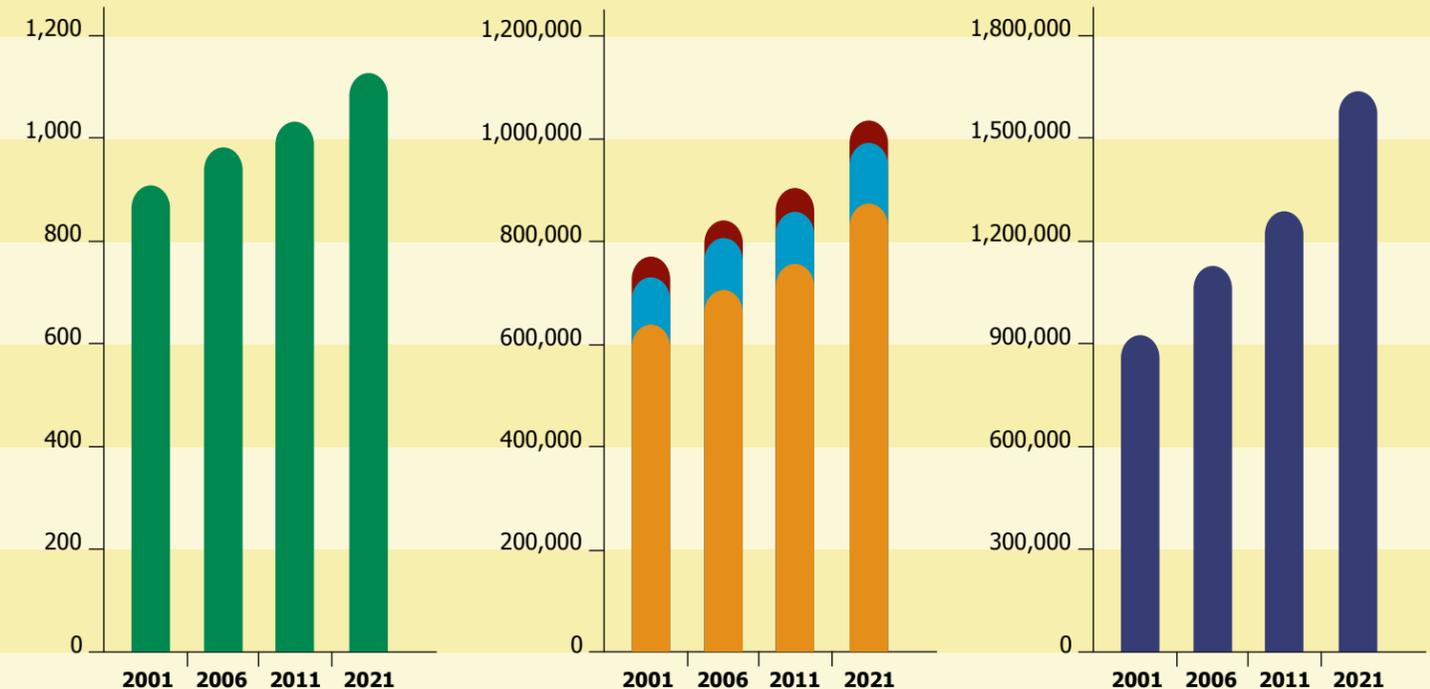
All aviation demand indicators analyzed in this study are projected to experience growth between now and 2021. Projections of demand were developed for the following indicators in the Systems Plan.

Year	Based Aircraft	General Aviation Operations	Commercial Operations	Military Operations	Total Operations	Commercial Enplanements
2001	908	646,308	88,102	43,420	777,830	917,000
2006	981	706,640	94,460	43,420	844,520	1,120,000
2011	1,030	761,650	102,250	43,420	907,320	1,280,000
2021	1,128	883,930	119,880	43,420	1,047,230	1,630,000
<b>Avg. Annual Growth Rate</b>	1.1%	1.6%	1.6%	0.0%	1.5%	2.7%

BASED AIRCRAFT

GENERAL AVIATION OPERATIONS  
COMMERCIAL OPERATIONS  
MILITARY OPERATIONS

COMMERCIAL ENPLANEMENTS





Airports in Maine serve different types of demand and meet the needs of different users. Some airports should be more highly developed to meet the needs of a full range of general aviation and at least some commercial aircraft. In their system role, other airports are perfectly adequate if they have more limited facilities and services to meet the needs of only smaller general aviation aircraft.

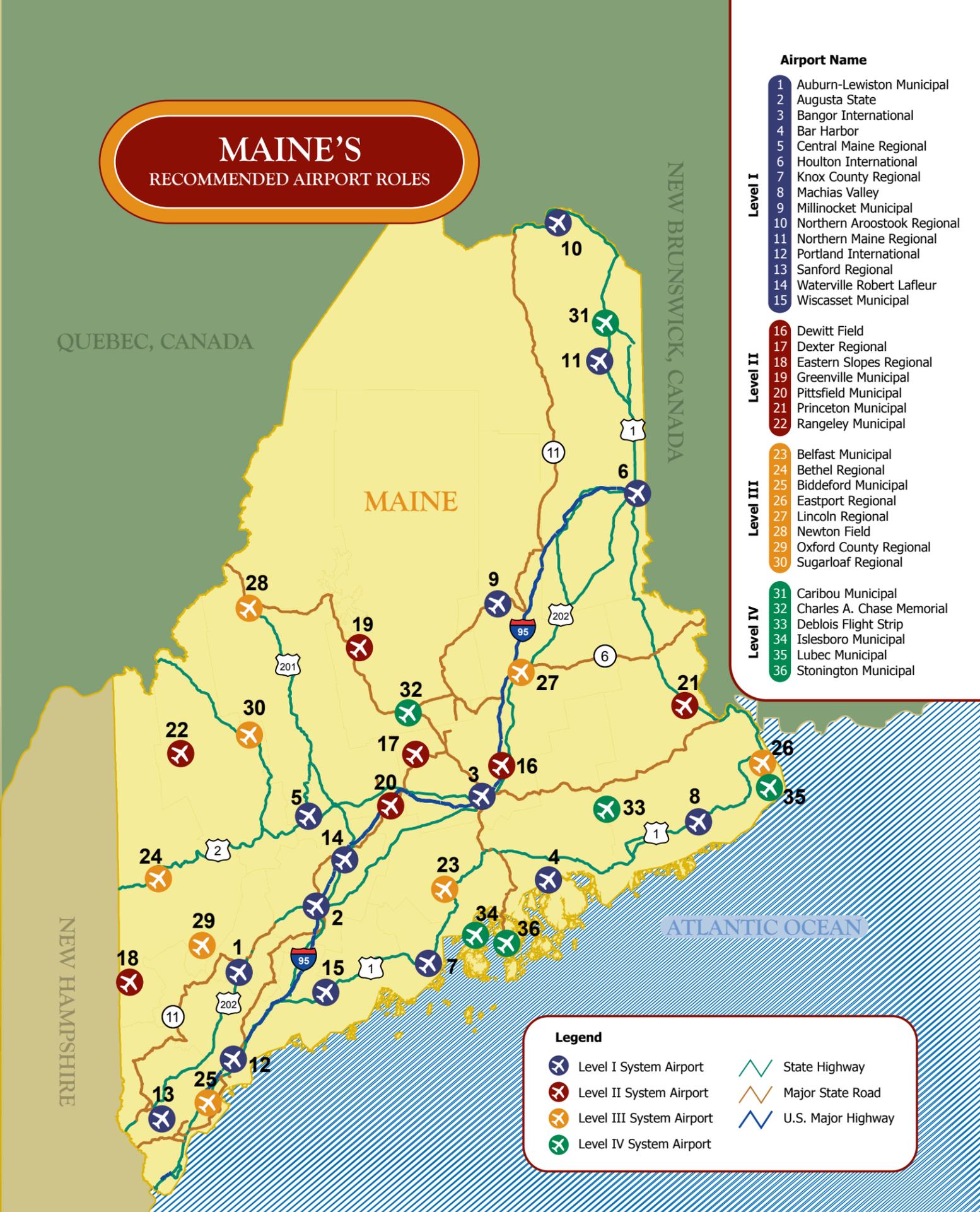
The 36 publicly-owned airports in Maine were assigned to one of four roles based on a series of criteria and factors that included:

- Accessibility
- Support of Tourism
- Economic Contribution
- Current Demand
- Historic Investment
- Geographic Coverage

The development of airports in each role is important to meeting the state's safety, emergency, recreation, and business needs. Using the factors noted above and results from this study's analyses, each airport was designated as a Level I, Level II, Level III, or Level IV airport. Based on this plan's identification of system adequacies and deficiencies, final system roles shown in this document were established.



## MAINE'S RECOMMENDED AIRPORT ROLES



Airport Name	
1	Auburn-Lewiston Municipal
2	Augusta State
3	Bangor International
4	Bar Harbor
5	Central Maine Regional
6	Houlton International
7	Knox County Regional
8	Machias Valley
9	Millinocket Municipal
10	Northern Aroostook Regional
11	Northern Maine Regional
12	Portland International
13	Sanford Regional
14	Waterville Robert LaFleur
15	Wiscasset Municipal
<b>Level I</b>	
16	Dewitt Field
17	Dexter Regional
18	Eastern Slopes Regional
19	Greenville Municipal
20	Pittsfield Municipal
21	Princeton Municipal
22	Rangely Municipal
<b>Level II</b>	
23	Belfast Municipal
24	Bethel Regional
25	Biddeford Municipal
26	Eastport Regional
27	Lincoln Regional
28	Newton Field
29	Oxford County Regional
30	Sugarloaf Regional
<b>Level III</b>	
31	Caribou Municipal
32	Charles A. Chase Memorial
33	Deblois Flight Strip
34	Islesboro Municipal
35	Lubec Municipal
36	Stonington Municipal
<b>Level IV</b>	

Legend			
	Level I System Airport		State Highway
	Level II System Airport		Major State Road
	Level III System Airport		U.S. Major Highway
	Level IV System Airport		

# FACILITY AND SERVICE OBJECTIVES

Level I airports accommodate commercial airline activities and a full range of general aviation aircraft, including business jets; the recommended system includes 15 Level I airports. All 6 commercial service airports in the state are classified as Level I airports. The following facility and service objectives apply to Level I airports:

## LEVEL I

Aircraft Design Group	B or C Category aircraft
Primary Runway	At least 5,000 feet long x 100 feet wide
Taxiway	Full Parallel
Approach	Precision or Precision Capabilities
Lighting	High Intensity Runway, Medium Intensity Taxiway
Visual Aids	Rotating Beacon, Segmented Circle, Lighted Wind Cone, Runway End Identifier Lights, Precision Approach Path Indicators
Weather Reporting	On-site weather reporting system (AWOS/ASOS)
Based Aircraft Parking	75% in covered storage, 25% apron parking
Transient Aircraft Parking	25% of overnight aircraft in covered storage, 50% accommodated on apron
GA Auto Parking	Equal to number of based aircraft
Fuel	100LL and JetA
Terminal	2,000 sq. ft. terminal with phone, restrooms, pilot lounge, flight planning
Aircraft Maintenance	Aircraft repair, avionics
FBO	Full service
Food	Full service restaurant
Ground Transportation	On-site rental car
Security	Full perimeter fencing, controlled access, night guard
Airport Maintenance	Designated building, snow removal equipment, de-icing capabilities

Level III airports support local transportation needs. They should be capable of accommodating all single-engine and some small twin-engine general aviation aircraft. The following facility and service objectives apply to 8 Level III airports:

## LEVEL III

Aircraft Design Group	B or A Category Aircraft
Primary Runway	2,500 – 3,500 feet long x 60 feet wide
Taxiway	Turnaround
Approach	Visual
Lighting	Low Intensity Runway, Taxiway Reflectors
Visual Aids	Segmented Circle, Lighted Wind Cone
Based Aircraft Parking	50% in covered storage, 50% apron parking
Transient Aircraft Parking	25% accommodated on apron
GA Auto Parking	Equal to number of 50% based aircraft
Fuel	100LL
Terminal	500 sq. ft. terminal with phone, restrooms
FBO	Limited service
Food	Vending
Security	Full perimeter fencing

Level II airports should be capable of accommodating all business and personal use single-engine and twin-engine general aviation aircraft. The following facility and service objectives apply to 7 designated Level II airports:

## LEVEL II

Aircraft Design Group	B Category Aircraft
Primary Runway	3,500 - 5,000 feet long x 75 feet wide
Taxiway	Partial Parallel
Approach	Nonprecision
Lighting	Medium Intensity Runway, Low Intensity Taxiway
Visual Aids	Rotating Beacon, Segmented Circle, Lighted Wind Cone, Runway End Identifier Lights, Precision Approach Path Indicators
Based Aircraft Parking	50% in covered storage, 50% apron parking
Transient Aircraft Parking	25% of overnight aircraft in covered storage, 25% accommodated on apron
GA Auto Parking	Equal to number of 75% based aircraft
Fuel	100LL
Terminal	1,000 sq. ft. terminal with phone, restrooms, pilot lounge, flight planning
Aircraft Maintenance	Aircraft repair
FBO	Full or limited service
Food	Vending
Ground Transportation	On-site courtesy car
Security	Full perimeter fencing
Airport Maintenance	Designated building

Level IV airports should be capable of accommodating single-engine general aviation aircraft. Level IV airports may also accommodate "special use" aviation activities. Level IV airports are the most "basic" system airports. The following facility and service objectives apply to the 6 Level IV airports:

## LEVEL IV

Aircraft Design Group	A Category Aircraft
Primary Runway	2,500 feet or less long x 60 feet or less wide
Approach	Visual
Lighting	Runway Reflectors
Visual Aids	Wind Sock
Terminal	Phone, restrooms
Security	Appropriate Access Restrictions

Note: These facility and service objectives are not standards. They represent an optimal level of development for airports assigned to each of the four roles. Actual development at airports in the four roles may be greater or less than the noted objectives.



In order to measure how well the system is performing, goals were translated into performance measures. A system “report card” was used to evaluate Maine’s airport system. This report card determined how the system should ideally be improved over the next 20 years.

PERFORMANCE MEASURE: QUALITY OF LIFE

**System Airports Should Provide Access to Remote Areas**

Most of Maine’s population is within 30 miles of a system airport. Parts of the Allagash Wilderness Area are not near a system airport. Private airports, including Clayton Lake Woodland Strip, Red Pine, and several helipads, provide vital emergency access to this remote area. OPT should monitor the existence and condition of these airports.

**System Airports Should Provide Access to Island Areas**

There are hundreds of islands along Maine’s coastline. Seven islands have airports that support fixed-wing aircraft operations:

- Isleboro (public)
- Stonington (public)
- Swans’ Island – Banks’ (private)
- North Haven – Witherspoons’ (private)
- Matinicus (private)
- Vinalhaven – Talbots’ (private)
- Marshall Island (private)

The Systems Plan encourages these airports to serve island-related transportation needs. The Systems Plan also supports the maintenance of all island airports, both public and private, to certain OPT-defined standards. The Systems Plan encourages separate state funding to maintain the island airports.

**System Airports Should Support Forest Fire Spotting**

Much of Maine is wilderness. Fixed-wing aircraft supplement helicopters in spotting and fighting forest fires. OPT should coordinate with the Maine Forest Service to ensure the system airports meet firefighting needs. Needs are currently reported as being met.

**System Airports Should Support LifeFlight of Maine**

In Maine, aviation plays a role in patient and physician transport. The top facility and service needs for LifeFlight of Maine include fuel, weather reporting, and published approaches. In 2003, LifeFlight received separate state funding to improve air/medical infrastructure. The following system airports were improved:

- **Fuel** – Newton Field
- **AWOS** – Belfast, Greenville, Newton Field, Princeton, Central Maine Regional

Additional projects identified by LifeFlight to improve operations include:

- **AWOS** – Machias, Wiscasset, Rangeley, Sugarloaf, Stonington
- **GPS Approach with Precision Capabilities** – Bethel, Sugarloaf, Newton Field, Lincoln, Lubec, Machias, Stonington

This plan recommends that OPT work with LifeFlight to meet Maine’s emergency needs and investigate opportunities for other providers to serve non-critical air transport needs. The Systems Plan encourages separate state funding to maintain Maine’s airports that support LifeFlight.

PERFORMANCE MEASURE: CAPACITY

**System Airports Should Provide Adequate Airside Capacity**

According to the FAA, when annual operations reach 80% or more of an airport’s operating capacity, delays to aircraft begin to increase. Only Portland International Jetport, may exceed FAA-defined demand capacity guidelines. To address capacity shortfalls, the Jetport could:

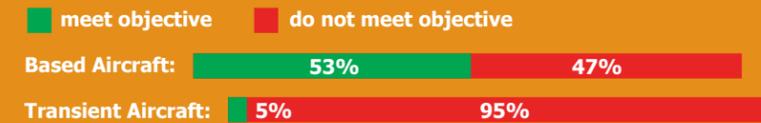
- Increase reliance on general aviation reliever airports
- Follow through with projects (runway, taxiway, lighting, approach, and others) that improve operational efficiency
- Work with carriers to increase the size of aircraft they use to serve the airport; encourage passengers (residents and visitors) from other areas in Maine to utilize their local/most convenient airport

**System Airports Should Provide Adequate Landside Capacity**

Airports in Maine should ideally have aircraft storage, auto parking, and terminal facilities commensurate with each airport’s level of actual demand.

**HANGARS**

Hangar objectives for based and transient aircraft were developed. 53% of system airports (19 of 36) have enough aircraft storage to accommodate based aircraft through the forecast period. Only one airport (Houlton) meets hangar objectives for transient aircraft over the next 15 years. Through 2021, 159 additional hangar spaces will be needed to serve based aircraft and 198 additional hangar spaces will be needed for transient aircraft.



**AUTO PARKING**

Auto parking objectives were set for general aviation and commercial service airports; 70% (25 of 36) of the airports met auto parking objectives. Based on enplanement projections, all commercial service airports will need additional auto parking.



**TERMINAL/ADMINISTRATION BUILDING**

Maine airports should have terminals to support their users. Level I, II, and III airports have objectives for terminal space; 37% of the airports (11 of 30) need terminal improvements.



**Maine's Population Should Be Within Close Proximity to Airports With Flight Instruction**

Airports with flight instruction add pilots and provide outlets for people who are interested in aviation. Over 90% of the State's population is within 30 minutes of one or more airports with flight training. Level I, II, and III airports should ideally have flight instruction; 70% of the airports (21 of 30) meet this objective.

■ meet objective ■ do not meet objective



**System Airports Should Provide Aircraft Repair and Maintenance**

Aviation provides employment opportunities. OPT wishes to monitor airports that provide this service. Level I and II airports should have on-site aircraft maintenance and repair; 82% of the airports (18 of 22) meet this objective.



**System Airports Should Provide Public Outreach/Educational Programs for Their Communities**

To optimize potential expansion, airports educate the public concerning airport benefits. All public airports should have formalized, on-going public educational programs; 47% of the system airports (17 of 36) have programs in place.



**System Airports Should Host Educational Programs for Students**

Airports often partner with schools to offer aviation related programs. Such programs provide an opportunity for additional revenue and demand; 22% (8 of 36) of Maine's airports currently have such programs. No specific objective was established for this benchmark.



**System Airports Should Have Clear Approaches**

The FAA has set approach criteria for all runways. The Systems Plan set a target to have 100% of system airports meet applicable FAA criteria for clear approaches to their primary runway. Currently 39% of system airports (14 of 36) meet this target; 11 airports have actions pending to clear their approaches.

■ meet objective ■ do not meet objective



**System Airports Should Meet Runway/Taxiway Separation Standards**

The FAA sets standards for separation between the runway centerline and the taxiway centerline. The applicable standard is dictated by the airport reference code (ARC). The Systems Plan established a target to have 100% of applicable airports meet FAA runway/taxiway separation standards. All system airports currently meet this standard; additional taxiway development is desirable at the following airports:

- Full Parallel Taxiways at Level I airports – Auburn/Lewiston Municipal, Northern Aroostook Regional, Machias Valley, Millinocket Regional, Knox County Regional, Sanford Regional
- Partial Parallel Taxiways at Level II airports – Dexter Regional, Greenville Municipal, Old Town/DeWitt Field, Pittsfield Municipal, Princeton Municipal, Rangeley Municipal

**System Airports Should Meet RSA Standards**

All public airports should clear runway safety areas (RSAs). RSA dimensions are determined by the ARC. All (100%) airports in Maine should have RSAs that are compliant with their applicable ARC. Currently, 78% of system airports (28 of 36) meet FAA RSA standards. Five system airports need RSA improvements and 3 airports need RSA expansions in order to meet the target.



**Paved Primary Runways at System Airports Should be Maintained**

Each paved primary runway in Maine should ideally be maintained at a rating of good or better, with a pavement condition index (PCI) of 70 or greater. Compliance with this benchmark will need to be monitored. Currently, 86% (31 of 36) of airports meet the pavement condition target. Four of the five airports that are deficient currently have projects underway to meet the target. Belfast Regional is the only airport without a planned pavement project.



**System Airports Should Have Plans and Procedures in Place to Ensure Airport Safety**

System airports should have appropriate planning tools. Statewide programs to increase the number of airports with the following plans should be considered in future funding cycles:

- Obstruction Removal/Vegetation Management Plan
- Wildlife Management Plans
- Airport Operations Manual/Accident Reporting Procedures
- Airport Emergency Response Plans (Level I and II only)
- Self-Inspection Procedures

■ meet objective ■ do not meet objective

**Vegetation Management Plans:** 19% (green) 81% (red)

**Wildlife Management Plans:** 16% (green) 84% (red)

**Airport Operations Manual:** 41% (green) 59% (red)

**Emergency Response Plan:** 45% (green) 55% (red)

**Self Inspections:** 78% (green) 22% (red)

**System Airports Providing Fuel Should Meet Fire Safety Guidelines**

All airports with fuel should ensure that they meet appropriate state and federal guidelines. 100% of all airports with fuel should meet National Fire Protection Association (NFPA) guidelines. 84% of airports with fuel farms (21 of 25) currently meet all NFPA guidelines. Fuel should be provided at most airports. Level I airports should have both Jet A and 100LL fuel and Level II and Level III airports should have 100 LL fuel. Five system airports (17%) need fuel to support their system role.

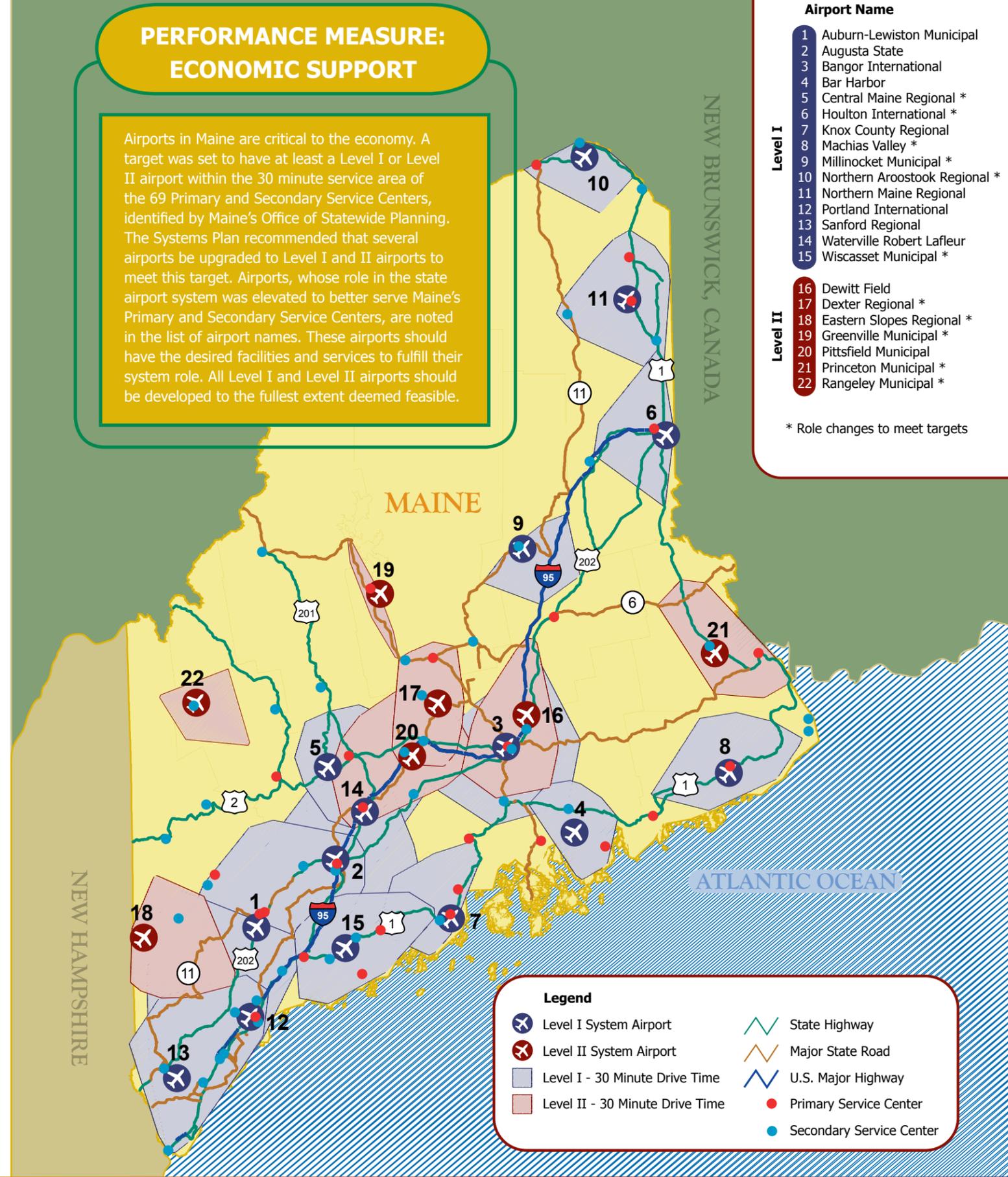
**Meet NFPA Guidelines:** 84% (green) 16% (red)

**Have Fuel to Meet System Objective:** 83% (green) 17% (red)



**PERFORMANCE MEASURE: ECONOMIC SUPPORT**

Airports in Maine are critical to the economy. A target was set to have at least a Level I or Level II airport within the 30 minute service area of the 69 Primary and Secondary Service Centers, identified by Maine's Office of Statewide Planning. The Systems Plan recommended that several airports be upgraded to Level I and II airports to meet this target. Airports, whose role in the state airport system was elevated to better serve Maine's Primary and Secondary Service Centers, are noted in the list of airport names. These airports should have the desired facilities and services to fulfill their system role. All Level I and Level II airports should be developed to the fullest extent deemed feasible.



**System Airports Should Have Current Master Plans/ALPs**

Airport master plans should be updated as follows:

- Level I airports – every 5 years
- Level II airports – every 5-10 years
- Level III airports – every 10 years
- Level IV airports – every 15 years

84% of Maine's airports (29 of 36) meet the target for current planning studies. OPT should use the established targets and monitor the need to provide updated planning studies.

■ meet objective ■ do not meet objective

Current Planning Studies:  84% 16%

**System Airports Should Have Compatible Land Use Planning**

All (100%) airports in the Maine system should have controls that enhance the compatibility of surrounding land use. Currently, 58% of the airports (21 of 36) reported having compatible land use planning. Follow on activities to increase and confirm the ability of all airports to meet this target are needed.

Land Use Compatibility:  58% 42%

**System Airports Should Be Recognized in Local Comprehensive Plans**

All (100%) airports in Maine should be recognized in applicable comprehensive planning efforts; 67% of the system airports (24 of 36) now meet this target.

Recognized in Local Comprehensive Plan:  67% 33%

**System Airports Should Have Business/Financial Plans**

All Level I, II, and III airports should have some type of business or financial plan. OPT should consider mandating the preparation of a business/financial plan as part of individual airport master plans. Currently, 64% of Maine's airports (23 of 36) have business plans in place.

Business/Financial Plans:  64% 36%

**System Airports Should Report Activity Statistics to OPT**

All public airports in Maine should report activity statistics to OPT on at least an annual basis. Currently, just four airports (11%) report activity to OPT. OPT should work with airports to determine which activity indicators should be reported, how often reports should be made, and how data should be collected.

Report Statistics to OPT:  11% 89%



**GROUND ACCESSIBILITY**

**Helicopter Landing Areas Should be Accessible to Maine's Population**

Helicopters support access to island areas; they are used exclusively to conduct LifeFlight operations and to fight forest fires. 84% of the State's population is within 30 minutes of a helipad. 99% of Maine's population is within 30 minutes of an airport that can accommodate helicopters. The Systems Plan has not identified a need to provide any additional designated heliport facilities at this time. OPT should monitor helicopter access.

**Attended Seaplane Facilities Should be Accessible to Maine's Population**

An estimated 86% of all Maine's population is within 30 minutes of a seaplane base. The Systems Plan has not identified the need to increase the number of these facilities. However, additional seaplane bases should offer fuel to improve accessibility to the State. As future airport directories are prepared, an effort should be made to document information on which seaplane bases are attended. OPT should work with tourism, recreational services, and commerce to publish information denoting the location of attended seaplane bases. The Systems Plan encourages separate state funding to provide fuel at seaplane bases.

**System Airports Serving Special Use Aviation Should be Accessible to Maine's Population**

If activity by higher performance aircraft increases, the result can be reduced opportunities for special use (balloons, experimental, ultralight, sport) aircraft. 96% of the State's population continues to be within 30 minutes of a public airport that accommodates special use aviation. Maine has an extensive system of private airports also support this type of activity. OPT should monitor the ability of special use aviation activities to co-exist.

**System Airports With Commercial Airline Service Should be Accessible to Maine's Population**

Portland Jetport and Bangor International have had increases in their scheduled commercial airline service; other commercial airports (Augusta State, Hancock County-Bar Harbor, Knox County Regional, and Northern Maine Regional) have done well just to sustain service with the help of federal subsidies. Currently, 96% of Maine's population and 71% of the Primary and Secondary Service Centers are within a 60 minute drive of a commercial airport. In the current environment, it is not logical to expect that additional cities in Maine will receive scheduled commercial airline service. A target to at least maintain current accessibility to scheduled commercial airline service was adopted. OPT should monitor the continued availability of scheduled commercial airline service in Maine.

**The Public Airport System Should be Accessible to Maine's Population**

The National Plan for Integrated Airport Systems (NPIAS) has a goal to have an airport within 30 minutes of system users. An estimated 98% of all of Maine's population is 30 minutes from at least one public airport. Maine's public airport system is also supported by an extensive system of privately-owned airports. No target for increased performance was adopted for this benchmark. OPT should identify airports in the system that are not capable of expanding at their current location in order to fulfill their designated system role and determine the need for replacement airports.

**Part 135 Operators Should be Accessible to Maine's Population**

On-demand air taxi/charter service is often provided by operators who are certified under FAR Part 135. 90% of Maine's population is within 30 minutes of an airport with a based Part 135 operator. The ability to support a Part 135 operator is market driven. OPT should monitor, for informational purposes, the airports where Part 135 operators are based.

**OPT Should Understand Changes in Commercial Airline Service**

Maine has 6 commercial service airports. In a deregulated environment, the State and the airports have limited influence on airline service. The following targets were agreed upon for this benchmark:

- Decrease Maine's average one-way commercial airline fare as a percent of the national average
- Maintain at least existing levels of scheduled service at all airports
- Support efforts to secure additional service, as feasible
- Encourage passengers (both residents and visitors) to use their "local" airport
- Encourage passengers (both residents and visitors) to use a Maine airport as opposed to driving to a competing airport in a neighboring state

OPT should monitor air service indicators for the State's commercial airports; average one-way fares, annual enplanements, hubs served nonstop, and a number of weekly departing seats and flights. No other actions were identified related to this benchmark.

**AIR ACCESSIBILITY**

The Systems Plan set a target for all Level I and II airports to have facilities and services in place to meet the air accessibility performance measures. If these additional facilities and services are in place, system performance will increase.

**Level I Airports Should Provide:**

- **Weather Reporting** – 90% of the state's population is within 30 minutes of an airport with weather reporting (AWOS/ASOS); Machias and Central Maine Regional should ideally have weather reporting.
- **Precision Approach** – All Level I airports should have a precision approach. 84% of Maine's population is within a 30-minute drive of an airport with a precision approach. Seven airports should upgrade their approaches.
- **All-Weather Capabilities** – All Level I airports should be capable of operating during all weather conditions. Three Level I airports need snow removal equipment, and 11 airports need de-icing equipment.
- **5,000 Foot or Greater Runway Length** – 81% of Maine's population is within 30 minutes of an airport with a 5,000-foot or longer runway. Five Level I airports require runway lengthening projects to meet this target.

**Level II Airports Should Provide:**

- **Non-Precision Approach** – All Level II airports should have at least one published approach. 95% of Maine's population is within 30 minutes of an airport with some type of non-precision approach. 100% of all Level II airports currently meet this objective.

The Maine Aviation Systems Plan Update identified actions, projects, and facilities that are desirable to raise the overall level of performance of the public airport.

**REPLACEMENT AIRPORT**

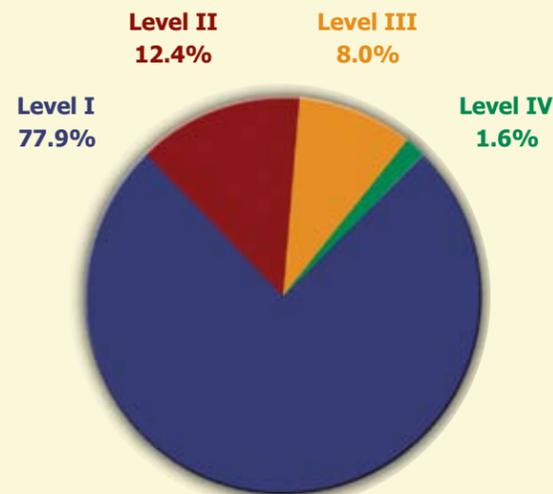
The Systems Plan process identified several voids, in terms of coverage, for Primary Service Centers. The Project Advisory Committee (PAC) set an objective to have a Level I airport in proximity to all Primary Service Centers. The PAC recommended several changes in airport roles to address these voids. There is only one existing airport that appears to be too physically constrained to meet its future Level I role. This airport is Machias Valley Airport. Local studies confirm the need for a new airport to serve the area. An airport master plan is currently underway for a replacement airport. It will cost approximately \$20 million to build the replacement airport.



It is important to note that costs estimates developed as part of the Systems Plan are not as detailed as those developed as part of an airport specific master plan. Cost estimates presented in this summary consider those actions needed to raise system performance relative to benchmarks used to evaluate the system. Costs needed to improve individual airports to meet their respective facility and service objectives, as established in the Systems Plan, were also estimated. In addition airport specific master plan and capital improvement programs (CIPs) were considered.

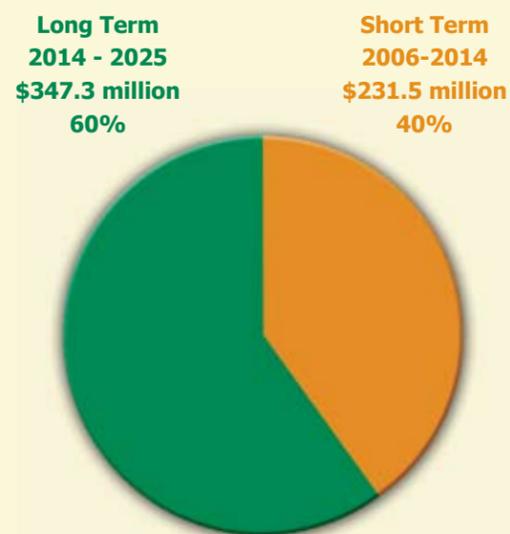
Each year, Maine airports prepare detailed capital improvement plans. These plans help to provide insight into the funding needs of Maine's airports. Capital improvement plans that are developed by Maine's airports focus primarily on shorter term development needs. As a result, shorter term capital improvement plans were used to help provide insight into longer term airport specific development needs and potential costs.

As shown in the accompanying graph, when all potential development costs are considered and summarized, roughly 78 percent of all costs to improve the Maine airports would be associated with Level I airports. Costs for upgrading airports in Level II and Level III would account for approximately 20 percent of the estimated total. The remainder of the estimated costs would be incurred to improve airports assigned to Level IV.



**NEAR TERM AND LONG TERM COST ESTIMATES**

Between now and 2025, in order to raise the system's level of performance relative to study benchmarks and facility and service objectives, as well as to respond to individual airport CIPs, costs could reach an estimated \$578.8. Of this total, it is estimated that \$231.5 million would be incurred in the near term, between now and 2013. Near term costs represent 40 percent of the estimated development costs. The remainder of the costs, \$347.3 million would be incurred in the longer term. Longer term development costs represent 60 percent of the estimated total.



**ANTICIPATED FUNDING SHORTFALLS**

Assuming that Maine needs to invest \$578.8 million between now and 2025 to improve its airport system, approximately \$28.9 million annually will be needed.

Examining Maine's recent funding history indicates that when all federal (FAA), state, and local sources are considered, annual investment in Maine's commercial and public general aviation airports has been \$24.4 million per year. The accompanying graph shows that almost 90 percent of this funding has come from the FAA. Because of airline bankruptcies and other issues in the aviation industry, the FAA expects that their ability to meet funding requests via the Airport Improvement Program (AIP) could reduce available annual funding from its historic level of \$24.4 to roughly \$19.0 million per year. This assumes that state, local, other funding sources are maintained at their historic levels.

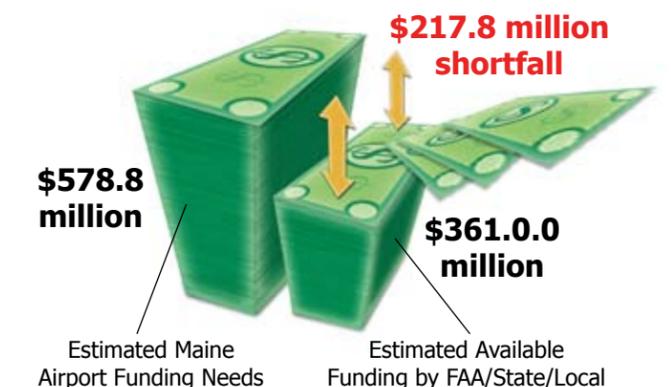
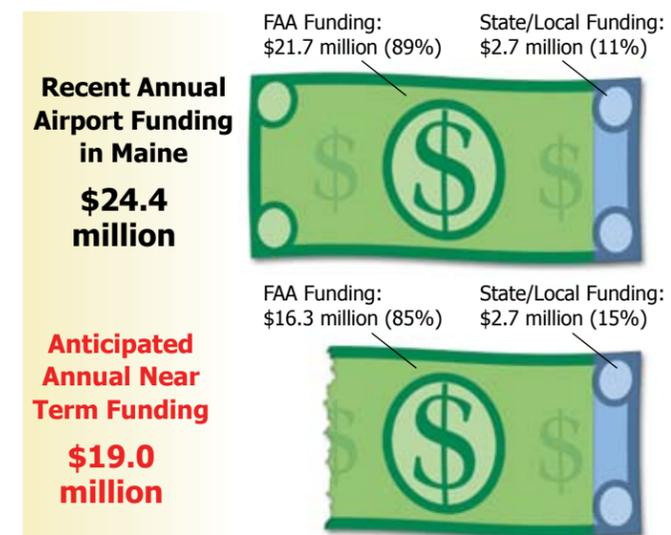
The Systems Plan has estimated that between now and 2025, \$578.8 could be needed to improve Maine's airport system. If \$19.0 million is available from federal, state, and local sources in each of those years, a total of approximately \$361.0 million may be available to respond to these estimated needs. The gap between estimated needs and estimated funding through 2025 could reach \$217.8 million.

Clearly this shortfall is significant. Immediate action is needed at all levels to help ensure that Maine's airports can be appropriately maintained and improved.

**SUMMARY**

State funding for Maine's airport system is extremely limited. OPT relies on biennial bond issues from the Legislature. There is not a dedicated source of funding for aviation projects. This limits the ability of the State to fund any special programs such as a pavement maintenance program, hangar program, and others. Aside from funds to match federal grants, additional dedicated state funding is needed for the maintenance and development of public airports in Maine.

Maine is served by a system of commercial and general aviation airports that supports the State and its residents, businesses, and visitors. Airports are critical resources that support Maine's economic and transportation needs. The Maine Aviation Systems Plan Update has identified future needs for all public airports in Maine providing OPT with an outline for the development of the airport system. To facilitate growth and diversity in the state, continued investment in the Maine Airport System on the local, state, and federal level is needed. The Systems Plan Update serves as an important tool to ensure the aviation system in Maine will meet the economic and transportation needs of Maine's citizens now and into the future.



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