# The Maine Airport System Plan

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## summary report

prepared for

Bureau of Planning
Maine Department of Transportation

by

Systems Analysis & Research Corporation
and
Howard Needles Tammen & Bergendoff

The preparation of this document was financed in part through a planning grant from the Federal Aviation Administration as provided under Section 13 of the Airport and Airway Development Act of 1970. The contents of this report reflect the views of SARC/HNTB who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of this report by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein, nor does it indicate that the proposed development is environmentally acceptable in accordance with Public Laws 91 - 190, 91 - 258, and/or 90 - 495.

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# Contents

# Foreword

The Maine Airport System Study is reported in two publications. This *Summary Report* is a presentation of the recommended Maine Airport System Plan, and it is also a summary of the Study leading to the recommended Plan. It includes background information of interest to the general reader.

Substantiating data and detailed information expanding on the subject matter in this *Summary* – material intended for the use of planners, State officials and the FAA – will be found in the *Technical Supplement*. The table of contents of the *Technical Supplement* is summarized in Appendix D of this *Summary.*

Additional information concerning the Plan, or availability of copies of the Report, can be obtained from

Bureau of Planning
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# An Overview

## Purpose of the Plan

The major purpose of the Maine Airport System Plan is to provide Maine Department of Transportation a feasible and timely development schedule for the airport facilities necessary to Maine's future if aviation is to fulfill its function toward achieving local, state and national goals. This report is also to provide guidance, through recommendations, for developing State policy for the preservation and advancement of aviation in Maine.

## Goals

The following goals guided the development of the Plan:

- To place the highest priority on safety and reliability;
- To assure that commercial aviation in Maine has physical facilities and administrative structure that provide the best possible level of service within the constraints of available funds;
- To assure that within the same constraints, Maine's General Aviation facilities meet the needs of the State and enhance the State's well-being;
- To optimize the Plan on the basis of maximum efficiency with minimum total system cost;
- To avoid foreclosing unnecessarily on future options by giving the Plan flexibility and adaptability to socioeconomic and technological changes;
- To assure that the Plan is consistent with State development policy, and other transportation plans.
- To emphasize the importance of minimum adverse impact upon the community and the environment in the selection from alternative ways to achieve the above.

## Other Planning and Administrative Issues

The goals provided a basis for evaluation of alternative systems. The following issues were also addressed and influenced the development of the Plan:

- The State's roles in development of the System;
- The management of the System;
- The sharing of System costs;
- Creation of a continuing planning process.

## Factors Considered

Many factors were analyzed in developing the Plan. The major ones included direct and indirect costs, the degree to which the population and projected demand would be served, demand upon and capacity of the State's airports, impact upon the environment, and airspace usage. An attempt was made objectively to select the system with the most advantages and the fewest disadvantages considering the above as well as other factors.

# The Plan

The Maine State Airport System Plan describes the needs of publicly-supported aviation facilities over the next 20 years, as seen at the level of state-wide planning. It includes proposed development of primary airports and the general location of new airports considered essential to achieving the State's goals.

There are presently 211 airports in the Maine Airport System, including 2 military bases, 62 seaplane bases and 7 heliports. Thirty-seven of the airports in Maine's system have been identified for inclusion in the Primary Airport System, and recommended improvements for these 37 airports are included in the Plan. These 37 airports are also proposed for inclusion in the National Airport System Plan (NASP), which, if included, would make them eligible for federal as well as state financial assistance. The Plan also recommends the construction of two new general aviation airports, but no new air carrier airports at this time.

The airports in the Primary System are within 30 minutes' driving time of 94 percent of Maine's total population, and would provide an airport with scheduled air carrier service within 60 minutes' driving time of 84 percent of the residents.

Inclusion of the airport in the Primary System does not obligate the community to incur any of the costs necessary to upgrade it if there is no local decision to initiate airport development action. Decisions required for implementation ultimately rest with local authorities. Lack of local public interest may preclude undertaking the improvements.

The remaining public and private airports comprise Maine's Secondary Airport System, and are recognized for their importance to aviation in the State. Each is a candidate for inclusion in the Primary System on the basis of the criteria listed below:

To be eligible for the Primary System, an airport must

1. be publicly owned, and

2. have physical conditions and surroundings that make required development feasible, and

3. be the only airport serving a population of 2,000 or more within thirty minutes' driving time, or be expected within five years to have 5 or more based aircraft or 900 or more operations annually.

Maine's airports are shown on the map at the back of this document. The list of airports in the Primary System, with the identifiers used on the map, is on page 21. A complete list of all 211 airports by MDOT classification is in Appendix C.

# Costs

The total estimated cost in 1974 dollars of the capital improvements recommended over a twenty-year period is $94,855,000 of which $61,256,000 or an average of about $3 million per year would be required from federal, state and local airport development funds. The remaining costs could be funded by other methods such as FAA Facilities and Equipment (F&E) funding or, as in the case of hangars and some portions of terminals, be amortized by the revenues they generate.

# Funding

The authorized sharing of costs among federal, state, local and private sources is shown in the table on page 22. Funds available may be somewhat less.

Under the Airport and Airway Development Act Amendments of 1976 (Public Law 94-353), federal participation in eligible projects at airports in Maine will be 90% during FY 1977 and 1978, and 80% during FY 1979 and 1980. Traditionally, the State of Maine has provided financial support of the non-federal share of projects eligible for federal aid, and for some airport development projects not eligible for federal aid but approved by MDOT. *Within the constraints of funds available*, we recommend that the State's traditional policies in these matters be continued. The State of Maine will generally consider providing 50% of the non-federal share. Airport development projects that are not eligible for federal aid, but which are approved by MDOT, will also receive 50% financial support from the State.

# Implementation

Several actions are required of local, state and federal government bodies if implementation of the Plan is to proceed. They include the provision on the part of the federal and state governments of adequate financial and technical assistance during the development of airport master plans and during the design and construction of improvements proposed in those plans. The enactment of local ordinances to protect existing and future investments in airports, would not only make it easier to improve the Primary System airports, but would also help to maintain the existence of other airports, thus decreasing the requirements at Primary System airports.

The airport owner, usually a town, city, or the State, initiates and sponsors airport improvement projects. The Sponsor applies for federal and state financial assistance through the Maine Department of Transportation. In the past, the State of Maine has played a most prominent role in coordinating all interested parties, as well as providing financial assistance for airport development that would benefit Maine's residents. With this System Plan as a reference, the State will be better able to make future budget allocations on the basis of statewide considerations.

The Federal Government, through the Federal Aviation Administration (FAA), in addition to providing technical service, in the past has participated in the financing of eligible projects to at least 50% of project costs. The latest legislation has increased that participation to 90% through FY 1978, then 80% thereafter.

It is recommended that legislation be enacted to increase the powers of local governments for protecting their airport investments. Other recommended legislation would promote the exemption of certain privately-owned airports from property taxes and broaden airport zoning powers.

Unforeseeable changes in economic conditions, legislation, case law decisions, governmental organization and tax and fiscal policy make it necessary to update periodically any State Airport System Plan. Actual aviation activity must be recorded. Departure from the forecast activity upon which the Plan is based may be great enough to warrant changes in the Plan. The implementation of some recommended projects and not others may also alter the development requirements at certain airports. An organization capable of carrying out a continuing planning process becomes a necessity.

It is important to note that the monetary figures shown for each airport are only cost estimates of the requirements to upgrade them to the ideal standards, and are not allocations of funds. Inclusion in the State Airport System Plan does not commit the state or federal government to expenditures at that location. The Plan and the cost estimates are based on the most probable forecast of aeronautical demand at this time, but evidence that that level of activity is occurring or is imminent must be provided on a case-by-case basis before funds are actually committed. On the other hand, a greater than currently anticipated demand could generate additional needs and require higher expenditures. In this sense, the plan should be considered flexible.

Implementation of the Plan will follow a system of priorities. Since all implementation must be at the volition of local sponsors, it is reasonable to expect that not all development projects that have been proposed will be undertaken as scheduled. Using its priority system, the State of Maine will decide on the allocation of funds of a given budget period among those projects for which it receives applications.

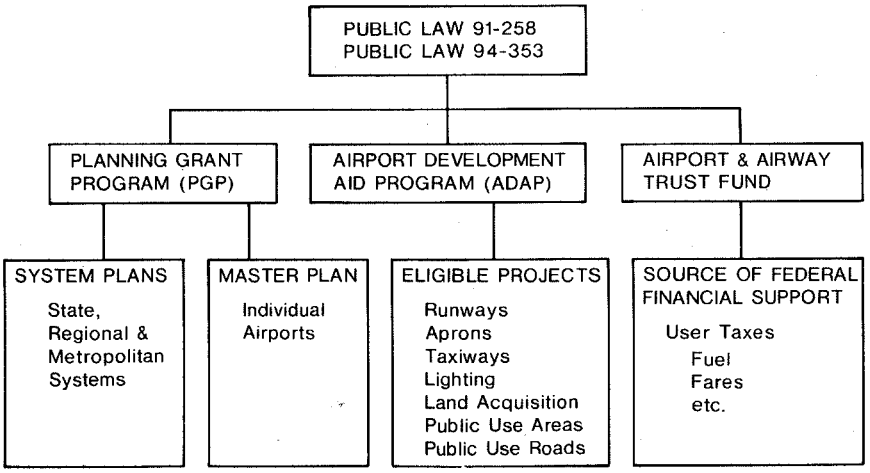
# System Plan/ Master Plan Relationship

The original concept of the Airport and Airway Development Act of 1970 was ideally for the state system plan to be completed first to provide the basis for the individual airports' master plans. Their schedules of development would be consistent with the state system plan, and, without compelling evidence to support the contrary, master plans would be approved only if they were compatible with the state system plan. However, the urgent need for master plans precluded their postponement, and with master plans being produced concurrently and sometimes before the state system plan, the following approved master plans are incorporated into the state plan:

Auburn-Lewiston Municipal Airport
Bangor International Airport
Bar Harbor Airport
Portland International Jetport
Northern Maine Regional Airport
Knox County Regional Airport
Dewitt Field
Houlton International Airport
Greater Rumford Airport
Sanford Municipal Airport

On-site location of recommended development, and specific siting of new airports, are not included in state system plans which deal only with the "general location and characteristics of new airports and the nature of expansion of existing ones."*

## Airport and Airway Development Act of 1970 and Amendments of 1976




*DOT/FAA, *Planning the State Airport System,* AC 150/5050-3A, June, 1972, p. 4

# Background

## Introduction

Existing airports in the State of Maine were developed largely as a result of local planning to satisfy local demand and desires within the capabilities of local and sometimes state financing. In 1946, the federal government first took action to coordinate airport development nationwide and provide financial assistance for planning and carrying out such development. The Airport and Airway Development Act of 1970 introduced the State Airport System Plan as one level in the hierarchy of airport planning consisting of the:

- National Airport System Plan (NASP)
- State Airport System Plan
- Regional Airport System Plan
- Metropolitan Airport System Plan
- Airport Master Plan

The Act recognized the need to consider the impact upon the environment and the importance of coordination with other planning—especially that of land use in the vicinity of airports—as well as the need to treat the State's essential airports as a system representing one mode in the total transportation system. The benefits that aviation has brought to the development of Maine's commerce and industry have been a good return for the financial assistance the State has provided. Justification for federal financial support was based on the concept that the State Airport System is a geographic element developed in coordination with those of contiguous states, and integrated into the National Airport System that is considered necessary to the continued economic and general well-being of the nation.

This report presents the Maine Airport System Plan and a coordinated capital improvements program with a priority procedure to be used as a flexible working tool by Maine Department of Transportation in budgeting state support for airport development in future years. But the Plan is directed at all levels in Maine, because only at State-owned airports can MDOT initiate action to implement the projects proposed in the Plan. Elsewhere, the action must commence at the local sponsor level, within the community, county or airport authority responsible for the individual airport, where the ultimate authority rests to implement airport developments proposed in this Plan.

Technical reports produced by the Study and containing detailed background and supporting data are available to the interested reader. See Appendix D.

# Method of Approach

The Maine State Airport System Plan estimates aviation requirements for the next twenty years. It recognizes the substantial investment in existing airports and exploits to the fullest these earlier investments. Through coordination with the planning efforts for other transportation modes, it also recognizes that aviation is but one element of this State's multimodal transportation system.

The data collection phase of the Study included on-site surveys and questionnaires mailed to airport owners and administrators to obtain descriptions of the airport's physical features and the extent of current aviation usage. Data collection also included the identification of environmentally sensitive locations where an airport or expansion might be detrimental. Socioeconomic data were collected from a variety of sources, with the cooperation of other state agencies. The aviation data from the surveys supplemented data collected routinely by FAA and the Maine Department of Transportation.

These data were used to derive forecasts of the demand likely to be imposed upon the airport system over the next twenty years. Two airport system development alternatives were investigated, each of which corrected deficiencies where demand levels were found to exceed existing facility capacities. One alternative was limited to the expansion of existing airports; the other included consideration of the construction of new airports where that appeared justified. In each case the most desirable development option—in terms of expected community impact, public safety, level of service, and development cost—was selected for inclusion in the Plan.

Developments proposed are based on standard planning factors applied to forecasts of aviation activity and the comparison of the indicated demand with the capacity of existing facilities to handle that demand. All recommended development was computed on the basis of facilities and plans existing at the time of the inventory in early 1975.

# Participants

The Maine Airport System Plan has been developed under the sponsorship and direction of the Maine Department of Transportation with a planning grant from the U.S. Department of Transportation administered by the New England Regional Office of the Federal Aviation Administration. The Maine DOT engaged the services of Systems Analysis and Research Corporation and Howard, Needles, Tammen and Bergendoff as its consultants for the preparation of the plan.

Coordination was maintained with Maine's neighbors—New Hampshire, New Brunswick and Quebec—and with the regions within the State that are actively engaged in planning. Efforts were also made to ensure that the System Plan was developed in full view of state and regional planning agencies and interest groups. An Advisory Committee was created which reviewed and made recommendations on the proposed procedures and end-results of each phase of the study. This committee was composed of representatives of airlines, airports, planning commissions, city management, the Air Force, the FAA, the press and responsible private individuals.

The contributions of the Advisory Committee are sincerely appreciated.

# Aviation in Maine

## Scheduled Air Service

The certificated air carriers and scheduled commuter airlines provide the scheduled air transportation link between Maine's cities and the rest of the world. Today eight locations in Maine have airports with scheduled air service:

- Auburn-Lewiston
- Augusta
- Bangor
- Bar Harbor
- Portland
- Presque Isle
- Rockland
- Waterville

Approximately 447,000 passenger enplanements occurred at Maine's airports in 1976. This figure is expected to more than double in the next twenty years. Delta and Air New England are the two certificated airlines operating in Maine with commuter service provided also by Bar Harbor and Down East Airlines.

Scheduled commuter airlines operate under simplified rules of the Civil Aeronautics Board which relieve them from most of the route and rate structure requirements of the certificated airlines. A commuter airline is defined as an air carrier that performs at least five round trips a week between two or more points according to a published schedule, or carries mail on contract to the U. S. Postal Service. Commuter airlines are currently limited to the operation of aircraft carrying no more than 30 passengers or 7,500 pounds of useful load. The scheduled commuter airlines are a vital element in the State's public transportation system, providing fast, convenient, and reasonably-priced passenger service.

## Air Cargo

Although the movement of cargo by air has increased dramatically during the last ten years, in Maine as elsewhere, most cargo is still carried by certificated air carriers in the holds of their passenger aircraft fleet. Airports have adapted to this method of cargo-carrying and are expected to continue to do so. All-cargo aircraft, if they appear in Maine during the next twenty years, are not expected to be in sufficient numbers to affect airport planning and design.

Cargo enplanements for the State currently average something less than 15,000 pounds per day. This volume is projected to increase to approximately 70,000 pounds per day by 1995, with Portland and Bangor accounting for more than 90 percent of the total. This growth can be accommodated in the cargo compartment of passenger aircraft. Consequently, the introduction of all cargo service is not foreseen.

# General Aviation Facilities

The airports serving scheduled carriers provide facilities also for general aviation, while 203 remaining airports in Maine serve general aviation exclusively. They perform a variety of functions, some serving the major mode of transportation into remote or isolated areas, some for quick access to recreational areas, as well as those for purely private flying. Seaplane bases number 62 serving their own unique type of aviation.

# Military Aviation

Maine has three airports serving military aviation.

- During World War II, Bangor Airport became Dow Field, then a Strategic Air Command (SAC) installation. Bangor International Airport came into being when Dow Air Force Base was deactivated by the Department of Defense in 1968. Since then, it has had joint use. In the recent past F-104's have operated out of Bangor, but the military mission has now been changed, causing the F-104's to be replaced by KC-135's.

- The primary mission at Loring Air Force Base is that of a SAC base. Aircraft currently operating there are predominantly B-52's, though there are occasional training operations using Navy and other Air Force aircraft. Loring does not have joint use by civil aircraft operations. The base is being considered for deactivation.

- Naval Air Station (NAS) Brunswick serves primarily as a base for antisubmarine patrol. The predominant aircraft type there now, and for the foreseeable future, is the P3 Orion. Transient aircraft range from heavy transport to F4 and A4 types.

  Joint military/civil use of NAS Brunswick has been requested, as the area is in need of more airport facilities for civilian operations, but to date the Navy has not approved it.

  The requirement for a new airport in the Brunswick area as indicated by this study, is contingent upon the Navy's continued rejection of joint use. Considering the expense and problems involved in building a new airport, the possibility of obtaining joint use of NAS Brunswick should not be abandoned.

# Airports

Of the airports in Maine, not counting seaplane bases, nearly two-thirds are privately-owned. Approximately one-fourth are closed to the public or available only for emergency use.

Some of the privately-owned airports open to the public—notably Twitchell at Turner and Gadabout Gaddis at Bingham—are clearly providing services essential to Maine's aviation. Others are also serving an obvious demand, but a demand more locally identified.

Among the civilian airports, Bangor, Portland and Presque Isle are equipped with precision instrument approach systems permitting operations under adverse weather conditions. Bangor and Portland have air traffic control towers as well. All the remaining airports that serve scheduled air carriers, plus ten other airports, have non-precision instrument approaches. Among these, the remaining air carrier airports are potential recipients of precision approach systems.

The value of an airport is greatly increased if it has a paved and lighted runway, allowing a greater variety of aircraft types to operate from it more hours out of the twenty-four. Less than twenty-five percent of Maine's general aviation airports have paved or lighted runways.

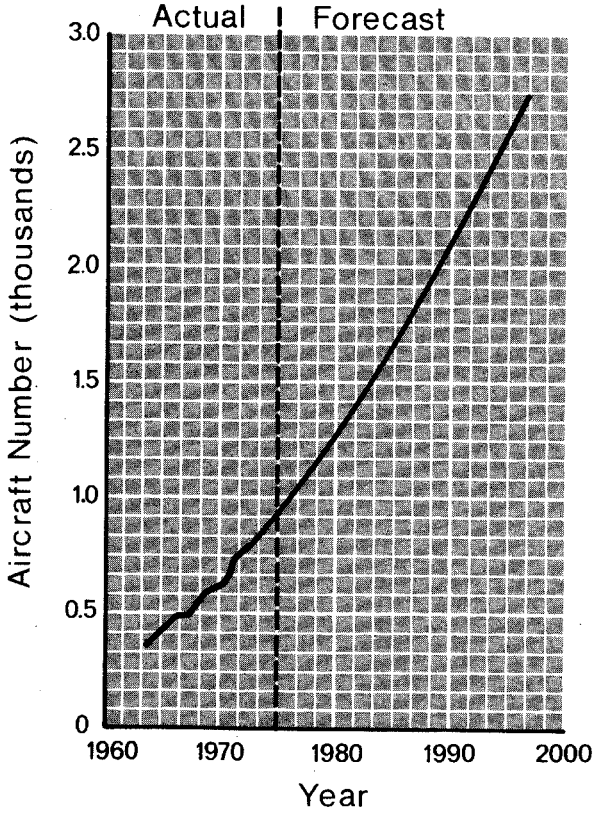
# Aircraft and Operations

The number of aircraft registered in Maine doubled, from 400 to 800, in the ten years preceding 1974. Registrations with the FAA numbered 1137 in November, 1976. This number appears to indicate a 42% increase in two years, however, it is probably due to the fact that many aircraft based on Maine's airports are not registered with the State. In recent years they have been estimated to exceed 50% of those registered.

The figures used for the forecasts were taken from replies to a questionnaire sent to airport owners and managers early in 1975—a source customarily used to assure that the study is based on the current conditions. The more recently acquired FAA data suggest that the figures are conservative. Future updating of the Maine Airport System Plan, necessary in any case for verification of all forecasts (see Implementation), will reveal whether or not the forecasts of based aircraft need to be revised.

Although there is no precise method for calculating the number of past operations at airports without control towers, this increase of based aircraft alone is indicative of the need for airport development, since the interest in aviation and the capability and reliability of the aircraft are expected to continue to increase. Improvement of the airport facilities would be expected to add further incentive to that growth, with generally beneficial effects through improvement of air transportation in a state where that mode of travel is so important.

## General Aviation Aircraft




# Problems

In recent years, airports have come under attack for the noise and air pollution generated by their operations. Encroachment of some types of land uses in their vicinity has both restricted their expansion and produced protests from the land users. Although the State of Maine is not plagued by such problems to the extent that many other states are, the coordination of airport development with other land use planning and transportation planning has become a necessity in Maine as elsewhere, if plans for the future of Maine's aviation are going to provide the potential benefits.

A State Airport System that includes privately-owned airports is vulnerable to the vagaries of land development in their surroundings, which can tempt the owner to close his airport in favor of some more lucrative use. A twenty-year plan for the development of a privately-owned airport would have to include an alternative for such a contingency, or a way to acquire the airport through public purchase.

Even with federal and state financial support, some communities cannot fund the local share for purchase or needed development of their airport. In such cases, the importance of the airport to the county, region or State should be examined to determine whether or not a broader base for funding the local share is justified.

These problems and others were considered in the preparation of the Maine Airport System Plan. The Plan, and the associated recommendations, define the developments and actions that are necessary if Maine is to have an aviation system that will pull its weight in the total State Transportation System, so important to Maine's future well-being. The planning process, documented in detail in the *Technical Supplement*, is summarized on the following pages.

# Preparation of the Plan

The planning process used in preparing the Maine Airport System Plan began with several interrelated steps aimed at quantifying the present airport system's capability to provide the aviation services needed and desired in future years. These steps included:

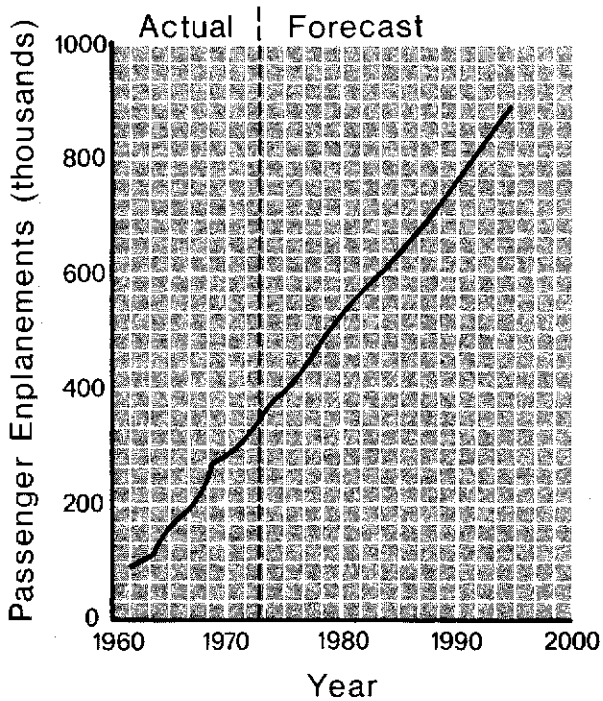
- the formulation of objectives and supporting standards to define the kind and level of air transportation desired for the State
- the completion of inventories to provide the basic factual data required to describe quantitatively, and to understand, the existing air transportation system, its use and operation, and the physical, social and economic environments that support the system
- preparation of forecasts of the probable future aviation demand
- the identification and evaluation of the existing State Airport System in light of the demand forecasts to identify any existing and/or future deficiencies.

Airports in the "existing system" were identified on the basis of two criteria:

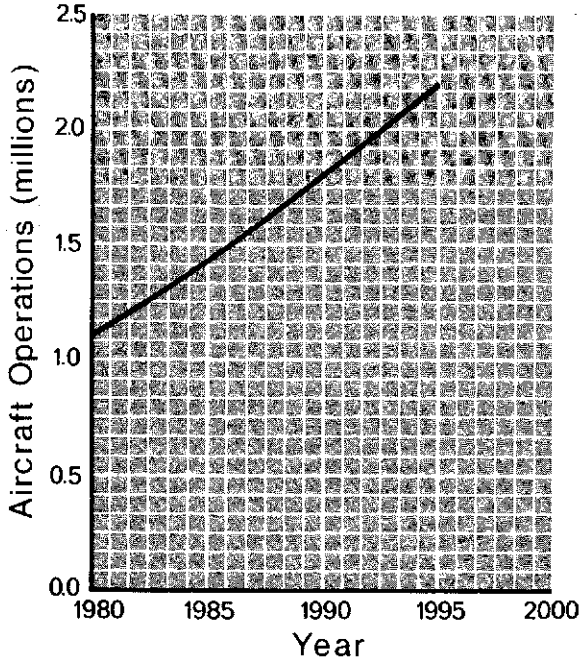
- all airports in the National Airport System Plan (NASP), and
- all other airports (except seaplane bases) open to the public.

The first step in actual planning was to design two alternative airport systems for evaluation. Each, through its own system configuration of airport location, function, capacity, and service area, overcame the identified deficiencies and thereby met the agreed-upon objectives, but at varying degrees and at differing costs. The design and evaluation of alternative systems that led to the selection of Maine's Primary Airport System and the improvements for the airports in it are discussed in detail, with a map of each alternative System considered, in the Phase V Technical Report.

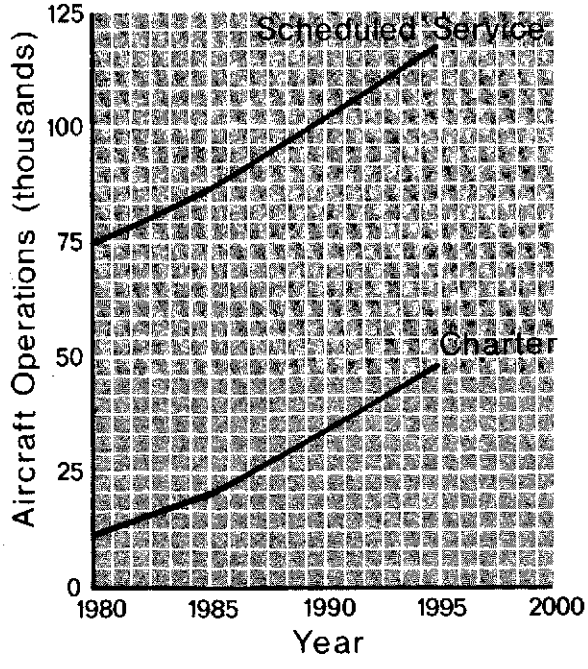
## Passenger Enplanements on Scheduled Air Carriers Annually in the State of Maine



Forecast Number of General Aviation Aircraft Operations Annually in the State of Maine




Forecast Number of Scheduled Service and Charter Operations Annually in the State of Maine




# Description of Alternative Plans

System Plan One was limited to the necessary—and feasible—expansion of facilities in the "existing system." The concept was promoted in part by a statement in the Summary of the Narrative Report of Maine's *1974 National Transportation Study.* "A review of the statewide airport system clearly conveys that Maine now has a good basic system for airports to build on. However, most airports are in need of expansion or improvements, so as to meet existing and projected aeronautical demands, improve safety, and to accommodate new and larger aircraft."

The preparation of System Plan Two included consideration of the construction of new airports where the analysis indicated that they might be a preferable solution to optimize service and accessibility.

Construction of a new airport was considered:

- where an existing airport cannot be expanded to handle forecast demand;
- where it would justifiably increase the percentage of Maine's population that would be within 60 minutes of scheduled service or within 30 minutes of general aviation facilities;
- where planned development in Maine will create a new requirement for air service or general aviation facilities; and
- where the development of an existing privately-owned airport would be required.

# Estimation of Required Development

Additional facilities required in each system alternative to meet the aviation demands forecast for the years 1980, 1985 and 1995 were calculated in accordance with FAA requirements. The results were examined, airport by airport, with respect to the physical feasibility of accomplishing the indicated increase in facilities, such as the addition or extension of a runway, taxiway or apron.

Cost estimates produced originally were adjusted to reflect any modifications that the second analysis found to be physically necessary, or advisable from the standpoint of efficient scheduling of projects.

# Evaluation and Comparison of Alternative Plans

Each alternative System Plan consisted of a configuration of airport locations and recommended improvements to meet the standards for the airport classifications justified by existing and forecast aviation demand. Each alternative would require a different level of public expenditure and have a different impact on the air transportation and general aviation services, and on the environment. A comprehensive, quantitative technique was employed to evaluate each alternative airport system plan and to compare it with the other in terms of their consistency with agreed-upon airport system objectives, policies and standards.

Both quantitative and qualitative decision factors were employed in a matrix analysis that rated the development proposed for each airport in each plan for

- operational feasibility
- capital cost
- operating cost vs revenue
- user costs vs benefits
- financial feasibility
- socio-environmental impacts

The ratings for the socio-environmental impact decision factor were themselves derived from a second matrix analysis employing as decision factors the impact of development with respect to:

- noise and land use
- community development constraints due to noise
- economic development
- recreation areas
- environmentally sensitive areas
- water quality
- air quality

The rating of each plan produced one set of values representing that plan. Each Study Team member was asked to allocate 100 weighting points among the 6 decision factors in the way he thinks they rank in relative importance. The multiplication of the weights times the ratings produced six scores for each of the alternative plans, one for each of the Study Team members. The averages of the six weightings and their medians were also used. When the weightings, their averages and medians were applied to each airport's rating for each of the decision factors, System Plan One was marginally favored over System Plan Two in all cases, in spite of a wide variation in the weightings.

A sensitivity analysis was performed to determine whether a reasonable set of weighting values was possible that would result in the selection of System Plan Two.

From this analysis it was concluded that the selection was not particularly sensitive to a variation in weightings; for any reasonable set of weighting factors System Plan One would win. In other words, the ratings themselves were dominant. But the result indicated a superiority of only approximately 1% for Plan One. Even the difference in capital cost for the two alternatives was only $3 million over twenty years, or $150,000 per year including the federal assistance.* These differences were below the level of precision in the estimates of the future requirements of Maine's Airport System.

With no clear superiority of one plan over the other, there was no justification for recommending either alternative. Their scores were not significantly different in spite of the differences in airport development proposed in each. The Maine Airport System Plan was therefore formulated from a combination of the airport developments with the highest ratings in both plans, at airports that meet the criteria for eligibility listed on page 4.

*For eligible projects, 90% in FY 1977 and 1978; 80% in FY 1979 and 1980.

# The Plan

Projects recommended for the ultimate development of airports in the Primary Airport System are shown in Appendix A. The corresponding airport classifications are on the map at the back of this document. Airports in the Primary System are also listed with their 1995 classification and map locater in the table on page 21. Airport classifications are defined in Appendix B.

# New Airports

New airports at five locations had been found worthy of special investigation. They included areas identified as Augusta, Brunswick, Patten, Oxford/Franklin Counties and South York County. However, only two have been included in the Plan:

- Patten, and
- Oxford/Franklin Counties.

## Augusta State

At the time the analysis of requirements at Augusta State Airport was completed, a Capital Area Airports Study was expected to be made. It was anticipated that a Capital Area Airports Study would extend this analysis, investigating in greater detail both the needs and the wishes of the potential users of the two airports in the Capital Area, Augusta State Airport, and Robert La Fleur Airport, in Waterville. Since the passage of the Airport and Airways Development Act Amendments of 1976, funds based on passenger enplanements have become available for improvements at Augusta State and at Waterville's Robert La Fleur Airport.

At the suggestion of the FAA, plans for the Capital Area Airports Study are being dropped so that master plans for the two airports can be drawn up to indicate the facility improvements for which the enplanement funds should be expended. Plans are already under way to initiate these master plan studies. The recommended State Plan has retained Augusta State Airport as the airport to serve the Capital. The introduction of a control tower could increase the capacity of the runway system sufficiently to handle the forecast number of operations without a parallel runway, for which there is not adequate space on the site. More detailed definition of development projects for Augusta State Airport will come from the master plan that must precede actual implementation.

For costing purposes in the Plan, the development proposed is for feasible improvements indicated necessary by this Study, which include an air traffic control tower and an Instrument Landing System. A runway extension is also included.

## Brunswick

The need for more general aviation capacity at eligible airports in the Brunswick area is clear, but joint use at NAS Brunswick would make a new airport in that area unnecessary. A master plan with site selection would give proper consideration to all airports in the area, and is recommended as the next effort

to evaluate the benefits of granting joint use at NAS Brunswick. The Plan does not include a new airport here, the need being real only if continued efforts to obtain joint use are unsuccessful.

## Patten

A new airport in the vicinity of Patten is justified by the remoteness and relative isolation of the area.

## Oxford/Franklin Counties

The Study concluded that the Maine Airport System needs a new publicly-owned airport to serve present and future demand in this area. This finding reinforces a master plan study performed in 1974, which is incorporated in the Plan. Location of the airport should come from a Regional Airport System Plan that considers the interests of the Franklin County Municipal Association and the residents of the towns of Farmington, Jay, Wilton and Livermore Falls, as well as of Rumford.

## South York County

The need for a new airport to serve this area is recognized by the New England Regional Commission, which is studying the problem, and is contingent upon the final decision as to joint use at Pease Air Force Base, Greenland, New Hampshire, and/or the results of a joint Maine/New Hampshire project aimed at selecting a site for a new airport in this area. An airspace analysis would be needed in either case.

The effect of the proposed new "coastal" airport in New Hampshire, if it is constructed, will depend upon whether or not it is too far south to serve York County residents.

As with the new airport for the Brunswick area, scheduling of a new airport for South York County was omitted from the Plan. The requirement may be satisfied by a coastal airport developed in coordination with New Hampshire, or if joint use at Pease Air Force Base is approved. Continued effort to gain that approval is recommended.

## Coordination with Canada

Coordination with Canadian authorities is recommended aimed at a reciprocity agreement to provide Canadians in the Edmondston area access to Frenchville's Northern Aroostook Regional Airport in return for access to St. Stephen Airport in New Brunswick for the people in the Calais/Princeton/Eastport area. This could remove the need for a new airport on each side of the border. If the Eastport Municipal Airport is closed because of the Pittston oil development, or otherwise, it is believed that the aeronautical needs of this area could be satisfied by the airport at St. Stephen under an international agreement, and/or by Princeton Municipal. If not, a new Eastern Washington County Airport should be considered.

In another area, the improvement of weekend Customs Service at Presque Isle and Caribou would serve a current need of both business and pleasure fliers.

# Privately-Owned Airports

Many of Maine's privately-owned airports provide a well-recognized service. It will be important for Maine Department of Transportation to maintain close surveillance of such airports — for example, Twitchell at Turner and Gadabout Gaddis at Bingham — to be prepared with an alternative should the present owner plan to close his airport for any reason.

Neither federal nor state aid is available for the development of privately-owned airports in the State of Maine. Therefore, privately-owned airports are not in the State's Primary Airport System.

Aside from passing possible legislation that would allow exemption from taxes on the runway area, for example, the State has three other alternatives to assure that aviation in Maine is to continue to benefit from the services provided by a privately-owned airport:

1. purchase the airport;
2. support its purchase by some other public body, or
3. construct, or support the construction of, a new airport to serve the area.

For any of these alternatives, the purchase and/or construction, and future necessary development, would qualify for federal financial assistance if the airport meets FAA's new criteria for entrance into the National Airport System Plan (NASP).

# Airport Developments Proposed

The comparison of forecast aviation demand with existing facilities at airports selected for Maine's Primary Airport System, and the assignment of an appropriate FAA classification to each airport, led to the proposed projects to improve the airport where necessary to meet the standards of its classification. Airport classifications used in Maine's Department of Transportation are shown compared to FAA classifications in Appendix B, which also contains detailed descriptions of the FAA classification system.

The Maine Airport System Plan proposes specific types of development at 8 existing scheduled service airports and at 31 airports serving general aviation exclusively. The latter include 2 new airports located in the general areas of Rumford and Patten, represented by the red crosshatching on the System Plan map in the back pocket.

Airport classifications proposed for the ultimate development of System Plan airports are shown in the table on page 21.

The recommended improvements for each airport and their twenty-year total costs are tabulated by county in Appendix A. These totals do not include the costs of snow removal equipment, which can now be purchased with federal funds on the basis of requirements defined in FAA Advisory Circular AC 150/5200-23. The eligible and optimum equipment for a given airport is a combination of equipment types and sizes determined by local snow accumulation features and surface areas of airport elements, factors too detailed to consider here. Each case should be examined by the owner/operator with the assistance of MDOT and the FAA.

# Maine's Primary Airport System

## Ultimate Airport Classification (1995)

| AIR CARRIER (8) | |
|---|---|
| A-1* | Auburn-Lewiston Municipal |
| A-2 | Augusta State |
| A-3 | Bangor International |
| A-7 | Bar Harbor |
| A-4 | Knox County Regional |
| A-5 | Portland International Jetport |
| A-6 | Northern Maine Regional |
| A-8 | Robert La Fleur |
| **BASIC TRANSPORT (3)** | |
| C-13 | Houlton International |
| C-19 | Millinocket Municipal |
| C-21 | Dewitt Field |
| **GENERAL UTILITY (8)** | |
| C-1 | Belfast Municipal |
| C-3 | Biddeford Municipal |
| C-4 | Caribou Municipal |
| C-11 | Eastern Slopes Regional |
| C-20 | Central Maine |
| C-23 | Pittsfield Municipal |
| C-26 | Sanford Municipal |
| C-28 | Wiscassett |
| **BASIC UTILITY–STAGE II (13)** | |
| C-5 | Sugarloaf Regional |
| N-22 | Deblois Flight Strip |
| C-6 | Senator Owen Brewster |
| N-30 | Eastport Municipal |
| C-10 | Northern Aroostook |
| C-12 | Greenville Municipal |
| C-15 | Newton Field |
| C-16 | Lincoln Regional |
| C-18 | Machias Valley |
| C-22 | Oxford County Regional |
| C-24 | Princeton Municipal |
| C-25 | Rangeley Municipal |
| C-29 | Oxford/Franklin Counties (New) |
| **BASIC UTILITY–STAGE I (7)** | |
| C-2 | Col. Dyke Field |
| C-7 | Charles A. Chase, Jr. Memorial Field |
| C-9 | Fort Kent Municipal |
| C-14 | Islesboro |
| C-17 | Lubec Municipal |
| C-27 | Stonington Municipal |
| C-30 | Patten (New) |

*Map code identifier

# Implementation of the Plan

## Financial Assistance

The total twenty-year cost of capital improvements proposed in the Plan is $94,855,000, with $68,803,000 for airports with scheduled service, and $26,052,000 for airports that serve general aviation exclusively. The Federal Aviation Administration's Facilities and Equipment (F&E) Program is expected to provide 100% funding of $3,660,000, for specific navigation and landing aids such as instrument landing systems, approach lights and control towers. Of the remaining improvements, eligible projects have estimated costs totaling $61,256,000 or an average of $3,063,000 per year, to be funded by federal, state, and local sources; $1,589,000 by private sources over the twenty years.

### Estimated Costs and Recommended Sources (in thousands of dollars)

| | AIRPORT DEVELOPMENT AID PROGRAM (ADAP) | | FAA FACILITIES & EQUIPMENT (F&E) Projects | Total |
|---|---|---|---|---|
| | Eligible Projects | Ineligible Projects | | |
| ESTIMATED COSTS | | | | |
| Scheduled Service Airports | $40,448 | 25,540 | 2,815 | $68,803 |
| General Aviation Airports | 22,398[1] | 2,809 | 845 | 26,052 |
| Total | 62,846 | 28,349 | 3,660 | 94,855 |
| RECOMMENDED SOURCES | | | | |
| Federal | 46,717 | | 3,660 | 50,377 |
| State | 8,440 | | | 8,440 |
| Local | 6,100 | | | 6,100 |
| Private[2] | 1,589 | 28,349 | | 29,938 |
| Total | $62,846 | 28,349 | 3,660 | $94,855 |

1. Current ADAP legislation governing use of the Fund for General Aviation would allocate to Maine only 47% of the authorized 80% support of these eligible projects. See Financing, page 24.
2. The costs of revenue-producing facilities, such as hangars, parking lots and 82.5% of airline terminals (in this case, at Augusta State and Robert LaFleur Airports), are assumed to be ultimately financed by private funds.

## Sources of Funds

Financing of airport development at publicly-owned airports in the State of Maine is currently provided at the federal, state and local levels. In accordance with various program criteria and eligibility requirements, public funds may not be expended for capital improvements at privately owned airports. The following is a brief outline of the major aspects of the present funding programs at each level of government.

Federal funds for airport development are provided through the Federal Aviation Administration (FAA), primarily through the Airport and Airway Development Act of 1970, as subsequently amended. Under the 1976 amendments, federal participation in eligible projects at airports in Maine will be 90 percent during FY 1977 and 1978, and 80 percent during FY 1979 and 1980.

Federal funds are also provided through the FAA in the form of an annual Facilities and Equipment (F&E) appropriation. Under this program the FAA provides complete funding for the acquisition, establishment and improvement of air traffic control, navigation and associated facilities, according to specified plans, policies and eligibility criteria.

Traditionally, the State of Maine has provided financial support of the non-federal share of projects eligible for federal aid, and for some airport development projects not eligible for federal aid but approved by Maine Department of Transportation (MDOT).

Funds are made available through two sources:

- the issue of bonds from which appropriations are made by the legislature for grants to local sponsors
- appropriations from the general revenue fund.

Under Title VI,* MDOT has provided up to 50 percent of the costs at general aviation airports. At air carrier airports however, the state has provided all of the non-federal share since 1968. Commensurate with the next bond issue (subject to referendum in December 1977) it is understood that MDOT's funding policy at air carrier airports will be similar to the level provided at general aviation airports.

Appropriations from both sources may include specific directions as to the airport(s) and item(s) targeted for assistance. However, the MDOT has traditionally been granted some discretionary power in the allocation of funds.

In the past some projects have been funded from state and local sources only, without federal participation. In addition, some projects have been funded totally by the State through direct legislative appropriations.

Local public airport sponsors are required to provide the balance of an eligible airport development project's cost not covered by federal and state participation. Based on a 50 percent share by the state of the non-federal funding, the local share of a project's costs amounts to 5 percent, increasing to 10 percent after the scheduled reduction in federal participation rates.

Local funds for airport capital improvements have come from such sources as general revenues, bond issues and airport operating incomes. Generally, such funds are not set aside specifically for airport development as part of a continuing program, but must compete within the full set of local responsibilities for general revenue supported programs.

*Regulations relating to Aeronautics, MRSA.

## Financing

The major portion of federal aid for airport development is currently provided through the Airport Development Aid Program (ADAP) from the Airport and Airway Trust Fund. The federal ADAP program as authorized by Congress through FY 1980, limits the federal financial support from that Fund that is to go to each state.

The authorization consists of two parts:

(1) Air Carrier/Commuter Airports – allocation of two-thirds of the appropriated funds for these airports by formula, based on the annual passenger enplanements at each airport. The remainder is assigned at the discretion of DOT.

(2) General Aviation/Reliever Airports – $15 million is distributed to reliever airports at the discretion of DOT each fiscal year. Of the remainder, 75 percent is distributed to the 50 states on an area/population basis, 1 percent for airports in U.S. areas outside of the 50 states, and 24 percent to General Aviation airports at the discretion of DOT.

The twenty-year share of funds for the State of Maine, consisting of mandated amounts computed by DOT, and an assumed portion of the discretionary funds based on the same ratio that the state's mandated share bears to the total is estimated to be $54.3 million for scheduled service airports, and $9.5 million for general aviation airports.

Because of the categorical designations described above, it would appear that scheduled service airports will be adequately funded, while general aviation airports will require a significant increase in the participation of non-federal sources; as the $9.5 million covers only 47% of the 80% allowed for eligible projects.

A community may not have the local resources available on a timely basis to meet recognized development requirements. Where this occurs, then either the improvements themselves have to be scaled down or additional financial assistance secured.

Development of the Maine State Airport System Plan as it is presented in this report is intended to promote safety in aviation, enhance community economic development, and serve aviation demand in Maine. In order to avoid a serious financial burden on the local community tax structure, it may be necessary for the State to increase its financial participation in certain areas.

One alternative would be for the state to change its funding policy with regard to airport category, underwriting a higher percentage of the costs at general aviation airports. In addition, special funds may be appropriated specifically for those improvements which are not eligible for federal assistance, and for the construction of new airports. From the overall perspective it may be better to increase state assistance rather than risk the loss of federal funds due to the inability of local sponsors to meet their share of the total costs of projects which are of vital importance to the communities.

The total cost to the state if the policy suggested above is adopted is estimated to be $12.05 million, or an average of about $600,000 annually over the Plan's twenty-year time frame.

# Technical Assistance

Authorized representatives of political subdivisions and local, regional and state agencies will where possible receive assistance in the form of planning and engineering services from the Maine Department of Transportation as provided by Title 6, Chapter 2 Section 12 of the Maine Statutes Relating to Aeronautics. The Department will assist airport sponsors in the preparation of applications for state and/or federal financial assistance for MDOT approved projects.

The United States Department of Transportation, Federal Aviation Administration, also provides technical assistance and advisory services on airport master planning and on the development of airport design, construction and maintenance standards. Such federal assistance is available through the Maine Department of Transportation.

# Assignment of Priorities

In its examination of applications for financial assistance for most airport development projects, MDOT places highest priority on three factors:

1. Safety,
2. Preservation of existing facilities and
3. Reliability of service.

Projects for which these factors are not pertinent will be considered on more applicable criteria. Projects that meet with MDOT approval will be included in the estimates of funds needed in the next budget request.

Implementation will proceed only as funding for projects is applied for and made part of State budget requests. Expenditure of funds will be controlled by a priority system applied to incoming applications. The priority system is designed to assure the most efficient use of funds to implement the Plan within the constraints of the biennial budget. The system recommended bears directly on the goals that guided the Study, and is composed of three sets of criteria:

- Dominant Criteria — establish the relative justification of a project by direct relation to the goals of the Maine Airport System Plan;

- Subordinate Criteria — deal with the relative importance of one type of facility as compared to others, e.g., runways vs auto parking space;

- Weighting Criteria — give additional weight to projects that have the benefit of prior planning and/or reconciliation with the Maine Airport System Plan.

The assignment of priorities among many similar projects may produce cases in which two projects receive the same ranking for one or more of the three types of criteria. The procedure is designed to minimize this problem. Initial ranking is by the Dominant Criteria. Projects of equal rank will be further ordered in accordance with the Subordinate Criteria, and if still equal will be ranked by the Weighting Criteria. In the event that the application of all criteria on this basis results in project equality, the higher priority will be assigned to the

- general aviation airport with the greater number of based aircraft, and the

- air carrier airport with the greater number of enplaned passengers.

A project will be classed in one of these categories and compared with only those in the same category. The two categories are those that correspond with the separation of the allocation of federal funds.

# Public Meetings

Realistic planning gives attention to those matters that must be considered in order that the Plan — or any variations of it — can be implemented. Recognizing that public opinion is a major factor, not only in providing ideas, but sometimes in being decisive when it comes to the initiation of a given project, three Public Information Meetings were held to present the draft of the Plan. The meetings took place on August 16, 17, and 18, 1977, in Portland, Bangor and Presque Isle, after announcement in the public press two weeks earlier.

Attendance at the meetings was light, but those who came, for the most part people actively engaged in aviation, had valid points of constructive criticism. Their comments are reflected in modifications of the draft that appear in this *Summary.*

Major items were:

(1) The forecast of based aircraft,

(2) The lack of adequate ADAP support for general aviation airports,

(3) The problem of support for the private airport, and

(4) The presentation of estimated capital costs, especially those expected to be funded from private sources.

All of these matters are more fully covered as a result.

Some comments, understandably, dealt with matters not covered by a State Airport System Plan. For example, instructions on how to build and maintain an airport, and the costs that can be expected, can be found in FAA Advisory Circulars, which, as well as further assistance in these matters, can be obtained through the Maine Department of Transportation offices in Augusta.

Finally, in answer to another question, the definition of the service area for an airport in terms of driving time could not be derived in such detail that it would consider bottlenecks on bridges, traffic jams and other phenomena, such as bad weather, that are time-distributed on some statistical basis for which data are not available. Average speeds determined by the type of road and terrain, and the assumption of dry pavement, were the bases of the calculations that led to each airport's service area.

# Legislation

The appropriate statutes of the State of Maine were examined for the purpose of identifying any requirement for new State legislation to assure that there are no legal obstacles to implementation of the Plan. The following recommendations are made:

- Clarify the authority of MDOT to make grants to local sponsors for an appropriate share of the total of any airport development project.

- Require that all local requests for federal aid be channelled through MDOT. It is important that MDOT coordinate all proposed airport development projects so that overall compatibility with the State Airport System Plan, in terms of priorities and available funds, is maintained.

- Permit certain types of assistance to privately-owned airports, if it is determined to be in the public interest. A provision may be inserted which would require that a local public agency co-sponsor and participate in financing any improvements.

- Enact legislation with respect to "first refusal rights" so that, if a privately-owned airport is to be sold for non-aviation purposes, a local public agency will have the right to purchase the airport to ensure its continued operation.

- Increase the State's financial aid for projects not eligible for Federal funding. In those cases where the state determines that improvements to the airport are vital in attaining economic development goals, additional assistance should be granted if the local authorities cannot meet their funding obligations.

- Require that sponsors must provide assurances of local zoning and/or land use planning for airport protection as a prerequisite for state funding. In this regard, the State would provide technical assistance through guidelines or standards to assist communities in formulating comprehensive land use plans in the vicinity of proposed or existing airports.

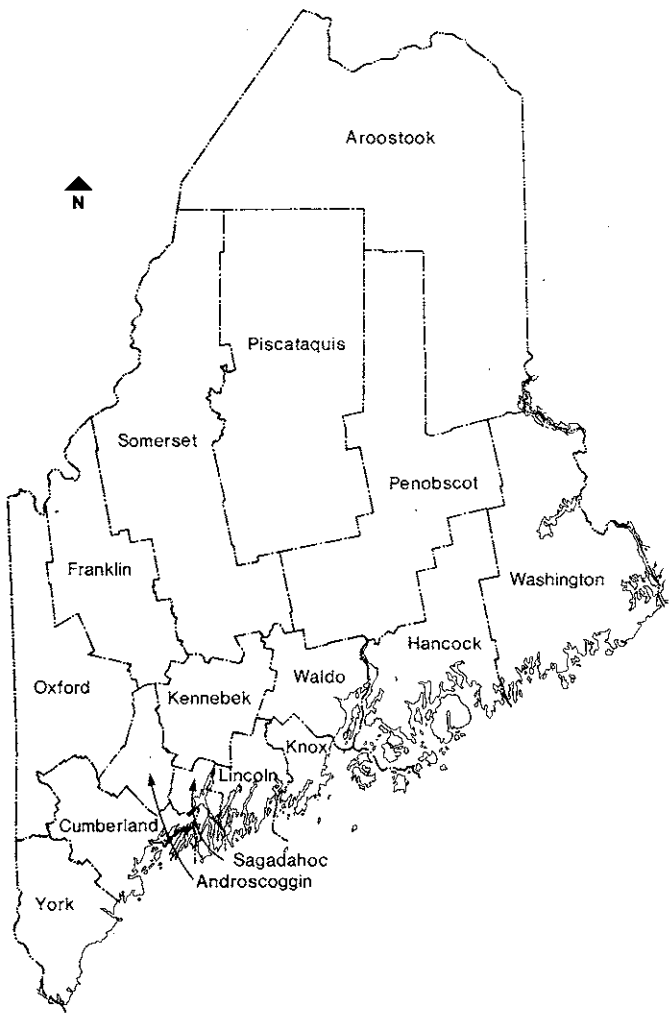
# Appendix A

## Airport Needs by County

Proposed development for individual airports is indicated on the following tables by project type. The estimated costs per airport are the twenty-year totals in 1974 dollars. Projects and costs are tentative, subject to detailed site investigations and development of master plans. Costs are total costs, including federal and state shares and those for structures that are normally self-amortizing through revenue generated by their rental, and are often built by private funds even on public airports.

Projects for runways, taxiways, aprons, lighting, certain NAVAIDS, and land purchase will be eligible for 90 percent federal and 5 percent state aid through FY 1978 when federal aid will reduce to 80 percent and state aid will increase to 10 percent. Some NAVAIDS are supported by 100 percent federal funding.

The project types are indicated in the tables by a code. Runway and taxiway lighting is indicated for only existing runways; pavement of new and extended runways and taxiways includes the costs for accompanying lighting.



NOTE

For each airport, the expected sharing of estimated development costs is shown in terms of funding eligibility, not in terms of available funds:

Federal, State & local
Private
Total

| | Estimated 20-Yr. Cost ($000) | Classification | | Recommended Improvements To Meet Standards For Proposed Classification | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Land | | Pavements | | | | | | Lndg. Aids | Buildings | |
| | | Present* | Proposed | Site Acquisition | Site Expansion | Runways | Taxiways | Aprons | Roads | Parking | Lighting | Tower ILS Or MLS Other | Terminal/Admin. Hangar CFR Other | |
| **ANDROSCOGGIN** | | | | | | | | | | | | | | |
| Auburn-Lewiston** | 4,639<br>1,562<br>6,201 | BT | BT | | X | 2 | 6 | 5 | 6 | 5 | 7, 8 | X X | X X X X | |
| **AROOSTOOK** | | | | | | | | | | | | | | |
| Northern Maine Regional** | 2,571<br>965<br>3,536 | B3 | BT*** | | X | 4 | 4, 6 | 4, 5, 6 | 6 | 5 | 7, 8 | X X | X X X X | |
| Caribou Municipal | 748<br>228<br>976 | GU | GU | | | | 6 | 5 | | 5 | 8 | X | X X | |
| Fort Kent Municipal | 130<br>49<br>179 | BU1 | BU1 | | X | | | 6 | | 6 | | | X | |
| Northern Aroostook | 338<br>145<br>483 | BU2 | BU2 | | X | 6 | 6 | | | | 7, 8 | X | X X | |
| Houlton International** | 1,320<br>63<br>1,383 | GU | BT | | X | 2, 4 | 6 | 4, 5, 6 | | 6 | 7, 8 | X X | X X | |

| WORK ELEMENT | CODE | WORK ELEMENT | CODE |
|---|---|---|---|
| Pave | 1 | Expand | 5 |
| Extend | 2 | New | 6 |
| Widen | 3 | Runway Lighting | 7 |
| Strengthen | 4 | Taxiway Lighting | 8 |

* For NASP airports, the 1972 NASP classification (dominant operational role)

** Recommendations of a master plan produced by an independent study. Cost is for projects not yet implemented.

***Forecasts show GA passengers exceeding air carrier passengers in 1995, giving this airport the dominant operational role of GA/BT.

NOTE

For each airport, the expected sharing of estimated development costs is shown in terms of funding eligibility, not in terms of available funds:

Federal, State & local
Private
Total

| | Estimated 20-Yr. Cost ($000) | Classification | | Recommended Improvements To Meet Standards For Proposed Classification | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Land | | Pavements | | | | | | Lndg. Aids | Buildings | |
| | | Present* | Proposed | Site Acquisition | Site Expansion | Runways | Taxiways | Aprons | Roads | Parking | Lighting | Tower ILS Or MLS Other | Terminal/Admin. Hangar CFR Other | |
| CUMBERLAND | | | | | | | | | | | | | | |
| Portland International** | 9,191<br>0<br>9,191 | B3 | B2 | | X | 2, 4 | 2, 3, 6 | 5 | 6 | 5 | 7 | X | X X | X |
| FRANKLIN | | | | | | | | | | | | | | |
| Sugarloaf Regional | 195<br>83<br>278 | BU2 | BU2 | | X | 2 | | 6 | | 6 | 7 | X | X X | |
| Rangeley Municipal | 323<br>138<br>461 | BU2 | BU2 | | X | 2 | | 6 | | 6 | 7 | X | X X | |

| WORK ELEMENT | CODE | WORK ELEMENT | CODE |
|---|---|---|---|
| Pave | 1 | Expand | 5 |
| Extend | 2 | New | 6 |
| Widen | 3 | Runway Lighting | 7 |
| Strengthen | 4 | Taxiway Lighting | 8 |

* For NASP airports, the 1972 NASP classification (dominant operational role)

** Recommendations of a master plan produced by an independent study. Cost is for projects not yet implemented.

NOTE

For each airport, the expected sharing of estimated development costs is shown in terms of funding eligibility, not in terms of available funds:

Federal, State & local
Private
Total

| | Estimated 20-Yr. Cost ($000) | Classification | | Recommended Improvements To Meet Standards For Proposed Classification | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Land | | Pavements | | | | | | Lndg. Aids | Buildings |
| | | Present* | Proposed | Site Acquisition | Site Expansion | Runways | Taxiways | Aprons | Roads | Parking | Lighting | Tower ILS Or MLS Other | Terminal/Admin. Hangar CFR Other |
| **HANCOCK** | | | | | | | | | | | | | |
| Bar Harbor** | 5,296<br>751<br>6,047 | GU | BT | | X | 2, 4 | 2, 6 | 5 | 6 | 5 | 7, 8 | X X | X X X X |
| Stonington | 167<br>114<br>281 | BU1 | BU1 | | X | 2, 4 | | 6 | | 6 | 7 | X | X X |
| **KENNEBEC** | | | | | | | | | | | | | |
| Augusta State | 6,307<br>1,388<br>7,695 | GU | BT | | X | 2 | 6 | 5 | | 5 | 7, 8 | X X | X X X |
| Robert LaFleur | 2,416<br>954<br>3,370 | BT | BT | | | 2 | 6, 6 | | | 5 | 7, 8 | X X | X X X |

NOTE: Master Plans are expected for both of these airports.

| WORK ELEMENT | CODE | WORK ELEMENT | CODE |
|---|---|---|---|
| Pave | 1 | Expand | 5 |
| Extend | 2 | New | 6 |
| Widen | 3 | Runway Lighting | 7 |
| Strengthen | 4 | Taxiway Lighting | 8 |

* For NASP airports, the 1972 NASP classification (dominant operational role)

** Recommendations of a master plan produced by an independent study. Cost is for projects not yet implemented.

NOTE

For each airport, the expected sharing of estimated development costs is shown in terms of funding eligibility, not in terms of available funds:

Federal, State & local
Private
Total

| | Estimated 20-Yr. Cost ($000) | Classification | | Recommended Improvements To Meet Standards For Proposed Classification | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Land | | Pavements | | | | | Lighting | Lndg. Aids | Buildings | |
| | | Present* | Proposed | Site Acquisition | Site Expansion | Runways | Taxiways | Aprons | Roads | Parking | | Tower ILS Or MLS Other | Terminal/Admin. Hangar CFR Other | |
| KNOX | | | | | | | | | | | | | | |
| Knox County Regional** | 4,226<br>421<br>4,647 | BT | BT | | X | 1, 2, 4 | 6 | 5 | 6 | 5 | 7, 8 | X X X | X X X X | |
| LINCOLN | | | | | | | | | | | | | | |
| Wiscasset | 1,069<br>265<br>1,334 | GU | GU | | X | 6 | 6 | 5 | | 6 | 7, 8 | X | X X | |

| WORK ELEMENT | CODE | WORK ELEMENT | CODE |
|---|---|---|---|
| Pave | 1 | Expand | 5 |
| Extend | 2 | New | 6 |
| Widen | 3 | Runway Lighting | 7 |
| Strengthen | 4 | Taxiway Lighting | 8 |

* For NASP airports, the 1972 NASP classification (dominant operational role)

** Recommendations of a master plan produced by an independent study. Cost is for projects not yet implemented.

NOTE

For each airport, the expected sharing of estimated development costs is shown in terms of funding eligibility, not in terms of available funds:

Federal, State & local
Private
Total

| | Estimated 20-Yr. Cost ($000) | Classification | | Recommended Improvements To Meet Standards For Proposed Classification | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Land | | Pavements | | | | | | Lndg. Aids | Buildings |
| | | Present* | Proposed | Site Acquisition | Site Expansion | Runways | Taxiways | Aprons | Roads | Parking | Lighting | Tower ILS Or MLS Other | Terminal/Admin. Hangar CFR Other |
| **OXFORD** | | | | | | | | | | | | | |
| Col. Dyke Field | 152<br>40<br>192 | BU1 | BU1 | | X | 2 | | 6 | | 6 | | X | X X |
| Eastern Slopes Regional | 1,170<br>162<br>1,332 | BU2 | GU | | X | 2,6 | 6 | 5 | | | 7,8 | X | X X |
| Oxford County Regional | 244<br>100<br>344 | BU2 | BU2 | | | | | 5 | | 6 | | X | X X |
| Oxford/Franklin Counties (New)**<br>As a result of action recently taken by the Franklin County Municipal Association, it is recommended that the siting of this airport be made a part of a master plan for a Regional Airport to serve Farmington, Jay, Wilton and Livermore Falls, as well as the Rumford area communities, whose people recently voted not to participate in an airport for that area. | 1,310<br>69<br>1,379 | - | GU | X | | 6 | 6 | 6 | 6 | 6 | 7,8 | | X X |
| **PENOBSCOT** | | | | | | | | | | | | | |
| Bangor International** | 9,040<br>19,076<br>28,116 | A1 | A1 | | X | 2,4,6 | 3,6 | 6 | 6 | 5,6 | 7,8 | | X X X X |
| Sen. Brewster | 215<br>111<br>326 | BU2 | BU2 | | X | 2 | | 5 | | 6 | 7 | X | X X |
| Lincoln Regional | 381<br>177<br>558 | BU2 | BU2 | | X | 2,3 | | 5 | | 6 | 7 | X | X X |
| Millinocket Municipal | 795<br>255<br>1,050 | GU | BT | | | | 6 | 5 | | 6 | 8 | X X | X X |
| DeWitt** | 3,824<br>900<br>4,724 | GU | BT | | X | 1,2,4,6 | 2,6 | 5 | 6 | 5 | 7 | X | X X X X |
| Patten (New) | 155<br>20<br>175 | - | BU1 | X | | 6 | | 6 | | | | | X X |

| WORK ELEMENT | CODE | WORK ELEMENT | CODE |
|---|---|---|---|
| Pave | 1 | Expand | 5 |
| Extend | 2 | New | 6 |
| Widen | 3 | Runway Lighting | 7 |
| Strengthen | 4 | Taxiway Lighting | 8 |

* For NASP airports, the 1972 NASP classification (dominant operational role)

** Recommendations of a master plan produced by an independent study. Cost is for projects not yet implemented.

NOTE

For each airport, the expected sharing of estimated development costs is shown in terms of funding eligibility, not in terms of available funds:

Federal, State & local
Private
Total

| | Estimated 20-Yr. Cost ($000) | Classification | | Recommended Improvements To Meet Standards For Proposed Classification | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Land | | Pavements | | | | | | Lighting | Lndg. Aids | Buildings |
| | | Present* | Proposed | Site Acquisition | Site Expansion | Runways | Taxiways | Aprons | Roads | Parking | | Tower ILS Or MLS Other | Terminal/Admin. Hangar CFR Other |
| PISCATAQUIS | | | | | | | | | | | | | | |
| Charles A. Chase | 117<br>53<br>170 | BU1 | BU1 | | X | | | 6 | | 6 | | | | X X |
| Greenville** | 199<br>117<br>316 | BU2 | BU2 | | | 2 | | 5 | | 6 | 7 | X | | X X |
| SAGADAHOC | | | | | | | | | | | | | | |
| | | | | | | NONE | | | | | | | | |

| WORK ELEMENT | CODE | WORK ELEMENT | CODE |
|---|---|---|---|
| Pave | 1 | Expand | 5 |
| Extend | 2 | New | 6 |
| Widen | 3 | Runway Lighting | 7 |
| Strengthen | 4 | Taxiway Lighting | 8 |

* For NASP airports, the 1972 NASP classification (dominant operational role)

** Recommendations of a master plan produced by an independent study. Cost is for projects not yet implemented.

NOTE

For each airport, the expected sharing of estimated development costs is shown in terms of funding eligibility, not in terms of available funds:

Federal, State & local
Private
Total

| | Estimated 20-Yr. Cost ($000) | Classification | | Recommended Improvements To Meet Standards For Proposed Classification | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Land | | Pavements | | | | | Lighting | Lndg. Aids | Buildings | |
| | | Present* | Proposed | Site Acquisition | Site Expansion | Runways | Taxiways | Aprons | Roads | Parking | | Tower ILS Or MLS Other | Terminal/Admin. Hangar CFR Other | |
| SOMERSET | | | | | | | | | | | | | | |
| Newton Field | 668<br>57<br>725 | BU2 | BU2 | | X | 2, 4 | | 6 | | 6 | 7 | X | X | X |
| Central Maine | 407<br>264<br>671 | BU2 | GU | | X | | | 5 | | | 7 | X | X | X |
| Pittsfield Municipal | 641<br>197<br>838 | BU2 | GU | | | | 6 | 5 | | 5 | 8 | X | X | X |
| WALDO | | | | | | | | | | | | | | |
| Belfast Municipal | 422<br>177<br>599 | GU | GU | | | | | 5 | | 1 | | X | X | X |
| Islesboro | 71<br>23<br>94 | BU1 | BU1 | | X | 2 | | 6 | | | | X | X | |

| WORK ELEMENT | CODE | WORK ELEMENT | CODE |
|---|---|---|---|
| Pave | 1 | Expand | 5 |
| Extend | 2 | New | 6 |
| Widen | 3 | Runway Lighting | 7 |
| Strengthen | 4 | Taxiway Lighting | 8 |

* For NASP airports, the 1972 NASP classification (dominant operational role)

NOTE

For each airport, the expected sharing of estimated development costs is shown in terms of funding eligibility, not in terms of available funds:

Federal, State & local
Private
Total

| | Estimated 20-Yr. Cost ($000) | Classification | | Recommended Improvements To Meet Standards For Proposed Classification | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Land | | Pavements | | | | | Lighting | Lndg. Aids | Buildings | |
| | | Present* | Proposed | Site Acquisition | Site Expansion | Runways | Taxiways | Aprons | Roads | Parking | | Tower ILS Or MLS Other | Terminal/Admin. Hangar CFR Other | |
| **WASHINGTON** | | | | | | | | | | | | | | |
| Deblois Flight Strip | 7<br>3<br>10 | BU2 | BU2 | | | | | 6 | | 6 | | | X | |
| Eastport Municipal | 28<br>43<br>71 | BU2 | BU2 | | | | | 6 | | 6 | | | X X | |
| Lubec Municipal | 129<br>91<br>220 | BU1 | BU1 | | X | | | 6 | | 6 | | X | X X | |
| Machias Valley | 1,054<br>194<br>1,248 | BU2 | BU2 | | X | 2, 3, 6 | 6 | 5 | | 6 | 7, 8 | X | X X | |
| Princeton Municipal | 99<br>72<br>171 | BU2 | BU2 | | | | | 6 | | 6 | | | | |
| **YORK** | | | | | | | | | | | | | | |
| Sanford Municipal** | 3,244<br>329<br>3,573 | GU | BT | | X | 4 | 6 | 2, 6 | 6 | 2 | 7, 8 | X X | X X X X | |
| Biddeford Municipal*** | 1,606<br>284<br>1,890 | GU | GU | | X | 2, 6 | 6 | 5 | | 6 | 7, 8 | | X X | |

| WORK ELEMENT | CODE | WORK ELEMENT | CODE |
|---|---|---|---|
| Pave | 1 | Expand | 5 |
| Extend | 2 | New | 6 |
| Widen | 3 | Runway Lighting | 7 |
| Strengthen | 4 | Taxiway Lighting | 8 |

* For NASP airports, the 1972 NASP classification (dominant operational role)

** Recommendations of a master plan produced by an independent study. Cost is for projects not yet implemented.

***Master Plan in Process.

# Appendix B

# Airport Classifications

## CLASSIFICATION OF GENERAL AVIATION AIRPORTS

**BASIC UTILITY—STAGE I.** (BU-I): These airports accommodate about 75 percent of the propeller airplanes under 12,500 pounds. This type is primarily intended to serve low-activity locations, small population communities, and remote recreational areas. Usually, Stage I is only the first step toward development of a Stage II Basic Utility airport.

**BASIC UTILITY—STAGE II.** (BU-II): These airports accommodate about 95 percent of the propeller airplanes under 12,500 pounds. They are primarily intended to serve medium size population communities with diversity of usage and potential for increased aviation activities.

**GENERAL UTILITY.** (GU): These airports accommodate all propeller airplanes of less than 12,500 pounds. They are primarily intended to serve communities located on the fringe of a metropolitan area or a relatively large population community remote from a metropolitan area. In either case, there should be a substantial usage or potential usage by airplanes having a gross weight of over 8,000 pounds.

**BASIC TRANSPORT (BT):** These airports accommodate all general aviation aircraft up to 60,000 pounds maximum gross weight (MGW), including propeller transports and business and executive jets. A BT airport must indicate at least 500 (existing or forecast) itinerant operations annually by aircraft between 12,500 and 60,000 pounds MGW.

**GENERAL TRANSPORT (GT):** These airports generally accommodate transport category aircraft between 60,000 and 175,000 pounds MGW. The minimum requirement is at least 10 existing or forecast itinerant DEPARTURES per week, or 1,040 itinerant operations per year or season, by either the critical aircraft type or ONE of the appropriate families of aircraft.

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Sources: 1972 NASP Vol. AAS, p. 25.
FAA AC 150/5300-4B, *Utility Airports,* June 24, 1975, p. 5
FAA AC 150/5300-6, *Airport Design Standards, General Aviation Airports, Basic and General Transport.*

## CLASSIFICATION OF AIR CARRIER AIRPORTS
*by*
## AIRLINE SERVICE OPERATIONAL ROLE CODES

| *Aircraft Groups** | *Length of Haul* | *Code* |
|---|---|---|
| *A* | | |
| B-747 | | |
| DC-8 | | |
| B-707 | Code 1—Over 1,500 Miles | A1 |
| VC-10 | Code 2—500-1,500 Miles | A2 |
| C-5A | Code 3—0-500 Miles | A3 |
| Future | | |
| SST | | |
| *B* | | |
| B-727 | | |
| B-737 | Code 1—Over 1,500 Miles | B1 |
| DC-10 | Code 2—500-1,500 Miles | B2 |
| L-1011 | Code 3—0-500 Miles | B3 |
| BAC-1-11 | | |
| DC-9 | | |
| *C* | | |
| L-188 | | |
| F-27 | | |
| F-227 | Code 1—N/A** | — |
| YS-11 | Code 2—500-1,500 Miles | C2 |
| CV-580 | Code 3—0-500 Miles | C3 |
| M-404 | | |
| V-724 | | |

*Certificated, scheduled air carrier aircraft groups, by runway requirement.
**These aircraft do not generally have a haul length over 1500 miles.

Source: 1972 NASP, Vol. AAS, p. 20.

## MDOT/FAA AIRPORT CLASSIFICATION RELATIONSHIPS

| | |
|---|---|
| 1. Trunk Carrier | ST/GT/BT (Using ASOR* Codes, e.g., A1 and B3, as in Appendix A.) |
| 2. Third level carrier | GT/BT |
| 3. GA with business jets | BT |
| 4. GA without business jets | GU/BU-1/BU-2 |

*Airline Service Operational Role

# Appendix C

# Maine's Airports by Map Code Identifier

| CODE IDENTIFIER | AIRPORT NAME AND CITY |
|---|---|
| **AIR CARRIER AIRPORTS** | |
| A-1 | Auburn-Lewiston Municipal Airport<br>Auburn-Lewiston |
| A-2 | Augusta State Airport<br>Augusta |
| A-3 | Bangor International Airport<br>Bangor |
| A-4 | Knox County Regional Airport<br>Owl's Head |
| A-5 | Portland International Jetport<br>Portland |
| A-6 | Northern Maine Regional Airport<br>Presque Isle |
| A-7 | Bar Harbor Airport<br>Bar Harbor |
| A-8 | Robert LaFleur Airport<br>Waterville |
| **PUBLIC OWNED COMMERCIAL AIRPORTS** | |
| C-1 | Belfast Municipal Airport<br>Belfast |
| C-2 | Colonel Dyke Field<br>Bethel |
| C-3 | Biddeford Municipal Airport<br>Biddeford |
| C-4 | Caribou Municipal Airport<br>Caribou |
| C-5 | Sugarloaf Regional Airport<br>Carrabassett |
| C-6 | Senator Owen Brewster Airport<br>Dexter |
| C-7 | Charles A. Chase Memorial Field<br>Dover-Foxcroft |
| C-8 | Fort Fairfield Municipal Airport<br>Fort Fairfield |
| C-9 | Fort Kent Municipal Airport<br>Fort Kent |
| C-10 | Northern Aroostook Regional Airport<br>Frenchville |
| C-11 | Eastern Slopes Regional Airport<br>Fryeburg |

| CODE IDENTIFIER | AIRPORT NAME AND CITY |
|---|---|
| **PUBLIC OWNED COMMERCIAL AIRPORTS** (cont'd) | |
| C-12 | Greenville Municipal Airport<br>Greenville |
| C-13 | Houlton International Airport<br>Houlton |
| C-14 | Islesboro Municipal Airport<br>Islesboro |
| C-15 | Newton Airport<br>Jackman |
| C-16 | Lincoln Regional Airport<br>Lincoln |
| C-17 | Lubec Municipal Airport<br>Lubec |
| C-18 | Machias Valley Airport<br>Machias |
| C-19 | Millinocket Municipal<br>Millinocket |
| C-20 | Central Maine Airport of Norridgewock<br>Norridgewock |
| C-21 | Central Maine Flying Service, Inc.<br>Old Town |
| C-22 | Oxford County Regional Airport<br>Oxford |
| C-23 | Pittsfield Municipal Airport<br>Pittsfield |
| C-24 | Princeton Municipal Airport<br>Princeton |
| C-25 | Rangeley Municipal Airport<br>Rangely |
| C-26 | Sanford Municipal Airport<br>Sanford |
| C-27 | Stonington Municipal Airport<br>Stonington |
| C-28 | Wiscasset Municipal Airport<br>Wiscasset |
| C-29 | Rumford Municipal (NEW) |
| C-30 | Patten (NEW) |

| CODE IDENTIFIER | AIRPORT NAME AND CITY |
|---|---|
| **PRIVATE OWNED COMMERCIAL AIRPORTS** | |
| P-1 | Merrymeeting Airport<br>Bowdoinham |
| P-2 | Gadabout Gaddis Airport<br>Bingham |
| P-3 | Brewer Airport Incorporated<br>Brewer |
| P-4 | Littlebrook Air Park<br>Eliot |
| P-5 | Limington-Harmon Airport<br>Limington |
| P-6 | Beech Hill Airport<br>Mercer |
| P-7 | Hemond's Airport<br>Minot |
| P-8 | Pownal Airport<br>Pownal |
| P-9 | Thomaston Airport<br>Thomaston |
| P-10 | Twitchell's Airport<br>Turner |
| P-11 | Risley's Air Strip<br>Walpole |
| **COMMERCIAL SEAPLANE BASES** | |
| S-1 | Higgins Marina Seaplane Base<br>Auburn |
| S-2 | Down East Seaplane Base<br>Brewer |
| S-3 | Old Seaplane Base<br>Brunswick |
| S-4 | Round Pond Seaplane Base<br>Charlotte |
| S-5 | Wesserunsett Seaplane Base<br>East Madison |
| S-6 | Simpson's Beach Seaplane Base<br>East Sebago |
| S-7 | Lucky Landing Marina & Sea-plane Base<br>Glenburn |
| S-8 | Folsom's Air Service<br>Greenville |
| S-8 | Holt Flying Service, Inc.<br>Greenville |
| S-8 | Northern Maine Flying Service<br>Greenville |
| S-9 | Cooper's Seaplane Base<br>Hartford |
| S-10 | Northern Maine Flying Service<br>Island Falls |

| CODE IDENTIFIER | AIRPORT NAME AND CITY |
|---|---|
| **COMMERCIAL SEAPLANE BASES** (cont'd) | |
| S-11 | Northern Maine Flying Service<br>Jackman |
| S-12 | Millinocket Lake Flying Service<br>Millinocket Lake |
| S-13 | Irving's Seaplane Base<br>Naples |
| S-13 | Naples Flying Service<br>Naples |
| S-14 | Northern Maine Flying Service<br>Norridgewock |
| S-15 | Central Maine Flying Service<br>Old Town |
| S-16 | Porter's Flying Service, Inc.<br>Pattern |
| S-17 | Portage Lake Municipal Sea-plane Base<br>Portage |
| S-18 | Davis Marine Seaplane Base<br>Rangeley |
| S-19 | Plummers Square Pond Marina<br>Shapleigh |
| S-20 | Long Lake Seaplane Base<br>Sinclair |
| S-21 | Twitchell's Seaplane Base<br>Turner |
| S-22 | Lake Parlin Seaplane Base<br>West Forks |
| S-23 | Balch Pond Seaplane and Ice Airport<br>West Newfield |
| S-24 | Bill Earleys Camps Sea-plane Base<br>Willimantic |
| **NON-COMMERCIAL AIRPORTS** | |
| N-1 | Lovejoy Airstrip<br>Acton |
| N-2 | Pine Hill Airstrip<br>Addison |
| N-3 | Raymond Airport<br>Avon |
| N-4 | Hutchinson Field<br>Belgrade |
| N-5 | Blue Hill Airport<br>Blue Hill |
| N-6 | Boothbay Private Landing Area<br>Boothbay |
| N-7 | Dow Hopkins Private Landing Area<br>Brooklin |

| CODE IDENTIFIER | AIRPORT NAME AND CITY |
|---|---|
| **NON-COMMERCIAL AIRPORTS** (cont'd) | |
| N-8 | Freethy International<br>Brooklin |
| N-9 | Webber Jones Airport<br>Brownville |
| N-10 | Enman Field<br>Brunswick |
| N-11 | Scarponi Field<br>Brunswick |
| N-12 | Cummings Airport<br>Buckfield |
| N-13 | Viglas Ham Hill<br>Cambridge |
| N-14 | Bald Mountain Airport<br>Camden |
| N-15 | Spurwink Farm<br>Cape Elizabeth |
| N-16 | Libby Strip<br>Caribou |
| N-17 | Ring Hill<br>Carmel |
| N-18 | Narraguagus Private Landing Area<br>Cherryfield |
| N-19 | Clayton Lake Strip<br>Clayton Lake |
| N-20 | Poverty Flats Airpark<br>Clinton |
| N-21 | Round TOP Landing Area<br>Damariscotta |
| N-22 | Deblois Flight Strip<br>Deblois |
| N-23 | Swan's Air Field<br>Dixfield |
| N-24 | Weymouth's Airport<br>Dresden |
| N-25 | Tupper's Aviation<br>Durham |
| N-26 | Farringtons Airstrip<br>East Andover |
| N-27 | Bab-Airstrip<br>East Bangor |
| N-28 | Worcester Private Landing Area<br>East Corinth |
| N-29 | Bowman Field<br>East Livermore |
| N-30 | Eastport Municipal Airport<br>Eastport |
| N-31 | Sylvan Lane<br>Enfield |

| CODE IDENTIFIER | AIRPORT NAME AND CITY |
|---|---|
| **NON-COMMERCIAL AIRPORTS** (cont'd) | |
| N-32 | Sky Harbor<br>Farmingdale |
| N-33 | Webb Field<br>Farmington |
| N-34 | Tri-Ponds<br>Fayette |
| N-35 | Murphy Road Strip<br>Fort Fairfield |
| N-36 | Grafton Airport<br>Grafton |
| N-37 | Brown's Airport<br>Gray |
| N-38 | Lucky Landing Airstrip<br>Glenburn |
| N-39 | Willey Farm Strip<br>Hampden Highlands |
| N-40 | Stadig's Private Landing Area<br>Harmony |
| N-41 | Farr Field<br>Harpswell |
| N-42 | Maple Ridge Airport<br>Harrison |
| N-43 | Robbins Field<br>Hudson |
| N-44 | Barker Ridge Airport<br>Island Falls |
| N-45 | Robinson Field<br>Jefferson |
| N-46 | Drisko Airport<br>Jonesboro |
| N-47 | College Road Airport<br>Lewiston |
| N-48 | Lexington<br>Lexington |
| N-49 | Saco Valley Airpark<br>Limerick |
| N-50 | Tibbetts Field<br>Lincoln |
| N-51 | Mars Hill Airport<br>Mars Hill |
| N-52 | Matinicus Airport<br>Matinicus |
| N-53 | Callahan's Airport<br>Mechanic Falls |
| N-54 | Gillespie Field<br>Meddybemps |
| N-55 | Maheu's Airport<br>Minot |

| CODE IDENTIFIER | AIRPORT NAME AND CITY |
|---|---|
| **NON-COMMERCIAL AIRPORTS** (cont'd) | |
| N-56 | Sky Lodge<br>Moose River |
| N-57 | Mt. Vernon<br>Mt. Vernon |
| N-58 | Hogans Field<br>New Portland |
| N-59 | New Sharon Private Landing Area<br>New Sharon |
| N-60 | Newport Sky Park<br>Newport |
| N-61 | Hapworth's Private Landing Area<br>North Fairfield |
| N-62 | Albert Farms Private Landing Area<br>North Fryebyrg |
| N-63 | Watson's<br>North Haven |
| N-64 | Witherspoon's Airport<br>North Haven |
| N-65 | Windsmith<br>North Windham |
| N-66 | Norway Municipal Airport<br>Norway |
| N-67 | Kimball's<br>Oxford |
| N-68 | Scott Airfield<br>Palmyra |
| N-69 | Sandy River Estates Airport<br>Phillips |
| N-70 | Grignon's Private<br>West Pittsfield |
| N-71 | Nickerson Field<br>Presque Isle |
| N-72 | Baker Brook Farm Landing Area<br>Richmond |
| N-73 | Rumford Airport<br>Rumford |
| N-74 | Thurston Airport<br>Saco |
| N-75 | Oak Knoll<br>Scarboro |
| N-76 | Goodhue Strip<br>Sidney |
| N-77 | Ponderosa Airport<br>South Berwick |
| N-78 | Young's Private Airstrip<br>South Thomaston |
| N-79 | Lots O' Luck<br>Standish |
| N-80 | Stone House Airport<br>Stow |
| N-81 | Morrison's Swans Island Airport<br>Swan's Island |
| N-82 | Bradley Field<br>Topsham |
| N-83 | Topsham Airport<br>Topsham |
| N-84 | Depot Camp<br>Township 6, Range 19 |
| N-85 | Big Ten Private Landing Area<br>Township 10, Range 17 |
| N-86 | Red Pine Grove Landing Area<br>Township 11, Range 16 |
| N-87 | Clark Field<br>Union |
| N-88 | Vinalhaven Airstrip<br>Vinalhaven |
| N-89 | Kimberly Airport<br>Waldoboro |
| N-90 | Pocasset View<br>Wayne |
| N-91 | Sky Ranch Landing Strip<br>Wayne |
| N-92 | Chasse Field<br>Winslow |
| N-93 | Fernald Field<br>Winterport |
| **NON-COMMERCIAL SEAPLANE BASES** | |
| T-1 | Pocomoonshine Lake Seaplane Base<br>Alexander |
| T-2 | Biscay Pond Seaplane Base<br>Bristol |
| T-3 | Pinette Seadrome<br>Brunswick |
| T-4 | Lake Christopher Seaplane Base<br>Bryant Pond |
| T-5 | Cambridge Pond<br>Cambridge |
| T-6 | Cresent Lake Seaplane Base<br>Casco |
| T-7 | Kettle Cove Seaplane Base<br>Casco |
| T-8 | I.P. Co. Landing Area<br>Clayton Lake |
| T-9 | Christmas Cove<br>Crawford |
| T-10 | Damariscotta Lake SPB<br>Damariscotta |

| CODE IDENTIFIER | AIRPORT NAME AND CITY |
|---|---|
| **NON-COMMERCIAL SEAPLANE BASES** (cont'd) | |
| T-11 | Midday Pond Seaplane & Iceport Base<br>Elliottsville |
| T-12 | King & Bartlett Lake SPB<br>Eustis |
| T-13 | Echo Island Seaplane Base<br>Fayette |
| T-14 | Virchow Seaplane Base<br>Fryeburg |
| T-15 | Double A Landing Area<br>Glenburn |
| T-16 | Lyons Point Seaplane Base<br>Gray |
| T-16 | Lyons Point Kincaid Area<br>Little Sebago Lake |
| T-16 | Olsen's SPB<br>Gray |
| T-17 | Guilford Seaplane Base<br>Guilford |
| T-17 | Piscataquis River Seaplane Base<br>Guilford |
| T-18 | Damariscotta Lake Seaport<br>Jefferson |
| T-19 | Hebron Lake<br>Monson |
| T-20 | Mt. Vernon Seven 6's<br>Mt. Vernon |
| T-21 | Irving's Seaplane Base<br>Naples |
| T-22 | Diagle Pond<br>New Canada |
| T-23 | Newport Seaplane Base<br>Newport |
| T-24 | Long Pond<br>North Livermore |
| T-25 | Cusack-Stanford<br>North Windham |
| T-25 | Lower Jordans Bay Seaplane Base<br>North Windham |
| T-25 | Sandbar Seaplane Base<br>North Windham |
| T-26 | Snow Pond SPB<br>Oakland |
| T-27 | Jack Pine<br>Palmyra |
| T-27 | Scott Seaplane Base<br>Palmyra |

| CODE IDENTIFIER | AIRPORT NAME AND CITY |
|---|---|
| **NON-COMMERCIAL SEAPLANE BASES** (cont'd) | |
| T-28 | Deep Cove Shores Seaplane Base<br>Raymond |
| T-29 | Rockwood Seaplane & Ice Base<br>Rockwood |
| T-30 | Hodgkins Landing Area<br>Roxbury |
| T-31 | Rumford Seaplane Base<br>Rumford |
| T-32 | Goodhue Seaplane Base<br>Sidney |
| T-33 | Flanders Pond Seaplane Base<br>Sullivan |
| T-34 | Hede's SPB<br>Stockholm |
| T-35 | Wayne Flyers Seaplane Base<br>Wayne |
| T-35 | Wayne Seaplane Base<br>Wayne |
| T-36 | Forest Lake Seaplane Base<br>West Cumberland |
| T-37 | Davenport Seaplane Base<br>Weston |
| T-38 | Fowler SPB<br>Winthrop |
| T-38 | Winthrop Seaplane Base<br>Winthrop |
| **HELIPORTS** | |
| H-1 | Clough's Heliport<br>West Gardiner |
| H-2 | Swank, Inc.<br>Oakland |
| H-3 | Medical Center Heliport<br>Portland |
| H-4 | Penobscot Bay Medical Center Heliport<br>Rockland |
| H-5 | Silent Woman Heliport<br>Waterville |
| H-6 | Thayer Hospital Associates Heliport<br>Waterville |
| H-7 | Maine State Pier Heliport<br>Portland |
| **MILITARY** | |
| M-1 | Loring AFB<br>Limestone |
| M-2 | NAS Brunswick<br>Brunswick |

# Appendix D

# Technical Supplement Table of Contents

Access to the *Technical Supplement* is through:

Bureau of Planning
Maine Department of Transportation
Transportation Building
Augusta, Maine 04333

**TECHNICAL SUPPLEMENT**

**TABLE OF CONTENTS SUMMARY**

# Appendix E

## Regional Planning Commissions

**ANDROSCOGGIN VALLEY REGIONAL PLANNING COMMISSION**
John J. Jaworski, Executive Director
70 Court Street
Auburn, Maine 04210 – Tel. 783-9186
Paul W. Fuller
Chairman

**EASTERN MID-COAST REGIONAL PLANNING COMMISSION**
Fourtin Powell, Planning Director
10 Summer Street, PO Box 228
Rockport, Maine 04856 – Tel: 236-8408
Walter S. Foster
Chairman

**GREATER PORTLAND COUNCIL OF GOVERNMENTS**
Osmond Bonsey, Executive Director
331 Veranda Street
Portland, Maine 04103 – Tel: 774-9891
Richard Wood
President

**HANCOCK COUNTY PLANNING COMMISSION**
James S. Haskell, Jr., Executive Director
69 Main Street, PO Box 608
Ellsworth, Maine 04605 – Tel: 667-5729
Ed Corbett
Chairman

**NORTH KENNEBEC REGIONAL PLANNING COMMISSION**
Elery Keene, Planning Director
16½ Benton Avenue
Winslow, Maine 04902 – Tel: 873-0711
Eric Meserve
Chairman

**NORTHERN MAINE REGIONAL PLANNING COMMISSION**
James A. Barresi, Executive Director
McElwain House, 2 Main Street, PO Box 779
Caribou, Maine 04736 – Tel: 498-8736
John Tiernan
Chairman

**PENOBSCOT VALLEY REGIONAL PLANNING COMMISSION**
Talbot Averill, Planning Director
31 Central Street
Bangor, Maine 04401 – Tel: 947-0529
Ann Dyer
Chairman

**SOUTHERN KENNEBEC VALLEY REGIONAL PLANNING COMMISSION**
John B. Forster, Planner-Administrator
16 Bangor Street
Augusta, Maine 04330 – Tel: 622-7146
Scott Higgins
Chairman

**Regional Planning Commissions in Maine (cont'd)**

**SOUTHERN MAINE REGIONAL PLANNING COMMISSION**
Brian N. Chernack, Executive Director
PO Box Q, 2 School Street
Sanford, Maine 04073 – Tel: 324-2952 or 324-5780

Cullen S. Carpenter
Chairman

**SOUTHERN MIDCOAST REGIONAL PLANNING COMMISSION**
John E. Matthews, Executive Director
52 Front Street
Bath, Maine 04530 – Tel: 443-9735

R. Allen Gaul
Chairman

**WASHINGTON COUNTY REGIONAL PLANNING COMMISSION**
Robert L. Crane, Jr., Executive Director
P.O. Box 273
Machias, Maine 04654 – Tel: 255-8686

Harold Scholl
Chairman

# Appendix F

## Advisory Committee Membership

1. Mr. William G. Walling (Bill)
   Regional Manager of Properties (DELTA)
   Hartsfield International Airport
   Atlanta, Georgia 30320 — Tel. 404—762-2178

2. Thomas Caruso, President
   Bar Harbor Airlines
   RFD 1
   Ellsworth, Maine 04605 — 667-5533

3. Richard Chadwick
   Chairman of Board
   Chadwick-Ba Ross Inc.
   160 Warren Avenue
   Westbrook, Maine 04092 — 854-8411

4. Dana Connors
   City Manager
   City Hall
   Presque Isle, Maine 04769 — 764-4485

5. Peter R. D'Errico
   Airport Manager
   Bangor International Airport
   Bangor, Maine 04401 — 947-8244

6. Alan J. Munroe
   Airport Manager
   Portland International Jetport
   Portland, Maine — 774-7301

7. Edward R. Comber, Jr.
   P. O. Box 217
   Jackman, Maine 14945 — 668-2011

8. Fourtin Powell
   Planning Director
   Eastern Midcoast Regional Planning Commission
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9. Talbot Averill
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**Maine Airport System Study Advisory Committee (cont'd)**

10. Elery Keene
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11. Victor Loranger
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12. Faunce Pendexter
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14. Marshall F. Burk
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15. Robert Stenger, President
    DownEast Airlines
    Knox County Regional Airport
    Rockland, Maine 04841 594-2171

16. John Bell
    Airport Manager
    Biddeford Municipal Airport
    Biddeford, Maine 04005 284-6427

17. General Paul R. Day
    Adjutant General
    Camp Keyes
    Augusta, Maine

18. John Salisbury, Executive Director
    Maine Municipal Association
    Community Drive
    Augusta, Maine 04330 623-8428

# Appendix G
# Glossary

**Capacity:** The operating level, expressed as the rate of aircraft movements (operations) that results in a given level of delay, usually an average of four minutes; or the number of aircraft landings and takeoffs per hour (PHOCAP) and per year (PANCAP) that a given runway system can safely and efficiently accommodate.

**Clear Zone:** An area of land adjacent to the runway end that must be kept free and clear of obstructions.

**Critical Aircraft:** The aircraft type whose performance and/or weight determines runway length and strength requirements for the airport at which it operates.

**Eligible Projects:** In general, construction or development of the airside (runways, taxiways, etc.) and the public-use parts of the terminal and landside areas that may be funded in part under the Airport Development Aid Program.

**Enplaned Passengers:** The number of passengers boarding aircraft, including originating, stopover and transfer passengers.

**GA:** General Aviation

**General Aviation:** All aviation that is not scheduled service or military.

**ILS:** Instrument Landing System

**Itinerant Operations:** All aircraft arrivals and departures other than local operations.

**Local:**

- in the local traffic pattern or in sight of the tower
- departing for or arriving from area within 20 miles
- executing simulated instrument approaches or low passes

**Movement:** A landing or a takeoff (an operation).

**NASP:** National Airport System Plan

**NAVAIDS:** Navigational aids

**Operation:** A landing or a takeoff (a movement)

**PANCAP:** Practical annual capacity

**PHOCAP:** Practical hourly capacity

# Maine Airport System Study

Prepared For State Of Maine Department Of Transportation
By Systems Analysis and Research Corporation
And Howard, Needles, Tammen and Bergendoff

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Scale in miles
0 10 20 30 40
0 10 20 30 40 50 60
Scale in kilometers

N

Aroostook
Somerset
Piscataquis
Penobscot
Franklin
Washington
Hancock
Waldo
Oxford
Kennebec
Knox
Androscoggin
Lincoln
Sagadahoc
Cumberland
York

Area for siting of new BU-I airport

Area for siting of new BU-II airport

## KEY TO MAP SYMBOL

- AC — Air Carrier
- BT — Basic Transport
- GU — General Utility
- BU-II — Basic Utility, Stage II
- BU-I — Basic Utility, Stage I
- Secondary System

## KEY TO MAP CODE IDENTIFIER

COMMERCIAL, LICENSED

| | |
|---|---|
| A — Air Carrier Airports | (8) |
| C — Publicly Owned Commercial Airports | (28) |
| P — Privately Owned Commercial Airports | (11) |
| S — Commercial Seaplane Bases | (24) |
| SUBTOTAL = | (71) |

NON COMMERCIAL, REGISTERED

| | |
|---|---|
| N — Non Commercial Airstrips | (93) |
| T — Non Commercial Seaplane Bases | (38) |
| SUBTOTAL = | (131) |
| H — Heliports | (7) |
| M — Military Airfields | (2) |
| SUBTOTAL = | (9) |
| TOTAL = | 211 |

## PRIMARY SYSTEM AIRPORTS PLAN FOR 1995
## and SECONDARY SYSTEM AIRPORTS - 1977

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