



The Commonwealth of Massachusetts
Aeronautics Commission
Boston - Logan Airport, Boston 02128
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CAMBRIDGE, MASS.

AN AIRPORT SYSTEM FOR THE
GREATER BOSTON METROPOLITAN AREA

Assumptions and Preliminary Conclusions for Discussion at
Public Meetings to be Held --

- May 9th - 7:30 PM Essex County Agricultural School, Alumni Field House, North Side, Route 62, Danvers
- May 15th - 7:30 PM Weymouth South High School, 360 Pleasant St. , South Weymouth
- May 16th - 7:30 PM Gardner Auditorium, State House, Boston
- May 17th - 8:00 PM Town House [Town Hall], Concord

Air transportation in all of its forms is essential to the economic health of the Commonwealth; it is the predominant method of international business and pleasure travel for all of our citizens, and the favored method of domestic travel for many of them.

Air transportation services are provided by private enterprise, using airways defined and regulated by the federal government. All trips must, however, begin and end at airports. Publicly owned airports are furnished by state and local governments.

Airport development in Massachusetts should be geared to meet the requirements of an efficient balanced transportation system, and should, at the same time be accomplished at the most reasonable dollar and social cost. With these principles in mind, the Massachusetts Aeronautics Commission and the Department of Public Works are conducting a Statewide Airport System Study with the help of the FAA, and with consulting services from Arthur D. Little, Inc.

This summary covers that part of the study which involves the Greater Boston Metropolitan Area.

In making a study of this sort, it is necessary to forecast future demand; which in turn depends on many uncertainties, including population and gross national product trends. Our consultants have used accepted methodology, and have come up with high and low forecasts through the year 2000 which diverge increasingly with

time. The high forecasts are essentially projections of past rates of growth, and the low ones recognize such recent developments as lower fertility rates, and a leveling off of the economy. We believe the lower forecasts are the most realistic.

It is also necessary, in order to balance supply and demand, to assign a capacity figure to present and improved airports. The consultant has used a recognized measure known as PANCAP--the practical annual capacity--which is designed to establish a maximum annual number of landings and takeoffs beyond which delays would become unacceptable. This relies on a historical distribution of traffic by kind and time of day, and does not take into account, among other things, the possibility of leveling some of the peaks and valleys, by agreement, by regulation, or by pricing.

Regardless of which forecasts, or which PANCAPS, are used, we are satisfied that in order to attain our objective of balancing supply with reasonable demand, some airport improvements will have to be made. However, we believe that these improvements can and must be made without increasing the overall social costs, especially of jet noise impact, beyond what they are today. This can be accomplished through landing area design, and, if necessary, by imposing operating restrictions pending the expected development of much quieter jet engines within the next decade.

It has been suggested that the construction of a new major jetport would provide more than enough capacity to take care of our future needs. It probably would, but even if the nearly \$1 billion cost could be financed, which we doubt, there is no convenient location that would not impose substantial new social costs of relocation, jet noise and other disturbances on many citizens. We have, therefore, ruled out this alternative.

Nor do we recommend expanding any existing airports beyond their present boundaries. However, as individual master plans are completed, there may be suggestions for land acquisition or other methods of assuring compatible land use under landing and takeoff paths in the immediate vicinity of airports.

In evaluating the remaining alternative--making better use of what we have--it is important to note that only long-haul [over 500 miles] airline service now requires, and probably will continue to require runways over 10,000 ft. long. Only Boston-Logan has such runways.

Some short-haul service now uses runways of 4,000 ft. or less, and there is no technological reason why all short-haul cannot do so in the future.

General aviation comprises non-scheduled business, commercial and pleasure air transportation. Almost all of general aviation can be accommodated on runways of 4,000 ft. or less.

Additional independent 4,000 ft. runways can be built within the present boundaries of the Boston-Logan Airport; and the Lawrence, Beverly, Bedford, Norwood, and South Weymouth Naval Air Station Airports all have runways at least 4,000 ft. long.

TENTATIVE CONCLUSIONS:

- The present two long runways at Boston-Logan can handle all of the forecast long-haul traffic, if those runways are used for nothing else. However, long-haul traffic will not grow sufficiently in the forecast period to require their exclusive use.
- Addition of the proposed independent NW/SE RTOL [reduced takeoff and landing] runway at Boston-Logan by 1975, plus the use of presently unplanned but technically feasible methods of reducing aircraft separation in the terminal area or 300 mph ground transportation in the Northeast Corridor, by the mid-eighties, would together enable the Boston-Logan Airport to handle the total low forecast demand for airplane landings or takeoffs at least through the year 2000. The resulting volume of passenger activity would, however, require greatly improved ground access.
- Neither the improved air traffic control procedures, nor the high speed ground link, are under the control of the Commonwealth. If one or the other of these does not come to pass, or if the high forecast prevails, then additional capacity will have to be provided in the Boston area. The most reasonable and practical method of doing this would be to shift a majority of general aviation, and some non-connecting short-haul service, from Boston-Logan to suburban airports. Bedford and the South Weymouth Naval Air Station seem to be the most logical candidates for such diversion, since they offer both the greatest potential airfield capacity and the most convenience to the largest number of passenger origins and destinations.
- Both short-haul diversion and the forecast growth of general aviation can be handled at improved existing airports in the Boston area, and without increasing the overall social costs, if touch and go training flights are limited at Lawrence, Beverly, Bedford, Norwood and South Weymouth Naval Air Station. Ayer Army Airfield could accommodate much of this type of operation.
- Airport master planning studies are under way for Lawrence, Beverly, Norwood and the Ayer Army Airfield. Bedford and South Weymouth Naval Air Station should also have such studies undertaken, and all studies should be related to the policies, alternatives, and conclusions of the statewide system plan.
- Even if it turns out that Boston-Logan alone can handle all future scheduled air transportation, it may be in the public interest, both for passenger convenience and to distribute the ground access load, to provide short-haul service from Bedford or South Weymouth Naval Air Station, or both, when the level of passenger demand makes this economically attractive to the airlines.

NOTES:

Recent DOD announcements of planned reductions in military flying activities in the Commonwealth have no important impact on this study. Even before the reductions, none of the four military airfields was operating at more than a small

fraction of its capacity, and we have, from the beginning, assumed that the excess capacity would be available if necessary for civil use.

Technical backup for the assumptions and tentative conclusions prepared by Arthur D. Little will be presented at the meetings. A limited number of copies of the material will be available beforehand at the Massachusetts Aeronautics Commission at its offices at the Boston-Logan Airport, or at the Bureau of Transportation Planning and Development of the Department of Public Works, at its offices at 190 Portland Street in Boston.

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An Airport System for the Greater Boston
Metropolitan Area.

In City Council,
May 24, 1973

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April 25, 1973