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THE FEASIBILITY OF AIR CHARTER SERVICE AT WORCESTER AIRPORT

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EXECUTIVE SUMMARY

An examination of the air-charter industry, the regional passenger market, and airfield facilities indicates that Worcester Airport is favorably positioned to attract domestic air charter service. Worcester Airport offers air charter carriers fewer operating restrictions and lower operational costs than Logan, and a potential market of over 2 million passengers, many of whom already fly to destinations served by these carriers. Based on this examination, the Research Bureau makes the following observations:

- Worcester Airport is better suited for domestic rather than international charter carriers. International carriers tend to operate wide-body jets which would require that the airport undertake significant airfield improvements and develop an onsite customs and immigration facility. Domestic charter carriers would not require any of these improvements. These carriers operate aircraft that can make use of Worcester Airport's existing airfield facilities and that can reach popular destinations in Florida and the southeastern United States with a profitable number of passengers on board.
- The revenue to the Airport that would be generated by two domestic air charter operations per week would range from \$80,733 to \$128,469 annually (depending on the number of passengers served by these flights and the type and size of aircraft utilized). These revenues would come from Passenger Facility Charges (PFCs), landing fees and parking fees. According to airport officials, a modest domestic air charter operation would not appreciably increase the airport's operational costs.
- The narrow-body jet aircraft that are used by domestic charter operators would be required by the FAA to be Stage 3 compliant before any charter service was initiated. This would virtually eliminate the noise generated by incoming planes and significantly reduce the noise generated by departing aircraft.

I. INTRODUCTION

Recently, Massport informed air charter carriers operating out of Logan Airport that due to substantial construction projects underway at Terminal E and on airport roadways, it will be cutting back significantly on the number of passenger gates and airplane parking positions that are made available to charter carriers. With these new restricted operating rules in place and the ongoing "Big Dig," the costs in time and money of operating an air charter operation at Logan Airport have never been higher. Meanwhile, air charter flights at Worcester Airport currently amount to an average of only 2 to 3 flights to Atlantic City each month. Given the new restrictions on charter operators and the overall congestion at Logan, an excellent opportunity exists to develop air charter service at Worcester Airport.

This report examines the feasibility of attracting charter carriers to Worcester Airport. Specifically, the report describes the potential markets that could be served by charter flights originating from Worcester, assesses the adequacy of the Airport facility for charter operations, and reviews the potential economic and community costs and benefits of charter service.

II. OVERVIEW OF THE AIR CHARTER BUSINESS

There are two major segments of the air charter industry that could potentially bring air charter service to Worcester Airport. They are large regional travel agents which specialize in vacation packages to Florida and the Caribbean, and charter carriers that deliver passengers from New England to Florida so that they can make connections to cruise ships departing from Miami and Tampa.

Both of these segments of the air charter business operate in a highly competitive and price-sensitive marketplace. Air charter services offer lower prices to passengers by operating with very slim profit margins. Accordingly, charter flights are frequently scheduled to be part of "track programs," flight schedules designed to ensure that airplanes spend as little time as possible on the ground and carry passengers on both the departing and returning legs of the trip. For example, a number of different charter operators run weekly track programs between Boston and several destinations in Florida and the Caribbean.

These flights leave Boston on Saturday and deliver passengers who have purchased a week's vacation package to their destination. Upon arrival these passengers are replaced by customers who left the previous Saturday and are scheduled to return to Boston. Track programs allow greater control over costs and logistics and provide travel agents with a ready-made product to sell to their customers.

III. AN ASSESSMENT OF THE AIR CHARTER MARKET IN WORCESTER

Determining the destinations that can be served profitably from Worcester Airport requires consideration of the potential market for air charter services in Worcester's "catchment area," the geographic area from which the airport can attract passengers, and a technical analysis of the maximum flight range for an airplane departing Worcester carrying a sufficient passenger load to be economically feasible.

A. Potential Passenger Market

In recent years several marketing studies have been undertaken which have estimated the size of Worcester Airport's passenger market. Over one million people live within twenty-five miles of Worcester, which puts them closer to Worcester Airport than to any other airport in New England. In other cities throughout New England the number of people purchasing airline tickets each year tends to range from 3 to 4 times the local population. Three independent studies conducted in 1995 estimated the potential passenger market for Worcester Airport at 1.6 to 2.1 million passengers per year¹. The potential market for air charters may be larger. Since charter flights are frequently sold as part of a total vacation package that can include a hotel stay, ground transfers and other amenities, consumers located outside of Worcester Airport's traditional catchment area may be willing to travel greater distances to Worcester Airport if available packages are priced competitively. Air charter service appeals to a relatively small but significant portion of this large market (According to Massport, Logan provided service to 63,705 domestic charter passengers in 1998).

¹These studies were conducted by Aviation Consulting Incorporated (August, 1995), SH&E (May, 1995) and Sabre Decision Technologies (February, 1995).

A survey of local travel agents was recently commissioned by the Massachusetts Port Authority to determine which airports currently serve the Worcester market. The results of this survey estimate that 53.5% of the Worcester market currently uses Logan, while 32.2% uses T.F. Green Airport. Bradley Airport is estimated to serve 9.6% of the current Worcester market, while Manchester and Worcester Airports provide service to an estimated 2.3% and 2.5% respectively.

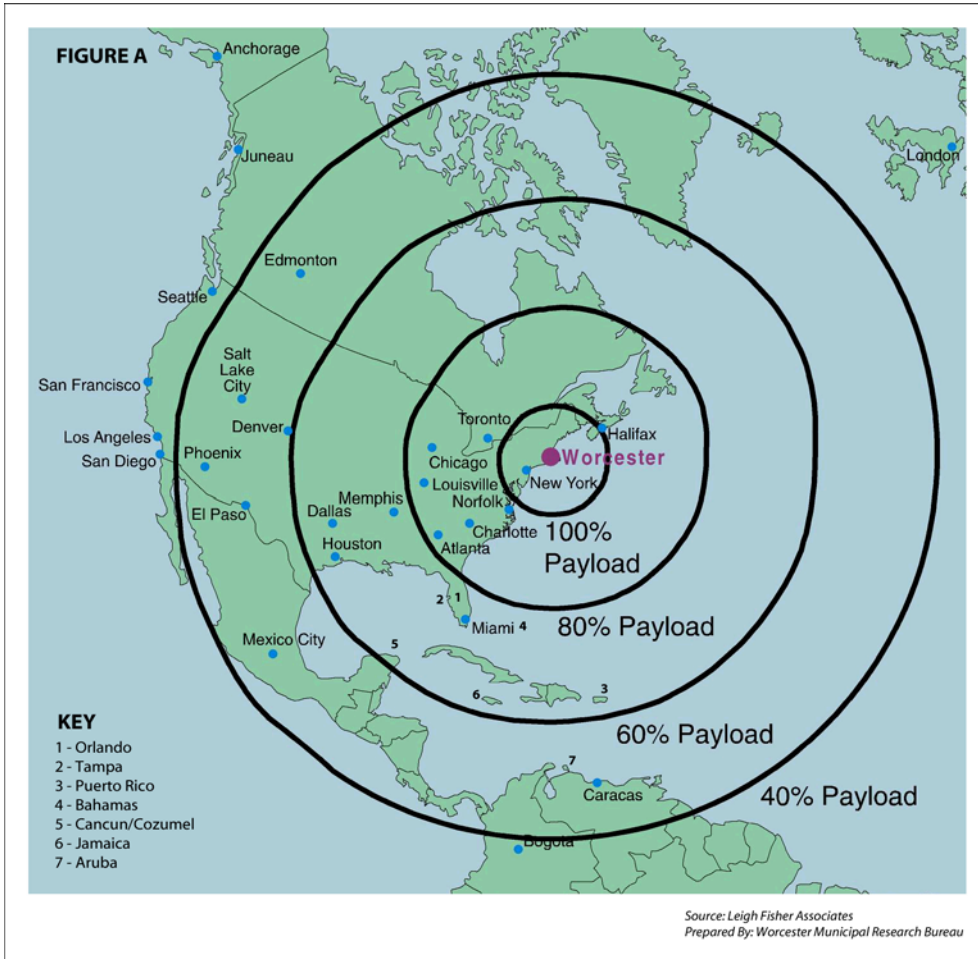
B. Destinations that can be reached from Worcester

An analysis of the airport improvements that would have to be made to accommodate international charter flights, and the costs involved in doing so, indicates that Worcester Airport should target charter flights that serve domestic destinations that can be reached by narrow-body jets making use of existing airport facilities².

Recently, Worcester Airport commissioned an analysis of the potential flight range of a commonly used narrow-body jet. This analysis was conducted by Leigh Fisher Associates, a private airport consulting firm based in San Francisco.

² Currently Worcester Airport cannot accommodate the wide-body jet service necessary to efficiently serve most international destinations due to its runway length and its lack of a parallel taxiway. Aircraft landing at the Airport must back-taxi on the runway in order to get to the gate to deplane passengers. One potential solution to this problem would involve constructing a "jug handle," a semicircular turning area at the end of Runway 11-29. According to airport officials, the cost of constructing a "jug-handle" would be approximately \$5 million. Also, in order to accommodate wide-body jets the shoulders of the Airport's main runway would need to be stabilized. Shoulder stabilization involves widening the Airport's main runway. Currently, the wingspan of a wide-body jet extends beyond the width of Worcester Airport's main runway. This leads to "wing-tip vortice" and engine jet blast, wind effects that blow debris onto the runway and create safety hazards. Massport's preliminary estimate of the cost of widening the runway is \$2.5 million. In order to provide charter service to international destinations which require returning flights to clear U.S. customs, it would also be necessary to have an on-site customs facility at Worcester Airport. A state-of-the-art immigration and customs facility recently opened at T.F. Green Airport. According to airport officials at T.F. Green, this facility cost the Rhode Island Airport Corporation (RIAC) \$2.3 million to construct and requires ten customs and immigration officers to be available to inspect incoming international passengers and their baggage. This new facility gives T.F. Green a distinct advantage in the regional competition for international charter flights.

The results of this analysis indicate that a Boeing 727 aircraft with close to a 100% load factor (that is, nearly all of the approximately 170 seats filled) could fly nonstop from Worcester to a number of locations in Florida and the southeastern United States (Hiltonhead Island, Myrtle Beach, SC etc.) that are currently popular vacation destinations sold by vacation packagers and travel agencies throughout New England. (See Figure A).



ECONOMIC AND COMMUNITY COSTS AND BENEFITS

According to Massport's Aviation Planning Department, in 1998 Logan Airport accommodated 2,667 charter flight operations (flight operations include both arriving and departing flights). Of these flights, 718 were domestic and 1,949 were international. The 718 domestic charter operations in 1998 represent an increase of 16.7% over the 615 domestic charter flight operations that took place

in 1997. Domestic charter flight operations have continued to grow at a similar rate (16.9%) in the first 5 months of 1999. This is the market on which Worcester Airport should focus.

Ongoing construction projects and general space constraints at Logan Airport have led Massport to develop a new charter policy at Logan. This policy restricts charter flights from Terminal E during peak operating hours, requires 30-day advance notice for flight scheduling, eliminates overnight parking availability for most charter aircraft, and requires that charter operators post a performance bond to ensure compliance with these and other operating regulations. These new operating restrictions stem in part from the lack of space available to accommodate the increasing demand for charter flights at Logan and have significantly raised the cost of operating charter flights there.

A. Potential Economic Costs and Benefits

If Worcester Airport were able to attract a single weekly track program (with one departing and one arriving plane), the airport could increase its revenue by between \$80,733 and \$128,469 annually, depending upon the passenger load factor achieved by the track program (See Figure B).

This revenue would come from three primary sources: Passenger Facility Charges (PFCs), landing fees, and parking charges³.

³ In 1998 Logan Airport provided parking for approximately 1 car for every 8 passengers. While the exact ratio for Worcester Airport is not known, the availability of private satellite parking lots, airport shuttle services, and public transportation at Logan and the lack of comparable options in Worcester make it likely that this ratio would be closer to the 1 car for every 4 passengers ratio assumed for this report.

Figure B

Potential Annual Revenue to Worcester Airport Generated by Two Charter Operations per Week (One departure and one arrival)

Revenue Source	60% Load Factor (102 passengers)	80% Load Factor (136 passengers)	100% Load Factor (170 passengers)
Passenger Facility Charges (PFCs) (\$3 assessed to each departing passenger)	\$15,912	\$21,216	\$26,520
Landing Fees (\$.96/1000 lbs) (assessed to each arriving flight)	\$8,037	\$8,037	\$8,037
Parking Charges*(\$42/week per vehicle) (26 cars)	\$56,784	\$74,256 (34 cars)	\$93,912 (43 cars)
Total Potential Annual Revenue	\$80,733	\$103,509	\$128,469

Prepared by: Worcester Municipal Research Bureau

Estimates are for a 161,000lb. 727-200 aircraft with a 170 passenger configuration.

Assumes 104 annual Charter operations or 14.5% of Logan's 1998 domestic total (718).

*Assumes 1 parked car for every 4 passengers.

A single weekly charter track program would involve one departure and one arrival each week for a total of 104 charter flight operations annually. This modest level of service would be the equivalent of 3.9% of Logan's total charter flights in 1998 (2,667 charter operations).

Worcester Airport offers charter carriers currently operating at Logan Airport several competitive advantages including lower operational costs and more scheduling flexibility. Landing fees at Worcester Airport are less than half of those charged at Logan (\$0.96/1000 lbs. of landed weight and \$2.14/ 1000 lbs. of landed weight respectively). Automobile parking is also substantially less expensive in Worcester (\$42/week vs. \$70/week at Logan's central garage). Worcester Airport has the airfield facilities in place to allow these carriers to efficiently provide narrow-body jet service to a number of vacation destinations desired by the New England traveler.

B. Potential Community Costs and Benefits

Due to the seasonal nature of the charter business, it is unlikely that charter flights would be evenly scheduled throughout the year. Demand for charter flights is highest during the winter travel season. An examination of vacation package marketing materials indicates that air charter vacation packages and cruises sold in New England tend to run from Saturday to Saturday or from Sunday to

Sunday. Therefore, most of the flights that would result from air charter service would occur on weekends. Takeoff and arrival times for these aircraft would vary. However, in order to maximize their vacation time, vacationers tend to prefer to depart in the morning to begin their vacations and to return late in the day upon completion of their vacation week. Thus, it is likely that departing charter flights would take off in the morning hours and return in the late afternoon on Saturdays and Sundays.

The likely noise impact of charter flights would be minor, given the limited number of charter flight operations anticipated⁴. FAA regulations (FAR 36) requiring all commercial aircraft to meet Stage 3 noise standards go into effect at the end of this year. The effect of these new regulations will be to decrease substantially the noise produced by arriving aircraft. In fact, the sound produced by Stage 3 aircraft engines on approach to land will be less than the sound produced by the air passing over the airplane's wings. The sound impact of departing aircraft will be more noticeable as aircraft warm up, taxi and takeoff.

The community benefit of attracting domestic air charter service to Worcester Airport would be regular and affordable vacation packages to Florida and other vacation destinations in the southeastern United States. Currently, residents of Worcester and the surrounding region need to travel to Logan or T.F. Green Airport in order to obtain these services.

V. CONCLUSIONS AND RECOMMENDATIONS

- Worcester Airport is in a good position to take advantage of Logan Airport's need to reduce charter flights for several reasons. Air charter carriers face increasing operational restrictions at Logan. Domestic charter flights are well suited for Worcester Airport's airfield facilities. They fly to destinations desired by the local market which can be reached with a profitable number of passengers from its main runway.

⁴ A highly successful campaign to attract charter service to Worcester might manage to attract 50% of Logan's domestic charter business (359 annual operations). If this were to occur, it would result in an average of 6-8 operations per week and generate approximately \$400,000 in annual revenue to the airport. An average of 2 charter operations per week is a more realistic initial expectation (See Figure B).

- Increasing the number of charter flights at Worcester Airport would not only provide the Airport with much needed revenue, it would also allow local consumers convenient access to affordable vacation packages to Florida and the southeastern United States.
- According to airport officials, additional maintenance and custodial costs to the airport of developing a modest domestic air charter operation would be minimal and could be handled by existing personnel.
- The narrow-body jet aircraft that would be used by air charter operators would be required to be Stage 3 compliant before any air charter service would begin. This would minimize the amount of noise created by departing charter flights.
- Any negative community impact would be further limited by the relatively small number of air charter flights that are likely to be attracted to Worcester Airport.

In conclusion, domestic air charter service offers a potentially consistent source of airport revenue with limited economic and community costs. Accordingly, the City and Massport should make a serious effort to attract domestic air charter service to Worcester Airport. To this end the Research Bureau recommends that the Worcester Airport marketing team invite representatives of the major vacation packagers in the region, national cruise operators, and local travel agencies to visit the Airport facility for a formal presentation. This presentation should describe the potential passenger market, the existing facilities, and the technical and marketing assistance available to air charter carriers which originate flights from Worcester Airport. It should emphasize the economic advantages (in terms of cost and convenience) of operating domestic charter flights at Worcester Airport.