

CHAPTER 7

FINANCIAL PLAN

The financial plan presented in this chapter was prepared using the most current financial data provided by the airport at the time. The purpose of the financial plan is to present the economic opportunity cost for three different management scenarios. It is not intended to reinforce previously held conceptions of how the airport should be owned and operated. To do this would sacrifice our professional and personal ethics and would be contrary to the intent of the planning process for Mansfield Municipal Airport.

A plan to finance the recommended capital improvements and the necessary airfield maintenance projects is presented in this chapter. Central to the plan is the assumption that a significant portion of the capital improvements will be funded with grants from the Federal Aviation Administration (FAA) and the Massachusetts Aeronautics Commission (MAC). It is possible that some of the maintenance projects will also be funded with grants from the MAC.

An important element of this financial plan is an assessment of the airport's current and future lease agreements and the general management of the airfield. It is through these lease agreements and management options that the Mansfield Airport Commission intends to fund most if not all of the local cost of the planned improvements starting in the year 2003. It is important to note that the current lease agreement is valid through the year 2002 and is not alterable, therefore, all recommended changes to the structure of leases is after 2003.

The airport's share of the costs associated with improvements to the infrastructure (i.e., paved tie-downs) at the airport is not included in this financial analysis and can be considered outside the scope of this financial analysis. There are a plethora of leasing structures that can be used to offset the airport's share of costs for improvements to the airport infrastructure. Namely, the airport can structure a lease in a manner that would require renters (or would-be renters) to pay their burden for airport infrastructure costs in return for a lower rental rate. An independent business plan should be conducted to determine rental rates and lease structures that are specific to the Mansfield rental market.

7.1 EXISTING AIRPORT LEASE AGREEMENT AND REVENUES

In 1982 the Mansfield Airport Commission entered into a lease agreement with Powell Aviation for the management and operation of the airport. The 1982 lease agreement is for a twenty-year period and expires at the end of 2002. The terms of the lease agreement require Powell Aviation to pay the Mansfield Airport Commission an annual sum of \$1,000, to manage the airport, and to provide routine maintenance services, such as snow removal, mowing, pavement maintenance, and other airport related functions. In return, Powell Aviation was given the sole use of the airport facilities in Quadrant 1 to run a Fixed Base Operation (FBO) and the right to collect all fees for aircraft tie-downs,

hangars, and fuel sales.

In 1992 Powell Aviation sublet the main lease agreement to King Aviation of Mansfield. King Aviation currently pays Powell Aviation \$3,450 per month (\$41,400 per year) for the management, operation, and maintenance of the airport and collects all fees and revenues. In addition, King Aviation pays the annual fee of \$1,000 to the Mansfield Airport Commission as required by the original lease.

In addition to the \$1,000 annual payment to the Airport Commission, as required by the original lease agreement with Powell Aviation, the Airport Commission received funds from the Massachusetts Highway Department for a land easement as part of the Interstate-495 construction. The land easement included a lump sum payment of \$43,000 to the Airport Commission. This payment was received in 1980 and has been used by the Airport Commission to fund several needed capital improvements and these funds have been spent (i.e, construction of East Ramp, security fencing, reconstruction of Runway 14-32 and several additional airside pavement projects).

As the lease agreement with Powell Aviation expires at the end of the year 2002, the Airport Commission intends to renegotiate the terms of the lease in order to produce additional airport revenues.

7.2 FUTURE IMPROVEMENT, MAINTENANCE AND OPERATIONAL COSTS

The previous chapters of this report have focused on identifying needed improvements to the airport and preparing a Capital Improvement Program. In addition to the capital improvements, the Airport Commission will also need to complete maintenance and repair projects and fund operational costs associated with keeping the airport open. The cost of future improvements, airfield maintenance, and certain operational costs are presented in this section.

7.2.1 Capital Improvement Costs

The Mansfield Airport Commission needs to continue to improve the airport so that facilities meet the aviation and economic needs of the community. A Capital Improvement Program was prepared in Chapter 6 of this report.

Assuming the airport carries over unused funds from year to year, in order for the airport to fund the local share of airport projects, to pay for the local share of the recommended improvements, the Airport Commission should generate approximately \$13,000 per year through the year 2004. In order to save for potential long-term capital improvements, the Airport Commission should generate savings of approximately \$11,500 per year throughout the remainder of the twenty-year planning period. Note: these budgets are estimates and should be reviewed and adjusted from time to time.

7.2.2 Airfield Maintenance and Repair Costs

In addition to the recommended capital improvements, the Airport Commission also needs to budget for additional maintenance and repair projects on an annual basis. The Massachusetts Aeronautics

Commission (MAC) does participate in eligible maintenance and repair projects at a minimum funding level of 80-percent. Although specific maintenance and repair projects have not been identified in this study, a planning budget of \$4,000 per year for airfield maintenance and repair projects is recommended to match the MAC grants. Examples of these projects may include repairs to the airport's security fence, vegetation management, pavement maintenance, and repairs to airport access roads and utilities. Note: some of these costs are currently paid for by King Aviation under the terms of the master lease agreement.

7.2.3 Airport Administration Costs

The Airport Commission has administrative costs that also must be budgeted for each year. These include costs for clerical support, travel, legal fees, phone and mailing, printing, and other supplies. Currently, these administrative costs are included as a line item in the Town's general budget for the Airport Commission to use. Although these costs vary slightly from year to year, an average annual budget of \$3,750 should cover the necessary expenses. Not included in these costs are employee and benefit costs, fuel inventory, and other airport management costs. These costs are currently paid by King Aviation under the terms of the master lease agreement. The possibility of the Airport Commission assuming these costs to receive the related revenues is discussed in Section 7.4.

7.2.4 Summary of Future Costs

In order to fund the local cost of capital improvements, airfield maintenance and repair projects, and administrative costs, the Airport Commission should generate approximately \$13,000 per year through 2004 and about \$11,500 per year thereafter. This annual budget is in addition to the cost of routine maintenance items, snow plowing, mowing, painting, and other annual services currently provided by King Aviation.

7.3 FUTURE AIRPORT REVENUE OPTIONS

In order to budget and plan for the cost of future capital improvements, maintenance projects, and administration costs at Mansfield Municipal Airport, the Airport Commission should generate substantially more revenue than the current lease agreement provides (\$1,000 per year). Most general aviation airports generate the needed revenues through land and property leases, fuel sales, parking fees, and in some cases landing fees. Some airports are able to generate enough income to cover their expenses, while others must also rely on assistance from the local municipality. In the case of Mansfield Airport, revenues have been generated through a single land, management, and maintenance lease. This lease agreement has not generated enough income for the airport to operate without additional funds from the Town or other sources (such as the Mass Highway easement money).

Potential options for the Airport Commission to generate enough revenue to financially operate the airport independent of outside funding sources, with the exception of FAA and MAC grants, was completed as part of this Airport Plan Update. Three alternatives concerning the future management and operation of the airport were assessed:

- Public management and operation of the airport;
- Public management and private operation of the airport; and
- Private management and operation of the airport.

7.3.1 Alternative 1 - Public Management and Operation

Many municipal airports like Mansfield are managed and operated by an airport manager and staff working for the Airport Commission. The authority of an Airport Commission to appoint staff is defined in M.G.L. Chapter 90, Section 51E (see Section 6.2 of this report). The airport staff generally manages and maintains the airport and performs such tasks as snow plowing, mowing, and general upkeep of the aircraft operational areas and public facilities. One or more FBOs at the airport provide necessary aviation related services (i.e., flight instruction and aircraft maintenance) to airport users. Many publicly run airports also choose to be the sole provider of aviation fuel.

This alternative assumes that the airport will be managed and operated by municipal employees, and that these employees will provide all maintenance and operational services. Furthermore, municipal airport vehicles will be used to maintain the airport. The airport will collect all lease revenues from businesses and aircraft owners based at the airport, and the airport will be the sole provider of aviation fuel. An estimate of the expenses and revenues produced by this scenario are presented below. It is important to note that this is an estimate only. If this option is pursued by the Mansfield Airport Commission, the actual expenses and revenues will likely vary from the following estimate and should be examined in detail in an airport business plan. This estimate should not be considered an operating budget or a projection of profit and loss.

Airport Operating Costs

Airport expenses include both direct and indirect costs, fuel inventory, and capital improvement costs. An estimate of these costs is based on the airport managing and operating the airport with municipal employees (see Table 7-1).

Administrative: An estimate of the administrative costs were discussed in Section 7.3.3 of this chapter. Costs included in this category include clerical support, travel, legal fees, insurance, phone and mailing, printing, and other supplies. It was recommended that the airport allow \$3,750 per year to pay for these operating costs. Applying a modest 3-percent annual inflation rate over the planning period will increase administrative costs to approximately \$6,600 by the end of the planning period in 2018.

Facilities & Equipment: The airport staff requires office and storage space, at least two snow removal vehicles, a front end loader, and a tractor/mower. Because the airport does not own any of this equipment, it will have to be purchased. Whether the airport decides to purchase new vehicles with state and federal grants or purchase used equipment is required to be determined. The budget plans for vehicle costs of approximately \$200,000 new. The cost included here is for

the fuel and maintenance of these vehicles and the upkeep of the office and storage areas. The airport should allow approximately \$4,000 for fuel and \$1,250 for maintenance and upkeep of the vehicles. In addition, another \$1,000 is needed for the cost of office and storage space. Applying a modest 3-percent annual inflation rate over the planning period will increase facilities and equipment costs to approximately \$11,000 by the end of the planning period in 2018.

Airfield Maintenance: Airfield Maintenance costs were discussed in Section 7.3.2 of this chapter. It was recommended that the airport budget approximately \$4,000 per year for airfield maintenance and repair projects. Applying a modest 3-percent annual inflation rate over the planning period will increase airfield maintenance costs to approximately \$7,000 by the end of the planning period in 2018.

Salaries & Benefits: This alternative assumes municipal employees would manage and operate the airport. An airport the size of Mansfield would likely require approximately four people to complete the required work. This would include an airport manager, an operations supervisor and two maintenance and fueling personnel. An average salary cost for these employees would total approximately \$107,000 per year. The additional cost for benefits and other personnel costs would be an additional 33-percent, or approximately \$35,300 per year. The total cost of salaries and benefits is budgeted at approximately \$142,000 per year.

Applying a modest 3-percent annual cost of living adjustment over the planning period will increase salary and benefit costs to approximately \$250,000 by the end of the planning period in 2018.

Indirect Overhead Costs: If the airport were to employ municipal personnel to manage and operate the airport, and establish a department within the Town Administration, a portion of the Town's administration costs would likely be charged back to the airport. In addition, other fixed overhead costs may also be charged to the airport. It is difficult to accurately estimate these costs because they would vary by year, depending on the actual cost of the Town's administration and the time spent by the various departments on airport related matters. For the purpose of this analysis, an annual lump sum of approximately \$5,250 was used to account for indirect overhead costs. Applying a modest 3-percent annual inflation rate over the planning period will increase indirect overhead costs to approximately \$9,200 by the end of the planning period in 2018.

Fuel Inventory: This alternative assumes that the airport would purchase and sell all fuel on the airport. To establish a baseline for future growth, the fuel records of King Aviation (the sole provider of fuel at the airport) indicates that approximately 80,000 gallons of fuel are sold per year. The cost to purchase this fuel varies from month to month. The average wholesale price for aviation fuel in 1997 was approximately \$.95 per gallon plus \$.40 cents per gallon in taxes. The total cost for purchasing fuel for sale at the airport in 1997 was approximately \$108,000.

In order to estimate future costs associated with purchasing fuel, total gallons of fuel purchased in 1997 were divided by the number of based aircraft at the airport in 1997. This yields an average number of gallons of fuel per based aircraft (GFBA). It was assumed that the GFBA would decrease slightly over the course of the planning period as gasoline prices exceed the cost of fuel an aircraft owner may be willing to pay. This GFBA was applied to the forecasted based aircraft presented in Chapter Three (see Table 3-5). To determine the future price of gasoline and the tax rates, a modest 3-percent annual increase in base price and taxes was applied throughout the planning period. The total cost of purchasing fuel is estimated to be approximately \$381,900 by the end of the planning period in 2018.

Capital Improvement Costs: The Airport Commission will have to pay a portion of the cost for the needed capital improvements discussed in Section 7.3.1, assuming federal and state grants are provided to pay for 97-percent of the cost. The information presented in Section 7.3.1 included an estimate of the local share of the capital improvement costs. The local cost is estimated at \$13,000 per year for the next five years and about \$11,500 per year thereafter. For the purposes of this analysis, \$12,500 per year was used for the entire planning period. Applying a modest 3-percent inflation rate over the planning period will increase capital improvement costs to approximately \$23,000 by the end of the planning period in 2020.

Summary of Operating Costs: Based on 1997 figures, the cost to fully manage and operate the airport with municipal employees is approximately \$355,000 per year. By the end of the planning period in 2018, airport operating costs will be approximately \$683,000. The largest cost to manage and operate the airport is the cost for salaries and fuel. Employee salaries and benefit costs can be reduced by contracting out some of the services such as snow plowing and mowing to private businesses which would decrease the number of municipal employees. The cost of purchasing fuel is generally a fixed cost as the airport does not have direct control over the cost of fuel.

Airport Operating Revenue Sources

Potential revenues at the airport include business leases, aircraft tie-down rentals, aircraft hangar rentals, and fuel sales. Central to this analysis are the assumptions that the airport is the only fuel supplier at the airport and that all private aircraft owners would either rent tie-down space or hangar space from the airport. The flight school and maintenance shop would lease the necessary building and apron space for their operations (see Table 7-1).

Business Leases: There are currently two aviation businesses and one restaurant operating at Mansfield Municipal Airport. It is assumed for the purpose of this alternative that these businesses will remain at the airport and will lease the needed building and apron space from the airport. It is assumed that the restaurant would pay \$300 per month in rent, the aircraft maintenance business approximately \$1,580 per month, and the flight school at approximately \$540 per month (the flight school operation is currently a part of the FBO that leases the entire airport, therefore, the actual lease rate for a portion of the main terminal is a general estimate). In

total, the potential monthly revenue from business leases is approximately \$2,420 per month or approximately \$29,040 in 1997.

It was assumed that monthly rents would increase by 2-percent every year as new tenants are signed to leases or current tenants re-negotiate their existing lease. Based on this assumption, by the end of the planning period, the restaurant lease will generate yearly revenue of approximately \$6,300, the aircraft maintenance lease will generate approximately \$33,200 and the flight school lease will generate approximately \$11,400 in revenue for a total yearly revenue of \$50,900.

Aircraft Storage Leases: As more aircraft are forecasted to base at Mansfield Municipal Airport, the amount of lease revenue generated will increase proportionately. As of 1997, there were twenty private aircraft t-hangars, one large hangar capable of storing five aircraft available to private aircraft owners, and 67 tie-downs. It was assumed that the monthly tie-down and hangar spaces would rent for \$250/month and that the large corporate hanger would rent for \$540/month for a total monthly rent of \$10,540 that yields a total annual rent of \$126,480.

Fuel Sales: During the past six years the airport has sold on average approximately 80,000 gallons of aviation fuel per year. Assuming the cost of purchasing fuel is marked up by 20-percent, the approximate re-sale value of fuel in 1997 was \$2.22/gallon. In order to estimate future revenue associated with fuel sales, the estimated gallons of fuel sales were multiplied at a re-sale value that incorporates both the inflation in the cost to purchase the fuel as well as the 20-percent mark-up in price. The re-sale value of a gallon of gasoline is anticipated to reach \$3.36/gallon by the end of the planning period in 2018.

Future revenue from fuel sales is anticipated to be approximately \$194,400 in 2003, approximately \$259,600 in 2008, and approximately \$458,300 by the end of the planning period in 2018.

Summary of Airport Revenues: The total revenue potential of this alternative is approximately \$275,000 in 1997. Assuming based aircraft and operations at the airport continue to grow as forecasted in Chapter Three, the airport can expect future revenues to increase to approximately \$349,000 in 2003, \$462,000 in 2008, and \$730,000 in 2018.

Conclusion

Under this alternative, the airport can expect to be operating at an operating deficit for the short-term planning period and then operate at a surplus throughout the remaining planning horizon. A review of the potential costs and revenues to publicly manage and operate Mansfield Municipal Airport revealed that the airport will be operating at a deficit of approximately \$5,600 in 1997. The increases in operating costs will not be offset by the associated increases in operating revenue. By the end of the planning period in 2017, it is anticipated that the airport will be operating at a surplus of approximately \$47,000.

Again, it is important to note that the costs associated with providing increased paved tie-down and hangar space was not included in this analysis, however, potential revenue was accounted for. The costs for providing paved tie-downs was not included because the airport has many different lease structures available that could lessen the local share for airport infrastructure improvement projects. Modeling the affects of these different lease structures has on potential operating deficit or surplus is outside the scope of this financial analysis. Additionally, under this alternative, the airport would need to purchase several maintenance vehicles at an approximate cost of \$200,000.

TABLE 7-1

ALTERNATIVE ONE COST AND REVENUE COMPARISON

<u>Budgetary Item</u>	<u>1997</u>	<u>2003</u>	<u>2008</u>	<u>2018</u>
Airport Costs				
Administrative	\$3,750	\$4,200	\$4,900	\$6,600
Facilities and Equipment	\$6,250	\$7,000	\$8,200	\$11,000
Salaries and Benefits*	\$142,310	\$160,200	\$185,700	\$249,500
Airfield Maintenance	\$4,000	\$4,500	\$5,200	\$7,000
Indirect Overhead Costs	\$5,250	\$5,900	\$6,900	\$9,200
Fuel Inventory	\$80,000	\$162,000	\$216,300	\$381,900
Capital Improvement Costs	\$12,500	\$14,000	\$16,000	\$22,000
TOTAL COSTS	\$254,060	\$357,800	\$443,200	\$687,200
Airport Revenue				
Restaurant Lease**	\$2,400	\$3,600	\$4,700	\$6,300
Aircraft Maintenance Lease	\$18,360	\$19,000	\$24,700	\$33,200
Flight School Lease	\$6,000	\$6,500	\$8,500	\$11,300
T-hangar Leases	\$43,200	\$60,000	\$78,300	\$105,200
Corporate Hangar Lease [□]	\$5,700	\$6,000	\$7,800	\$10,500
Tie-down Leases	\$37,800	\$60,000	\$78,300	\$105,200
Fuel Sales	\$160,000	\$194,400	\$259,600	\$458,300
TOTAL REVENUE	\$273,460	\$349,500	\$461,900	\$730,000
NET REVENUE	\$19,400	\$-8,300	\$18,700	\$42,800
Assumptions:				
3% inflation rate for costs and leases				
Staffing remains constant				
Fuel mark-up at 20% of costs, inflation at 3%				
Estimated 90,000 gallons, cost \$1.80/gallon in 2003				
Source: Campbell & Paris Engineers, P.C. 2001				

7.3.2 Alternative 2 - Public Management and Private Operation

Another option is for the airport to be publicly managed but privately operated. The airport would employ an airport manager to manage the airfield, put the maintenance and operation of the airport would be accomplished via private contracts. Under this alternative, the airport would employ one manager and the businesses on the airport would store the aircraft, maintain some of the facilities, own or manage the hangars, and sell the fuel.

Airport Operating Costs

Airport expenses include both direct and indirect costs, and the costs of needed capital improvements. An estimate of these costs are discussed below and are summarized in Table 7-2.

Administrative: An estimate of the administrative costs were discussed in Section 7.3.3 of this chapter. Costs included in this category include clerical support, travel, legal fees, insurance, phone and mailing, printing, and other supplies. It was recommended that the airport allow \$3,750 per year to pay for these operating costs. Applying a modest 3-percent annual inflation rate over the planning period will increase administrative costs to approximately \$6,300 by the end of the planning period in 2018.

Facilities & Equipment: Under this alternative the airport manager will need limited space for an office and storage area. The plowing, mowing, and other services that require equipment will be provided under private contracts with the airport. An annual budget of approximately \$1,750 is used to provide utilities to the office and to provide limited supplies. Applying a modest 3-percent annual inflation rate over the planning period will increase facilities and equipment costs to approximately \$3,100 by the end of the planning period in 2018.

Airfield Maintenance: Airfield Maintenance costs were discussed in Section 7.3.2 of this chapter. It was recommended that the airport allow \$3,000 per year for airfield maintenance and repair projects. Because this alternative assumes that the plowing, mowing, and other minor upkeep and maintenance items will be provided by private contractors, additional maintenance expenses will likely be incurred. Because few airports contract out for these services, it is difficult to estimate a cost. However, a rough estimate is as follows: (1) \$13,500 per year for snow removal; (2) \$6,000 per year for mowing; and (3) and \$4,500 per year for other services such as pavement sweeping, painting, and general upkeep. In total, contracting out airfield maintenance would cost approximately \$24,000 a year.

Applying a modest 3-percent annual inflation rate over the planning period will increase airfield maintenance costs to approximately \$42,000 by the end of the planning period in 2018.

Salaries & Benefits: The salary and benefit costs for one airport manager is approximately \$62,510 per year assuming the regional average salary of \$47,000 per year and benefits totaling 33-percent of base salary. Applying a modest 3-percent annual inflation rate over the planning period will increase salary and benefit costs to approximately \$109,600 by the end of the planning period in 2018.

Indirect Overhead Costs: The airport will require some administrative support from the Town of Mansfield. Fees charged back to the airport for these services are estimated to be approximately \$2,500 per year. Applying a modest 3-percent annual inflation rate over the planning period will

increase indirect overhead costs to approximately \$4,400 by the end of the planning period in 2018.

Fuel Inventory: Under this alternative the airport would not purchase, store, or sell aviation fuel. Rather the airport would allow private airport businesses to sell the fuel, and the airport would collect a flowage fee. Therefore, there is no cost for fuel inventory as part of this alternative.

Capital Improvement Costs: The capital improvement costs would remain as described in the previous alternative. An average of \$12,500 per year was used for this alternative. Applying a modest 3-percent annual inflation rate over the planning period will increase capital improvement costs to approximately \$22,000 by the end of the planning period in 2018.

Summary of Operating Costs: Based on 1997 figures, the total cost to publicly manage the airport and use private businesses for operational and maintenance services is approximately \$100,760, including the local cost of the recommended capital improvements. By the end of the planning period in 2018, the operating costs at the airport will be approximately \$183,300.

Airport Operating Revenue Sources

This alternative assumes the airport will be publicly managed but privately operated. Potential revenues include business leases, aircraft tie-down rentals, aircraft hangar rentals, and fuel flowage fees from fuel sales (see Table 7-2).

Business Leases: This alternative assumes that the restaurant and the maintenance operation will pay a monthly rent of \$300 per month and \$1,580 per month respectively. This would yield \$22,560 in annual rent. Applying a modest 3-percent inflation rate will result in restaurant and maintenance leases totaling \$39,600 a year.

The FBO would lease the office space, hangar and the apron areas, and fueling system. The FBO would have a master lease for \$72,000 a year, or \$6,000 per month. The revenue generated from the leasing and rental of tie-down spaces would go to the FBO and not to the airport. Applying a modest 3-percent inflation rate will result in a master FBO lease totaling \$126,000 per year, or \$10,500 per month.

Fuel Sales: The FBO would be responsible for purchasing, storing, and selling all fuel from the current system. It is assumed the airport would collect a fuel flowage fee of \$.20 per gallon.

Assuming the cost of purchasing fuel is marked up by 20-percent, the approximate re-sale value of fuel in 1997 was \$2.22/gallon. In order to estimate future revenue associated with fuel sales, the estimated gallons of fuel sales were multiplied at a re-sale value that incorporates both the inflation in the cost to purchase the fuel as well as the 20-percent mark-up in price. The re-sale value of a gallon of gasoline is anticipated to reach \$3.36/gallon by the end of the planning period

in 2018. As stated above, in this alternative, the airport will collect a \$.20 per gallon fuel flowage fee. In 1997, fuel sales generated approximately \$160,000 in direct revenue. In this alternative, the airport would have collected approximately \$10,500. The amount the airport would collect via a fuel flowage fee is anticipated to increase proportionately to the number of based aircraft and operations at the airport. Future revenue from the fuel flowage fee is anticipated to be approximately \$6,500 in 2003, approximately \$8,600 in 2008, and approximately \$15,000 by the end of the planning period in 2018.

TABLE 7-2

ALTERNATIVE TWO COST AND REVENUE COMPARISON

<u>Budgetary Item</u>	<u>1997</u>	<u>2003</u>	<u>2008</u>	<u>2018</u>
Airport Costs				
Administrative	\$3,500	\$4,200	\$4,900	\$6,600
Facilities and Equipment	\$1,500	\$2,000	\$2,300	\$3,100
Airfield Maintenance	\$22,500	\$27,000	\$31,300	\$42,000
Salaries and Benefits*	\$63,500	\$70,400	\$81,600	\$109,600
Indirect Overhead Costs	\$2,500	\$2,800	\$3,200	\$4,400
Fuel Inventory	\$0	\$0	\$0	\$0
Capital Improvement Costs	\$12,500	\$14,000	\$16,000	\$22,000
TOTAL COSTS	106,000	\$120,400	\$139,300	\$187,700
Airport Revenue				
Restaurant Lease**	\$2,400	\$3,600	\$4,700	\$6,300
Aircraft Maintenance Lease	\$18,400	\$19,000	\$24,700	\$33,200
Fixed Base Operator Lease [□]	\$67,300	\$72,000	\$93,900	\$126,300
T-hangar Leases	\$0	\$0	\$0	\$0
Corporate Hangar Lease	\$0	\$0	\$0	\$0
Tie-down Leases	\$0	\$0	\$0	\$0
Fuel Flowage Fee	\$5,900	\$6,500	\$8,700	\$15,200
TOTAL REVENUE	\$94,000	\$101,100	\$132,000	\$181,000
NET REVENUE	-12,000	\$-19,300	\$-7,300	\$-6,700
Assumptions:				
3% inflation rate for costs and leases				
Staffing remains constant				
Fuel flowage fee based on 20-percent of net revenue from fuel sales, not on gross revenue				

Source: Campbell & Paris Engineers, P.C. 2001

Summary of Airport Revenues: The total revenue potential of this alternative is approximately \$94,000 in 1997. Assuming based aircraft and operations at the airport continue to grow as forecasted in Chapter Three, the airport can expect future revenues to increase to approximately \$101,000 in 2003, \$132,000 in 2008, and \$181,000 in 2018.

Conclusion

Under this scenario, the airport would be operating at a deficit throughout the planning horizon although the amount of the deficit would be decreased with each passing year. This is because the airport will be receiving an increasing amount of revenue from the fuel flowage fee without

incurring any cost associated with the purchase of the fuel. Thus, the fuel flowage fee is directly added to the airport's bottom line. Initially, the airport would be operating at approximately \$12,000 in deficit. By the end of the planning horizon, the airport would be operating at approximately \$7,000 deficit.

Again, it is important to note that the costs associated with providing increased paved tie-down and hangar space was not included in this analysis, however, potential revenue was accounted for. The costs for providing paved tie-downs was not included because the airport has many different lease structure available that could lessen the local share for airport infrastructure improvement projects. Modeling the affects of these different lease structures has on potential operating deficit or surplus is outside the scope of this financial analysis.

7.3.3 Alternative 3 - Private Management and Operation

The third alternative considered contracting the management and operation of the airport to a private company. Under this scenario, the airport would remain a municipal facility administered by the Mansfield Airport Commission, but the management and operation of the airport would be contracted to an FBO based at the airport. The Airport Manager and all operations personnel would be employees of the FBO. For the purpose of this analysis, it was assumed that the Managing FBO would lease office and hangar space from the Airport Commission and it would be responsible for snow removal and mowing services of the runways, taxiways, and apron areas. Leases with other airport tenants, including businesses and aircraft owners, would be between the Airport Commission and the individual tenant, but the managing FBO would manage and maintain each lease. This management arrangement could extend to new developments and tenants in the other airport quadrants as the future improvements to the airport are completed, if so desired by the Airport Commission. Although there are several other management and lease arrangement options, these options were not assessed in this report. The expenses and revenues of such a scenario are as follows.

Airport Operating Costs

Airport expenses include both direct and indirect costs, and the costs of needed capital improvements (see Table 7-3).

Administrative: An estimate of the administrative costs were discussed in Section 7.3.3 of this chapter. Costs included in this category include clerical support, travel, legal fees, insurance, phone and mailing, printing, and other supplies. It was recommended that the airport allow \$3,750 per year to pay for these operating costs. Applying a modest 3-percent inflation rate over the planning period will increase administrative costs to approximately \$6,600 by the end of the planning period in 2018.

Airfield Maintenance: Airfield Maintenance costs were discussed in Section 7.3.2 of this chapter. It was recommended that the airport budget approximately \$4,000 per year for airfield maintenance and repair projects. Applying a modest 3-percent annual inflation rate over the

planning period will increase airfield maintenance costs to approximately \$7,000 by the end of the planning period in 2018.

Capital Improvement Costs: The capital improvement costs would remain as described in the previous alternative. An average of \$12,500 per year was used for this alternative. Applying a modest 3-percent annual inflation rate over the planning period will increase capital improvement costs to approximately \$23,000 by the end of the planning period in 2018.

Summary of Operating Costs: An estimate of the total cost to privately manage and operate the airport is approximately \$106,000 in 1997. By the end of the planning period, the airport operating cost will be approximately \$187,700. These annual operating costs are low since many of the operational costs of the airport are being absorbed by the managing FBO and not the Town of Mansfield.

Airport Operating Revenue Sources

This alternative assumes the airport will be privately managed and operated. The Airport Commission will have one lease with an FBO at the airport who will be responsible for the management and operation of the airport. Other airport tenants would lease space from the Airport Commission and the managing FBO would be responsible for their management and operation. The managing FBO would also be responsible for the management of the various rental agreements with aircraft owners who rent hangar and tie-down space.

Business Leases: There are currently two aviation businesses and one restaurant operating at Mansfield Municipal Airport. It is assumed for the purpose of this alternative that these businesses will remain at the airport and will lease the needed building and apron space from the airport. It is assumed that the restaurant would pay \$300 per month in rent, the aircraft maintenance business approximately \$1,580 per month, and the flight school at approximately \$540 per month (the flight school operation is currently a part of the FBO that leases the entire airport, therefore, the actual lease rate for a portion of the main terminal is a general estimate). In total, the potential monthly revenue from business leases is approximately \$2,420 per month or approximately \$29,040 a year.

The airport commission would receive a portion of the revenue generated by the business leases. It was assumed that the commission would receive 60-percent of the revenue generated from the lease on the restaurant and 60-percent of the revenue generated from the lease on the aircraft maintenance building. Furthermore, it was assumed that the commission would not receive any of the revenue generated on the lease of the flight school. Applying these percentages, the commission would receive approximately \$23,700 a year, or approximately \$1,975 per month by the end of the planning period.

Aircraft Storage Leases: As more aircraft are forecasted to base at Mansfield Municipal Airport,

the amount of lease revenue generated will increase proportionately. As of 1997, there were twenty private aircraft t-hangars, one large hangar capable of storing five aircraft available to private aircraft owners, and 67 tie-downs. It was assumed that the monthly tie-down and hangar spaces would rent for \$250/month and that the large corporate hanger would rent for \$500/month for a total monthly rent of approximately \$18,400 that yields a total annual rent of approximately \$220,900.

TABLE 7-3

ALTERNATIVE THREE COST AND REVENUE COMPARISON

<u>Budgetary Item</u>	<u>% TO COMM</u>	2003			2008		2018	
		<u>1997</u>	<u>TOTAL</u>	<u>COMM.</u>	<u>TOTAL</u>	<u>COMM.</u>	<u>TOTAL</u>	<u>COMM.</u>
Airport Costs								
Administrative	100%	\$3,500	\$4,200	\$4,200	\$4,900	\$4,900	\$6,600	\$6,600
Facilities and Equipment	100%	\$6,000	\$7,000	\$7,000	\$8,200	\$8,200	\$11,000	\$11,000
Airfield Maintenance	0%	\$22,500	\$4,500	\$0	\$5,200	\$0	\$7,000	\$0
Salaries and Benefits	0%	\$173,000	\$160,200	\$0	\$185,700	\$0	\$249,500	\$0
Indirect Overhead Costs	0%	\$3,500	\$6,000	\$0	\$6,900	\$0	\$9,200	\$0
Fuel Inventory	0%	\$3,000	\$162,000	\$0	\$216,300	\$0	\$382,000	\$0
Capital Improvements	100%	\$12,500	\$14,000	\$14,000	\$16,000	\$16,000	\$22,000	\$22,000
TOTAL COSTS		\$224,000	\$357,900	\$25,200	\$443,200	\$29,100	\$687,300	\$39,600
Airport Revenue								
Restaurant Lease	60%	\$2,400	\$3,600	\$2,200	\$4,700	\$2,800	\$6,300	\$3,800
Aircraft Maintenance	60%	\$18,360	\$19,000	\$11,400	\$24,700	\$14,800	\$33,200	\$19,900
Flight School	0%	\$6,000	\$6,500	\$0	\$8,500	\$0	\$11,400	\$0
T-hangar	40%	\$43,200	\$60,000	\$24,000	\$78,200	\$31,300	\$105,200	\$42,100
Corporate Hangar	40%	\$5,700	\$6,000	\$2,400	\$7,800	\$3,100	\$10,500	\$4,200
Tie-down	40%	\$37,800	\$60,000	\$24,000	\$78,200	\$31,300	\$105,200	\$42,100
Fuel Sales	20%	\$160,000	\$194,400	\$38,900	\$259,600	\$51,900	\$458,300	\$91,700
TOTAL REVENUE		\$273,460	\$349,500	\$102,900	\$461,700	\$135,200	\$730,100	\$203,800
NET REVENUE		\$49,460	\$-8,400	\$77,700	\$18,500	\$106,100	\$42,800	\$164,200
Assumptions								
3% inflation rate for costs and leases								
Staffing remains constant								
Fuel flowage fee 20% net revenue (see Alternative One)								

Source: Campbell & Paris Engineers, P.C. 2001

The airport commission would receive a portion of the revenue generated by the aircraft storage leases. It was assumed that the commission would receive 40-percent of the revenue generated from the lease on hangars, 40-percent of the revenue generated from the lease on the corporate hangar and 40-percent of the revenue generated from the lease on tie-downs. Applying these percentages, the commission would receive approximately \$88,400 a year, or approximately \$7,400 per month by the end of the planning period.

Fuel Sales: The FBO would be responsible for purchasing, storing, and selling all fuel from the current system. It is assumed the airport would collect a fuel flowage fee of \$.20 per gallon. Assuming the cost of purchasing fuel is marked up by 20-percent, the approximate re-sale value of fuel in 1997 was \$2.22/gallon. In order to estimate future revenue associated with fuel sales, the estimated gallons of fuel sales were multiplied at a re-sale value that incorporates both the inflation in the cost to purchase the fuel as well as the 20-percent mark-up in price. The re-sale value of a gallon of gasoline is anticipated to reach approximately \$3.36/gallon by the end of the planning period in 2018.

The airport commission would receive a portion of the revenue generated from the sale of gasoline to aircraft owners and operators. It was assumed the commission would collect \$.20 per gallon through a fuel flowage fee. Applying these percentages, the commission would receive approximately \$91,700 a year, or \$7,600 per month by the end of the planning period.

When reviewing the estimated revenue from this alternative, it is important to remember that the actual value or revenue generated from entering into a management lease agreement will likely vary from business to business. For example, a company interested in managing and operating the airport may not need an aircraft hangar, or they may not want to manage the other leases on the airport, or they may not want to provide snow plowing services. Therefore, the value of the lease will depend on the services to be provided. The best method to estimate the actual value of such a lease agreement is through a bidding process. The bidding process should provide a good understanding of the actual revenue potential and the best method of providing the required services.

Conclusion

Under this alternative, the airport can expect to be operating at a surplus for the entire planning period. A review of the potential costs and revenues to publicly manage and operate Mansfield Municipal Airport revealed that the airport would be operating at a surplus of approximately \$78,000 in 2003, approximately \$106,000 in 2008, and total approximately \$164,000 by 2018. The private operation of the airport takes large expense items off of the airport commission budget (i.e., salaries and fuel inventory) yet includes revenue from the fuel flowage fee, the airport commission could realize a profit from the private management and operation of the airport.

Again, it is important to note that the costs associated with providing increased paved tie-down and hangar space was not included in this analysis, however, potential revenue was accounted for. The costs for providing paved tie-downs was not included because the airport has many different lease structure available that could lessen the local share for airport infrastructure improvement projects. Modeling the affects of these different lease structures has on potential operating deficits or surpluses is outside the scope of this financial analysis.

7.4 CONCLUSION

In very few cases is a General Aviation airport purely solvent in their operations. The mere economics of the situation does not allow for the smaller airports to turn a profit (see Table 7-4). At larger commercial hub airports, Airport Commissions have at their disposal an array of revenue generating vehicles such as passenger facility charges, landing fees, and advertising space in terminals. Economies of scale, in fact, does ring true in this situation.

The results of this analysis conclude that the only way Mansfield Municipal Airport will generate a profit is if the airport is publicly owned, yet privately operated. This is exactly the way the airport is managed today, yet the airport is not turning a profit for the Town simply because the first lease was poorly negotiated. Mansfield Municipal Airport is situated in a prime location where FBOs would operate a very lucrative operation. Thus, re-negotiating a lease agreement that allows the Town to receive a profit from the airport would not be very difficult. With a geographic location that is between Boston and New York City, Mansfield Municipal Airport should be able to find an FBO willing to negotiate to their terms.

There are many variables that influence whether an airport is publicly owned and publicly operated or publicly owned and privately operated and it has not been the goal of this report to recommend what alternative the Airport Commission should choose. Rather, the goal of this report is to briefly illustrate the economics of the different operational alternatives. Profit versus no-profit should not be the only criteria used in determining how the airport should be operated. Mansfield Municipal Airport provides the citizens of greater Mansfield with many positive social services that cannot be measured by dollars: emergency response to natural disasters, medical evacuation by helicopter or airplane, agricultural services such as crop dusting/pesticide treatments, and flight services such as flight school.

TABLE 7-4

SUMMARY TABLE OF POTENTIAL COST AND REVENUE BY ALTERNATIVE

Year	Revenue			Costs			Net Revenue		
	Alt. 1	Alt. 2	Alt. 3	Alt. 1	Alt. 2	Alt. 3	Alt. 1	Alt. 2	Alt. 3
1997	\$273,460	\$94,000	\$79,100	\$254,060	\$106,000	\$22,000	19,400	-12,000	57,100
2003	\$349,500	\$101,100	\$102,900	\$357,800	\$120,400	\$25,200	-8,300	-19,300	77,700
2008	\$461,900	\$132,000	\$135,200	\$443,200	\$139,300	\$29,100	18,700	-7,300	106,100
2018	\$730,000	\$181,000	\$203,800	\$687,200	\$187,700	\$39,600	42,800	-6,700	164,200

Source: Campbell & Paris Engineers, P.C. 2001

