

# CHAPTER 6

## IMPLEMENTATION PLAN & CAPITAL IMPROVEMENT PROGRAM

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The information contained in this chapter is intended to provide the sponsor with guidance in implementing the recommendations of this report. The recommended improvements to Mansfield Municipal Airport are needed in order to satisfy FAA design standards, to meet both current and forecasted capacity constraints, repair old pavements and to provide for the continuous planning of Mansfield Municipal Airport.

A series of projects intended to improve a facility over a period of time, such as the recommended improvements to Mansfield Municipal Airport, are typically referred to as a Capital Improvement Program (CIP). The term “program” denotes a process that must be followed in order to achieve a desired outcome. The desired outcome for Mansfield Municipal Airport is to be a modern air transportation facility that will continue to serve the needs of the Town of Mansfield well into the future.

The process by which these improvements will be implemented will involve coordination on the local level, close coordination with the MAC, local and state level environmental reviews, and approvals from the FAA. In addition to the coordination, reviews, and approvals, the financing of these improvements also requires significant attention and programming efforts.

### 6.1 LOCAL AUTHORITY

As a result of the complex decision making process involved in maintaining a transportation facility, such as Mansfield Municipal Airport, the Commonwealth of Massachusetts has established laws and regulations concerning the governing of municipal airports. At the core of these laws and regulations is the relationship created between the local municipalities and the state government. This relationship is served by the local Airport Commission and the Massachusetts Aeronautics Commission.

The authority and responsibilities of an Airport Commission are defined in MGL Chapter 90, Section 51E through 51N (see **Appendix A**). These laws define authority and responsibilities of an airport commission, and partially describe the relationship between an Airport Commission and the Massachusetts Aeronautics Commission.

### 6.2 MAC AND FAA PROGRAMMING

The Massachusetts Aeronautics Commission and the Federal Aviation Administration maintain an approved Capital Improvement Program for each public use airport in the Commonwealth that requests state or federal funding assistance. An airport CIP is established at three levels: an airport

master plan provides the CIP at the local level; the MAC's program provides the CIP at state level; and the FAA's program provides the CIP at the federal level.

The MAC relies on input from each airport commission to prepare the Statewide Airport Capital Improvement Program. Acting as the airport's agent, the MAC then provides the FAA with the required information it needs to prepare the National Airport Capital Improvement Program. Once the National Airport Capital Improvement Program is approved, and funds appropriated, the MAC receives an appropriation from the FAA. The MAC in turn, provides the appropriate funds to the local airports for projects included in the Statewide Airport Capital Improvement Program.

The programming efforts of the MAC and FAA are key to an airport receiving state and federal funding assistance for capital improvements. The local airport needs to work closely with the MAC and their CIP programming efforts. The following guidelines should be used to coordinate the development and approval of an airport's CIP with the MAC.

1. **Maintain an approved Airport Master Plan and Airport Layout Plan:** Master plans are generally updated every five years. An Airport Layout Plan (ALP) is a more flexible document and should be updated when conditions warrant. For example, if an improvement project is needed, and it is not identified on an airport's ALP, the ALP needs to be revised accordingly. An ALP can be revised by either preparing a new drawing and project justification, or if the change is minor, a written request for a temporary change can be submitted.
2. **Maintain an Updated Five-Year Capital Improvement Program:** An airport's CIP should be reviewed annually and revised if necessary. The Airport Commission should review each project on the five-year plan, including the scheduled program year and the budgeted cost, as well as the most recent airport inspection report prepared by the MAC. All revisions should be justified accordingly, and if necessary, the ALP should be revised as well. The MAC requests that all revisions be submitted with a Justification Worksheet by the 31st of January each year.
3. **Prepare and Submit Grant Pre-Applications:** Grant pre-applications for projects in the upcoming year should be submitted to the MAC by the 31st of March each year. The pre-applications should be consistent with the approved airport CIP.

### 6.3 APPROVALS AND PERMITS

In order to implement the recommendations of this report, several approvals will be needed. It is anticipated that environmental permits will be needed on the state and federal level for construction of the RSA, ROFA, access roadways and planned south parallel taxiway to Runway 14-32. These approvals and reviews are discussed below.

1. **Master Plan and ALP Approval:** This master plan and ALP must be submitted to the MAC and FAA for approval.

2. **Capital Improvement Program Approval:** The CIP included in this report must be approved by the MAC and FAA.
3. **Environmental Notification Form (ENF):** An ENF must be submitted to the Executive Office of Environmental Affairs. The ENF should include only those projects listed in the approved CIP for the airport.
4. **Certificate From the Secretary of the Executive Office of Environmental Affairs:** Based on the review and public comment of the ENF, the Secretary of the Executive Office of Environmental Affairs will publish a Certificate of Finding. The Certificate will either recommend further environmental review, usually in the form of an EIR, or will allow projects to proceed.
5. **Environmental Impact Report (EIR)/Environmental Assessment (EA):** Depending on the outcome of the ENF process, an EIR may be required for some or all of the projects included in the ENF. In addition, the FAA will make its own determination as to whether any projects included on the ALP and in the approved airport CIP would require further environmental review. If further environmental review is required by the FAA, an Environmental Assessment will need to receive a Finding of No Significant Impact (FONSI) before design proceeds.
6. **Notice of Intent (NOI):** Once the state and federal agencies complete their environmental review of the proposed projects, a Notice of Intent will likely be required for some projects in the approved airport CIP. The determinations as to whether a NOI is required for a specific project will be based on the results of the ENF process.

#### 6.4 PRIORITIZATION AND SCHEDULING OF IMPROVEMENTS

Section 4.8 contained a Development Strategy for the recommended improvements at the airport (see Table 6-1). The recommended improvements were prioritized based on the following priorities:

1. To bring the airport's facilities into full compliance with all FAA design standards;
2. To immediately increase the apron and hangar capacity to meet the current shortage of aircraft parking positions;
3. To increase revenues received by the Airport Commission from aviation activities;
4. To protect the long-term development of the airport.

The projects with the highest potential for environmental impact are the improvements to the Runway 14-32 safety areas, specifically to Back Bay Brook. This project will likely take the longest to clear through the environmental process.

Considering the impact the environmental review process will likely have on the implementation of the recommended improvements, the order in which the projects are scheduled vary from the order of priority. Some projects were grouped together into the same fiscal year in order to take advantage of similar construction methods. Table 6-2 presents the recommended Phase 1 implementation schedule and Table 6-3 shows the recommended Phase 2 implementation schedule.

TABLE 6-1

MANSFIELD MUNICIPAL AIRPORT CAPITAL IMPROVEMENT PROGRAM (CIP)

<u>Priority</u>	<u>Recommended Improvement</u>
A	Yearly Operational Plan number 1 of 5 VMP Tree Clearing
B	Yearly Operational Plan number 2 of 5
1	Environmental Assessment
2	Purchasing tractor/mower
C	Yearly Operational Plan number 3 of 5
3	Establishment of safety areas
4	New Access Road to Quadrant Four
5	Relocation of blimp tie-down
6	Construction of new apron, hangar and taxiway in Quadrant Four
D	Yearly Operational Plan number 4 of 5
7	Relocation and grading of Runway 4-22
8	Avigation easement appraisals
9	Purchasing off-airport RPZ
E	Yearly Operational Plan number 5 of 5
10	Reconstruction of the western portion of the parallel taxiway
11	Reconstruction of the t-hangar taxiways in Quadrant One
12	Airport Plan Update
13	Expanding the East Ramp
14	Purchase SRE
15	Airport Plan Update

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

**6.5 CAPITAL IMPROVEMENT PROGRAM**

Since many of the projects are available for federal funding, they are presented by federal fiscal year (October 1st through September 30<sup>th</sup>). It must be noted that all development projects at IB9 are dependent upon demand for the facility. If demand is not realized by the fiscal year the project is scheduled for, then the project will not be developed. Conversely, if the demand for the facility is realized before the fiscal year the project is scheduled for, then a modification to the CIP will be needed to reflect the project being required earlier than anticipated. It is important to remember that changes to the CIP may affect other projects programmed for Mansfield Municipal Airport as well as other airports in the Commonwealth. Revisions to the CIP should be closely coordinated with the Massachusetts Aeronautics Commission and should be properly justified.

The following section discusses projects that have been identified as being needed to develop Mansfield Municipal Airport as a self-sufficient general aviation facility. The projects will be presented in priority order and in a format that is consistent with the Massachusetts Aeronautics Commission's Project Justification Worksheet so as to make it easier for the airport sponsor to get the project funded and expedite the construction schedule.

TABLE 6-2

PHASE 1 RECOMMENDED IMPLEMENTATION SCHEDULE (2000-2005)

<u>Fiscal Year</u>	<u>Priority</u>	<u>Recommended Improvement</u>
2000	A	Yearly Operational Plan number 1 of 5
2000		VMP tree clearing
2001	B	Yearly Operational Plan number 2 of 5
2001	1	Environmental Assessment
2001	2	Purchase Tractor/Mower
2002	C	Yearly Operational Plan number 3 of 5
2002	3	Establishment of safety areas
2002	4	New access to Quadrant Four
2002	5	Relocation of blimp tie-down
2002	6	Construction of new apron, hangar and taxiway in Quadrant Four
2003	D	Yearly Operational Plan number 4 of 5
2003	7	Relocation and Grading of Runway 4-22
2003	8	Avigation Easement Appraisals
2003	9	Purchasing off airport RPZ land
2004	E	Yearly Operational Plan number 5 of 5
2005	10	Reconstruction of the western portion of the parallel taxiway.
2005	11	Reconstruction of the t-hangar taxiways in Quadrant One.
2005	12	Airport Plan Update

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

TABLE 6-3

PHASE 2 RECOMMENDED IMPLEMENTATION SCHEDULE (2006-2010)

<u>Fiscal Year</u>	<u>Priority</u>	<u>Recommended Improvement</u>
2006	13	Expanding east ramp
2007	14	Purchase SRE
2010	15	Airport Plan Update
2010	16	Reconstruct eastern portion of parallel taxiway

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

**Project Name:** Yearly Operational Plan 1 of 5

**Project Number:** A

**Priority:** High

**Project Description:** This project involves the removal or topping of vegetation located on-airport property that is penetrating established Part 77 surfaces.

**Project Justification:** Part 77 to Chapter 14 of the United States Code of Federal Regulations direct airports to either mark, light or remove obstructions penetrating the established Part 77 surfaces at an airport.

**Estimated Cost:** The cost for this project is estimated at \$130,000

**Project Name:** Yearly Operational Plan 2 of 5  
**Project Number:** B  
**Priority:** High  
**Project Description:** This project involves the removal or topping of vegetation located on-airport property that is penetrating established Part 77 surfaces.  
**Project Justification:** Part 77 to Chapter 14 of the United States Code of Federal Regulations direct airports to either mark, light or remove obstructions penetrating the established Part 77 surfaces at an airport.  
**Estimated Cost:** The cost for this project is estimated at \$5,100

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**Project Name:** Environmental Assessment  
**Project Number:** 1  
**Priority:** High  
**Project Description:** This project involves the detailed examination of potential environmental impacts associated with airport development projects.  
**Project Justification:** This project is needed in order to satisfy local, regional, state and federal-level environmental regulations promulgated by local, regional and state regulations in addition to the National Environmental Policy Act of 1969 (NEPA). The environmental assessment should examine the potential environmental impact associated with the all of the short-term capital improvement projects.  
**Estimated Cost:** The cost for this project is estimated at \$100,000.

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**Project Name:** Purchase Tractor/Mower  
**Project Number:** 2  
**Priority:** Medium  
**Project Description:** This project involves the airport sponsor purchasing a tractor and mower for airport maintenance use.  
**Project Justification:** As the current lease agreement with the fixed base operator includes all airport maintenance, the justification of the airport sponsor owning their own airport maintenance equipment was not there. However, if the management and operation of the airport is turned over to the Town after the existing lease is completed, then the airport sponsor will need to purchase their own airport maintenance equipment.  
**Estimated Cost:** The total project cost is estimated to be approximately \$50,000.

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**Project Name:** Yearly Operational Plan 3 of 5  
**Project Number:** C  
**Priority:** High  
**Project Description:** This project involves the removal or topping of vegetation located on-airport property that is penetrating established Part 77 surfaces.

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**Project Justification:** Part 77 to Chapter 14 of the United States Code of Federal Regulations direct airports to either mark, light or remove obstructions penetrating the established Part 77 surfaces at an airport.

**Estimated Cost:** The cost for this project is estimated at \$5,200

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**Project Name:** Establishment of safety areas

**Project Number:** 3

**Priority:** High

**Project Description:** This project involves the provision of adequate runway object free area and runway safety area for Runway 14-32.

**Project Justification:** The Federal Aviation Administration requires the provision of adequate runway object free area and runway safety area, based on the airport reference code for the airport. Currently, Runway 14-32 does not have adequate ROFA or RSA. This project will construct adequate ROFA and RSA off the ends of Runway 14-32 to the require 300-foot length beyond the physical end of the runway.

**Estimated Cost:** The cost for this project is estimated at \$250,000

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**Project Name:** Quadrant Four Access Road

**Project Number:** 4

**Priority:** High

**Project Description:** This project involves the construction of an access roadway to Quadrant Four at the airport.

**Project Justification:** With the forecasted increase in based aircraft and the limited land available for development in Quadrant One, it is necessary for the airport to begin development of aviation related facilities in Quadrant Four. Public and emergency access to this area will need to be provided.

**Estimated Cost:** The total project cost is estimated to be approximately \$225,000.

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**Project Name:** Relocation of Blimp Tie-Down

**Project Number:** 5

**Priority:** Medium

**Project Description:** This project involves the relocation of the existing blimp tie-down in Quadrant Four to another location in Quadrant Four.

**Project Justification:** The existing location of the blimp tie-down in Quadrant Four presents an obstruction to the Part 77 transitional surfaces to both Runway 4-22 and Runway 14-32 when a blimp is located at the tie-down. The penetration is such that when a blimp is present, Runway 4-22 is non-operational and a NOTAM is filed indicating such.

**Estimated Cost:** The total project cost is estimated to be about \$100,000.

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**Project Name:** New Apron, Taxiway and FBO Development in Quadrant Four  
**Project Number:** 6  
**Priority:** High  
**Project Description:** This project involves the construction of a new aircraft parking apron, taxiway and FBO facility in Quadrant Four at the airport.  
**Project Justification:** With the forecasted increase in based aircraft and the limited land available for development in Quadrant One, it is necessary for the airport to begin development of aviation related facilities in Quadrant Four in order to continue to provide adequate facilities to meet forecasted demand.  
**Estimated Cost:** The total project cost is estimated to be approximately \$975,000.

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**Project Name:** Yearly Operational Plan 4 of 5  
**Project Number:** D  
**Priority:** High  
**Project Description:** This project involves the removal or topping of vegetation located on-airport property that is penetrating established Part 77 surfaces.  
**Project Justification:** Part 77 to Chapter 14 of the United States Code of Federal Regulations direct airports to either mark, light or remove obstructions penetrating the established Part 77 surfaces at an airport.  
**Estimated Cost:** The cost for this project is estimated at \$5,300

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**Project Name:** Relocation of Runway 4-22  
**Project Number:** 7  
**Priority Ranking:** High  
**Project Description:** This project involves the relocation of the turf runway by approximately 70-feet to the east. The reconstructed runway will maintain a true bearing similar to the existing runway (N28-59-31.34E/S207-59-40.99W). However the runway will need to be shortened by approximately 100 feet to allow the runway safety area and runway object free area to remain on airport property.  
**Project Justification:** As the FAA updates and improves their airport design standards, certain facilities will have to be improved. A analysis of the airport's current facilities has determined that current separation between the turf runway and the terminal taxiway does not meet current standards. This issue need to be addressed as soon as possible in order to comply with current design and safety standards.  
**Estimated Cost:** The total project cost is estimated to be about \$75,000.

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**Project Name:** Avigation Easements Appraisals  
**Project Number:** 8  
**Priority:** High  
**Project Description:** This project involves the negotiation and ultimate purchase or conveyance of air rights over parcels of land that have been identified as having obstructions to the established Part 77 surfaces at the airport.  
**Project Justification:** Both thresholds to Runway 14-32 and Runway 4-22 are displaced because of both natural and man-made obstructions to established Part 77 surfaces. These obstructions compromise the safety of operations at the airport and need to be removed in order to comply with current FAA directives.

**Estimated Cost:** The cost for this project is estimated at \$200,000

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**Project Name:** Purchasing Off-Airport RPZ Land  
**Project Number:** 9  
**Priority:** High  
**Project Description:** This project involves the purchase of property interest on off-airport portions of the runway protection zone.  
**Project Justification:** The Federal Aviation Administration recommends that an airport sponsor obtain sufficient property interest over runway protection zone land that is located off airport property. This recommendation is to ensure that the airport can control and limit development within the runway protection zone thus increasing the safety of operations and the safety of persons in the vicinity of the airport.

**Estimated Cost:** The cost for this project is estimated at \$250,000

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**Project Name:** Yearly Operational Plan 5 of 5  
**Project Number:** E  
**Priority:** High  
**Project Description:** This project involves the removal or topping of vegetation located on-airport property that is penetrating established Part 77 surfaces.  
**Project Justification:** Part 77 to Chapter 14 of the United States Code of Federal Regulations direct airports to either mark, light or remove obstructions penetrating the established Part 77 surfaces at an airport.

**Estimated Cost:** The cost for this project is estimated at \$5,400

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**Project Name:** Reconstruction of Western Portion of Parallel Taxiway  
**Project Number:** 10  
**Priority:** Medium  
**Project Description:** This project will involve the reconstruction of the western portion of the parallel taxiway.  
**Project Justification:** The need to reconstruct this payment section is a result of its current age and condition. A recent review of this pavement indicated that it had

reached its useful life and is in need of replacement. The pavement has been properly maintained over the years but normal wear and environmental conditions has caused its deterioration. A full reconstruction of this pavement areas is warranted.

**Estimated Cost:** The total project cost is estimated to be about \$335,000.

**Project Name:** Reconstruction of West T-Hangar Taxilanes

**Project Number:** 11

**Priority:** Medium

**Project Description:** This project will involve the reconstruction of the taxilanes between the existing T-Hangars in Quadrant 1.

**Project Justification:** The need to reconstruct these taxilanes is a result of their current age and condition. A recent review of these pavements indicates that they have reached their useful life and are in need of replacement. The pavements have been properly maintained over the years but normal wear and environmental conditions have deteriorated the pavements. A reconstruction of these pavement areas is warranted.

**Estimated Cost:** The total project cost is estimated to be about \$200,000.

**Project Name:** Airport Plan Update

**Project Number:** 12

**Priority:** Low

**Project Description:** This project involves the continuation of the airport planning effort for Mansfield Municipal Airport.

**Project Justification:** To ensure the continued development at the airport to accommodate future aviation demand, it is necessary for the airport to complete an Airport Plan Update that will identify future growth at the airport and what development projects are necessary to accommodate the predicted future growth.

**Estimated Cost:** The total project cost is estimated to be approximately \$125,000.

**Project Name:** Expansion of East Apron

**Project Number:** 13

**Priority:** Medium

**Project Description:** This project involves the expansion of the existing East Apron within Quadrant One. The East Apron will be expanded to provide an additional 22 aircraft parking positions to its current capacity of 10 aircraft. The project will also involve an extension to the terminal taxiway to improve access to the expanded apron.

**Project Justification:** The forecasts of future activity indicates that the airport may experience a growth of aircraft based at the airport beyond the capacity of the existing

apron and hangar areas within Quadrant 1, and the proposed apron and hangar areas within Quadrant 4. If a higher than expected growth occurs, the airport will need additional apron areas. The logical location for the additional apron areas is adjacent to the current East Apron.

**Estimated Cost:** The total project cost is estimated to be about \$625,000.

**Project Name:** Purchase Snow-Removal Equipment

**Project Number:** 14

**Priority:** Medium

**Project Description:** This project involves the airport sponsor purchasing snow removal equipment to supplement SRE already owned by the airport sponsor.

**Project Justification:** As the current lease agreement with the fixed base operator includes all snow removal operations, the justification of the airport sponsor owning their own airport SRE was not there. However, if the management and operation of the airport is turned over to the Town after the existing lease is completed, then the airport sponsor will need to purchase their own SRE.

**Estimated Cost:** The total project cost is estimated to be approximately \$250,000.

**Project Name:** Airport Layout Plan Update

**Project Number:** 15

**Priority:** Low

**Project Description:** This project involves the completion of an update to the approved airport layout plan.

**Project Justification:** In order for the airport to continue to grow and offer additional aviation services to meet local demands as they warrant, an update to the airport layout plan is justified to ensure that all growth is in accordance with MAC and FAA design guidelines.

**Estimated Cost:** The total project cost is estimated to be approximately \$100,000.

**Project Name:** Reconstruct Eastern Portion of Parallel Taxiway

**Project Number:** 16

**Priority:** Low

**Project Description:** This project involves the reconstruction of the eastern portion of the existing parallel taxiway to Runway 14-32.

**Project Justification:** The existing eastern portion of the parallel taxiway to Runway 14-32 was recently reconstructed in the 1990s and will near the end of its design life near 2015. Any capacity enhancing improvements to the taxiway (i.e., additional taxiway connections to the runway, bypass taxiway, etc.) will be included in the project to maximize the airfield capacity at 1B9.

Estimated Cost:           The total project cost is estimated to be approximately \$750,000.

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#### **8.6.1 Short-Term Capital Improvement Program**

The short-term CIP includes projects that are needed to meet FAA Design Standards, current capacity deficiencies, repair of aging facilities, and to meet the anticipated increase in demand. The short-term capital improvement program for Mansfield Municipal Airport identifies a total of \$3.2 million in airport related development. The FAA obligation is approximately \$2.8 million, MAC obligation is approximately \$260,000 while the local obligation is approximately \$105,000.

#### **8.6.3 Long-Term Capital Improvement Program**

The long-term CIP includes projects needed to continue the economic development initiative at the airport. None of the projects in the long-term CIP are eligible for federal funding. The long-term capital improvement program identifies a total of \$1.25 million in airport related development. The FAA obligation is approximately \$1.1 million, MAC obligation is approximately \$88,000 while the local obligation is approximately \$38,000 (see Table 6-4).