
Chapter 8

Capital Improvement Plan & Financial Analysis

Implementation of a preferred alternative concept for an airport master plan is guided by a Capital Improvement Plan (CIP) that establishes a timeline and cost estimate for each planned improvement project. CIPs assist with identifying the level of financial, staffing, and scheduling resources needed for each improvement while organizing the timing of necessary preliminary projects, such as design plans, land acquisitions, and environmental reviews. CIPs also illustrate the capital needs of an airport, informing and guiding funding allocation decisions of federal, state, and local officials.

This chapter provides the recommended 20-year CIP for the University Park Airport (Airport) based upon the selected preferred alternative concept for this master planning effort. It further provides a detailed short-term recommended CIP for Fiscal Years (FY) 2015-2019 and considers historical and forecasted operating revenues and expenditures for the Airport to project future outcomes. The evaluation of operating revenues and expenses is important to understanding the Airport's capacity to generate sufficient revenues to fund ongoing operations and obligations in support of these development activities.

This chapter is organized in the following sections:

- 8.1 Capital Improvement Plan
- 8.2 Capital Improvement Plan Funding Resources
- 8.3 Short-Term Capital Improvement Plan Funding Analysis
- 8.4 Conclusions and Recommendations – Capital Improvement Plan
- 8.5 Financial Analysis
- 8.6 Conclusions and Recommendations – Financial Analysis

In the context of examining both the proposed development plan and operating capacity of the Airport, the following factors were considered in developing this financial feasibility analysis:

- CIP costs are based on 2014 construction dollar values and also include contingencies, design, and construction management costs.
- CIP projects were analyzed for Federal Aviation Administration (FAA) Airport Improvement Program (AIP), Pennsylvania Department of Transportation Bureau of Aeronautics (PennDOT), and Passenger Facility Charge Revenue (PFC) funding eligibility.
- Projections of enplaned passengers as presented in Chapter 3 coupled with actual enplanement data for the period FY2015-2019 to derive estimated FAA AIP entitlements and PFC revenues required to complete the short-term program.

- A funding plan for the five-year CIP utilizing FAA AIP entitlement and discretionary funds as well as the PennDOT; PFC revenues; The Pennsylvania State University (Penn State) funds; and Centre County Airport Authority (CCAA) resources.
- The financial structure of the Airport and its agreements with airlines and other major tenants.
- Actual operating revenues and expenses for the period FY2010 through FY2013.
- Estimated operating revenues and expenses for the Airport for FY2014.
- Budgeted operating revenues and expenses for the Airport for FY2015.
- Projections of operating revenues, expenses, and net cash flows from the operation of the Airport between FY2015 through FY2019 based on historical actual (FY2010–2013), estimated actual (FY2014), and Penn State’s adopted budget for FY2015.
- A cash flow analysis for the planning period FY2015 through FY2019 identifying the sources and uses of funds applied to the CIP.

The techniques utilized in this analysis are consistent with industry practices that are used to evaluate the feasibility of large-scale CIPs. While it is believed that the approach and assumptions are reasonable, it should be recognized that some assumptions regarding future trends and events might not materialize. Achievement of the proposed CIP as well as the operating results described herein is dependent upon the occurrences of future events and may differ from what is planned in this chapter.

8.1 Capital Improvement Plan

CIPs summarize the short-, medium-, and long-term development plans of an airport, outlining infrastructure improvement projects, such as runway and taxiway extensions; operational needs, such as pavement rehabilitations; and equipment purchases, such as aircraft rescue and firefighting (ARFF) and snow removal equipment (SRE) vehicles. Typically covering a 20-year planning period, CIPs include the capital needs associated with each proposed project and are updated regularly based on changing conditions and priorities. CIPs must also be coordinated with projects identified in master plans and Airport Layout Plans (ALPs) and include projects both eligible and ineligible to receive federal funding. Projects eligible to receive federal funding from the AIP must be identified on an airport’s CIP as this source of information updates the FAA database used in awarding funds. In addition to projecting the level of financial resources needed for each proposed project, CIPs also balance scheduling conflicts, identify timelines for environmental review requirements, and address property needs, such as leases, easements, and land acquisition. All airports eligible to receive AIP funding are required to maintain a current CIP with the FAA, which identifies projects that are planned to occur at an airport over a specified period of time. This plan further estimates the order of implementation and calculates total project costs and funding sources.

As summarized in **Table 8-1**, approximately \$173 million in improvement projects, equipment purchases, and planning initiatives are required to complete the Airport’s CIP over the next 20 years. Projects are listed chronologically based upon priority and grouped by short-term (2015-2019), mid-term (2020-2025), and long-term (2025-2035) needs with a breakdown of anticipated funding sources included.

Table 8-1: Capital Improvement Plan

Year	Project	Total Cost	Potential Funding Sources					Other
			FAA Entitlement	FAA Discretionary	PENN DOT	PFC	Airport Authority	
Short-term Improvements (2015-2019)								
2015	SRE Equipment - Anti-Icing Equipment	\$ 50,000	\$ 45,000	\$ -	\$ 2,500	\$ 2,500	\$ -	\$ -
2015	Rehabilitate GA Apron Phase I	\$ 4,000,000	\$ 3,600,000	\$ -	\$ 200,000	\$ 200,000	\$ -	\$ -
2015	Airline Terminal Parking Expansion Phase I	\$ 1,000,000	\$ -	\$ -	\$ -	\$ -	\$ 1,000,000	\$ -
2016	Rehabilitate GA Apron Phase II / Relocate Taxiway D / Hangar Area Site Prep	\$ 9,300,000	\$ 2,109,790	\$ 6,260,210	\$ 465,000	\$ 465,000	\$ -	\$ -
2016	Concept Budget Report and Design Consolidated ARFF/SRE Building	\$ 1,000,000	\$ -	\$ 900,000	\$ 50,000	\$ 50,000	\$ -	\$ -
2016	Airline Terminal Parking Expansion Phases II and III	\$ 2,500,000	\$ -	\$ -	\$ -	\$ -	\$ 2,500,000	\$ -
2017	Relocate Taxiway J (north of Twy A) / Expand Cargo Apron	\$ 2,000,000	\$ 1,529,921	\$ 270,079	\$ 100,000	\$ 100,000	\$ -	\$ -
2017	Terminal Apron Expansion for Consolidated ARFF/SRE Building	\$ 1,500,000	\$ -	\$ 1,350,000	\$ 75,000	\$ 75,000	\$ -	\$ -
2018	Consolidated ARFF/SRE Building	\$ 10,000,000	\$ 1,540,120	\$ 7,459,880	\$ 500,000	\$ 500,000	\$ -	\$ -
2018	Design Rehabilitate & Strengthen Taxiway A & Paved Shoulders	\$ 400,000	\$ -	\$ 360,000	\$ 20,000	\$ 20,000	\$ -	\$ -
2019	Rehabilitate & Strengthen Taxiway A / Install 20' Paved Shoulders (Including Twy J and hold aprons)	\$ 5,000,000	\$ 1,565,450	\$ 2,934,550	\$ 250,000	\$ 250,000	\$ -	\$ -
2019	SRE Equipment - Multi-purpose Unit	\$ 850,000	\$ -	\$ 765,000	\$ 42,500	\$ 42,500	\$ -	\$ -
2019	SRE Equipment - Multi-purpose Unit	\$ 850,000	\$ -	\$ 765,000	\$ 42,500	\$ 42,500	\$ -	\$ -
Total Short-term Improvements		\$38,450,000	\$10,390,281	\$ 21,064,719	\$1,747,500	\$ 1,747,500	\$ 3,500,000	\$ -
Mid-Term Improvements (2020-2024)								
	ARFF Vehicle	\$ 1,000,000	\$ 900,000	\$ -	\$ 50,000	\$ 50,000	\$ -	\$ -
	RVR's (Midfield and Rollout)	\$ 600,000	\$ 540,000	\$ -	\$ 30,000	\$ 30,000	\$ -	\$ -
	Design Rehabilitate Taxiways B and C	\$ 150,000	\$ 135,000	\$ -	\$ 7,500	\$ 7,500	\$ -	\$ -
	Rehabilitate Taxiways B and C	\$ 2,000,000	\$ -	\$ 1,800,000	\$ 100,000	\$ 100,000	\$ -	\$ -
	Design Rehabilitate Runway 6/24 & 25' Paved Shoulders	\$ 450,000	\$ 405,000	\$ -	\$ 22,500	\$ 22,500	\$ -	\$ -
	Rehabilitate Runway 6/24 / Install 25' Paved Shoulders (Including Relocation of Twy C)	\$ 6,000,000	\$ -	\$ 5,400,000	\$ 300,000	\$ 300,000	\$ -	\$ -
	Rehabilitate Runway 6/24 Lighting & Signage	\$ 1,250,000	\$ -	\$ 1,125,000	\$ 62,500	\$ 62,500	\$ -	\$ -
	Terminal Improvements/ Rehabilitation/ Loading Bridge (Est 75% Eligible)	\$ 3,000,000	\$ 1,000,000	\$ -	\$ -	\$ -	\$ 2,000,000	\$ -
	Rehabilitate GA Apron (West)	\$ 1,000,000	\$ -	\$ 900,000	\$ 50,000	\$ 50,000	\$ -	\$ -
	Expand Deicing/GA Apron, Relocate Fuel Farm	\$ 3,700,000	\$ -	\$ 3,330,000	\$ 185,000	\$ 185,000	\$ -	\$ -
	Storm Water Master Plan	\$ 150,000	\$ 135,000	\$ -	\$ 7,500	\$ 7,500	\$ -	\$ -
	Storm Water Detention Improvements	\$ 1,000,000	\$ 900,000	\$ -	\$ 50,000	\$ 50,000	\$ -	\$ -
	Thangar Units (16 units)	\$ 1,600,000	\$ -	\$ -	\$ 800,000	\$ -	\$ -	\$ 800,000
	Expand Deicing Apron	\$ 2,500,000	\$ 2,250,000	\$ -	\$ 125,000	\$ 125,000	\$ -	\$ -
	Land Acquisition (Spearly Property; approx 60 acres within RPZ)	\$ 4,000,000	\$ -	\$ 3,600,000	\$ 200,000	\$ 200,000	\$ -	\$ -
	Runway 6 MALSR	\$ 1,750,000	\$ 1,575,000	\$ -	\$ 87,500	\$ 87,500	\$ -	\$ -
	Airport Master Plan Update	\$ 750,000	\$ 675,000	\$ -	\$ 37,500	\$ 37,500	\$ -	\$ -
	Expand GA Terminal / Airport Administration Offices	\$ 1,300,000	\$ -	\$ -	\$ 650,000	\$ -	\$ -	\$ 650,000
	Rehabilitate Terminal Apron	\$ 500,000	\$ -	\$ 450,000	\$ 25,000	\$ 25,000	\$ -	\$ -
	Rehabilitate Deicing Apron	\$ 300,000	\$ -	\$ 270,000	\$ 15,000	\$ 15,000	\$ -	\$ -
	Airport Perimeter Service Road	\$ 900,000	\$ -	\$ 810,000	\$ 45,000	\$ 45,000	\$ -	\$ -
	SRE Equipment	\$ 900,000	\$ -	\$ 810,000	\$ 45,000	\$ 45,000	\$ -	\$ -
Total Mid-term Improvements		\$34,800,000	\$ 8,515,000	\$ 18,495,000	\$ 2,895,000	\$ 1,445,000	\$ 2,000,000	\$ 1,450,000
Long-term Improvements (2025-2034)								
	T-hangar Units (20 units)	\$ 2,000,000	\$ -	\$ -	\$ 1,000,000	\$ -	\$ -	\$ 1,000,000
	Southwest Commercial Aeronautical Development Area Site Prep	\$ 2,000,000	\$ 1,800,000	\$ -	\$ 100,000	\$ 100,000	\$ -	\$ -
	Runway Extension - Environmental Assessment	\$ 250,000	\$ 225,000	\$ -	\$ 12,500	\$ 12,500	\$ -	\$ -
	Land Acquisition (Robine Property 6.4 Acres)	\$ 420,000	\$ 378,000	\$ -	\$ 21,000	\$ 21,000	\$ -	\$ -
	Land Acquisition (Tressler Property 8.0 Acres)	\$ 520,000	\$ 468,000	\$ -	\$ 26,000	\$ 26,000	\$ -	\$ -
	Runway Extension - Relocate Rock Road	\$ 1,500,000	\$ 1,350,000	\$ -	\$ 75,000	\$ 75,000	\$ -	\$ -
	Runway Extension Construction (1,500')	\$ 5,000,000	\$ -	\$ 4,500,000	\$ 250,000	\$ 250,000	\$ -	\$ -
	I-99 Connector Road	\$ 10,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 10,000,000
	SRE Equipment	\$ 900,000	\$ 810,000	\$ -	\$ 45,000	\$ 45,000	\$ -	\$ -
	Relocate Fox Hill Road	\$ 12,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 12,000,000
	New Terminal - Environmental Assessment	\$ 500,000	\$ 450,000	\$ -	\$ 25,000	\$ 25,000	\$ -	\$ -
	New Terminal - Roadway Improvements	\$ 6,200,000	\$ -	\$ -	\$ -	\$ -	\$ 6,200,000	\$ -
	New Terminal - Parking Improvements	\$ 5,000,000	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -
	New Terminal - Apron Improvements	\$ 11,600,000	\$ 5,000,000	\$ 4,020,000	\$ 580,000	\$ 2,000,000	\$ -	\$ -
	New Terminal Building	\$ 42,000,000	\$ -	\$ 7,500,000	\$ 2,100,000	\$ 12,400,000	\$ 20,000,000	\$ -
Total Long-term Improvements		\$99,890,000	\$10,481,000	\$ 16,020,000	\$ 4,234,500	\$ 14,954,500	\$ 31,200,000	\$ 23,000,000

Notes: ¹ Local or State surface transportation funded projects

This CIP is subject to revision and is to be updated regularly by the Airport

All costs in 2014 dollars.

Source: University Park Airport; Mead & Hunt, Inc.; GAI Consultants

The primary objective of the proposed Airport short-term CIP is to:

- Complete the rehabilitation of airfield pavement (general aviation [GA] apron, Taxiway A, Taxiway J, and aircraft hold aprons)
- Relocate Taxiway D
- Construct site improvements to support future corporate hangars
- Expand the cargo apron
- Construct a consolidated ARFF / SRE building
- Expand air carrier passenger parking facilities
- Acquire replacement SRE.

These projects are estimated to require approximately \$38.45 million in funding.

The CIP for the mid- and long-term time planning horizons is projected to cost approximately \$134.7 million and is slated to focus on:

- Runway and taxiway pavement rehabilitation
- Addition of paved shoulders to the runway and taxiway
- Terminal improvements
- Property acquisition
- A new connector roadway to serve the Airport
- Deicing and GA apron expansions
- Additional aircraft storage facilities
- A runway extension
- A new terminal building.

These projects are more susceptible to changing priorities and needs and could see the time frame of their implementation adjusted based on varying factors. While accurate for master planning purposes, actual project costs will likely vary from these planning estimates once project design and engineering estimates are developed. **Table 8-2** presents a summary of funding sources for the 20-year Airport CIP.

Table 8-2: Proposed Capital Improvement Plan Funding Sources

Funding Source	Amount	Percent of Total
FAA AIP	\$85,000,000	49.0%
PennDOT	\$8,900,000	5.0%
PFCs	\$18,147,000	10.0%
CCAA	\$36,700,000	21.0%
Other	\$24,450,000	14.0%
TOTAL	\$173,140,000	100.0%

Sources: The Pennsylvania State University; Mead & Hunt, Inc.; GAI Consultants; Delta Airport Consultants

8.2 Capital Improvement Plan Funding Resources

Several funding resources are typically available to accommodate the capital demands of an Airport to implement projects listed in their CIP plan. These funding sources range from federal and state programs to local mechanisms including CCAA resources and the Airport's PFC program. The following section reviews these resources and identifies projects included in the CIP plan that are eligible to receive funding from each.

8.2.a Airport Improvement Program Grants

The AIP was created by the Airport and Airway Improvement Act of 1982 and is administered by the FAA. Federal funding set aside for this program is distributed for eligible projects at an airport, including planning, airfield construction and navigational equipment, navigational aids (NAVAIDs), and environmental mitigation. The AIP is authorized by Chapter 471 of Title 49 of the United States Code (U.S.C.). Title 49 U.S.C., Section 47104(a) authorizes the FAA Administrator to make grants for airport planning and development in the United States and certain other entities. AIP grants assist the development of public-use airports served by air carriers, commuters, air cargo and general aviation and as noted above are awarded based upon formula (Entitlements) as well as through a prioritization process (Discretionary).

Airports supporting commercial airline service are classified as Primary (over 10,000 enplanements) or Non-Primary (from 2,500 up to 10,000 enplanements) based on the number of annual enplanements. Primary commercial service airports are further classified based on the percentage of annual passenger enplanements in comparison with all passenger enplanements that occur annually at airports in the U.S. Since the Airport enplanes more than 10,000 passengers annually but accounts for less than 0.05 percent of all annual enplanements in the United States, it is categorized as a non-hub primary airport. Each primary airport entitlement funding apportionment is based upon the number of passenger boardings. If Congress enacts legislation allocating full funding, the minimum amount apportioned to the sponsor of a primary airport is \$650,000, and the maximum is \$22,000,000 (Title 49 U.S.C., Section 47114I [1][B]). These allocations are calculated as follows:

- \$7.80 for each of the first 50,000 passenger boardings
- \$5.20 for each of the next 50,000 passenger boardings
- \$2.60 for each of the next 400,000 passenger boardings
- \$0.65 for each of the next 500,000 passenger boardings
- \$0.50 for each passenger boarding in excess of 1 million

Also, in any fiscal year in which the total amount made available under Title 49 U.S.C., Section 48103 is \$3.2 billion or more, the amount to be apportioned to a sponsor is increased by doubling the amount that would otherwise be apportioned under the formula. Under this scenario, the minimum apportionment to an airport sponsor is increased to \$1,000,000 rather than \$650,000, and the maximum apportionment to a sponsor is increased to \$26,000,000 rather than the \$22,000,000. The FAA Modernization and Reform Act of 2012 provides annual authorized funding levels for AIP in the amount of \$3.35 billion per year for federal fiscal years 2012 through 2015. Provided the annual appropriation by Congress is equal to or greater than

\$3.2 billion, the minimum entitlement for primary airports (i.e., an airport with a minimum of 10,000 enplaned passengers) will total \$1.0 million a year during this period.

Both entitlement and discretionary AIP funds are available to primary non-hub airports with entitlement amounts awarded based on the level of annual enplanements and discretionary amounts awarded on a project-by-project basis. FAA funding participation is based on the AIP as reauthorized in 2012. To this end, this analysis assumes continuance of AIP funding through the planning period absent major changes to appropriation levels by Congress. However, in the past, the AIP has experienced fluctuations in levels of funding and interruptions in availability of resources. Despite historical fluctuations in authorized appropriations and current potential threats to existing funding levels, the controlling objectives of this proposed plan are to maximize the use of resources from the AIP and to minimize costs to Penn State.

8.2.b Pennsylvania Department of Transportation Bureau of Aeronautics

Funding for eligible airport projects in the Commonwealth of Pennsylvania are primarily funded through PennDOT's Aviation Development Program (ADP). The ADP is authorized by the Pennsylvania Laws Relating to Aviation, Act 164 of 1984, the Aviation Code, as amended (74 PA. C.S. Part III) and administered in accordance with the Regulations Relating to Pennsylvania Aviation (67 PA Code Chapter 473). This legislation authorizes PennDOT to provide assistance to all public-use airports and provide for expanded airport development. Pennsylvania's responsibilities under this law are to preserve, upgrade, and when practicable, construct new airport facilities. The ADP is funded through the collection of state taxes on jet fuel that are deposited into Pennsylvania's Aviation Restricted Account. All licensed, public-use airports in the Commonwealth are eligible for ADP grant funding. PennDOT established quantitative project selection criteria to evaluate project requests for ADP grant funding. PennDOT further provides funding assistance to the Commonwealth's airport system through its Transportation Assistance Program/Capital Budget Program (TAP). This program provides financial assistance for non-highway projects from the Commonwealth's General Fund. The TAP program is commonly referred to as "Capital Budget" and includes aviation, rail, and transit projects.

Airports meeting the eligibility standards are eligible for 50 percent of the non-federal share of eligible project costs. For purposes of this analysis, it is assumed that the Airport will receive funding through PennDOT's ADP for 50 percent of the non-federal share of projects.

8.2.c Passenger Facility Charge Revenue

PFCs allow an airport to collect a fee from each enplaned passenger to aid in the implementation of its CIP. Collection and use of PFC revenues is authorized under the Aviation Safety and Capacity Expansion Act of 1990 and Part 158 of the Federal Aviation Regulations, the Passenger Facility Charge program (14 CFR, Part 158). PFCs are collected for enplaning passengers at an airport and are used to finance all or portions of capital improvements that are identified by the airport sponsor and approved by the FAA. To be eligible for PFC funding, a project must preserve or enhance safety, security, or capacity of the national air transportation system; reduce or mitigate airport noise from an airport; or provide opportunities for enhanced competition between or among air carriers. This funding mechanism helps an airport raise local

funds for improvement projects that can be used in conjunction with other federal and state resources. Currently, federal regulations allow an airport to collect a PFC fee up to \$4.50 per enplaned passenger.

8.2.d Airport Authority Funding

The CCAA has historically funded various projects at the Airport including improvements to the terminal building, parking area, and the air traffic control tower. It is assumed for purposes of this plan that the CCAA will continue to be responsible for funding air carrier terminal area improvements including automobile parking (short-term), improvements/upgrades to the existing air carrier terminal (mid-term), and construction of a new air carrier terminal and associated landside infrastructure (long-term).

8.2.e Other Funding

The mid- and long-term phases of this CIP assume that the existing GA terminal building and the Airport's Administrative offices are to be expanded during the program period. Moreover, 36 additional t-hangars, improvements to Fox Hill Road, and a new connector road from Interstate 99 are to be constructed during this period. These projects are not currently eligible for AIP or PFC funding. The roadway improvements are expected to be financed through other federal, state, and/or local sources while the t-hangars are likely to be financed through the University or other private source.

8.3 Short-Term Capital Improvement Plan Funding Analysis

As presented in **Table 8-3**, an investment totaling approximately \$38.5 million is necessary between fiscal years 2015 and 2019 to complete the recommended aviation safety, preservation, and capacity enhancement projects programmed in this short-term plan. The overall funding strategy for this plan is built upon utilizing a mix of FAA AIP entitlement and discretionary grants -- \$31.5 million (81.7%); PENNDOT funding allocations -- \$1.7 million (4.5%); PFC revenues -- \$1.7 million (4.5%); and CCAA funds -- \$3.5 million (9.1%).

Table 8-3: Short-Term Capital Improvement Plan

Year	Project	Total Cost	Projected Funding Sources				Airport Authority
			FAA Entitlement	FAA Discretionary	PENN DOT	PFC	
2015	Rehabilitate GA Apron Phase I	\$4,000,000	\$3,600,000	-	\$200,000	\$200,000	-
	SRE Equipment - Anti-Icing Equipment	\$50,000	\$45,000	-	\$2,500	\$2,500	-
	Airline Terminal Parking Expansion Phase I	\$1,000,000	-	-	-	-	\$1,000,000
	Year 2015 Total Project Costs	\$5,050,000	\$3,645,000	\$0	\$202,500	\$202,500	\$1,000,000
2016	Rehabilitate GA Apron Phase II / Relocate Taxiway D / Hangar Area Site Prep	\$9,300,000	\$589,931	\$7,780,069	\$465,000	\$465,000	-
	Concept Budge Report and Design Consolidated ARFF/ SRE Building	\$1,000,000	-	\$900,000	\$50,000	\$50,000	-
	Airline Terminal Parking Expansion Phases II and III	\$2,500,000	-	-	-	-	\$2,500,000
	Year 2016 Total Project Costs	\$12,800,000	\$589,931	\$8,680,069	\$515,000	\$515,000	\$2,500,000
2017	Relocate Taxiway F/ Expand Cargo Apron	\$2,000,000	\$1,529,921	\$270,079	\$100,000	\$100,000	-
	Terminal Apron Expansion for Consolidated ARFF/SRE Building	\$1,500,000	-	\$1,350,000	\$75,000	\$75,000	-
	Year 2017 Total Project Costs	\$3,500,000	\$1,529,921	\$1,620,079	\$175,000	\$175,000	\$0
2018	Consolidated ARFF/SRE Building	\$10,000,000	\$1,540,120	\$7,459,880	\$500,000	\$500,000	-
	Design Rehabilitate & Strengthen Taxiway A & Paved Shoulders	\$400,000	-	\$360,000	\$20,000	\$20,000	-
	Year 2018 Total Project Costs	\$10,400,000	\$1,540,120	\$7,819,880	\$520,000	\$520,000	\$0
2019	Rehabilitate & Strengthen Taxiway A / Install 20' Paved Shoulders (Including Twy J and hold aprons)	\$5,000,000	\$1,565,450	\$2,934,550	\$250,000	\$250,000	-
	SRE Equipment - Multi-purpose Unit	\$850,000	-	\$765,000	\$42,500	\$42,500	-
	SRE Equipment - Multi-purpose Unit	\$850,000	-	\$765,000	\$42,500	\$42,500	-
	Year 2019 Total Project Costs	\$6,700,000	\$1,565,450	\$4,464,550	\$335,000	\$335,000	\$0
TOTAL PROJECT COSTS FY 2013 - FY 2017		\$38,450,000	\$8,870,421	\$22,584,579	\$1,747,500	\$1,747,500	\$3,500,000

Sources: The Pennsylvania State University, Mead & Hunt, Inc., GAI Consultants, Delta Airport Consultants

Note: All costs in 2014 dollars

Table 8-4, compares and contrasts forecasts of FAA Entitlement funds and PFCs against programmed allocations during the period FY2015-2019. The forecast presented in this table for AIP entitlements reflects actual enplanements during the period 2010-2012, University estimates for 2013-14, and forecasted enplanements for the period 2015-2019 assuming a 1.36 percent growth rate during this period. Applying the FAA AIP entitlement allocation formula to these passenger forecasts yields a total of approximately \$7.7 million in funding for this period. The University is also utilizing prior-year unencumbered FAA entitlement funds totaling \$2.7 million funds for this phase. These “carryover” funds are available for the Airport’s use because projects undertaken in previous fiscal years did not require use of all allocated entitlement funds. FAA policy allows an airport sponsor to rollover these available balances into subsequent years to complete its approved CIP. These resources, coupled with forecasted AIP entitlements provide the necessary \$10.4 million from this source for this phase of the Airport CIP.

This plan further assumes AIP discretionary funding in the amount of \$21.1 million to be made available from the FAA to provide financial support for construction of the rehabilitation of the GA Apron – Phases I-II (2015-16), acquisition of SRE equipment (2015), relocation of Taxiway J (2017), construction of the consolidated ARFF/SRE building (2018), and rehabilitation of Taxiway A (2019). Receipt of funding in this amount is dependent upon the ranking of these projects in the FAA priority system utilized to determine such allocations.

With regard to the use of PFC revenue for projects during the short-term phase of this plan, it is anticipated that a total of \$2,962,170 is capable of being generated by Airport passenger activity to support elements of the short-term plan as well as other eligible PFC projects during this period. As noted in **Table 8-4**,

\$1,747,500 is required to provide the local matching share for AIP and PennDOT allocations for the short-term CIP. Given the forecast of PFC funds referenced above, a balance of \$1,214,670 is anticipated to be available to Penn State for use on other eligible projects. It is anticipated that in the spring of 2015 Penn State will file its sixth PFC application with the FAA to obtain approval to impose and use these funds for the short-term Airport CIP and to reimburse the Penn State and the CCAA for the previous eligible projects.

Table 8-4: Projected Airport Entitlement and Passenger Facility Charge Funds

Fiscal Year	Projected Enplanements	Forecast Entitlement Funds	Programmed Entitlement Funds	Forecast PFC Funds	Programmed PFC Funds	Total Programmed Funds
<i>Prior Year Carryover</i>		\$2,725,000				
2015	144,216	\$1,509,931	\$3,645,000	\$569,795	\$202,500	\$1,712,431
2016	146,177	\$1,519,859	\$2,109,790	\$577,545	\$515,000	\$2,034,859
2017	151,048	\$1,529,921	\$1,529,921	\$596,791	\$175,000	\$1,704,921
2018	153,102	\$1,540,120	\$1,540,120	\$604,907	\$520,000	\$2,060,120
2019	155,184	\$1,565,450	\$1,565,450	\$613,134	\$335,000	\$1,900,450
TOTAL:		\$10,390,280	\$10,390,280	\$2,962,172	\$1,747,500	\$9,412,780

Source: Delta Airport Consultants

The balance of funds for the short-term Airport CIP is anticipated to be provided by PennDOT (\$1,747,500) and the CCAA (\$3,500,000). Resources from the CCAA are to be dedicated to construction of an expansion to the air carrier terminal building automobile parking area while PennDOT funding is to be used to match FAA AIP grant-in-aid allocations.

8.4 Conclusions and Recommendations – Capital Improvement Plan

Table 8-5, depicts the required annual allocations of funding from the FAA, PennDOT, PFC revenues, and CCAA to complete the short-term CIP. As previously stated, the most critical elements for the successful implementation of this plan are receipt of AIP discretionary grant-in-aid funds and additional PFC impose/use authorization. Assuming both the FAA and PennDOT allocate the amount of funding requested, and additional PFC impose/use authorization is granted by the FAA, completion of this program is attainable within the proposed timeframe.

Table 8-5: Capital Improvement Plan Funding Analysis

Year	Capital Improve Costs	Required FAA Entitlements	Anticipated FAA Discretionary	Anticipated PENNDOT Funds	Annual PFC Collections	Required PFC Funds	Annual PFC Balance	Airport Authority
2015	\$5,050,000	\$3,645,000	\$0	\$202,500	\$569,795	\$202,500	\$367,295	\$1,000,000
2016	\$12,800,000	\$2,109,790	\$7,160,210	\$515,000	\$577,545	\$515,000	\$429,840	\$2,500,000
2017	\$3,500,000	\$1,529,921	\$1,620,079	\$175,000	\$175,000	\$175,000	\$851,631	\$0
2018	\$10,400,000	\$1,540,120	\$7,819,880	\$520,000	\$520,000	\$520,000	\$936,538	\$0
2019	\$6,700,000	\$1,565,450	\$4,464,550	\$335,000	\$335,000	\$335,000	\$1,214,672	\$0
CIP TOTAL	\$38,450,000	\$10,390,281	\$21,064,719	\$1,747,500	\$2,177,340	\$1,747,500		\$3,500,000

Sources: The Pennsylvania State University, Office of Business Services; Delta Airport Consultants, Inc.

8.5 Financial Analysis

This analysis evaluates the recent financial performance of the Airport to assess ongoing financial self-sufficiency of this facility and achieve the proposed short-term CIP. It presents an overview of the Airport's financial structure; describes historical trends for revenues, expenditures, and net income; and offers a forecast of revenues and expenditures and operating results for the period 2016-20.

8.5.a Airport Structure

The Airport is owned and operated by Penn State and the CCAA, who are co-airport sponsors; however, both Penn State and the CCAA must sign and agree to assurances of all grants. Penn State is the designated airport sponsor responsible for the airfield and areas outside of the airline terminal building while the CCAA is the co-sponsor responsible for the airline terminal building and associated landside amenities. Both Penn State and the CCAA maintain independent operating budgets; however, the co-sponsor agreement between the two entities does include a mechanism for the sharing of revenues and expenses as well as the ability to jointly share in the cost of future capital expenditure projects. Penn State and the CCAA plan to continue to maintain independent operating budgets, thus this financial analysis has been structured on this assumption. However, at the time of the next financial analysis exercise, the ability to share financial resources should be taken into consideration when planning the future capital expenditure needs of the Airport.

Penn State's primary revenue sources include landing fees, fuel sales, aircraft maintenance and hangar rent. In addition, Penn State administers all federal and state grant-in-aid funding programs including the FAA AIP, the PennDOT Aviation Development Program, and the Airport's PFC program. Penn State also provides overall project management for the Airport CIP and serves as the Airport Security Coordinator in accordance with Transportation Security Aviation Regulation Part 1542. Penn State is the only fixed base operator (FBO) on the field and offers all of the services of a full-service FBO.

Approximately nineteen (19) full-time employees provide airport services on behalf of Penn State including management and administrative functions, line service, field maintenance, and airframe and powerplant

mechanic service. Thirteen to sixteen (13-16) part-time employees supplement these full-time employees by providing administrative support, line service and A&P mechanic service. All personnel with the exception of management and administrative staff are unionized (Teamsters).

The CCAA's primary mission is to operate the Airport terminal and landside amenities and implement strategies to retain and expand the Airport's commercial airline service for the benefit of the region. CCAA's primary revenue sources include parking operations, terminal concessions, rental cars and space rental to the airlines. The CCAA has one full-time employee and two part-time employees. The CCAA contracts out services, such as building janitorial services, maintenance, snow removal, and parking operations.

Penn State's Office of Business Services provides human resource, accounting, information technology, and procurement services for Airport functions and maintains discrete accounting records for Airport operations, FBO activity, aircraft maintenance, and hangar revenues and expenses. Penn State, and therefore, the Airport, operates on an accrual basis for financial reporting based on a July 1 to June 30 fiscal year. Accordingly, all information contained in this analysis is presented in terms of the Airport's fiscal year detail as opposed to a calendar year basis. Because the Airport operates under an accrual based accounting system, revenues are recorded when they are earned and expenses are recognized when they are incurred. For purposes of considering the historical revenues and expenditures presented in this analysis, all functional categories and financial results parallel Penn State's reports entitled "F&B Set of Books Monthly Analysis Report" for fiscal years ending 2010-2014. Moreover, all ensuing fiscal years projecting anticipated operating results align with these functional categories.

Penn State has established twenty-four (24) broad functional areas for purposes of tracking Airport revenues and designates revenues and expenses according to four (4) cost centers including Airport Operations, FBO, Aircraft Maintenance, and Hangar. In addition, Penn State has nineteen (19) functional areas to track expenditures. Each month, Airport management is provided a detailed summary of monthly expenditures, revenues, and a comparative analysis of business activity against the same period in the previous fiscal year. In addition, a twelve-month running total of revenues and expenditures are provided to allow management the opportunity to examine general trends to forecast current year outcomes.

Penn State has in effect a five-year airline lease and use agreement (Use Agreement) with the scheduled airlines serving the Airport. This agreement was executed in 2013 and establishes rights and privileges for carriers and also provides an agreed upon landing fee calculation methodology. This methodology is based upon a residual cost recovery basis and enables Penn State to recoup certain annual operating expenses, maintenance, and repair activities for the Airport as well as a reserve fund to meet unexpected and extraordinary expenditures. Typical operating expenses include, but are not limited to: insurance premiums; administrative expenses of Penn State related to the Airport; fire/rescue services; maintenance; snow removal; operations; engineering/architectural fees; legal services; Airport consultants; and accounting fees and expenses. Airline landing fees are net of all non-airline revenues generated by other Penn State business lines at the Airport including revenue derived from its FBO operations and other rentals, fees, and charges. Once these other non-airline revenues are applied against the annual operating expenses, the remaining amount is charged to the airline carriers in the form of a landing fee. This fee is

calculated by dividing the resulting airline revenue requirement by the estimated airline weight. The landing fee is expressed in dollars and cents per one thousand pounds in landed weight.

As the FBO for the Airport, Penn State offers a full complement of services including Jet-A and 100 low lead (LL) fuel sales, deicing services, aircraft parking and hangar services, aircraft maintenance, public terminal building and pilot flight planning services.

8.5.b Historic and Projected Airport Revenue

Table 8-6 depicts the Airport's historical revenues from FY2010 through FY2015. As indicated, total net Airport revenue, adjusted by cost of goods sold, grew from \$2.73 million in 2010 to \$3.09 million in 2015 (budget) representing a three percent compound annual growth rate (CAGR) for this period.

For the study period, net non-airline revenue, which consists of all airfield revenue except airline landing fees and fuel flowage fees, increased from \$2.38 million in FY2010 to \$2.51 million in FY2015, yielding a one percent CAGR. The major sources of non-airline revenue for the Airport during this period were Jet-A fuel sales, AV Gas sales, and Fuel Flow Fees – Jet A. On average, business activity generated through these sources accounted for approximately 75.4 percent of non-airline fees during this period with Jet Fuel Sales and Fuel Flowage Fees generating the preponderance of these revenues. Airline landing fees, increased from \$350,192 in FY2010 to \$583,438 in FY2015, or 11 percent per year. This source of revenue is expected to represent 19 percent of operating revenue for the Airport in FY2015. Landed weight during this period averaged 176 million pounds per year; however, it varied significantly during this period. In FY2011, total landed weight was approximately 183 million pounds; however, by FY2014 the total landed weight decreased to 163 million pounds. This decrease, attributable to changing airline market conditions and service patterns during the period, coupled with limited sources of other revenue generating opportunities for Penn State, spurred the double-digit annual growth in the airline landing fee requirement for the Airport for this period.

Table 8-6: Historical Airport Revenues

	2010	2011	2012	2013	2014	2015	FY10-15 CAGR
Airline Landing Fees	\$350,192	\$353,927	\$392,952	\$499,544	\$465,330	\$583,438	11%
Total Airline Revenue	\$350,192	\$353,927	\$392,952	\$499,544	\$465,330	\$583,438	11%
GA Landing Fees	\$83,722	\$94,302	\$108,564	\$95,185	\$89,452	\$91,500	2%
Parking Fees	17,601	17,295	23,683	23,285	28,038	31,600	12%
Labor Services Income	518,662	529,885	491,246	440,550	276,940	199,000	-17%
Parts Sales	183,662	211,793	179,476	154,760	156,039	160,700	-3%
Misc. Maintenance Income	50,085	103,490	67,540	83,493	66,333	68,300	6%
Hangar Rentals	230,949	263,363	283,572	275,293	314,382	291,000	5%
FAA Space Rental	23,197	24,513	20,793	29,110	24,952	24,950	1%
Jet Fuel Sales	1,685,472	1,827,425	2,270,416	1,671,907	2,085,373	2,094,400	4%
Fuel Flow Fees -- Jet A	633,118	647,493	625,834	686,965	781,407	924,000	8%
AV Gas Sales	306,479	395,541	448,815	416,546	353,254	355,880	3%
Motor Gas Sales	2,537	4,880	5,091	5,214	4,746	4,746	13%
Diesel Sales	9,994	12,946	15,125	12,700	16,184	16,670	11%
Oil Sales	5,234	5,855	6,222	6,110	4,803	4,800	-2%
Deicing Services	22,853	43,212	61,949	42,218	71,047	42,000	13%
Pilot Supplies	2,050	2,155	1,798	1,594	1,245	1,245	-9%
Tie Down Services	1,685	1,753	1,365	1,395	1,640	1,640	-1%
Line Services	86,896	106,764	112,507	92,924	98,191	98,200	2%
Office Rental	161	140	140	140	520	500	25%
Aircraft Washes	2,589		0	0	0	0	
Misc. Income	34,002	31,439	31,557	29,382	27,843	28,300	-4%
Space Rental -- Misc.	3,000	3,000	3,000	3,000	3,000	3,000	0%
Misc. -- Hotel Comm.	1,693	393	838	650	342	350	-27%
Misc. -- Rental Car Comm.	3,193	2,338	1,065	1,342	1,442	1,500	-14%
Catering Commission	5,394	6,394	6,548	8,224	0	0	-100%
Misc. Catering Income	108	18	75	32,925	29,102	30,000	-5%
Other Income							
Total Non- Airline Revenue	\$3,914,336	\$4,336,387	\$4,767,219	\$4,114,912	\$4,436,275	\$4,474,281	3%
Less: Cost of Goods Sold	\$1,529,574	\$1,806,569	\$2,225,657	\$1,762,527	\$1,945,371	\$1,963,080	5%
Net Non-Airline Revenue	\$2,384,762	\$2,529,818	\$2,541,562	\$2,352,385	\$2,490,904	\$2,511,201	1%
TOTAL AIRPORT REVENUE	\$2,734,954	\$2,883,745	\$2,934,514	\$2,851,929	\$2,956,234	\$3,094,639	3%

Sources:

The Pennsylvania State University, Office of Business Services, fiscal years ending 2005-2014 (preliminary) financial reports

The Pennsylvania State University, Office of Business Services, adopted budget for FY 2014/15

Delta Airport Consultants, Inc.

Estimates of the Airport's future revenues were developed based on historical trends from FY2010 through FY2013, the Airport's FY2014 preliminary financial results, the Airport's adopted FY2015 budget, as well as an analysis of future revenue potential. **Table 8-7** presents preliminary revenues for FY2014, budgeted FY2015 revenues, and projected revenues for the period from FY2016 through FY2020. Assuming profit margins for all non-airline sources of revenue are held constant and/or are expanded slightly and Jet-A fuel sales, maintenance income, and labor services remain at historical growth trends, the Airport could expect annualized growth in net Airport revenues to be on the order of four percent between fiscal years FY2016 and FY2020. It can expect that net non-airline Airport revenues to increase from \$2.60 million in FY2016 to \$2.89 million in FY2020. Penn State will need to achieve these increases in non-airline revenues to stall the double-digit growth in airline landing fees and retain its rate structure for airlines in a more competitive realm. Even with the rates of growth forecast for non-airline revenues, airline landing fees are expected to increase seven percent per year during this period from \$583,438 in FY2015 to \$738,273 by FY2020. It

should also be noted that four percent per year growth in the sale of Jet-A fuel, AV gas, and Fuel Flowage Fees is needed to achieve this forecast. One additional focus area Penn State is pursuing to generate additional non-airline revenue is corporate hangar development. Currently, it holds leases with five entities for such facilities that yield between \$10,800 to \$21,600 in rent/year, depending upon the size and scope of the facility. These leases are in effect throughout this period and are expected to yield additional fuel and service revenues for Penn State. An outcome of the proposed short-term CIP is construction of additional infrastructure to support construction of additional hangar facilities.

Table 8-7: Projected Airport Revenues

	FY 2014 Actual	FY2015 Budget	2016	2017	2018	2019	2020	%
Airline Landing Fees	\$917,555	\$583,438	\$552,923	\$594,896	\$639,651	\$687,377	\$738,273	
Total Airline Revenue	\$917,555	\$583,438	\$552,923	\$594,896	\$639,651	\$687,377	\$738,273	7%
GA Landing Fees	\$89,452	\$91,500	\$93,330	\$95,197	\$97,101	\$99,043	\$101,023	2%
Parking Fees	28,038	31,600	34,128	36,858	39,807	42,991	46,431	8%
Labor Services Income	276,940	199,000	199,000	199,000	199,000	199,000	199,000	0%
Parts Sales	156,039	160,700	160,700	160,700	160,700	160,700	160,700	0%
Misc. Maintenance Income	66,333	68,300	71,715	75,301	79,066	83,019	87,170	5%
Hangar Rentals	314,382	291,000	305,550	320,828	336,869	353,712	371,398	5%
FAA Space Rental	24,952	24,950	25,200	25,451	25,706	25,963	26,223	1%
Jet Fuel Sales	2,085,373	2,094,400	2,178,176	2,265,303	2,355,915	2,450,152	2,548,158	4%
Fuel Flow Fees -- Jet A	781,407	924,000	979,440	1,018,618	1,059,362	1,101,737	1,145,806	4%
AV Gas Sales	353,254	355,880	373,674	388,621	404,166	420,332	437,146	4%
Motor Gas Sales	4,746	4,746	4,936	5,133	5,339	5,552	5,774	4%
Diesel Sales	16,184	16,670	18,170	19,806	21,588	23,531	25,649	9%
Oil Sales	4,803	4,800	4,992	5,192	5,399	5,615	5,840	4%
Deicing Services	71,047	42,000	44,940	48,086	51,452	55,053	58,907	7%
Pilot Supplies	1,245	1,245	1,270	1,295	1,321	1,348	1,375	0%
Tie Down Services	1,640	1,640	1,640	1,640	1,640	1,640	1,640	0%
Line Services	98,191	98,200	101,146	104,180	107,306	110,525	113,841	3%
Office Rental	520	500	500	500	500	500	500	0%
Misc. Income	27,843	28,300	28,300	28,300	28,300	28,300	28,300	0%
Space Rental -- Misc.	3,000	3,000	3,000	3,000	3,000	3,000	3,000	0%
Misc. -- Hotel Comm.	342	350	361	371	382	394	406	3%
Misc. -- Rental Car Comm.	1,442	1,500	1,500	1,500	1,500	1,500	1,500	0%
Misc. Catering Income	29,102	30,000	30,000	30,000	30,000	30,000	30,000	0%
Total Non- Airline Revenue	\$4,436,275	\$4,474,281	\$ 4,661,667	\$ 4,834,880	\$ 5,015,419	\$ 5,203,608	\$ 5,399,786	4%
Less: Cost of Goods Sold	\$1,945,371	\$1,963,080	\$ 2,061,234	\$ 2,164,296	\$ 2,272,510	\$ 2,386,136	\$ 2,505,443	5%
Net Non-Airline Revenue	\$2,490,904	\$2,511,201	\$ 2,600,433	\$ 2,670,584	\$ 2,742,908	\$ 2,817,472	\$ 2,894,343	3%
TOTAL AIRPORT REVENUE	\$3,408,459	\$3,094,639	\$ 3,153,356	\$ 3,265,480	\$ 3,382,560	\$ 3,504,849	\$ 3,632,616	4%

Source: Delta Airport Consultants, Inc.

It is not expected that the Airport will experience significant growth in airline landed weight between FY2016 and FY2020. It is assumed that the current schedule of flight departures will remain consistent during this period, thereby holding annual landed weight of 180 million pounds constant. This stagnant level of activity in airline landed weight, coupled with only a four percent annual growth rate in non-airline revenues, may mean that Penn State will need to weigh expenditure reduction strategies and/or seek to diversify the Airport's revenue base to meet annual operating expenses and keep airline rates and charges at levels consistent with its peers. Despite these challenges, the fundamental core business lines of Penn State remain strong and poised for consistent growth. What is lacking at this juncture of the Airport's evolution is a means to diversify its revenue base and offset the inherent high costs of operating an airfield and meeting regulatory requirements imposed upon it through the FAA's airport certification program and TSA's airport security mandates.

8.5.c Historic and Projected Airport Operating Expenses

The Airport's historical operating expenses for FY2010 through FY2015 are presented in **Table 8-8**. Personnel expenses (including salaries, labor, and employee benefits) represent 55 percent of all Airport expenditures. The categories of Maintenance and Repairs, Insurance, Utilities, Debt Service, and Supplies and Services are the next largest components of Airport expenses and account for an additional 33 percent of the Airport's budget.

Table 8-8: Historical Airport Operating Expenses

	2010	2011	2012	2013	2014	2015	FY10-15 CAGR
OPERATING EXPENSES							
Salaries and Labor	\$1,268,040	\$1,329,835	\$1,352,529	\$1,323,170	\$1,222,115	\$1,175,114	-2%
Employee Benefits	615,683	550,456	603,264	614,164	579,464	535,147	-3%
Unemployment Compensation	12,587	10,954	3,770	2,438	3,687	-	-100%
Worker's Compensation			(21,714)	(8,926)	(1,140)	(7,815)	
Maintenance and Repairs	158,401	194,346	170,976	125,300	237,104	218,645	7%
Supplies & Services	186,526	183,906	220,837	253,996	371,060	279,902	8%
Equipment - Leased	44,557	53,571	9,241	11,348	13,215	-	-100%
Utilities	141,860	167,529	215,258	174,696	169,105	173,036	4%
Postage Services							
Computer Expenses	4,571	2,207	6,036	6,012	8,027	7,020	9%
Conference	15,344	29,465	56,640	26,762	43,756	45,080	24%
Travel	29,422	32,602	23,879	29,746	33,223	34,224	3%
Professional Services	47,475	(60,835)	32,237	52,191	123,065	55,845	3%
Total Operating Expenses	\$2,524,466	\$2,494,036	\$2,672,953	\$2,610,897	\$2,802,681	\$2,516,198	0%
OVERHEAD EXPENSES							
Debt Service	\$175,057	\$171,822	\$171,159	\$171,446	\$171,446	\$142,277	-4%
Local Government Impact Fee	94,439	96,975	105,549	114,048	110,348	113,657	4%
Insurance	198,480	200,257	200,484	197,099	196,365	196,365	0%
F&B Allocation	2,192	2,204	2,204	2,204	2,204	2,270	1%
University Overhead Fees	71,109	73,725	86,357	91,535	101,040	98,519	7%
OBS Administrative	20,975	21,825	22,611	23,512	24,375	25,353	4%
Total Overhead Expenses	\$562,252	\$566,808	\$588,364	\$599,844	\$605,778	\$578,441	1%
TOTAL AIRPORT EXPENSE	\$3,086,718	\$3,060,844	\$3,261,317	\$3,210,741	\$3,408,459	\$3,094,639	0%

Sources:

The Pennsylvania State University, Office of Business Services, fiscal years ending 2006-2014 (preliminary) financial reports

The Pennsylvania State University, Office of Business Services, adopted budget for FY 2014/15

Delta Airport Consultants, Inc.

For the period FY2010 through FY2015, Airport expenses remained relatively constant increasing only \$7,921 from \$3.086 million in FY2010 to \$3.094 million in FY2015. Factors influencing Penn State's ability to hold expenditures constant during this period included Salaries and Employee Benefits decreasing two and three percent, respectively, and debt being restructured from \$175,057 to \$142,277 per year. While cost savings were achieved in these areas, Utilities increased four percent per year, while Supplies & Service grew by eight percent per year and Maintenance and Repairs increased seven percent each year. Escalating costs in these areas partially offset expenditure reductions in Salaries and Employee Benefits to yield a constant level of operating expenses for the Airport. Other categories of Overhead Expenses increased for the Airport during this period including the Local Government Impact Fee, which increased by four percent per year from \$94,439 in FY2010 to \$113,667 in FY2015. Penn State's Overhead Fee experienced a seven percent CAGR during the period, increasing from \$71,109 to \$98,519 by FY2015. The

overhead charges assessed the Airport by Penn State appear to be reasonable and justified as they recoup the cost of direct services provided to the Airport ranging from human resource/payroll, law enforcement, telecommunications and information technology services. The Local Government Impact Fee represents the fee paid by Penn State to Benner Township for fire/rescue and public safety support services provided to the Airport.

Based upon the Airport's historical performance, it is expected that operating expenses will increase an additional \$479,260 between FY2016 and FY2020, growing from \$3.153 million to \$3.632 million during this period at a four percent annualized growth rate. This forecast, presented in **Table 8-9**, is based on the fact that Penn State's existing labor contract calls for a three percent increase in salaries per year during this period as well as the reallocation of two personnel from the Airport Operating Cost Center to Penn State's in FY2016. It is expected that Employee Benefits will mirror changes in salaries. In addition, the categories of Supplies & Services, Maintenance and Repair and Utilities are expected to continue to trend in a manner consisted with historical actual results. Since Benner Township's Local Impact Fee is linked to fuel sales, this expenditure is expected to trend in a similar fashion as the rate of change in annual fuel sales (4 percent).

Penn State, like many public and governmental entities across the United States, continues to confront significant increases and uncertainty related to future costs associated with providing employee healthcare and defined benefit retirement plans. These factors, coupled with the cost impact of the extensive regulatory environment in which it operates, dictates that Penn State has little to no latitude in making significant changes to its cost structure. The extensive web of regulatory matters alone requires Penn State to maintain a core number of staff to ensure ongoing compliance. Beyond personnel costs, Penn State does utilize best management practices to contain costs through use of preventative maintenance programs on equipment and systems and thorough review and justification of line item expenditures in its budget development and implementation processes.

Table 8-9: Projected Operating Expenses

	FY 2014 Actual	Budget 2015	2016	2017	2018	2019	2020	% USED
OPERATING EXPENSES								
Salaries and Labor	\$1,222,115	\$1,175,114	\$1,090,367	\$1,123,078	\$1,156,771	\$1,191,474	\$1,227,218	3%
Employee Benefits	579,464	535,147	551,201	567,737	584,770	602,313	620,382	3%
Worker's Compensation	(1,140)	(7,815)	-	-	-	-	-	0%
Maintenance and Repairs	237,104	218,645	231,764	245,670	260,410	276,034	292,596	6%
Supplies & Services	371,060	279,902	299,495	320,460	342,892	366,894	392,577	7%
Equipment - Leased	13,215	-	-	-	-	-	-	0%
Utilities	169,105	173,036	183,418	194,423	206,089	218,454	231,561	6%
Computer Expenses	8,027	7,020	7,231	7,448	7,671	7,901	8,138	3%
Conference	43,756	45,080	46,432	47,825	49,260	50,738	52,260	3%
Travel	33,223	34,224	35,251	36,308	37,397	38,519	39,675	3%
Airport Reserve Fund Requirement			60,000	60,000	60,000	60,000	60,000	0%
Professional Services	123,065	55,845	57,520	59,246	61,023	62,854	64,740	3%
Total Operating Expenses	\$2,802,681	\$2,516,198	\$2,562,680	\$2,662,196	\$2,766,283	\$2,875,182	\$2,989,148	4%
OVERHEAD EXPENSES								
Debt Service	\$171,446	\$142,277	\$142,277	\$142,277	\$142,277	\$142,277	\$142,277	0%
Local Government Impact Fee	110,348	113,657	118,203	122,931	127,849	132,963	138,281	4%
Insurance	196,365	196,365	200,292	204,298	208,384	212,552	216,803	2%
F&B Allocation	2,204	2,270	2,315	2,362	2,409	2,457	2,506	2%
University Overhead Fees	101,040	98,519	101,475	104,519	107,654	110,884	114,211	3%
OBS Administrative	24,375	25,353	26,114	26,897	27,704	28,535	29,391	3%
Total Overhead Expenses	\$605,778	\$578,441	\$590,676	\$603,284	\$616,277	\$629,668	\$643,469	2%
TOTAL AIRPORT EXPENSE	\$3,408,459	\$3,094,639	\$3,153,356	\$3,265,480	\$3,382,560	\$3,504,849	\$3,632,616	4%

Source: Delta Airport Consultants, Inc.

It is possible that Penn State's Sustainability Initiative, applicable to all aspects of its operation, could yield possible savings for the Airport during the upcoming five-year period. To this end, Penn State has allocated \$12.0 million to invest in projects and initiatives to produce energy savings and other sustainability efforts designed to reduce the consumption of natural resources and produce expenditure savings. The Airport is participating in this effort and through this master plan will identify areas for sustainable initiatives, participate in Penn State's program, and implement projects.

8.5.d Historic and Projected Net Income

Table 8-10 depicts historical operating results for Penn State from its Airport Operation and also tracks total Airport enplanements, landed weight, and airline costs per enplaned passenger for the period FY2010-15. While Penn State's adopted FY2015 budget forecasts a breakeven scenario, it is important to note that Penn State's financial loss associated with Airport operations during this period totaled \$1.67 million. The governance model for the Airport whereby Penn State retains sole responsibility, operationally and financially, for the airfield cost center that is least able to be financially self-sufficient severely and limits the Airport's ability to breakeven. It also impacts the Airport's ability to build reserves as well as charge fair and reasonable landing fees to airlines. Most non-hub airports in the United States are operated by a single owner/operator and revenue/cost centers are therefore not bifurcated. This governance model recognizes the extremely limited revenue sources available to a non-hub airport to meet operating expenses and be self-sufficient. To partially offset the losses incurred by Penn State during this period, it raised airline landing fees 11 percent per year, aggressively pursued new GA aircraft based and transient business, and held expenditures relatively constant. As the result of increases in airline landing fees, the cost per enplaned passenger, a key benchmark to indicate how affordable it is for a carrier to operate in a market, almost doubled from \$2.44 per passenger in 2010 to \$4.10 per passenger in 2015.

Table 8-10: Historical Net Income & Landing Fee

	2010	2011	2012	2013	2014	2015	FY10-15 CAGR
TOTAL AIRPORT REVENUE	\$2,734,954	\$2,883,745	\$2,934,514	\$2,851,929	\$2,956,234	\$3,094,639	3%
TOTAL AIRPORT EXPENSE	\$3,086,718	\$3,060,844	\$3,261,317	\$3,210,741	\$3,408,459	\$3,094,639	0%
Net Income	(\$351,764)	(\$177,099)	(\$326,803)	(\$358,812)	(\$452,225)	\$0	-100%
AIRLINE LANDING FEES	\$350,192	\$353,927	\$392,952	\$499,544	\$465,330	\$583,438	11%
ENPLANEMENTS	143,531	144,054	138,488	140,371	142,280	144,216	0%
AIRLINE COST/ENPLANED PAX	\$2.44	\$2.47	\$2.73	\$3.61	\$3.32	\$4.10	11%

Sources:

The Pennsylvania State University, Office of Business Services, fiscal years ending 2006-2014 (preliminary) financial reports
The Pennsylvania State University, Office of Business Services, adopted budget for FY 2014/15

The Airport's projected cash flow from operating activities, airline landing fees, and cost per enplaned passenger are presented in **Table 8-11** for the period FY 2016 through FY 2020. Given the revenue and expenditure assumptions and trends discussed in this chapter, it is projected that the Airport should be in a breakeven position during this period. While a breakeven posture is possible, the trend toward increased reliance on airline landing fees is expected to continue with required airline revenue to increase from \$552,923 in 2016 to \$738,273 in 2020. Assuming 180 million pounds of landed weight is achieved, the required airline landing fee rate will vary from \$3.07 in 2016 to \$4.10 in 2020 and the Airport's airline cost per enplaned passenger being \$4.69 in 2020. This level of airline support, combined with fees paid to the CCAA, will translate to the Airport having a total cost per enplaned passenger greater than \$5.00; which is above a level typically seen at a non-hub airport. Increasing reliance on airline fees could be mitigated through Penn State's strategy to increase availability of space for the construction of corporate aircraft storage hangars. Through such an initiative, Penn State would realize additional rent from use of Airport property and increase fuel sales. In addition, increased transient aircraft activity in the Airport market could further boost aircraft fuel sales beyond expected levels. Regardless of such trends, it is important that Penn State continue to monitor its costs of goods sold for all GA services to ensure that profit margin targets are achieved in an ongoing fashion.

Table 8-11: Projected Net Income & Landing Fee

	Budget 2015	2016	2017	2018	2019	2020
NET NON-AIRLINE REVENUE	\$2,511,201	\$2,600,433	\$2,670,584	\$2,742,908	\$2,817,472	\$2,894,343
TOTAL AIRPORT EXPENSE	\$3,094,639	\$3,153,356	\$3,265,480	\$3,382,560	\$3,504,849	\$3,632,616
Required Airline Revenue	(\$583,438)	(\$552,923)	(\$594,896)	(\$639,651)	(\$687,377)	(\$738,273)
REQUIRED AIRLINE REVENUE						
<i>Airline Landed Weight</i>	180,000	180,000	180,000	180,000	180,000	180,000
<i>Airline Landing Fee</i>	\$3.24	\$3.07	\$3.30	\$3.55	\$3.82	\$4.10
<i>Enplaned Passenger Forecast</i>	144,216	146,177	151,048	153,102	155,184	157,295
Proposed Airline Cost/Enplaned Pax	\$4.05	\$3.78	\$3.94	\$4.18	\$4.43	\$4.69

Source: Delta Airline Consultants, Inc.

8.6 Conclusions and Recommendations – Financial Analysis

Based on the foregoing analysis, including the underlying assumptions under which it was made, the short-term CIP recommended for the Airport is expected to be both feasible and implementable. Moreover, Penn State is capable of sustaining its operations during the next five years void of placing extended or undue burdens on its tenants, operators, and concessionaires. The following factors and key indicators substantiate this assessment:

- The Airport maintains a very low debt profile requiring approximately \$142,277 per year in payments and derived from a dedicated funding stream (aircraft hangar rents and leases).
- Growth in fuel sales and GA activity has been strong over the past five years.
- Containment of expenditures over the past five years and a commitment to evaluate opportunities for future savings including implementation of recommendations for energy savings and other sustainable measures.
- A proactive lease management and monitoring system ensures market rate rents are set and fees are collected in a timely manner. Lease rates are established to be consistent with market conditions and a database is maintained to track major terms and payment requirements of tenants/concessionaires.
- Best management practices are used by Airport management including:
 - Five-year capital planning for vehicles/equipment/buildings, grounds repairs, and maintenance projects.
 - Use of preventative maintenance practices for Airport facilities and grounds.
 - Implementation of strategies aimed at diversifying the Airport's revenue base to include an increased emphasis on developing corporate hangars to support location of additional based aircraft at the Airport.
 - An aggressive air service retention and recruitment program aimed at retaining existing service and provide expansion options to key markets.
- Little to no growth in insurance premiums over the past seven years indicates an organization that stresses safety and mitigation of risk.

As the Airport commences work on implementing the recommended CIP highlighted in this analysis, it should remain focused on these unique endowments and seek to further capitalize on the positive benefits they provide. In the end, it is imperative that the Airport strives to continue to provide an economical and sustainable platform for airlines and other key tenants to operate and prosper to fulfill the Airport's mission.

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