Chapter 9 – Airport Financial Plan

Chapter 9 – Airport Financial Plan

Introduction

The purpose of this chapter is to present the projects identified in the twenty-year Airport Capital Improvement Program (ACIP) that have been developed and assembled based on the analyses conducted in the Facility Requirements and Development Alternatives evaluations (Chapters Four and Six). The ACIP projects are summarized in **Table 9-1** later in the chapter. The ACIP is organized into short, intermediate, and long-term planning periods that reflect both project prioritization and financial capabilities. Several factors were considered in determining project prioritization, including safety, forecast demand, the need to maintain/replace existing airfield facilities, and financial capabilities of both the county and FAA to support the development program based on existing funding mechanisms.

A projection of airport operating revenues and expenses was also prepared based on current financials and specific assumptions regarding future revenues and expenses. The projection provides a basic indication of how close the airport is to self-sufficiency moving forward based on its operation. See **Table 9-3** for the airport's revenue and expense spreadsheet.

The Master Plan preferred alternative includes both airside elements and landside elements. Minor pavement maintenance items such as vegetation removal and crack filling are not included in the ACIP, but will need to be undertaken by the county on an annual or semi-annual basis.

A brief environmental review was prepared and included in the airport master plan. The review provides an overview of areas of potential concern associated with proposed development. In addition, all federally funded projects will require some level of project-specific environmental study, as determined by FAA.

Individual projects for the first five years of the planning period are listed in order of priority by year. Projects for the intermediate and long-term phases of the planning period (years 6-20) are listed in order of priority but have not been assigned a year. Each project's eligibility for FAA funding is noted, based on current federal legislation and funding formulas. Specific project details are depicted on the updated Airport Layout Plan and Terminal Area Plan drawings contained in Chapter Seven.

A primary source of potential funding identified in this plan is the FAA's Airport Improvement Program (AIP). As proposed, approximately 90 percent of the airport's twenty-year ACIP will be eligible for federal funding. Funds from this program are derived from the Aviation Trust Fund, which is the depository for all federal aviation taxes collected on such items as airline tickets, aviation fuel, lubricants, tires, aircraft registrations, and other aviation related fees. These funds are distributed by FAA under appropriations set by Congress for all airports in the United States included in the federal airport system (National Plan of Integrated Airport Systems – NPIAS).

However, as noted in **Table 9-1**, the projected twenty-year total for FAA eligible projects in the ACIP significantly exceeds current FAA funding levels through the non-primary entitlement program, which is $150,000 annually. While other types of FAA funding may be available for some projects, it is reasonable to assume not all eligible projects are likely to be funded despite establishing FAA funding eligibility. The county must maximize the use of available FAA and other outside funding sources as it manages its ACIP. In some cases, the limited availability of outside funds may require deferring some projects, or increasing funding with additional local, state, or private funding.

Airport Development Schedule and Cost Estimates

Cost estimates for each individual project were developed based on typical construction costs associated with the specific type of project using 2017 dollar values as a cost basis. The project costs listed in the ACIP represent order-of-magnitude estimates that approximate design, engineering, environmental, other related costs, and contingencies. Detailed cost estimate summaries for major projects are provided in **Appendix E**. The estimates are intended only for preliminary planning and programming purposes. Specific project analysis and detailed engineering design will be required prior to project implementation to provide more refined and detailed estimates of the development costs.

These cost estimates can continue to assist management through adjustments to the 2017-dollar amounts to account for subsequent inflation as the plan is carried out in future years. This can be accomplished by converting the appropriate change in the United States Consumer Price Index (USCPI) to a multiplier using the following formula:

$$\frac{X}{I} = Y$$

Where:
X = USCPI in any given future year
Y = Change Ratio
I = Current Index (USCPI)[1]

USCPI-U
244.955
(1982-1984 = 100)
June 2017

Multiplying the change ratio (Y) times any 2017-based cost estimate presented in this study will yield the adjusted dollar amounts appropriate in any future year evaluation. Several different CPI-based indices are available for use and any applicable index may be substituted by the airport sponsor in its financial management program.

The following sections outline the recommended development program and funding assumptions. The scheduling has been prepared according to the facility requirements determined through the master plan evaluation. The projected staging of development projects is based on anticipated needs and investment priorities. Actual activity levels may vary from projected levels; therefore, the staging of development in this section should be viewed as a general guide. When activity does vary from projected levels, implementation of development projects should occur when demand warrants, rather than according to the estimated staging presented in this chapter. In addition to major projects, the airport will continue to require regular facility maintenance such as pavement maintenance, vegetation control, sweeping, lighting repair, and fuel system maintenance.

The following summary describes the short-term, intermediate, and long-term projects.

[1] U.S. Consumer Price Index for All Urban Consumers (USCPI-U)

SHORT-TERM PROJECTS

The short-term program contains the highest priority work items including safety related improvements. These items will need to be incorporated into the State Capital Improvement Program (SCIP) managed by the FAA Seattle Airport District Office and the Washington State Department of Transportation, Aviation Division (WSDOT). To assist with this process, the short-term projects are scheduled in specific calendar years for the first five years of the planning period (2018-2022).

The primary focus for short-term federally-funded development is to construct a parallel taxiway that serves Runway 11/29 for operational safety and to relieve congestion on the runway due to aircraft back taxiing. Following construction of the parallel taxiway, the Runway 29 end will be reconfigured to remove the aligned taxiway, and the runway width will be reduced to the standard 75 feet.

Runway 7/25 is ineligible for federal funding and requires immediate pavement rehabilitation in order to remain serviceable. Funding for rehabilitation may come from a combination of County (local) funds, airport tenant funding, and WSDOT Aviation Division grant funding. It is recommended that Runway 7/25 be rehabilitated so that it can remain in service during the periods when Runway 11/29 is closed for rehabilitation and reconfiguration and again when the runway length is ultimately extended. When funding is secured, the alternatives analysis recommended that the runway be rehabilitated at 3,700 feet by 60 feet to support small aircraft operations.

Short-Term Projects (1-5 years):

2018

- Intersecting Runway Pavement Break/Removal (Rwy 7/25 east & west of intersection and Txy Echo); and
- Environmental assessment for 5-year SCIP airport master plan projects.

2019 (tentative – depending on funding)

- Rehabilitate Runway 7/25 at 3,700 feet by 60 feet (asphalt concrete). This project is not eligible for FAA funding. Funding may involve a combination of tenant, local and state aviation grant funding. The project will remain a high non-FAA priority until funding is acquired.

2020

- Design Runway 11/29 parallel taxiway project (asphalt concrete at 4,301' x 35').

2021

- Construct Runway 11/29 parallel taxiway project (asphalt concrete at 4,301' x 35'); and
- Construct west hangar taxilane (asphalt concrete at approximately 340' by 25').

2022

- Design Runway 11/29 rehabilitation and reconfiguration project; including replacement of the medium intensity runway lights (MIRL), precision approach path indicator (PAPI) lights, and runway hold position, location, directional, and distance remaining signs;
- Asphalt concrete (AC) pavement maintenance project – phase 1 (sealcoat, crack fill, and repaint markings) (2020 PCI 65-70); and
- Replace damaged, worn, or non-reflective taxiway reflectors.

2023

- Construct Runway 11/29 rehabilitation and reconfiguration project; including replacement of the medium intensity runway lights (MIRL), precision approach path indicator (PAPI) lights, and runway hold position, location, directional, and distance remaining signs.

INTERMEDIATE & LONG-TERM PROJECTS

Several intermediate or long-term projects are considered to be current needs. However, it was necessary to shift some projects to subsequent planning periods based on the limited funding resources available. Individual projects may be completed sooner in the event additional funding can be obtained.

The primary projects in the intermediate-term include extending Runway 11/29 to provide the runway length needed to accommodate the design aircraft and ongoing pavement maintenance and rehabilitation. The long-term priorities include demolishing the County T-hangar building (at the end of its useful life), snow removal equipment acquisition and storage facility, continued pavement maintenance, and installation of taxiway lighting.

Intermediate-Term Projects (6-10 years):

- Environmental for Runway 11/29 extension (Portland Cement Concrete at 827' x 75') and parallel taxiway extension project;
- Design for Runway 11/29 extension (Portland Cement Concrete at 827' x 75') and parallel taxiway extension project;
- Construct Runway 11/29 extension (Portland Cement Concrete at 827' x 75') and parallel taxiway extension project;
- Portland Cement Concrete (PCC) pavement maintenance – phase 1 landside (joint, crack, spall repairs) (2020 PCI 54);
- Asphalt concrete (AC) pavement maintenance – phase 2 landside (sealcoat, crack fill, and repaint markings) (2020 PCI 65-70);

- Overlay Taxiway Delta and Foxtrot (2020 PCI 69);
- Overlay Taxiway Bravo (2020 PCI 65-70 depending on pavement section);
- Portland Cement Concrete (PCC) pavement maintenance – Runway 11/29 (5,128' by 75');
- Replace damaged, worn, or non-reflective taxiway reflectors;
- Portland Cement Concrete (PCC) pavement maintenance – phase 2 landside (joint, crack, spall repairs) (2020 PCI 54);
- Asphalt concrete (AC) pavement maintenance – phase 3 landside (sealcoat, crack fill, and repaint markings) (2020 PCI 65-70); and
- Expand the tiedown apron to the east by infilling the unpaved islands approximately 300 feet by 170 feet.

Long-Term Projects (11-20 years):

- Portland Cement Concrete (PCC) pavement maintenance – phase 3 landside (joint, crack, spall repairs) (2020 PCI 54);
- Demolish the county-owned T-hangar building (12-units) at the end of useful life;
- Reconstruct the east hangar taxilane (2020 PCI 48);
- Reconstruct main apron (2020 PCI 57);
- Asphalt concrete (AC) pavement maintenance – phase 4 landside (sealcoat, crack fill, repaint markings) (2020 PCI 65-70);
- Reconstruct the west general aviation apron and T-hangar taxilanes (Portland Cement Concrete) (2020 PCI 54);
- Construct east hangar vehicle parking area;
- Expand the tiedown apron to the east by infilling the unpaved islands approximately 300 feet by 170 feet;
- Replace damaged, worn, or non-reflective taxiway reflectors;
- Sealcoat, crack seal, and repaint markings on Taxiways Bravo, Delta, Foxtrot, the main apron, and east taxilanes (asphalt concrete);
- Portland Cement Concrete (PCC) pavement maintenance – phase 4 landside (joint, crack, spall repairs) (2020 PCI 54);
- Construct east hangar vehicle parking areas (asphalt concrete);

- Expand the tiedown apron to the east by infilling the unpaved islands approximately 300 feet by 170 feet;
- Asphalt concrete (AC) pavement maintenance – phase 5 landside (sealcoat, crack fill, repaint markings) (2020 PCI 65-70);
- Acquire snow removal equipment (1 plow);
- Construct snow removal equipment storage building (2 equipment bays);
- Portland Cement Concrete (PCC) pavement maintenance – phase 5 landside (joint, crack, spall repairs) (2020 PCI 54);
- Construct two snow storage and drainage systems adjacent to the east and west aprons;
- Replace vehicle and pedestrian gates (3 electronic vehicle gates and 7 pedestrian gates);
- Install medium intensity taxiway lighting (MITL) and lighted taxiway signs on Taxiway Bravo, Delta, Foxtrot, and future parallel taxiway to Runway 11/29;
- Replace beacon light and pole;
- Portland Cement Concrete (PCC) pavement maintenance – phase 6 landside (joint, crack, spall repairs) (2020 PCI 54); and
- Update the Airport Master Plan.

Table 9-1: Bowers Field Airport Master Plan
20-YEAR CAPITAL IMPROVEMENT PROGRAM

Current NPE $ Accumulation: **$600,000** **(FY 2018)** Prepared by Century West Engineering

Short-Term	Year	Project	Project Category	Unit	Quantity	Unit Cost	Subtotal Cost	30% Contingency (Taxes/Env/Eng.)	Total Cost	FAA GA Entitlement	Other FAA **	Local Costs ***
2017	**0**	Update Airport Master Plan (2016 Grant)	Planning	LS	1	$0	$0	$0	$0	$0	$0	$0
Subtotal - Year 0									$0	$0	$0	$0
2018	**1**	Environmental Assessment for Master Plan Projects	Environmental	LS	1	$374,506	$374,506	$0	$374,506	$337,055	$0	$37,451
		RWY 7/25 Pavement Break Project	Construction	LS	1	$170,640	$170,640	$0	$170,640	$153,576	$0	$17,064
Subtotal - Year 1									$545,146	$490,631	$0	$54,515
2019	**2**	Rehab RWY 7/25 (AC)(3,700' x 60')& Construct Connector TWY ****	Design/Construction	LS	1	$1,672,817	$1,672,817	$0	$1,672,817	$0	$0	$1,672,817
Subtotal - Year 2									$1,672,817	$0	$0	$1,672,817
2020	**3**	Design Parallel Taxiway for RWY 11/29 including MITLs - Phase 1 (4,301' x 35' AC)	Design	LS	1	$379,987	$379,987	$0	$379,987	$341,989	$0	$37,999
Subtotal - Year 3									$379,987	$341,989	$0	$37,999
2021	**4**	No Projects - Carryover Year										
Subtotal - Year 4									$0	$0	$0	$0
2022	**5**	Construct Parallel Taxiway for RWY 11/29 including MITLs - Phase 1 (4,301' x 35' AC)	Construction	LS	1	$4,182,391	$4,182,391	$0	$4,182,391	$367,380	$3,396,772	$418,239
		RWY 11/29 Rehabilitation and Reconfiguration	Design	LS	1	$350,000	$350,000	$0	$350,000	$0	$315,000	$35,000
Subtotal - Year 5									$ 4,532,391	$ 367,380	$ 3,711,772	$ 453,239
2023	**6**	RWY 11/29 Rehabilitation and Reconfiguration	Construction	LS	1	$3,384,284	$3,384,284	$0	$3,384,284	$150,000	$2,895,855	$338,428
		Construct West Hangar Taxilane (AC) (25' x 340')	Construction	SY	944	$75	$70,800	$21,240	$92,040	$0	$82,836	$9,204
Subtotal - Year 6 *****									$3,384,284	$150,000	$2,895,855	$338,428
						Years 0-6			**$10,514,625**	**$1,350,000**	**$6,607,627**	**$2,556,998**

FY 2019 NPE + Accum.	$259,369
NPE Used	$0
NPE Remaining	$259,369
FY 2020 NPE + Accum.	$409,369
NPE Used	$341,989
NPE Remaining	$67,380
FY 2021 NPE +Accum.	$217,380
NPE Used	$0
NPE Remaining	$217,380
FY 2022 NPE + Accum.	$367,380
NPE Used	$367,380
NPE Remaining	$0
FY 2023 NPE + Accum.	$150,000
NPE Used	$150,000
NPE Remaining	$0

** Other FAA Funding Total listed for reference only based on general project eligibility; FAA funding levels are expected to be below projected needs.

*** Local (County) costs at 10% (County may apply for a WSDOT grant for 1/2 of the local match up to $750,000)

**** Rwy 7/25 rehab project is not eligible for FAA funding and is expected to require significant major tenant/user (CWU) funding suport; the connecting taxiway to Rwy 25 end may be eligible as part of Txy F replacement

***** 2023 construction projects are not identified on the 2019-2023 Capital Improvement Plan. Project years are subject to FAA funding and eligibility.

Unit: LS=Lump Sum, LF=Linear Foot, SY=Square Yard, EA=Each

AC = Asphalt Concrete; PCC - Portland Cement Concrete

Table 9-1: Bowers Field Airport Master Plan
20-YEAR CAPITAL IMPROVEMENT PROGRAM

Current NPE $ Accumulation: **$600,000** **(FY 2018)** Prepared by Century West Engineering

Intermediate-Term	Years 7--11	Project	Project Category	Unit	Quantity	Unit Cost	Subtotal Cost	30% Contingency (Taxes/Env./Eng.)	Total Cost	FAA GA Entitlement	FAA Eligible **	Local Costs***
Non-Primary Entitlements Accumulation Total (5-Years)										**$750,000**		
2024-2028		AC Pavement Maintenance - Phase 1 Landside (Sealcoat, Crackseal, Repaint Markings) (2020 PCI 65-70)	Rehabilitation	LS	1	$250,000	$250,000	$0	$250,000	$0	$225,000	$25,000
		Environmental for RWY 11/29 Extension (PCC) (827' x 75') & RWY 11/29 Parallel TWY Extension	Environmental	LS	1	$133,655	$133,655	$0	$133,655	$0	$120,290	$13,366
		Design for RWY 11/29 Extension (PCC) (827' x 75') & RWY 11/29 Parallel TWY Extension	Design	LS	1	$267,311	$267,311	$0	$267,311	$0	$240,580	$26,731
		Construct RWY 11/29 Extension (PCC) (827' x 75') & RWY 11/29 Parallel TWY Extension	Construction	LS	1	$2,940,418	$2,940,418	$0	$2,940,418	$0	$2,646,376	$294,042
		PCC Pavement Maintenance - Phase 1 Landside (Joint, Crack, Spalls) (2020 PCI 54)	Rehabilitation	LS	1	$300,000	$300,000	$0	$300,000	$0	$270,000	$30,000
		AC Pavement Maintenance - Phase 2 Landside (Sealcoat, Crackseal, Repaint Markings) (2020 PCI 65-70)	Rehabilitation	LS	1	$286,675	$286,675	$0	$286,675	$0	$258,008	$28,668
		Overlay Taxiway D & F (2020 PCI 69)	Rehabilitation	SY	11877	$55	$653,235	$195,971	$849,206	$0	$764,285	$84,921
		Overlay Taxiway B (2020 PCI 65-70)	Rehabilitation	SY	34304	$45	$1,543,680	$463,104	$2,006,784	$0	$1,806,106	$200,678
		Joint, Crack, and Spall Repairs -RWY 11/29 (PCC) (5,128' x 75')	Rehabilitation	SY	42733	$15	$640,995	$192,299	$833,294	$0	$749,964	$83,329
		Replace TWY Reflectors (Damaged, Worn, Non-Reflective)	Lighting	EA	100	$100	$10,000	$3,000	$13,000	$0	$11,700	$1,300
		PCC Pavement Maintenance - Phase 2 Landside (Joint, Crack, Spalls) (2020 PCI 54)	Rehabilitation	LS	1	$300,000	$300,000	$0	$300,000	$0	$270,000	$30,000
		AC Pavement Maintenance - Phase 3 Landside (Sealcoat, Crackseal, Repaint Markings) (2020 PCI 65-70)	Rehabilitation	LS	1	$250,000	$250,000	$0	$250,000	$0	$225,000	$25,000
		Expand Apron (AC) (300' x 170' Island East of Main Apron)	Construction	SY	5667	$75	$425,025	$127,508	$552,533	$0	$497,279	$55,253
Subtotal - Year 7-10									**$8,982,874**	**$750,000**	**$8,084,587**	**$898,287**

Table 9-1: Bowers Field Airport Master Plan
20-YEAR CAPITAL IMPROVEMENT PROGRAM

Current NPE $ Accumulation: **$600,000** **(FY 2018)** Prepared by Century West Engineering

Long-Term	Years 12--20	Project	Project Category	Unit	Quantity	Unit Cost	Subtotal Cost	30% Contingency (Taxes/Env./Eng.)	Total Coast	FAA GA Entitlement	FAA Eligible **	Local Costs***
Non-Primary Entitlements Accumulation Total (10-Years)										**$1,500,000**		
2029-2037		PCC Pavement Maintenance - Phase 3 Landside (Joint, Crack, Spalls) (2020 PCI 54)	Rehabilitation	LS	1	$300,000	$300,000	$0	$300,000	$0	$270,000	$30,000
		Demolish County-owned T-Hangar (at end of useful life)	Other	LS	1	$97,500	$97,500	$0	$97,500	$0	$87,750	$9,750
		Reconstruct East Hangar Taxilane (2020 PCI 48)	Construction	SY	7275	$75	$545,625	$163,688	$709,313	$0	$638,381	$70,931
		Reconstruct Main Apron (2020 PCI 57)	Construction	SY	2159	$75	$161,925	$48,578	$210,503	$0	$189,452	$21,050
		AC Pavement Maintenance - Phase 4 Landside (Sealcoat, Crackseal, Repaint Markings) (2020 PCI 65-70)	Rehabilitation	LS	1	$250,000	$250,000	$0	$250,000	$0	$225,000	$25,000
		Reconstruct West GA Apron & T-hangar Taxilanes (PCC) (2020 PCI 54)	Construction	SY	39590	$75	$2,969,250	$890,775	$3,860,025	$0	$3,474,023	$386,003
		Replace TWY Reflectors (Damaged, Worn, Non-Reflective)	Lighting	EA	100	$100	$10,000	$3,000	$13,000	$0	$11,700	$1,300
		Sealcoat, Crackseal, Repaint Markings - TWY B, D, F, Main Apron, & East Taxilanes (AC)	Rehabilitation	SY	87,412	$15	$1,311,180	$393,354	$1,704,534	$0	$1,534,081	$170,453
		PCC Pavement Maintenance - Phase 4 Landside (Joint, Crack, Spalls) (2020 PCI 54)	Rehabilitation	LS	1	$300,000	$300,000	$0	$300,000	$0	$270,000	$30,000
		Construct East Hangar Vehicle Parking Areas	Construction	LS	1	$325,000	$325,000	$0	$325,000	$0	$292,500	$32,500
		Expand Apron (AC) (300' x 170' Island East of Main Apron)	Construction	SY	5667	$75	$425,025	$127,508	$552,533	$0	$497,279	$55,253
		AC Pavement Maintenance - Phase 5 Landside (Sealcoat, Crackseal, Repaint Markings) (2020 PCI 65-70)	Rehabilitation	LS	1	$250,000	$250,000	$0	$250,000	$0	$225,000	$25,000
		Acquire Snow Removal Equipment (Plow)	Equipment	LS	1	$250,000	$250,000	$0	$250,000	$0	$225,000	$25,000
		Construct Snow Removal Equipment Building (2 Equipment Bays + Admin)	Building	LS	1	$500,000	$500,000	$0	$500,000	$0	$450,000	$50,000
		PCC Pavement Maintenance - Phase 5 Landside (Joint, Crack, Spalls) (2020 PCI 54)	Rehabilitation	LS	1	$300,000	$300,000	$0	$300,000	$0	$270,000	$30,000
		Snow Storage and Drainage System	Construction	LS	2	$350,000	$700,000	$0	$700,000	$0	$630,000	$70,000
		Replace Vehicle and Pedestrian Gates (3 Electronic Vehicle Gates / 7 Pedestrian Gates)	Other	LS	1	$75,000	$75,000	$0	$75,000	$0	$67,500	$7,500
		Install MITL & Lighted Signs - TWY B, D, F, & Parallel TWY	Lighting	LS	1	$1,950,000	$1,950,000	$0	$1,950,000	$0	$1,755,000	$195,000
		Replace Beacon	Lighting	LS	1	$97,500	$97,500	$0	$97,500	$0	$87,750	$9,750
		PCC Pavement Maintenance - Phase 6 Landside (Joint, Crack, Spalls) (2020 PCI 54)	Rehabilitation	LS	1	$204,534	$204,534	$0	$204,534	$0	$184,081	$20,453
		Update Airport Master Plan	Planning	LS	1	$500,000	$500,000	$0	$500,000	$0	$450,000	$50,000
										$0		
Subtotal Year 11-20									**$13,149,441**	**$0**	**$11,834,496**	**$1,314,944**
						20-Yr Total			$32,646,940	$2,100,000	$26,526,710	$4,770,229

** Other FAA Funding Total listed for reference only based on general project eligibility; FAA funding levels are expected to be below projected needs.

*** Local (County) costs at 10% (County may apply for a WSDOT grant for 1/2 of the local match up to $750,000)

Unit: LS=Lump Sum, LF=Linear Foot, SY=Square Yard, EA=Each

AC = Asphalt Concrete; PCC - Portland Cement Concrete

Capital Funding Sources & Programs

FEDERAL GRANTS

Federal funding is provided through the Federal Airport Improvement Program (AIP). The Airport Improvement Program is the latest evolution of a funding program originally authorized by Congress in 1946 as the Federal Aid to Airports Program (FAAP). The AIP provides Entitlement funds for commercial service and cargo airports based on the number of annual enplaned passengers and amount of air cargo handled. Other appropriations of AIP funds go to states, general aviation airports, commercial service airports, and for noise compatibility planning. Any remaining AIP funds at the national level are designated as Discretionary funds and may be used by the FAA to fund eligible projects Discretionary funds are typically used to enhance airport capacity, safety and/or security. These discretionary funds are often directed to specific national priorities such as the recent program to improve Runway Safety Areas. These annual entitlement funds can only be used for eligible capital improvement projects and may not be used to support airport operation and maintenance costs.

AIP funding programs include:

- **AIP Entitlement Grants**: The FAA Extension, Safety, and Security Act of 2016 was signed into law in July of 2016, extending short-term authorization for FAA programs and related revenue authorities through September 30, 2017.

- **AIP Discretionary Grants**: The FAA also provides Discretionary funds to airports for projects that have a high federal priority or to enhance safety, security, or capacity. These grants are over and above Entitlement funding. Discretionary grant amounts can vary significantly compared to Entitlements and are awarded at the FAA's sole discretion. Discretionary grant applications are evaluated based on:
    - Need;
    - The FAA's project priority ranking system; and
    - The FAA's assessment of a project's significance within the national airport and airway system.
- **FAA Facilities and Equipment Funds**: Additional funds are available under the FAA Facilities and Equipment Program. Money is available in the FAA Facilities and Equipment (F&E) program to purchase navigation aids and air safety-related technical equipment, including Airport Traffic Control Towers (ATCTs) for use at commercial service airports in the National Airport System. Each F&E project is evaluated independently using a cost-benefit analysis to determine funding eligibility and priority ranking. Qualified projects are funded in total (i.e., 100 percent) by the FAA, while remaining projects would likely be eligible for funding through the AIP or PFC programs. In

addition, an airport can apply for NAVAID maintenance funding through the F&E program for those facilities not funded through the F&E program.

FAA funding is limited to projects that have a clearly defined need and are identified through preparation of an FAA approved Airport Layout Plan (ALP). Periodic updates of the ALP are required when new or unanticipated project needs or opportunities exist that require use of FAA funds and to reflect the status of completed projects. The FAA will generally not participate in projects involving vehicle parking, utilities, building renovations, or projects associated with non-aviation development.

Projects such as hangar construction or fuel systems are eligible for funding, although the FAA considers these types of project as a much lower priority than other airfield needs.

STATE FUNDING

The Washington State Department of Transportation - Aviation Division (WSDOT Aviation) provides an additional source of funding for airport projects in the form of grants through its Airport Aid Grants program. The Aviation Division has established grant criteria for airport sponsors requesting aid to define projects related to pavement, safety, maintenance, security, or planning.

Although Aviation Division funding is distributed widely to general aviation airports throughout the state, predicting any consistent level of funding for purposes of long-term financial planning is not possible. Competition for the limited grant funds is consistently high, with priority often given to airports with limited resources or to airports that are not eligible to receive FAA grants. Project funding is determined on a case-by-case basis and is affected by overall funding levels and competition among airports during any particular state budget cycle (biennium).

In April 2017, the governor signed **House Bill 1018** into law, effective July 2017, which increased the maximum grant amount for general aviation projects provided by the Aviation Division from $250,000 to $750,000. Although large grant awards are uncommon due to the large number of applications and the limited funding the Aviation Division has available. On July 23, 2017, House Bill 1018 became session law *Chapter 48 Airport Aid Grant Program – Maximum Amount*.

When funding levels permit, the Aviation Division attempts to assist NPIAS general aviation airports with funds needed to match FAA grants. Up to half of the 10 percent local match may be funded through Aviation Division grants, although as noted above, the available funding within each biennial funding cycle effectively limits the ability to support large grant awards.

For these reasons, no specific level of Aviation Division funding has been assumed in the CIP presented in **Table 9-1**. It is recommended that the county regularly apply for Aviation Division funding for eligible projects. However, the limitations on funding availability suggest that it would not be prudent to assume

that any specific level or formula percentage is available. In instances when the Aviation Division grant requests are successful the county required expenditure, in the form of local match for FAA grants or funding non-FAA eligible projects, will be reduced.

As noted earlier, Runway 7/25 is ineligible for FAA funding and historically has not been funded by WSDOT Aviation. The project rating system used by WSDOT normally places a lower priority on secondary runways, including runways not eligible for FAA funding. However, late in the master planning process when Runway 7/25 was closed due to its deteriorated condition, WSDOT Aviation was on the record indicating its willingness to support funding for Runway 7/25 due to the unique operational requirements related to flight training at Bowers Field (Director David Fleckenstein, Bowers Field Airport Advisory Committee meeting, October 11. 2017). The ability to access substantial WSDOT grants for Runway 7/25, in combination with other local sources of funding, will be a significant factor improving the feasibility of rehabilitating Runway 7/25. WSDOT grants require a local match (typically 10 percent or more).

State Capital Improvement Program (SCIP)

The FAA's Seattle Airport District Office (ADO) worked with state aviation agencies in Washington, Oregon, and Idaho to develop a coordinated "state" capital improvement program, known as the SCIP. The SCIP is the primary tool used by FAA, state aviation agencies, and local airport sponsors to prioritize funding. The program has reached full implementation with current and near-term future funding decisions prioritized through evaluation formulas. Airport sponsors are asked to provide annual updates to the short-term project lists in order to maintain a current system of defined project needs. The short-term priorities identified in the master plan CIP will be imported into the SCIP and are subject to additional prioritization for funding in competitive statewide evaluations.

LOCAL FUNDING

The locally funded (county) portion of the CIP for the twenty-year planning period is estimated to be approximately $4.75 million as currently defined including the cost of rehabilitating Runway 7/25 (not FAA eligible). It is recognized that the feasibility of rehabilitating Runway 7/25 is dependent on other sources funding (WSDOT, CWU, etc.) to supplement airport-generated funds or overall Kittitas County funding. Hangar or other building construction costs and building maintenance have not been included in the CIP since no FAA funding is assumed.

Airport sponsors occasionally fund infrastructure and revenue-generating development, including hangars and buildings, either through an inter-fund loan or the issuance of long-term debt (revenue or general obligation bonds).

Airport Rates and Fees

The primary aviation use rates and fees at Bowers Field are summarized in **Table 9-2**. A review of existing rates and fees indicates that the airport's fee structure is lower than other nearby airports. Rates at airports vary based primarily on market conditions, location, and available services. For example, rates and fees for Yakima, Wenatchee, or Tri-Cities are typically higher due to having commercial service and providing additional services. For an airport to effectively raise rates, it must consider the local and regional market conditions along with the potential for competitive nearby airports to attract tenants through more economical rates. The rates and fees structure should be subject to regular review and adjustment to reflect inflation, market conditions and specific facility improvements.

TABLE 9-2: AIRPORT RATES AND FEES (2017)

Ground Lease Rate (Inside Airport Fence) per square foot:	$0.12 / sq/ft
Ground Lease Rate (Business/Industrial Park) per square foot:	$0.063 / sq/ft
Hangar Lease Rate (Conventional Hangar) per square foot:	N/A
Fuel Flowage Fee (Jet-A and 100LL) per gallon:	N/A
T-Hangar Lease Rate – Large & Small (Monthly):	$142.55
Tiedown Lease Rates (Daily):	$3
+Tiedown Lease Rate (Monthly):	$25-30

Cash Flow Analysis

A projection of airport operating revenues and expenses for the twenty-year planning period is presented in **Table 9-3,** based on data provided by the county and the noted assumptions on future events. According to the Kittitas County 2013-2016 revenue and expense budgets, the airport is currently operating in the positive (based on operating revenues and expenses only). However, the 2017 county budget shows the airport operating in a deficit and this deficit continues through year 2023. In 2024, operating revenues begin to exceed the expenses and slowly grow through 2035 based on the assumed annual revenue and expense increases. The general operating position of the airport is expected to improve as overall airport activity increases and the county sells portions of non-aeronautical lands. Basic business decisions will need to be made regarding the financial feasibility of renovating individual county-owned buildings. These decisions should be made based on market conditions, expected return on investment, and any intangible benefits provided to the community that would result from the project.

The airport has three primary revenue categories: user charges (including tiedown fees), land leases (for agriculture, hangar, or industrial facilities), and county-owned hangars or building leases. The current rates and fees structure appears to be generally in line with market rates at other general aviation airports in the region. For the purposes of projecting future revenues, it is assumed that revenues will increase at an average rate of 2.5 percent annually through the twenty-year planning period. This rate assumes both

an increase in revenue-producing activities on the airport (new leases, fuel sales, etc.) and periodic increases in current rates and fees to account for inflation and market conditions.

The current level of maintenance and operating expenses is considered to be reasonable based on the size of the facility and reflects the efficient use of staff and outside resources. For the purposes of projecting future revenues, it is assumed that expenses will increase at an average rate of two percent annually, through the twenty-year planning period. Additional maintenance expenses are also anticipated as the airfield continues to expand physically. Although the precise staging of facility expansion will depend on market demand and availability of funding the new facilities identified in the twenty-year CIP. The costs of maintaining the airfield can be reasonably expected to increase incrementally as the facility expands.

Ongoing capital improvement expenditures will include local match for state and federal grants and the full or partial cost of projects not eligible for FAA or state funding.

Table 9-3: BOWERS FIELD 20-YEAR OPERATING BUDGET

OPERATING EXPENSES*	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Personel Services																							
Airport Manager & Admin	$44,326	$10,061	$17,621	$6,728	$26,000	$26,520	$27,050	$27,590	$28,140	$28,700	$29,270	$29,860	$30,460	$31,070	$31,690	$32,320	$32,970	$33,630	$34,300	$34,990	$35,690	$36,400	$37,130
Accounting	$6,745	$11,662	$9,990	$9,962	$15,000	$15,300	$15,610	$15,920	$16,240	$16,560	$16,890	$17,230	$17,570	$17,920	$18,280	$18,650	$19,020	$19,400	$19,790	$20,190	$20,590	$21,000	$21,420
Leasing	$288	$3,104	$7,043	$245	$9,000	$9,180	$9,360	$9,550	$9,740	$9,930	$10,130	$10,330	$10,540	$10,750	$10,970	$11,190	$11,410	$11,640	$11,870	$12,110	$12,350	$12,600	$12,850
Consulting Services	$0	$735	$4,173	$0	$15,000	$15,300	$15,610	$15,920	$16,240	$16,560	$16,890	$17,230	$17,570	$17,920	$18,280	$18,650	$19,020	$19,400	$19,790	$20,190	$20,590	$21,000	$21,420
SUBTOTAL	*$51,359*	*$25,562*	*$38,827*	*$16,935*	*$65,000*	*$66,300*	*$67,630*	*$68,980*	*$70,360*	*$71,750*	*$73,180*	*$74,650*	*$76,140*	*$77,660*	*$79,220*	*$80,810*	*$82,420*	*$84,070*	*$85,750*	*$87,480*	*$89,220*	*$91,000*	*$92,820*
Operations & Maintenance																							
Aeronautical Area Maintenance	$7,007	$20,405	$11,653	$31,905	$34,000	$34,680	$35,370	$36,080	$36,800	$37,540	$38,290	$39,060	$39,840	$40,640	$41,450	$42,280	$43,130	$43,990	$44,870	$45,770	$46,690	$47,620	$48,570
Industrial Area Maintenance	$606	$9,022	$6,759	$8,410	$32,500	$33,150	$33,810	$34,490	$35,180	$35,880	$36,600	$37,330	$38,080	$38,840	$39,620	$40,410	$41,220	$42,040	$42,880	$43,740	$44,610	$45,500	$46,410
Aeronautical Area Operations	$22,032	$30,456	$26,275	$29,227	$38,700	$39,470	$40,260	$41,070	$41,890	$42,730	$43,580	$44,450	$45,340	$46,250	$47,180	$48,120	$49,080	$50,060	$51,060	$52,080	$53,120	$54,180	$55,260
Industrial Area Operations	$4,497	$4,000	$26,528	$13,423	$17,500	$17,850	$18,210	$18,570	$18,940	$19,320	$19,710	$20,100	$20,500	$20,910	$21,330	$21,760	$22,200	$22,640	$23,090	$23,550	$24,020	$24,500	$24,990
SUBTOTAL	*$34,142*	*$63,883*	*$71,215*	*$82,965*	*$122,700*	*$125,150*	*$127,650*	*$130,210*	*$132,810*	*$135,470*	*$138,180*	*$140,940*	*$143,760*	*$146,640*	*$149,580*	*$152,570*	*$155,630*	*$158,730*	*$161,900*	*$165,140*	*$168,440*	*$171,800*	*$175,230*
TOTAL FUND EXPENDITURES	**$85,501**	**$89,445**	**$110,042**	**$99,900**	**$187,700**	**$191,450**	**$195,280**	**$199,190**	**$203,170**	**$207,220**	**$211,360**	**$215,590**	**$219,900**	**$224,300**	**$228,800**	**$233,380**	**$238,050**	**$242,800**	**$247,650**	**$252,620**	**$257,660**	**$262,800**	**$268,050**

OPERATING REVENUES**	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Rent, Leases, and Royalties																							
Agriculture Leases (Summary)	$46,255	$38,485	$38,485	$38,485	$46,292	$47,450	$48,640	$49,860	$51,110	$52,390	$53,700	$55,040	$56,420	$57,830	$59,280	$60,760	$62,280	$63,840	$65,440	$67,080	$68,760	$70,480	$72,240
T-Hangar Leases	$18,583	$18,553	$18,798	$18,592	$18,500	$18,960	$19,430	$19,920	$20,420	$20,930	$21,450	$21,990	$22,540	$23,100	$23,680	$24,270	$24,880	$25,500	$26,140	$26,790	$27,460	$28,150	$28,850
Tie Down Leases	$2,269	$2,391	$2,354	$2,144	$2,400	$2,460	$2,520	$2,580	$2,640	$2,710	$2,780	$2,850	$2,920	$2,990	$3,060	$3,140	$3,220	$3,300	$3,380	$3,460	$3,550	$3,640	$3,730
Other Leases	$91,175	$72,626	$110,044	$106,848	$93,900	$96,250	$98,660	$101,130	$103,660	$106,250	$108,910	$111,630	$114,420	$117,280	$120,210	$123,220	$126,300	$129,460	$132,700	$136,020	$139,420	$142,910	$146,480
General Fund / CWU Lease	$3,717	$0	$7,434	$0	$8,466	$8,680	$8,900	$9,120	$9,350	$9,580	$9,820	$10,070	$10,320	$10,580	$10,840	$11,110	$11,390	$11,670	$11,960	$12,260	$12,570	$12,880	$13,200
Airport Use Agreement	$0	$0	$500	$500	$1,500	$1,540	$1,580	$1,620	$1,660	$1,700	$1,740	$1,780	$1,820	$1,870	$1,920	$1,970	$2,020	$2,070	$2,120	$2,170	$2,220	$2,280	$2,340
Fuel Royalties	$5,723	$3,943	$4,310	$4,916	$4,000	$4,100	$4,200	$4,310	$4,420	$4,530	$4,640	$4,760	$4,880	$5,000	$5,130	$5,260	$5,390	$5,520	$5,660	$5,800	$5,950	$6,100	$6,250
KRD Water Sale (Summary)	$607	$7,841	$7,853	$9,355	$6,350	$6,510	$6,670	$6,840	$7,010	$7,190	$7,370	$7,550	$7,740	$7,930	$8,130	$8,330	$8,540	$8,750	$8,970	$9,190	$9,420	$9,660	$9,900
Total Revenue for Services	*$168,329*	*$143,839*	*$189,778*	*$180,840*	*$181,408*	*$185,950*	*$190,600*	*$195,380*	*$200,270*	*$205,280*	*$210,410*	*$215,670*	*$221,060*	*$226,580*	*$232,250*	*$238,060*	*$244,020*	*$250,110*	*$256,370*	*$262,770*	*$269,350*	*$276,100*	*$282,990*
TOTAL FUND RESOURCES	**$168,329**	**$143,839**	**$189,778**	**$180,840**	**$181,408**	**$185,950**	**$190,600**	**$195,380**	**$200,270**	**$205,280**	**$210,410**	**$215,670**	**$221,060**	**$226,580**	**$232,250**	**$238,060**	**$244,020**	**$250,110**	**$256,370**	**$262,770**	**$269,350**	**$276,100**	**$282,990**
NET OPERATING REVENUE	**$ 82,828**	**$ 54,394**	**$ 79,736**	**$ 80,940**	**$ (6,292)**	**$ (5,500)**	**$ (4,680)**	**$ (3,810)**	**$ (2,900)**	**$ (1,940)**	**$ (950)**	**$ 80**	**$ 1,160**	**$ 2,280**	**$ 3,450**	**$ 4,680**	**$ 5,970**	**$ 7,310**	**$ 8,720**	**$ 10,150**	**$ 11,690**	**$ 13,300**	**$ 14,940**

**Operating expenses were calculated at a 2% average annual growth rate over the next 20 years.*

***Operating revenues were calculated at a 2.5% average annual growth rate over the next 20 years.*

Additional increases in aviation rent revenues in years 2020, 2025, 2030, and 2035, see Revenue Assumptions in Chapter 9 Airport Financial Plan for details.

2013-2016 revenues and expenses are actual numbers.

2017 revenues and expenses are budget numbers.