
Chapter 8 – 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 Five). The ACIP projects are summarized in Table 8-1 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 Port and FAA to support the development program based on existing funding mechanisms.

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 Six.

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 8-1**, 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 Port 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 in 2020 dollars based on typical construction costs associated with the specific type of project. The project costs listed in the ACIP represent order-of-magnitude estimates that approximate design, engineering, environmental, other related costs, and contingencies. 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 2020-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
258.115 (1982-1984 = 100) March 2020

Multiplying the change ratio (Y) times any 2020-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 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 (2020-2025).

The primary focus for short-term development is to reconfigure the apron adjacent to Runway 4/22 to meet Runway OFA clearing standards for parked aircraft. In addition, reconfiguration of the Runway 4 threshold and Taxiway B1 to eliminate the diagonal runway crossing are included. Specific Short-Term projects are listed below.

Actual project phasing will determine the sequence of Runway 4/22 rehabilitation and upgrade to ADG II; definition of the new Runway 4/22 partial-length west parallel taxiway (within existing apron area); reconfiguration/rehabilitation of existing apron; and construction of new (replacement) aircraft parking apron. Existing aircraft parking that will be displaced by the ADG II OFA clearing and the new parallel taxiway setbacks will be temporarily consolidated in the remaining apron areas (west and north of Runway 4/22 parallel taxiway) until new apron is constructed.

Short-Term Projects (1-5 years):

Project ID Number:

1. Design - Runway 4/22 Rehabilitation Project:
 - Rehabilitates the 150-foot wide runway;
 - Shifts the Runway 4 end by 217 feet north for taxiway reconfiguration; reduces runway length to 3,250 feet;
 - Maintains the existing pavement beyond the Runway 4 end as a paved overrun;
 - Rehabilitates main apron pavement to provide a 35-foot wide (ADG-II) west-parallel taxiway (Taxiway C) and three runway connectors (Taxiways C1, C2, and C3) to Runway 4/22;
 - Modifies Taxiway B1 to connect to Taxiway A; and
 - New markings and signage; surface painted signs are recommended for Runway 4/22 to avoid obstructions for glider operations.

2. Design – Glider Apron Rehabilitation

3. Construction - Runway 4/22 Rehabilitation Project
 - Rehabilitates the 150-foot wide runway;
 - Shifts the Runway 4 end by 217 feet to a new length of 3,250 feet;
 - Maintains the existing pavement beyond the Runway 4 end as a paved overrun;
 - Rehabilitates main apron pavement to provide a 35-foot wide (ADG-II) west-parallel taxiway (Taxiway C) and three runway connectors (Taxiways C1, C2, and C3) to Runway 4/22;
 - Modifies Taxiway B1 to connect to Taxiway A; and
 - New markings and signage; it is recommended that surface painted signs be used on the west side of Runway 4/22 to eliminate obstructions for glider operations.
4. Construction – Glider Apron Rehabilitation
5. Environmental Assessment for Apron Expansion and Landside Development

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.

Intermediate-Term Projects (6-10 years):

Project ID Number:

1. Design – Main Apron Reconfiguration & West Apron Expansion
 - The new apron relocates the existing tiedowns outside of the Runway 4/22 OFA;
 - The apron is expanded to the west (up to the overhead powerline) and rehabilitates the existing pavement to provide approximately 12 small airplane tiedowns, 2 multi-engine drive-through positions, and taxilanes to serve aircraft parking and future hangar development;
 - Rehabilitates the existing fuel apron pavement; and
 - Rehabilitates the existing large aircraft and helicopter parking apron in front of the Port Administration/Pilot Building.
2. Phase I Construction – Main Apron Reconfiguration & West Apron Expansion
 - The new apron relocates the existing tiedowns outside of the Runway 4/22 OFA;

- The apron is expanded to the west (up to the overhead powerline) and rehabilitates the existing pavement to provide approximately 12 small airplane tiedowns, 2 multi-engine drive-through positions, and taxilanes to serve aircraft parking and future hangar development;
 - Rehabilitates the existing fuel apron pavement; and
 - Rehabilitates the existing large aircraft and helicopter parking apron in front of the Port Administration/Pilot Building.
3. Southwest Terminal Area - Apron Expansion and Reconfiguration;
- Reconfigures and expands the maintenance hangar apron on the southwest end of the terminal area, to relocate the existing 4 tiedown positions outside of the Runway 4/22 OFA.
4. Taxilane Rehabilitation
- Rehabilitate the existing T-hangar taxilane to meet ADG-I OFA standards, while providing access to future hangar development west of the existing T-hangar;
5. Terminal Landside Development
- Construct vehicle parking and improve access road to the Terminal Landside hangar development;
6. Airfield Pavement Maintenance
- Sealcoat, crack fill, and repaint markings on Runway 3/21, Runway 11/29, Taxiway A and connectors, Taxiway B and connectors, and aircraft hold areas.

Long-Term Projects (11-20 years):

Project ID Number:

1. Phase 2 Construction – Main Apron Reconfiguration & West Apron Expansion
- The new apron relocates the existing tiedowns outside of the Runway 4/22 OFA;
 - The apron is expanded to the west (up to the overhead powerline) and rehabilitates the existing pavement to provide approximately 12 small airplane tiedowns, 2 multi-engine drive-through positions, and taxilanes to serve aircraft parking and future hangar development;
 - Bury overhead power line;
 - Rehabilitates the existing fuel apron pavement; and

- Rehabilitates the existing large aircraft and helicopter parking apron in front of the Port Administration/Pilot Building.
- 2. Southside Development Utility Improvements
 - Extend utilities from future south industrial/non-aeronautical development to the south landside area;
- 3. Southside Development Airport Access Road Improvements
 - Construct access road from Airport Street to future south landside hangar development;
- 4. Taxiway Bravo (Closed) Rehabilitation
 - Rehabilitate the former Taxiway B pavement to become a 35-foot wide taxilane serving future hangar development on the south side of the airport. The length of taxilane will depend on future hangar demand; however, for planning purposes it is estimated to be 1,275 feet between the connection point to Taxiway BI and the future connection to Taxiway B;
- 5. Airfield Pavement Maintenance
 - Sealcoat, crack fill, and repaint markings on all runways, taxiways, and apron areas; and
- 6. Airport Master Plan Update.

Table 8-1: Ephrata Municipal Airport 20-Year Capital Improvement Plan (CIP)

Project		Funding Source			Total Project Costs
ID	Description	Federal (90%)	State (5.0%)	Local	
1	Runway 4/22 Rehabilitation (Design Only)	\$537,300	\$29,850	\$29,850	\$597,000
2	Glider Apron Rehabilitation (Design Only)	\$163,800	\$9,100	\$9,100	\$182,000
3	Runway 4/22 Rehabilitation	\$4,599,900	\$255,550	\$255,550	\$5,111,000
4	Glider Apron Rehabilitation	\$1,051,200	\$58,400	\$58,400	\$1,168,000
5	Environmental Assessment for Apron Expansion and Landside Development	\$360,000	\$20,000	\$20,000	\$400,000
SHORT-TERM TOTAL (1-5 Years)		\$6,712,200	\$372,900	\$372,900	\$7,458,000

Project		Funding Source			Total Project Costs
ID	Description	Federal (90%)	State (5.0%)	Local	
1	Main Apron Reconfiguration/West Apron Expansion (Design Only)	\$217,800	\$12,100	\$12,100	\$242,000
2	Main Apron Reconfiguration/West Apron Expansion (Phase 1)	\$1,398,600	\$77,700	\$77,700	\$1,554,000
3	Southwest Terminal Apron Expansion & Reconfiguration	\$156,600	\$8,700	\$8,700	\$174,000
4	T-Hangar Taxilane Rehabilitation	\$364,500	\$20,250	\$20,250	\$405,000
5	Terminal Landside Development	\$769,500	\$42,750	\$42,750	\$855,000
6	Airfield Pavement Maintenance - Runways 3-21 & 11-29; Taxiways A & B, and Connecting Taxiways	\$1,563,300	\$86,850	\$86,850	\$1,737,000
MID-TERM TOTAL (6-10 Years)		\$2,853,900	\$158,550	\$158,550	\$3,171,000

Project		Funding Source			Total Project Costs
ID	Description	Federal (90%)	State (5.0%)	Local	
1	Main Apron Reconfiguration/West Apron Expansion (Phase 2)	\$292,500	\$16,250	\$16,250	\$325,000
2	Southside Development Utility Improvements	\$657,000	\$36,500	\$36,500	\$730,000
3	Southside Development Airport Access Road Improvements	\$536,400	\$29,800	\$29,800	\$596,000
4	Taxiway B Closed Rehabilitation	\$616,500	\$34,250	\$34,250	\$685,000
5	Airfield Pavement Maintenance - Runways, Taxiways and Aprons	\$2,316,109	\$128,673	\$128,673	\$2,573,454
6	Airport Master Plan Update	\$540,000	\$30,000	\$30,000	\$600,000
LONG-TERM TOTAL (11-20 Years)		\$4,958,509	\$275,473	\$275,473	\$5,509,454

Phases	Funding Source			Total Phase Costs
	Federal	State	Local	
SHORT-TERM (1-5 Years)	\$6,712,200	\$372,900	\$372,900	\$7,458,000
MID-TERM (6-10 Years)	\$2,853,900	\$158,550	\$158,550	\$3,171,000
LONG-TERM (11-20 Years)	\$4,958,509	\$275,473	\$275,473	\$5,509,454
TOTAL 20 YEAR PERIOD	\$14,524,609	\$806,923	\$806,923	\$16,138,454

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 and 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:** General Aviation airports within the NPIAS receive \$150,000 annually with the ability to carry over the grants for up to 4-years.
- **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 GRANT 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).

The current maximum grant award through the Aviation Division is \$250,000. In April 2017, the governor signed **House Bill 1018** into law effective in July 2017 that increases the maximum grant amount from \$250,000 to \$750,000 for general aviation projects provided by WSDOT. 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 8-1**. It is recommended that the airport regularly apply for WSDOT 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 the instances when 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.

STATE LOAN FUNDING

In 2019, House Bill 1102 funded \$5 million to a new Community Aviation Revitalization Loan (CARB) program managed and distributed through WSDOT Aviation. The CARB is a revolving loan program for revenue-producing projects that help public-use general aviation airports become more self-sustainable. The loans are awarded up to \$750,000 with a 3 percent interest rate for airports with less than 75,000 annual enplanements.

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 (Port) portion of the CIP for the twenty-year planning period is estimated to be approximately \$16 million as currently defined. Hangar or other building construction costs and building maintenance have not been included in the CIP, since no FAA funding is assumed.

A portion of local matching funds are generated through airport revenues, including fuel sales, land leases, and hangar rentals.

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).