

## 7.0 CAPITAL IMPROVEMENT & AIRPORT FINANCIAL IMPLEMENTATION PLAN

### 7.1 Introduction and Background

Airport capital improvement plans (CIP) present a number of items:

- The list of capital improvement projects that are proposed to be accomplished
- The timing and sequence of the proposed projects
- The estimated cost for each project
- The potential funding sources for each project

The purpose of this chapter is to present the projects identified in the Airport Capital Improvement Program (ACIP) that have been developed and assembled based on the analyses conducted in the Facility Requirements and Development Alternatives chapters (Chapters Four and Six). The ACIP projects are summarized in **Table 7-1** later in the chapter. The ACIP is organized in short-, intermediate- and long-term 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 Harvey Field (Harvey Field or the Airport) Airport Master Plan recommends a number of airport improvement projects in order to meet projected demand and to comply with appropriate FAA design standards. Because Harvey Field is a privately-owned public-use airport, the Master Plan and the recommended improvements focused on the property owned by the Airport.

Although airport land and buildings are owned by Kandace Harvey, an individual, Harvey Field is a public-use reliever airport and is included in the FAA's National Plan of Integrated Airport Systems (NPIAS), as well as Washington DOT's Aviation System Plan. As such, Ms. Harvey is signatory to grants received from both FAA and WSDOT Aviation and is financially responsible for both local match and any project costs ineligible for or not otherwise covered by grant funds.

**FAA Grant Assurances:** Two key AIP grant assurances, as part of AIP planning grant 3-53-0070-003-2014 dated September 17, 2014, are described as follows:

- The portion of the Airport dedicated for airport use, as shown on the Property Map (**Appendix K**), must not be sold, exchanged, the title encumbered, or its use changed to non-airport use without the written consent of the FAA.
- The portion of the Airport NOT dedicated to airport use but financially contributing to the overall viability of the Airport, as shown on the Property Map, must continue to support the operation of the Airport for a period of 10 years from the date of the grant, i.e. September 17, 2014. At such time as FAA may provide funding under the AIP for development projects identified in this Master Plan, grant assurances will apply, for a minimum of 10 years, to the Airport's operational facilities and associated land, as identified on the Airport's Property

Map. Other property owned by Ms. Harvey is not and will not be considered airport property, for the purposes of grant assurances.

## 7.2 Proposed Project Implementation Plan

Implementing the recommended projects will be dependent on a number of factors including, among others, practical sequencing of contiguous and/or related facilities, availability of federal, state, and local funding, completing required environmental review process, and the actual aviation activity increases that warrant additional capacity.<sup>1</sup> As a result, the Airport will routinely review and update their CIP in coordination with WSDOT Aviation and the FAA.

There are three key factors that must be fully considered in the overall implementation process:

1. **Project priority.** The Owner, WSDOT Aviation, and FAA priorities shape the order in which development projects are funded. Generally speaking, the projects most critical to complying with safety and design standards are funded first (e.g. airfield projects). Projects with lower priority ranking may be funded with Owner funds or, if FAA funds are sought, after higher priority projects are funded. Because FAA funding does not cover all requests for funding, lower ranked projects may wait for an extended period of time before receiving FAA grants.
2. **Practical construction considerations.** For example, new runway construction must precede new taxiway construction in order to keep the Airport in operation while the new runway is being built.
3. **Time required to design and construct each project**, which includes:
  - a. Practical project sequencing considerations
  - b. Scheduling the necessary funding from various sources
  - c. Environmental review and approval process
  - d. Seasonal weather that limits the time period available to implement the development program.

## 7.3 Scheduling Considerations for Recommended Airport Projects

### 7.3.1 Airside Development

#### Near-term projects:

The near-term program contains work items of the highest priority. Priority items include improvements related to safety. Because of their priority, these items will need to be incorporated into the FAA's Airport Capital Improvement Plan (ACIP) managed by the FAA Seattle Airport District Office and the State Capital Improvement Program (SCIP) managed by WSDOT Aviation. To assist with this process, the near-term projects are scheduled in order of priority for the near-term, mid-, and long-term planning periods.

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<sup>1</sup> See Figure 6-5, Chapter 6.

**Near-Term projects:**

- Prepare documents fulfilling the NEPA and SEPA requirements, in support of federal, state, and county project approvals.
- Construct New Runway 15/33, 2400 feet by 75 feet.
  - Note: The new runway centerline will be 240 feet west of the existing partial parallel taxiway and 150 feet west of existing Runway 15L/33R centerline. New connecting taxiways to tie to existing taxiway system. The new runway will be outside of the existing runway's Runway Safety Area (RSA), allowing for continued operations while the new runway is constructed. Early spring, late fall and nighttime construction is planned, in order to minimize impact to airport operations. Costs include runway edge lights, REIL, guidance signs.
- Construct new parallel taxiway, 2,400 feet by 25 feet.
  - Note: The new parallel taxiway will be on the same alignment as the existing partial parallel taxiway. Taxiway construction will be planned to minimize interruptions to airport operations. Costs include taxiway reflective markers, guidance signs, PAPI.
- Complete Airport Rotating Beacon Installation
  - Note: This project was previously-approved by the FAA.
- Pavement Maintenance/Limited Rehabilitation of Existing Primary Runway 15L/33R: excavate failed areas, backfill with select material, thin overlay, re-stripe
  - Note: Existing 15L/33R runway must last until new runway 15/33 is built. The proposal below to construct the new runway in 2024 is a very best case scenario, given the amount of funding required from owner, WSDOT, and FAA. Given the condition of the existing runway, pavement rehabilitation sufficient to keep the existing runway operational for another five to seven years is imperative.
- Pave East (SE) Transient Tie Down Apron, Phase 1: approximately 31,000 square feet
  - Note: Phase 1 will be configured to avoid obstructing existing taxi routes.
- Obstruction removal (trees) Projects 3 & 4 South
  - Note: Parcels 28052400101800 and 28052400101800. Project 3 completed with local funds. Project 4 is funded.
- Replace Perimeter Security Fence and Gates – Phase 1
  - Note: Main entrance to 99<sup>th</sup> Ave/Airport Way Corner.
- Construct Westerly Helipads
  - Note: Construct four helicopter parking pads to eliminate congestion at the intersection of Taxiway Alpha, Bravo and the skydiver drop zone.
- Pavement Maintenance - Taxiway Alpha and Taxilanes
  - Note: Crack seal, seal coat, restripe
- Construct 15 to 20 hangar units.
- Replace Perimeter Security Fence and Gates – Phase 2

- Note: 99<sup>th</sup> Avenue to 10530 Airport Way.
- Storm System/Airport Drainage Improvement
- Design new runway, parallel taxiway and new Airport Way along proposed route.
  - Note: The Airport coordinated extensively with both the Snohomish County Planning and Development Services and Snohomish County Public Works offices in planning and design for Airport Way relocation. This close collaboration will continue through the NEPA and SEPA processes, and through final design and construction.
- Replace Perimeter Security Fencing and Gates – Phase 3
  - Note: 10530 Airport North to Perimeter Access Road
- Obstruction removal (trees on Hwy 9 WSDOT right of way)
- Obstruction removal (trees and power line poles)
  - Note: Puget Sound Energy scheduling will factor into timing for power line pole relocation.
- Construct Airport Way
  - Note: Construction expected to extend over two years, for fill settlement.
- Replace Perimeter Security Fencing and Gates – Phase 4
  - Note: NW Perimeter Access Road East to Main Airport Parking Lot

**Mid and Long term projects (6-20 years):**

- Automated Weather Reporting Station
  - Note: Purchase and install automated weather reporting station - AWOS III PY System
- Pave Northeast (100 feet by 200 feet) Transient Tie Down Apron
- Pave East (SE) Transient Tie Down Apron – Phase 2 (approximately 60,000 square feet)
- Construct West (SW) Tiedown Ramp – Phase 1
  - Note: Pave Southwest Ramp – currently grass – 300 feet by 130 feet
- Construct West (SW) Tiedown Ramp – Phase 2 (approximately 42,000 square feet of total 84,000 square feet planned)
  - Note: Timing and scope for completing apron west of the new runway/taxiway will be driven by demand.
- Runway Maintenance – crack seal, sealcoat, repaint.
- Taxiway Maintenance – crack seal, sealcoat, repaint.
- Apron Maintenance – crack seal, sealcoat, repaint.
  - Note: SE ramp
- Apron Maintenance – crack seal, sealcoat, repaint
  - Note: NE ramp and main ramp with compass rose
- Apron Maintenance - crack seal, sealcoat, repaint.
  - Note: West ramp

- Rehabilitate/Reconstruct Runway as needed
- Rehabilitate/Reconstruct Taxiways as needed
- Rehabilitate/Reconstruct Aprons as needed

### 7.3.2 Landside Development

#### Near term projects:

- Construct Student Dorms to house maximum of 20 students
- Construct 10,000-square-foot Aircraft Maintenance Hangar
- Remodel and enlarge the airport office building and the flight school

Note: Landside development is covered by Owner funds, as these projects are not eligible for WSDOT or FAA funding. These projects are not part of the obligated airport property.

## 7.4 Funding Options for Capital Improvement Plan

Harvey Field prepares and updates their CIP on a regular basis. Once it is adopted, the Master Plan CIP will form the basis for future updates.

Even for capital improvements that are eligible for FAA and state participation, the airport sponsor must provide the local share of project costs. Sponsors can use revenue generated by rates and charges imposed on airport users, building and land leases, as well as general aviation entitlement grants. The FAA issues \$150,000 in non-primary entitlement (NPE) grants to general aviation airports annually, and airports can “save” four years of NPE grants (for a total of \$600,000) before it must be spent on FAA-eligible capital improvements. For capital improvements not covered by NPE grants, the Airport can apply for FAA discretionary grants. However, Harvey Field competes with other general aviation airports for discretionary grants, and there are typically more requests for FAA funding in each fiscal year than discretionary money available. As a result, the projects with highest priority ranking are funded first, and lower priority ranked projects are funded only if money is available.

**FAA and WSDOT Funding Requirements:** Harvey Field is a designated reliever airport to Seattle-Tacoma International Airport (Sea-Tac), providing general aviation pilots an alternative airport and minimizing air traffic congestion in the air space around Sea-Tac. As a designated reliever airport, Harvey Field is included in both the federal and state airport system plans and is eligible for both FAA and WSDOT Aviation airport development grants. Both the federal and state grant programs are funded strictly with aviation user fees and aviation user taxes.

WSDOT Aviation has supported Harvey Field through the years with several grants to help maintain runway and taxiway pavement and clear runway approach obstructions. FAA has supported the Airport with grants to prepare planning documents, such as this Master Plan. Since the feasibility of the Airport’s proposed Airport Way and runway projects is predicated on future FAA funding, FAA funding requirements and priorities are summarized below and in **Figure 7-1** and **Figure 7-2**.

In general, airport facilities that are eligible for funding must be available for public use, without prior permission, and meet applicable FAA airport design standards. Projects that are eligible for state and federal funding are subject to priority ranking as well as funding availability.

The Washington State Legislature and the U.S. Congress pass laws authorizing state and federal airport aid programs, and amend those programs from time to time. The FAA's current AIP expired at the end of FY 2017 (September 30, 2017). The U.S. Congress is presently studying the reauthorization of the FAA's AIP, and it is possible that FAA funding levels could change, project eligibility may change, and FAA's priority ranking system may also change depending on new legislation. As a result, Harvey Field's CIP will need to be reviewed and updated as the FAA and state airport improvement programs are reauthorized or modified.

FIGURE 7-1 – FAA BASIC PROJECT JUSTIFICATION TESTS

The three basic tests to determine if a project is justified are...
<p><b>a. The Project Advances an AIP Policy.</b> The ADO must verify that the project advances at least one of the AIP policies contained in 49 USC § 47101. The basic goals and objectives in these policies include airport safety, airport security, airport capacity, meeting an FAA standard, preserving airport infrastructure through reconstruction or rehabilitation, protecting and enhancing the environment, minimizing aircraft noise impacts, and airport planning. AIP funds must not be used for a project that does not specifically advance one of the AIP policies.</p>
<p><b>b. There is an Actual Need.</b> Per FAA policy, the ADO must determine if there is an actual need for the project at the airport within the next five years (per the definition near-term development per the current version of Advisory Circular 150/5070-6, Airport Master Plans). This includes all subcomponents of the project.</p>
<p><b>c. The Project Scope is Appropriate.</b> The ADO must determine that only the elements that are required to obtain the full benefit of the project are included in the project scope. Any elements that do not meet these criteria must stand on their own separate merit and justification. The current version of FAA Order 5100.39, Airports Capital Improvement Plan, discusses this concept in further detail in the discussions on overall development objective.</p>

Source: FAA Order 5100.38D, *Airport Improvement Program Handbook*, 09/30/14, Chapter. 3, Section 3

The following requirements must also be met for FAA to consider a project for AIP funding:

- The project sponsorship requirements have been met.
- The project is reasonably consistent with the plans of planning agencies for the development of the area in which the airport is located.
- Sufficient funds are available for the portion of the project not paid for by the Federal Government.
- The project will be completed without undue delay.
- The airport location is included in the current version of the NPIAS.
- The project involves more than \$25,000 in AIP funds.
- The project is depicted on a current airport layout plan approved by FAA.

FIGURE 7-2 – EXAMPLES OF PROJECTS NOT MEETING THE BASIC JUSTIFICATION TESTS

For the following situation...	Is not justified because...
a. A sponsor has a runway shown on their ALP and would like to build it to increase capacity. However, the airport already has adequate capacity and will continue to have adequate capacity in the foreseeable future.	This project does not advance an AIP policy. The actual need does not exist.
b. A sponsor would like to build a runway extension to attract a new class of aircraft or for marketing purposes. In this case, the need is speculative and not based on documented future need.	The actual need does not exist.
c. A sponsor would like include dorm rooms and day rooms in an ARFF building expansion for an airport with a class of certification that does not require 24/7 ARFF personnel.	This project scope is not appropriate.
d. A sponsor would like to replace its existing asphalt pavement with concrete even though the pavement section has existing useful life.	The actual need does not exist.

Source: FAA Order 5100.38D, *Airport Improvement Program Handbook*, 09/30/14, Chp. 3, Section 3

## 7.5 Project Cost Estimates and Funding Sources

aviation prepared cost estimates for each of the recommended projects shown on the Airport Layout Plan (ALP). The planning-level cost estimate worksheets are shown in **Appendix M, Cost Estimates**. The projects and cost estimates are shown below. The cost estimates are based on existing information—no survey, soils or pavement testing, or other engineering evaluation was performed as part of preparing these estimates. In addition, it is anticipated that unit costs and, project funding sources will change over time, as noted above. As a result, the cost estimates will need to be revised and updated with site-specific engineering data (survey, soils, utilities, etc.), and to reflect current prices at the time the project is to be constructed. The cost estimates in **Table 7-1** are not to be used for project specific engineering, design, or bid purposes.



**TABLE 7-1 - RECOMMENDED PROJECTS & FUNDING**

Time Frame/Project	Project Category & Timing Considerations	Total Project Cost
<b>Near Term 1 - 5 years</b>		
Obstruction Removal - RPZ	Standards - Maintain Safe Operations	\$25,000
Obstruction Removal - Projects 1&2 North	Standards - Maintain Safe Operations	\$31,772
Airport Signage	Standards	\$12,500
<b>Subtotal</b>		
Complete Beacon Installation	Standards - Complete Ongoing Project	Funded
Limited Runway Rehab	Rehab - Preserve Failing Pavement	\$167,500
Pave East (SE) Ramp	Capacity	\$73,635
Obstruction Removal - Projects 3&4 South	Standards - Maintain Safe Operations	\$42,545
Security Fencing - Phase 1	Standards - Prevent Airport Intrusions	\$56,000
Construct West Helipads	Capacity - Reduce Terminal Area Congestion	\$50,000
<b>Subtotal</b>		
NEPA Documentation	Environment - Pre-Req to Airport Way & Rwy Construction	\$1.2 million
Pavement Maintenance – Taxiway Alpha & Taxilanes	Rehab - Preserve Failing Pavement	\$94,230
Construct 15-20 Hangar Units	Capacity	\$350,000
Security Fencing – Phase 2	Standards - Prevent Airport Intrusions	\$56,000
Storm Drainage System Improvement	Standards	\$38,900
<b>Subtotal</b>		
Design Runway/Taxiways/Airport Way	Standards	\$768,000
Security Fencing – Phase 3	Security - Prevent Airport Intrusions	\$56,000
Obstruction Removal (tree) on WSDOT ROW	Standards - Maintain Safe Operations	\$200,000
Obstruction Removal (tree) & PSE Powerline Relocation	Standards - Maintain Safe Operations	\$68,800
<b>Subtotal</b>		
Construct Airport Way	Standards - Pre-Req to Standard Rwy Construction	\$3.9 million
Security Fencing – Phase 4	Security - Prevent Airport Intrusions	\$35,000
<b>Subtotal</b>		
AWOS	Standards	\$212,000
<b>Subtotal</b>		
<b>Mid Term 6 – 10 years</b>		
Construct New Runway & REIL	Standards	\$3.9 million
<b>Subtotal</b>		
Construct Parallel Taxiway & PAPI	Standards	\$2.2 million
Pave NE Ramp	Capacity	\$48,200
Pave East (SE) Ramp – Phase 2	Capacity	\$75,000
<b>Subtotal</b>		
<b>Long Term 11 years +</b>		
Pave West (SW) Apron – Phase 1	Capacity	\$93,850



Time Frame/Project	Project Category & Timing Considerations	Total Project Cost
<b>Subtotal</b>		
Pave West (SW) Apron – Phase 2	Capacity	\$108,000
<b>Subtotal</b>		
Runway Maintenance	Rehab	\$300,000
Taxiway Maintenance	Rehab	\$85,000
Apron Maintenance (East-Southeast)	Rehab	\$65,000
Apron Maintenance (Northeast)	Rehab	\$55,000
Apron Maintenance (West)	Rehab	\$630,000
<b>Total</b>		
Rehabilitate Runway		\$1.0 million
Rehabilitate Taxiways		\$400,000
Rehabilitate Aprons		\$3.8 million
<b>Total</b>		

Source: Aviation

Note: Existing data was used in cost estimates. No survey, soils, pavement condition, or other engineering data was used in developing cost estimates. Unit prices are subject to change. These cost estimates are not to be used for design, construction, or bid purposes. Costs across FAA, WSDOT and Owner may not add due to rounding.