

## Executive Summary

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### Introduction

Constructed in 1942 as a U.S. Army Air Corps training ground for B-24 Liberator pilots, Pueblo Air Base was renamed to Pueblo Memorial Airport (PUB or Airport) in memory of the pilots who flew during the Second World War. Ownership of PUB transferred to the City of Pueblo in 1953, and PUB continues operation to this day as a commercial service airport serving a large General Aviation (GA) user base. Canadian Aviation Education (CAE)-Doss (formerly L3Harris-Doss), a training facility for pilots in the U.S. Armed Forces, remains the largest user at the Airport.

PUB encompasses approximately 2,551 acres and consists of three runways, numerous taxiways, one main apron, a passenger terminal building, and various hangars and buildings. Runway 8R/26L, the primary runway is 10,498 feet in length and 150 feet in width. Runway 8L/26R, the parallel runway is 4,690 feet in length and 75 feet in width. Runway 17/35, the crosswind runway is 8,310 feet in length and 150 feet in width. Taxiway A is the parallel taxiway serving Runway 8R/26L. Taxiway B is the parallel taxiway serving Runway 8L/26R. Runway 17/35 is not served by a parallel taxiway. The Airport is located less than 50 miles south of the Colorado Springs Airport (COS) and less than 140 miles south of Denver International Airport (DEN). This proximity to other airports in the region provides PUB, and by extension the City and County of Pueblo, the opportunity to grow in its role as a regional airport.

This Master Plan will assist in documenting the current state of the aviation industry at PUB, and ultimately supports the modernization and improvement of existing Airport facilities. In addition, the findings of the Master Plan can serve as the strategic guide for overall economic development opportunities and sustainability recommendations over a 20-year planning horizon, as well as enhance the Airport as a major regional economic and employment center.

## Outreach and Communications Plan

The Master Plan includes an Outreach and Communications Plan that defines the proposed communication and community engagement process for the project including overall goals, key community audiences, information needs and messages, and proposed community engagement activities.

Throughout the Master Plan Update, PUB and the project team formed several goals. These goals include:

- **Establishing a process to inform stakeholders and the broader community about the master planning process.**
- **Informing the public on how they can be involved and how their input will be considered.**
- **Collecting substantive and meaningful public input at appropriate milestones.**
- **Conducting a public engagement process that is efficient, effective, and results in informed and engaged stakeholders and community members.**
- **Implementing virtual outreach strategies aligning with COVID-19 health and safety protocols.**

## Aviation Activity Forecasts

To provide a defined rationale for necessary improvements needed at PUB as demand increases, aviation activity forecasts were developed using approaches outlined in Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*. The aviation activity forecasts were developed for the 20-year planning period (2019-2040) and based on historic activity, industry trends, local socioeconomic data, and considered the changes that have occurred at PUB since the completion of previous planning studies.

Over the next 20 years, the types of aircraft projected to operate at PUB generally remain the same as those presently operating at the Airport, including small single engine piston aircraft, larger business jet aircraft, and regional jet commercial passenger service aircraft, such as the Canadair CRJ 200. Eventually, the Embraer ERJ 175 is anticipated to replace the CRJ 200, becoming the future critical aircraft. Overall, total aircraft operations, passenger enplanements, and based aircraft at PUB are anticipated to increase over the course of the 20-year planning period, as shown in **TABLE 1**.

**TABLE 1 Summary of Aviation Activity Forecasts, 2019-2040**

AVIATION ACTIVITY	2019	2025*	2030*	2035*	2040*
<b>ENPLANEMENTS</b>					
<b>Total</b>	<b>11,571<sup>1</sup></b>	<b>12,067</b>	<b>12,942</b>	<b>13,881</b>	<b>14,888</b>
<b>OPERATIONS</b>					
Commercial Service	4,157 <sup>1</sup>	4,157	4,157	4,157	4,157
<i>Air Taxi</i>	2,291	2,291	2,291	2,291	2,291
<i>Air Carrier</i>	1,866	1,866	1,866	1,866	1,866
General Aviation	212,634 <sup>1</sup>	415,711	433,072	434,454	435,923
<i>Itinerant</i>	90,616	171,525	178,961	180,139	181,397
<i>Local</i>	122,018	244,186	254,111	254,315	254,526
Military	633 <sup>1</sup>	633	633	633	633
<b>Total</b>	<b>217,424</b>	<b>420,501</b>	<b>437,862</b>	<b>439,244</b>	<b>440,713</b>
Total Itinerant	95,406	176,315	183,751	184,930	186,188
Total Local	122,018	244,186	254,111	254,314	254,525
<b>BASED AIRCRAFT</b>					
<b>Total</b>	<b>60<sup>2</sup></b>	<b>66</b>	<b>72</b>	<b>78</b>	<b>84</b>
<b>Critical Aircraft</b>	<b>CRJ 200</b>	<b>CRJ 200</b>	<b>CRJ 200</b>	<b>CRJ 200</b>	<b>E 175</b>

SOURCES: <sup>1</sup> FAA TAF.

<sup>2</sup> FAA National Based Aircraft Inventory validated by FAA, 2020. Does not include CAE-Doss owned aircraft.

\* Projections provided by Mead & Hunt.

## Capacity Analysis and Facility Requirements

### Capacity Analysis

PUB's operational capacity was analyzed using its Annual Service Volume (ASV). An airport's ASV evaluates, based upon multiple factors, its overall ability to accommodate aviation activities such as takeoffs and landings. The primary drivers of PUB's ASV include:

- **Weather Conditions**
- **Runway Configuration**
- **Exit Taxiways Configuration**
- **Fleet Mix**
- **Peak Hours**
- **Operation Types.**

The ASV analysis found PUB has a potential capacity of 462,108 annual operations. With 217,424 annual operations as of 2019, PUB currently operates at 47 percent of its annual capacity. As operations are forecast to increase to 440,713 by the end of the planning period in 2040, PUB will require additional enhancements to prevent unacceptable delays in airfield operations.

### Facility Requirements

Facility requirements examine the landside and airside facilities necessary to meet aviation demand. These estimates are based upon an airport's aviation activity forecasts, but they are also determined via the FAA's design standards. These two elements account for the efficiency and utility of an airport, as well as the efficiency of the airfield environment. Some major development considerations found at PUB include:

- **Remediation of FAA design standard deficiencies.**
- **Pavement rehabilitation.**
- **Terminal building expansion.**
- **Reconstruction of older airfield structures, including hangars and airport maintenance buildings.**

## Alternatives and Development Plan

To accommodate the forecasted growth and needed facilities at PUB, a set of alternatives was developed. The alternatives analysis are preceded by several goals intended to guide the Master Plan and inform future development. These goals include:

- **Plan and develop to capably accommodate the future needs of the City of Pueblo, Pueblo County, and the community.**
- **Program the construction of facilities when demand is realized (construction driven by demand, not forecasts).**
- **Plan to accommodate the forecast aircraft fleet safely and efficiently with the facilities needed to accommodate demand.**
- **Provide effective direction for future development through the adopted development program.**
- **Plan and develop to be environmentally compatible with the community.**
- **Integrate the needs of existing tenants with future airport development plans.**
- **Enhance fiscal self-sufficiency.**

Several alternatives addressing needed facilities were examined, including perhaps most notably the provision of a new fourth runway. ASV calculations examining two north-south orientations and three east-west orientations determined that, due to a more centralized location, an east-west oriented runway at the midpoint of Runway 17/35 provided the best outcome. Improvements to the taxiway system, FAA design standards, instrument approach procedures, terminal building, and landside facilities were also addressed. This analysis results in the Conceptual Development Plan (CDP) presented in **FIGURE 1**.



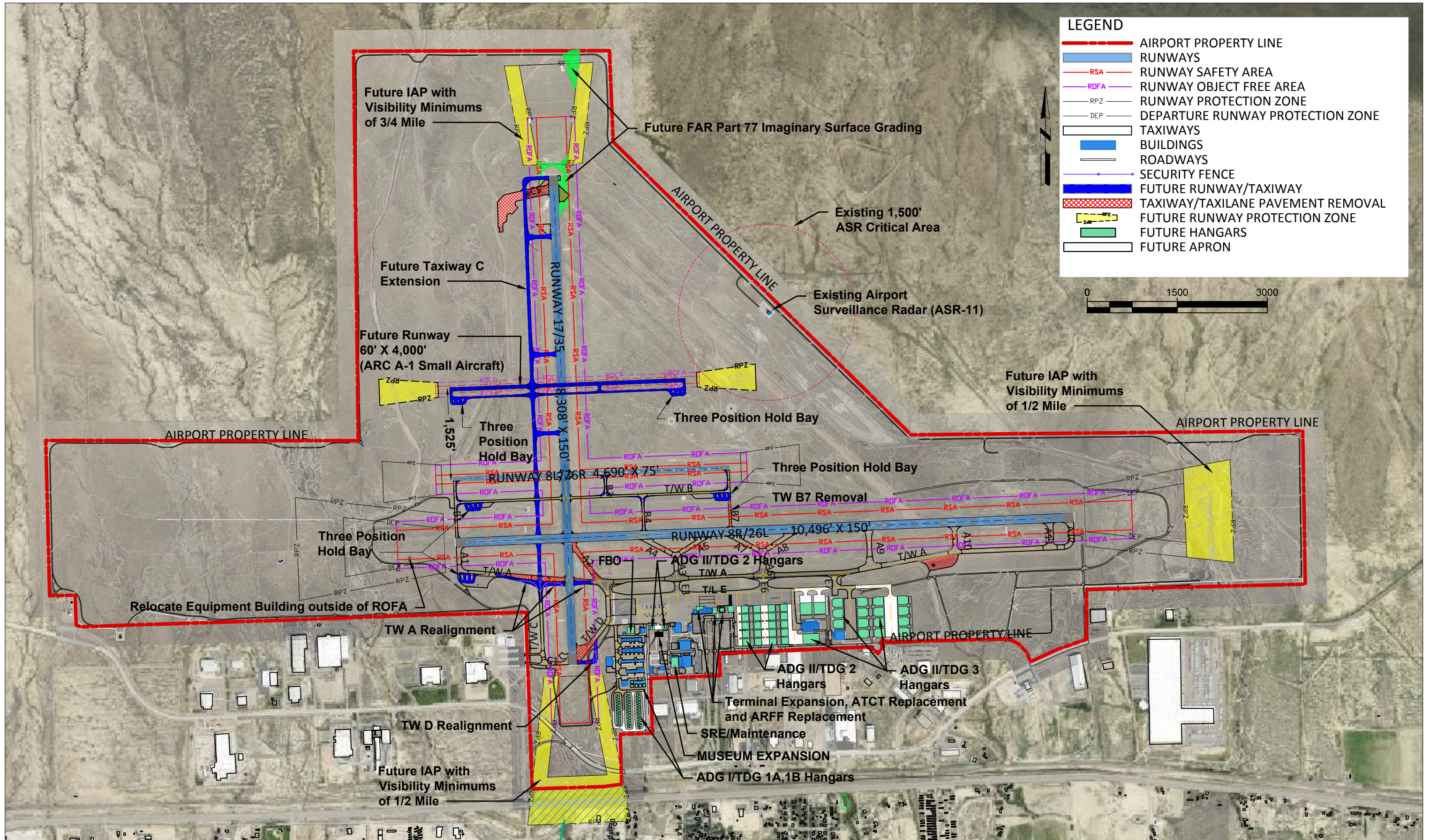


FIGURE 1 Conceptual Development Plan



## Implementation

The Capital Improvement Program (CIP) for airport development projects outlines the long-term development program for PUB and includes planning level cost estimates for each project. Airport improvement projects are addressed in three phases to best incorporate funding mechanisms over time:

- **Phase I** – Short-Term (0-5 years)
- **Phase II** – Mid-Term (6-10 years)
- **Phase III** – Long-Term (11-20 years).

The primary objective of the Financial Implementation Analysis is to evaluate PUB's capability to fund the development program and to finance airport operations. The analysis includes development of a detailed Financial Implementation Plan that presents the results of the implementation evaluation and provides practical guidelines for matching an appropriate amount and timing of financial sources with the planned use of funds.

Projects are placed in a specific phase based upon priority and available funding. Those projects with lower priorities are placed in later phases, but several projects can and will be phased over multiple years due to their funding needs or length to complete. **TABLE 2**, **TABLE 3**, and **TABLE 4** show the projects in each phase of the development program.

TABLE 2 Phase I (0-5 Years) Development Program Project Costs

PROJECT	PROJECT DESCRIPTION	Cost Estimate (2021)	Cost Estimate (3% Inflation)	OTHER	LOCAL	STATE	AIP Entitlements	AIP Discretionary	Total AIP Funding
<b>Year 1 (2022)</b>									
A.1	Snow Removal Equipment (SRE 22' Plow Truck)	\$415,000	\$427,500	-	\$10,688	\$10,688	\$406,125	-	\$406,125
A.2	Runway 8R/26L Rehabilitation and Taxiway A2 Removal (Design)	\$300,000	\$309,000	-	\$7,725	\$7,725	\$293,550	-	\$293,550
A.3	Construct 10-Unit T-Hangar	\$1,307,600	\$1,346,800	-	\$1,346,800	-	-	-	-
<b>Year 2 (2023)</b>									
A.4	Rehabilitation of Terminal Parking Lot	\$376,600	\$399,500	-	\$399,500	-	-	-	-
A.5	Runway 8R/26L Rehabilitation and Taxiway A2 Removal (Construction)	\$8,674,700	\$9,203,000	-	\$230,075	\$230,075	\$2,300,000	\$6,442,850	\$8,742,850
A.6	Future Third Parallel Runway Environmental Assessment and Cost-Benefit Analysis	\$400,000	\$424,400	\$212,200	-	-	-	\$212,200	\$212,200
A.7	Short-Term Terminal Development Concept for Terminal Building	\$1,930,000	\$2,047,500	-	\$51,188	\$51,188	-	\$1,945,125	\$1,945,125
<b>Year 3 (2024)</b>									
A.8	Future Third Parallel Runway Design	\$850,000	\$928,800	\$464,400	-	-	-	\$464,400	\$464,400
<b>Year 4 (2025)</b>									
A.9	FAA Part 77 Imaginary Surface Grading	\$597,000	\$671,900	-	\$16,798	\$16,798	-	\$638,305	\$638,305
A.10	Replace ARFF Building	\$2,800,000	\$3,151,400	-	\$78,785	\$78,785	\$2,000,000	\$993,830	\$2,993,830
A.11	Taxiway C Extension (Phase I)	\$7,147,500	\$8,044,600	-	\$201,115	\$201,115	-	\$7,642,370	\$7,642,370
A.12	Future Third Parallel Runway Construction	\$8,912,600	\$10,031,200	\$5,015,600	-	-	-	\$5,015,600	\$5,015,600
A.13	Apron Rehabilitation (East) (Phase I - Design and Construct)	\$2,481,100	\$2,792,500	-	\$69,813	\$69,813	-	\$2,652,875	\$2,652,875
A.14	Construct One Box Hangar	\$1,043,500	\$1,174,500	-	\$1,174,500	-	-	-	-
<b>Year 5 (2026)</b>									
A.15	Taxiway A and Connectors Rehabilitation (Phase I - Design and Construction) (Mill and Overlay Taxiways A, A1, A3, A4, A5. Last Paved Between 1998 and 2014)	\$6,571,000	\$7,617,600	-	\$190,440	\$190,440	-	\$7,236,720	\$7,236,720
<b>SUB-TOTAL PHASE I</b>		<b>\$43,806,600</b>	<b>\$48,570,200</b>	<b>\$5,692,200</b>	<b>\$3,777,425</b>	<b>\$856,625</b>	<b>\$4,999,675</b>	<b>\$33,244,275</b>	<b>\$38,243,950</b>



**TABLE 3 Phase II (6-10 Years) Development Program Project Costs**

PROJECT	PROJECT DESCRIPTION	Cost Estimate (2021)	Cost Estimate (3% Inflation)	LOCAL	STATE	FEDERAL
B.1	Taxiway B7 Removal	\$315,400	\$376,600	\$9,415	\$9,415	\$357,770
B.2	Relocate Equipment Building Near Runway End 8R Outside of ROFA	\$252,500	\$301,500	\$7,538	\$7,538	\$286,425
B.3	Replace ATCT	\$8,100,000	\$9,671,800	\$241,795	\$241,795	\$9,188,210
B.4	Extend Taxiway C (Phase II)	\$5,209,000	\$6,406,400	\$160,160	\$160,160	\$6,086,080
B.5	Rehabilitate Taxiway B (Design and Construction)	\$2,187,300	\$2,690,100	\$67,253	\$67,253	\$2,555,595
B.6	Realign Taxiway D	\$2,869,500	\$3,635,000	\$90,875	\$90,875	\$3,453,250
B.7	Construct Three Position Hold Bays Near Runway Ends 8R, 8L, and 26R	\$1,915,800	\$2,426,900	\$60,673	\$60,673	\$2,305,555
B.8	Construct Five-Unit T-Hangar	\$623,800	\$813,900	\$623,800	-	-
B.9	Construct Two Box Hangars	\$1,196,500	\$1,608,000	\$1,196,500	-	-
B.10	Construct Wildlife Perimeter Fence Line at Southern Airport Boundary (Design and Construction)	\$2,938,500	\$3,949,100	\$98,728	\$98,728	\$3,751,645
B.11	Rehabilitate Ramp (Phase V)	\$4,000,000	\$5,536,900	\$138,423	\$138,423	\$5,260,055
B.12	GA Taxiway and Utilities (Phase II)	\$500,000	\$692,100	\$17,303	\$17,303	\$657,495
B.13	Acquire SRE (Replace Aging Equipment)	\$415,000	\$574,500	\$14,363	\$14,363	\$545,775
<b>SUB-TOTAL PHASE II (2027-2032)</b>		<b>\$30,523,300</b>	<b>\$38,682,800</b>	<b>\$2,726,823</b>	<b>\$906,523</b>	<b>\$34,447,855</b>

**TABLE 4 Phase III (11-20 Years) Development Program Project Costs**

PROJECT	PROJECT DESCRIPTION	Cost Estimate (2021)	Cost Estimate (3% Inflation)	LOCAL	STATE	FEDERAL
C.1	Rehabilitate Runway 8L/26R (Design and Construction)	\$2,919,000	\$4,161,800	\$104,045	\$104,045	\$3,953,710
C.2	Construct Snow Removal Equipment (SRE) Building	\$2,314,500	\$3,398,900	\$84,973	\$84,973	\$3,228,955
C.3	Construct Five-Unit T-Hangar	\$694,800	\$1,050,900	\$1,050,900	-	-
C.4	Construct Three Box Hangars	\$1,914,300	\$2,982,400	\$2,982,400	-	-
C.5	Construct 10-unit T-hangar	\$593,500	\$952,400	\$23,810	\$23,810	\$904,780
C.6	Realign Taxiway A	\$4,327,500	\$7,152,700	\$178,818	\$178,818	\$6,795,065
C.7	Purchase ARFF Truck/Equipment	\$665,000	\$1,166,100	\$28,303	\$28,303	\$1,107,795
C.8	Rehabilitate Apron	\$2,242,500	\$4,050,200	\$98,305	\$98,305	\$3,847,690
<b>SUB-TOTAL PHASE III (2033-2041)</b>		<b>\$15,671,100</b>	<b>\$24,915,400</b>	<b>\$4,551,553</b>	<b>\$518,253</b>	<b>\$19,693,595</b>