Phoenix-Mesa Gateway Airport

Master Plan WORKING PAPER

Mead & Hunt

CHAPTER 6
FACILITIES IMPLEMENTATION PLAN

Introduction

The long-term development program or Capital Improvement Program (CIP) for the Phoenix-Mesa Gateway Airport (IWA) is intended to establish a strategy to fund airport improvements and maximize the potential to receive Federal and State grant funds, while also establishing a financially prudent plan for improvement funding on a local level. From the Federal Aviation Administration's (FAA) perspective, the CIP provides a detailed listing of projects and costs that are critical for their use in establishing priorities and budgeting expenditures at IWA, when compared with the needs of other airports. From the local sponsor's perspective, the CIP identifies improvement needs and allows budgeting or financial decisions to be made with a comprehensive understanding of financial implications.

The overall concept is to maximize the opportunities to receive FAA Airport Improvement Program (AIP) and Arizona Department of Transportation – Aeronautics Division (ADOT) grants, within the context of, and in recognition of, the amount of local funds that are available for capital needs. Although the CIP will be used for programming by the FAA, there is no financial commitment for the Federal government or the Phoenix-Mesa Gateway Airport Authority (PMGAA) to provide funding for the CIP. If federal matching funds are unavailable for a certain project during the specified timeframe, the project will almost certainly be unaffordable using only local funds, and the improvement project will not go forward until appropriate funding is available. The basic structure of the Development Program or CIP is established in this chapter, with a detailed financial analysis being provided in the subsequent **Financial Implementation Plan Chapter**.

The potential improvements necessary to accommodate the future needs for IWA have been placed into four phases: Phase I (0-5 years), Phase II (6-10 years), Phase III (11 to 20 years), and Phase IV (20+ years). The proposed CIP for the phasing of these projects is provided in ***Table 6-1: Phase-I (0-5 Years) Development Program Project Costs, Table 6-2: Phase-II (6-10 Years) Development Program Project Costs, Table 6-3: Phase-III (11-20 Years), and Table 6-4: Phase-IV (20+ Years Post Planning Period) Development Program Project Costs***. The proposed improvements are also illustrated graphically by time period on ***Figure 6-1 Project Phasing Plan***.

Implementation Schedule and Project List

Using the anticipated facility demands, along with preliminary engineering analysis focusing on additional pavement rehabilitation needs, a list of capital improvement projects has been assembled. The projects

for the first five years are listed in priority order by year. In the second and third phases (years 6-20), the projects are listed without year designators, and the fourth phase (20+ years) consists of known projects listed based on long-term demand at the Airport. Post planning period projects, or those for which forecast demand does not dictate a need during the 20-year planning period, are listed in ***Table 6-4: Phase-IV (20+ Years) Post Planning Period Project Costs***. It is anticipated that the project phasing will invariably be altered as local and federal priorities evolve over the coming months and years.

The details of the CIP (including a capital improvement project list, project cost estimates, phasing recommendations, and a financial feasibility analysis) have been formulated in consideration of comments received from Airport staff, the PMGAA, and the Technical Advisory Committee and Stakeholder Working Group.

Cost Estimates

Cost estimates for individual projects, based on current year construction costs, have been prepared in 2019 dollars for the improvement projects identified as potentially being needed during the 20-year planning period and beyond. These estimates are intended to be used for planning purposes only and should not be construed as construction cost estimates. Construction cost estimates can only be generated following the preparation of detailed engineering design documents. Escalation factors have been included in the project cost estimates in the **Financial Feasibility Plan Chapter**.

Table 6-1: Phase-I (0-5 Years) Development Program Project Costs

Federal FY	MH Project Number	Airport Project Number	Project Title	Estimated Total Project Cost 2019 Dollars
Proposed FY 2021 CIP Projects				
2021	A1	1067/1072	Reconstruct sections of Runway 12R/30L in Portland Cement Concrete Pavement (PCCP), LED Lighting Upgrade - Design/Construct	$ 24,000,000.00
	A2	744	Taxiway Whiskey (Reconstruct lowest PCI section in Portland Cement Concrete Pavement) - Design/Construct	$ 800,000.00
	A3	950	Ellsworth Channel Relocation - Construction	$ 11,440,000.00
	A4	-	Employee Parking Lot and Westside cell phone lot improvements - Design/Construct	$ 665,000.00
	A5	975	Safety Management System	$ 312,000.00
			2021 Annual Subtotal	**$ 37,217,000.00**
Proposed FY 2022 CIP Projects				
2022	A6	1092	Taxiway Golf Realignment (End of Runway 12R/30L w/ 90degree connector to Twy G)- Design/Construct	$ 11,580,000.00
	A7	397	Eastside Airport and Terminal Access Roads and Infrastructure (New Spine Road and Utility Infrastructure Extensions from Ellsworth Rd to Eastside Development Area) - Design/Construction	$ 17,122,425.00
			2022 Annual Subtotal	**$ 28,702,425.00**
Proposed FY 2023 CIP Projects				
2023	A8	1201	Terminal Annex Redevelopment (Gates 1 to 4) - Design/Construct	$ 14,007,825.00
	A9	1202	Center Runway Section 30 (South end) - Design/Construct	$ 8,630,000.00
			2023 Annual Subtotal	**$ 22,637,825.00**
Proposed FY 2024 CIP Projects				
2024	A10	1203	Parallel Taxiway West of Runway 12C/30C [including VOR jog segment] - Design/Construction	$ 18,316,000.00
			2024 Annual Subtotal	**$ 18,316,000.00**
Proposed FY 2025 CIP Projects				
2025	A11	-	Remain-Over-Day (ROD)/Remain Over Night (RON) Aircraft Storage Apron - Design/Construct	$ 539,000.00
			2025 Annual Subtotal	**$ 539,000.00**

Total Phase-I (0-5 Years) Development Program Project Costs $ 107,412,250.00

Table 6-2: Phase-II (6-10 Years) Development Program Project Costs

Federal FY	MH Project Number	Airport Project Number	Project Title	Estimated Total Project Cost 2019 Dollars
Proposed FY 2026 to 2030 CIP Projects				
6 to 10 Years	B1	-	Fuel Farm Expansion: (2) 50,000 USG fuel tanks - Design	$ 1,643,300.00
	B2	-	Extend Runway 12L/30R by 200' with Bypass Taxiway - Design/Construction	$ 7,197,000.00
	B3	1204	Mid-field Connectors Project - [Hotel, Lima, crossfield connectors] - Design/Construct	$ 9,313,000.00
	B4	-	Procure 1 new Oshkosh Aircraft Rescue Firefighting Truck - 1,500 USG; 200 USG of AFFF; and 450LB dry chem capacity	$ 900,000.00
	B5	-	Relocate Compass Calibration Pad - Design/Construct	$ 1,219,000.00
	B6	-	Reconstruct 1,000' of Runway 12C approach end/Reconstruct 2,000' of Runway 12C/30C in Portland Cement Concrete Pavement (PCCP) with LED Lighting Upgrade	$ 12,748,000.00
	B7	-	Fuel Farm Expansion: (2) 50,000 USG fuel tanks - Design/Construct	$ 1,643,000.00
	B8	-	East/West Airfield Electrical Lighting Vault Replacement/Generators with Runway 12L/30R Lighting Upgrade	$ 10,805,000.00
	B9	719	Alpha Apron Phase 3 - Design/Construction	$ 5,052,000.00
	B10	-	Increase tower height/relocate existing Airport Surveillance Radar Model 8 (ASR-8)	$ 13,000,000.00
	B11	-	Maintenance Run-Up Area with Blast Fence - Design/Construct	$ 1,295,000.00
	B12	-	Runway Magnetic Change - Markings/Signage [All Runways]	$ 300,000.00
			Total Phase-II (6-10 Years) Development Program Project Costs	**$ 65,115,300.00**

Table 6-3: Phase-III (11-20 Years) Development Program Project Costs

Federal FY	MH Project Number	Airport Project Number	Project Title	Estimated Total Project Cost 2019 Dollars
Proposed FY 2031 to 2041 CIP Projects				
11 to 20 Years	C1	-	Fuel Farm Expansion: (2) 50,000 USG fuel tanks - Design/Construct	$ 1,643,000.00
	C2	-	New Taxiway Bravo 1 connector to Runway 12R/30L - Design/Construct	$ 1,824,000.00
	C3	421	Eastside Apron Phase 1 - Design	$ 1,206,000.00
	C4	415	Eastside Apron Phase 1 - Construction	$ 11,910,000.00
	C5	181	Eastside Terminal Replacement (10 gates + 4 hard stand positions) Phase 1 - Design	$ 16,716,560.00
	C6	261	Eastside Terminal Replacement (10 gates + 4 hardstand positions) Phase 1 - Construction	$ 167,165,600.00
	C7	969	Passenger Boarding Bridges for Terminal Phase 1 - Design/Construct	$ 10,000,000.00
	C8	971/972	Eastside Terminal Parking Surface Lot - Design/Construct	$ 12,981,750.00
	C9	-	Eastside Consolidated Rental Car Facility w/ConRAC - Design/Construct	$ 16,602,430.00
	C10	-	Construct New Eastside Fuel Farm (Jet A, 450,000 gallons) to support Eastside Terminal	$ 7,393,500.00
	C11	-	Parallel Taxiway to Taxiway C Phase 1 - Design	$ 950,000.00
	C12	-	Parallel Taxiway to Taxiway C Phase 1 - Construct	$ 10,448,000.00
	C13	-	New Taxiway Connector South of existing C1 Connector - Design/Construct	$ 1,520,000.00
	C14	-	New Taxiway Connector South of existing C2 Connector - Design/Construct	$ 1,520,000.00
	C15	-	Parallel Taxiway to Taxiway C Phase 2 - Design	$ 965,000.00
	C16	-	Parallel Taxiway to Taxiway C Phase 2 - Construct	$ 12,710,000.00
			Total Phase-III (11-20 Years) Development Program Project Costs	**$ 275,555,840.00**

Table 6-4: Phase-IV (20+ Years) Post Planning Period Project Costs

Federal FY	MH Project Number	Airport Project Number	Project Title	Estimated Total Project Cost 2019 Dollars
Proposed CIP Projects Beyond FY 2042				
20+ Years	D1	-	Eastside Apron Phase 2 - Design	$ 1,080,000.00
	D2	415	Eastside Apron Phase 2 - Construction	$ 10,700,000.00
	D3	181	Eastside Terminal Phase 2 Expansion (9 Gates) - Design	$ 12,660,200.00
	D4	261	Eastside Terminal Phase 2 Expansion (9 Gates) - Construction	$ 126,602,000.00
	D5	-	Passenger Boarding Bridges for Terminal Phase 2 - Design/Construct	$ 9,000,000.00
	D6	-	1,275' Extension to Runway 12R/30L, Taxiway B Extension and Bypass Taxiway in Portland Cement Concrete Pavement (PCCP) - Design/Construct	$ 12,630,000.00
	D7	-	Eastside Terminal Phase 3 Expansion (9 Gates) - Design	$ 12,555,970.00
	D8	-	Eastside Terminal Phase 3 Expansion (9 Gates) - Construction	$ 125,559,700.00
	D9	-	Passenger Boarding Bridges for Terminal Phase 3 - Design/Construct	$ 9,000,000.00
	D10	-	Eastside Apron Phase 3 - Design	$ 1,080,000.00
	D11	-	Eastside Apron Phase 3 - Construction	$ 10,700,000.00
			Total Phase-IV (20+ Years, Post Planning Period)	**$ 331,567,870.00**

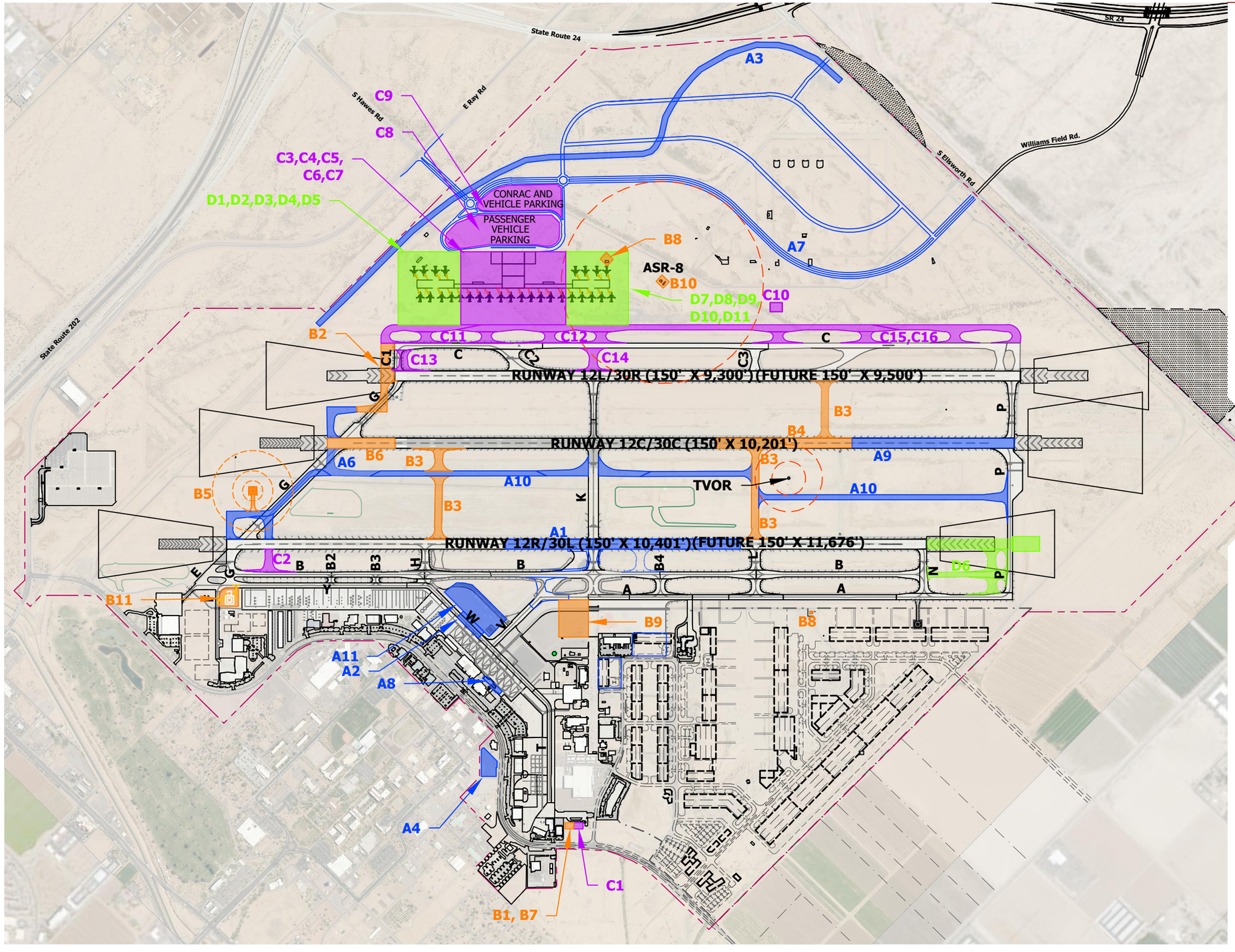
Capital Improvement Program (CIP)

To assist in preparation of the FAA's effort to provide grant funding to the most needed projects, airport staff keeps an Airport Capital Improvement Program (ACIP) on file and up to date with the FAA. The ACIP is similar in format to the CIP tables presented previously. The purpose of the proposed project list, phasing, and costs is to provide a progressive projection of capital needs for the Airport to then utilize in local and federal financing programming. It is understood that, this is a long-range planning document and could differ to some degree with the Airport's CIP on file with the FAA based on changed conditions or priorities.

Phasing Plan

To supplement the information provided by the project list and project cost estimates, a phasing plan has been prepared. **Figure 6-1: Project Phasing Plan** identifies the suggested phasing for the proposed improvement projects through the 20-year planning period.

Variance from the plan may be necessary, especially during the latter time periods. The greatest attention has been given to the first five years because the projects outlined in this timeframe include many critical improvements. The demand for certain facilities, especially later in the planning period, and the economic feasibility of their development are to be the prime factors influencing the timing of individual project construction. Care must be taken to provide for adequate lead-time for detailed planning and construction of facilities to meet aviation demands, and to prevent additional costs incurred from improper scheduling.



Legend

- Phase A - (0 - 5 Years)
- Phase B - (6 - 10 Years)
- Phase C - (11 - 20 Years)
- Phase D - (20+ Years)

N

0 750' 1500' 3000'

GRAPHIC SCALE IN FEET

Figure 6-1
Project Phasing Plan

Sources of Capital Funding

Funding from several sources is anticipated for the implementation of the Master Plan Update CIP. These sources include FAA AIP entitlement and discretionary grants, Passenger Facility Charges (PFCs), ADOT state aviation grants, member government contributions, net operating cash flow/cash reserves, lease revenue, and other funding sources. Each of these sources of funds is described in detail the **Financial Feasibility Chapter**.

Summary – Master Plan Capital Improvement Program

If aviation demands continue to indicate that improvements are needed, and if the proposed improvements prove to be environmentally acceptable, the financial implications discussed earlier in this chapter and in **Financial Feasibility Chapter** are likely to be acceptable for the FAA, ADOT, and the PMGAA. However, note that this chapter is only a programming analysis and not a commitment on the part of the FAA or the Airport. If the cost of an improvement project is not financially feasible, it will not be initiated.

Environmental Action Plan

This section provides recommendations for the anticipated level of environmental documentation that would be required prior to implementing the development actions identified in the Phoenix-Mesa Gateway Airport Master Plan and as part of IWA's CIP.

The list below includes Master Plan and five-year capital improvement projects that would occur within the 2021 to 2025 timeframe. For each of these actions, the anticipated level of documentation required for compliance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.) is identified based on the guidelines provided in FAA Order 1050.1F, Environmental Impacts: Policies and Procedures (Order 1050.1F) (effective July 16, 2015).

Per FAA Order 1050.1F, three levels of NEPA documentation could be required for a proposed action. These include:

- ✓ Categorical Exclusion (CATEX): This category typically includes actions that FAA has found do not individually or cumulatively have a significant effect on the human environment. The responsible FAA official must determine whether a proposed action is within the scope of a CATEX, but if the FAA official determines that extraordinary circumstances exist, an Environmental Assessment (EA) or Environmental Impact Statement (EIS) must be prepared. A CATEX should not be used for segmentation or an interdependent part of a larger proposed action. Actions that fall within the CATEX category can include, but are not limited to, the following:

- Administrative or general actions;
- Issuance of certificates or compliance with certification programs;
- Actions involving installation, repair, or upgrade of equipment or instruments necessary for operations and safety;
- Acquisition, repair, replacement, maintenance, or upgrading of grounds infrastructure, buildings, structures, or facilities that are generally minor in nature;
- Procedural actions related to airspace and air traffic; and,
- Actions involving establishment of, compliance with, or exemptions to regulatory programs or requirements.

✓ Environmental Assessment (EA): The purpose of an EA is to determine whether an action has the potential to significantly affect the human environment. An EA provides sufficient evidence for determining whether a Finding of No Significant Impact (FONSI) or an Environmental Impact Statement (EIS, discussed below) should be prepared. To determine the scope of an EA or an EIS, the responsible FAA official must consider whether actions are connected; whether, when viewed with other proposed actions, the action under consideration would have cumulatively significant impacts; and whether similar actions, either in timing or geography, should be considered in the same environmental document. Actions that typically require an EA include, but are not limited to the following:

- Acquisition of land greater than 3 acres for construction of new office buildings, similar FAA facilities, or as a result of the following actions;
- Establishment of FAA housing, sanitation systems, fuel storage and distribution systems, and power source and distribution systems;
- Unconditional Airport Layout Plan (ALP) approval of, or federal financial participation in, a new runway at an existing airport not located in a Metropolitan Statistical Area (MSA);
- Runway strengthening having the potential to significantly increase off-airport noise impacts;
- Construction or relocation of entrance or service road connections to public roads that substantially reduce the level of service rating to such public roads below the acceptable level determined by the appropriate transportation agency.

✓ Environmental Impact Statement (EIS): An EIS must be prepared for actions that would significantly affect the quality of the human environment. The considerations listed above regarding connected actions, cumulatively significant impacts, and actions that would be similar in timing or geography must also be taken into account when determining the scope of an EIS. Direct, indirect, and cumulative impacts must be considered when determining significance. Actions for which an EIS is typically required include, but are not limited to, the following:

- Unconditional ALP approval, or federal financial participation in, the location of a new commercial service airport in an MSA; and
- A new runway to accommodate air carrier aircraft at a commercial service airport in an MSA, and major runway extension.

For some environmental resource impact categories, the FAA has identified significance thresholds (including for air quality, federally threatened or endangered species, Section 4(f) resources, and noise and noise-compatible land uses). For other environmental resource impact categories, the FAA has identified factors to consider when determining whether an action would have a significant impact.

The schedule of capital projects is based upon the forecasts presented in the **Aviation Demand Forecasts Chapter**. However, the NEPA process must be completed prior to the FAA allocating grant funds for design or construction. Depending upon the project, the NEPA process can take from a few months to several years. If FAA grant funds will be used to prepare the NEPA documents, lead times for the normal grant processes will also need to be factored in.

It is possible that projected activity levels or changes in critical aircraft will differ from the forecasts in this plan. Airport staff should monitor these factors and maintain regular communication with airlines and major users regarding potential changes in their needs. The timing and sequence of projects may need to be modified if:

- ✓ Activity levels are higher or lower than forecast
- ✓ The fleet mix changes from what was expected
- ✓ More distant destinations are added by airlines
- ✓ Schedules are modified in a way that would increase or shift peak demand.

Table 6-5: Anticipated NEPA Actions identifies the Master Plan and five-year CIP actions in the 2021 to 2025 timeframe, the anticipated level of NEPA documentation, and environmental and coordination considerations that could affect the overall level of effort associated with documentation of each anticipated action. Some actions could be documented in combination with other actions in a single environmental document based on their level of connectedness; these combined documentation recommendations are also included in the table.

Table 6-5: Anticipated NEPA Actions

MH Project Number	Airport Project Number	Project Name	Project Initiation Date	Anticipated Level of NEPA Documentation	Environmental Considerations
A1	1067/1072	Reconstruct sections of Runway 12R/30L in Portland Cement Concrete Pavement (PCCP), LED Lighting Upgrade - Design/Construct	2021	CATEX	Maintenance related project; located in a previously developed area
A2	744	Taxiway Whiskey (Reconstruct lowest PCI section in Portland Cement Concrete Pavement) - Design/Construct	2021	CATEX	Maintenance related project; located in a previously developed area
A3	950	Ellsworth Channel Relocation - Construction	2021	EA Completed January 2017	Project connected to A7
A4	-	Employee Parking Lot and Westside cell phone lot improvements - Design/Construct	2021	CatEx	Located in a previously developed area
A5	975	Safety Management System	2021	None	No documentation anticipated; no impacts to surrounding environment
A6	1092	Taxiway Golf Realignment (End of Runway 12R/30L w/ 90degree connector to Twy G)- Design/Construct	2022	CATEX	Located in a previously developed area
A7	397	Eastside Airport and Terminal Access Roads and Infrastructure (New Spine Road and Utility Infrastructure Extensions from Ellsworth Rd to Eastside Development Area) - Design/Construction	2022	EA Completed January 2017	Project connected to A3
A8	1201	Terminal Annex Redevelopment (Gates 1 to 4) - Design/Construct	2023	CATEX	Located in a previously developed area
A9	1202	Center Runway Section 30 (South end) - Design/Construct	2023	CATEX	Maintenance related project; located in a previously developed area
A10	1203	Parallel Taxiway West of Runway 12C/30C [including VOR jog segment] - Design/Construction	2024	CATEX	Located in a previously developed area
A11	-	Remain-Over-Day (ROD)/Remain Over Night (RON) Aircraft Storage Apron - Design/Construct	2025	CATEX	Located in a previously developed area

Note: All of the construction projects, except the extension of Runway 12L\30R, are likely to qualify for CATEXs. However, the Center Runway Section 30 project has the potential to impact jurisdictional wetlands. Whether there will be impacts will depend upon the engineering designs for these projects. As these designs have not yet been prepared, it cannot be known whether there will be impacts and what the magnitude of the impacts will be. It is possible that the Center Runway and Mid-field Connector projects could have minor impacts to the wetlands and still qualify for CATEXs. However, if the wetland impacts are of a magnitude to require an Individual Permit from the Army Corps of Engineers, preparation of an Environmental Assessment would be required. Given the large difference in the time required to prepare and process CATEXs and Environmental Assessments, it would be useful for sufficient engineering design to be undertaken to estimate the extent of wetland impacts. This would allow scheduling of NEPA processes to avoid delaying the construction projects.

Mead &Hunt

8777 E. Via de Ventura, Suite 398
Scottsdale, AZ 85258
480-718-1896
www.meadhunt.com

PSM2
InterVistas
Unison Consulting
Martinez Geospatial