DRAFT

Double Eagle II Airport

Airport Master Plan Update
Working Paper #1 - Inventory and Forecast Update
Inventory

City of Albuquerque Aviation Department

Project Number: 7540.003

September 26, 2025

City of Albuquerque Aviation Department
Administration Office, 3rd Level
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Quality Information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
1	6/16/2025	Revision includes response to City of Albuquerque comments received on June 6, 2025	Tezla, Anthony	Mayer, Gregory	Senior Airport Planner
2	9/26/2025	Revision includes response to Committee member comments received between July 10, 2025 and August 29, 2025	Tezla, Anthony	Mayer, Gregory	Senior Airport Planner

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Airport Master Plan Update Overview

AECOM Technical Services Inc. (AECOM) has been requested by the City of Albuquerque to provide airport planning services associated with an Airport Master Plan Update for the Double Eagle II Airport (AEG, Airport). An airport master plan is a comprehensive study of an airport that usually describes the short-, medium-, and long-term development plans to meet future aviation demand. The category of study that includes master plans and master plan updates can therefore be thought of as a continuum that varies by level of detail and associated effort.

This Master Plan Update will review the April 2018 Airport Master Plan and Airport Layout Plan (ALP) drawing set, evaluate the Airport's existing conditions, and determine the future needs for the Airport. This plan will follow the guidelines contained in Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5070-6B (Change 2), *Airport Master Plans* and FAA AC 150/5300-13B (Change 1), *Airport Design*.

Additionally, to be eligible to receive federal funding for airport improvements, the FAA must approve the Master Plan's aviation forecasts and ALP. The ALP will be developed using the FAA Office of Airports (ARP) Standard Operating Procedures (SOP) Standard for FAA Review and Approval of Airport Layout Plans, 2.00 checklist. The FAA requires that the airport sponsor maintain a current ALP that ensures the safety, utility, and efficiency of the airport. Grant Assurance #29 requires that the sponsor always keep the ALP up to date.

In addition to the federal approval process, this Master Plan will also need to be accepted locally by the City of Albuquerque's Environmental Planning Commission (EPC) and City Council's Land Use and Planning subcommittee.

The overall goal of this Master Plan Update is to develop a plan that provides an environment that is safe for aircraft operations, modernizes the facility where appropriate, and provides a logical plan for development. The primary evaluations in the Master Plan Update include:

- Airfield Planning and Runway/Taxiway Improvements
- Land Use Planning
- Landside Circulation
- Aircraft Aprons/Hangars

Ultimately, the final deliverables for this project include:

1. Airport Master Plan Report
2. ALP Drawing Set

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List of Acronyms

A

ACB	Albuquerque/Bernalillo County
ABQ	Albuquerque International Sunport
ADIP	Airport Data and Information Portal
AEDT	Aviation Environmental Design Tool
AEG, Airport	Double Eagle II Airport
AGL	Above Ground Level
AIP	Airport Improvement Program
AMSL	Above Mean Sea Level Above Mean Sea Level
AMPU	Airport Master Plan Update
APO	Airport Protection Overlay Zone
APV	Non-Precision Approach with Vertical Guidance
ATCT	Airport Traffic Control Tower
AWOS	Automated Weather Observing System

C

CFA	Controlled Firing Area
CFR	Code of Federal Regulations
City	City of Albuquerque
CPA	Community Planning Area

D

DME	Distance Measuring Equipment
DNL	Day-Night Noise Level

E

EPC	Environmental Planning Commission

F

FAA	Federal Aviation Administration
FBO	Fixed-Based Operator
Furco	Furgo USA Land, Inc.

G

GA	General Aviation
GPS	Global Positioning System
GS	Glide Slope

I

IAP	Instrument Approach Procedure
ICAO	International Civil Aviation Organization
IDO	Integrated Development Ordinance
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
INM	Integrated Noise Model
IT	Information Technology

L

LOC	Localizer

M

MALSR	Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
MIRL	Medium Intensity Runway Lights
MITL	Medium Intensity Taxiway Lights
MOA	Military Operations Area
MSA	Metropolitan Statistical Area

N

NAS	National Airspace System
NAVAID	Navigational Aid
NCEI	National Centers for Environmental Information
NDB	Nondirectional Radio Beacon
NMASP	New Mexico Airport System Plan
NMDOT	New Mexico Department of Transportation
NOAA	National Oceanic and Atmospheric Administration
NPA	Non-Precision Approach
NPIAS	National Plan of Integrated Airport Systems
NR-SU	Non-Residential – Sensitive Use
NSA	National Security Areas

P

PA	Precision Approach
PAPI	Precision Approach Path Indicator
PCI	Pavement Condition Index
PCN	Pavement Classification Number
PCR	Pavement Classification Rating

R

REIL	Runway End Identifier Light
RPZ	Runway Protection Zone
RTR	Remote Transmitter/Receiver

S

SF	Square Feet
SM	Statute Mile
SOAR	Special Operations Aviation Regiment
SY	Square Yards

V

VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions
VOR	Very High Frequency Omni-Directional Range
VOT	Very High Frequency Omni-Directional Range Test Facility
VORTAC	Very High Frequency Omni-Directional Range/Tactical Air Navigation

1. Inventory

The Inventory chapter of this Airport Master Plan Update (AMPU) documents the existing physical, operational, and functional conditions at or around Double Eagle II Airport (AEG, the Airport). The information presented in this chapter was gathered through an extensive process, including collecting and analyzing available online data, conducting interviews with Airport staff, and engaging directly with the City of Albuquerque Aviation Department.

1.1 City of Albuquerque

The city of Albuquerque (City) is located in Bernalillo County near the central part of New Mexico. Estimated at more than 560,000 people (July 2023), Albuquerque is New Mexico's most populated city and was the 32^{nd} largest city in the United States according to the 2020 U.S. Census. More so, the Albuquerque Metropolitan Statistical Area (MSA), which is comprised of the cities of Rio Rancho, Bernalillo, Placitas, Corrales, Los Lunas, Belen, and Bosque Farms, has a population of approximately 923,000 people.

Located in the Albuquerque Basin, the city is surrounded by the Sandia-Manzano Mountains to the east and the West Mesa to the west with the Rio Grande running north to south along the western portion of the city.

Albuquerque is known for its wide variety of art and culture that is headlined by the annual Albuquerque International Balloon Fiesta. The nine-day event features more than 600 hot air balloons and is known as the largest balloon festival in the world. Other major events located in Albuquerque include the Gathering of Nations which is the largest pow wow in North America, and the New Mexico State Fair which attracts nearly half a million people each year. The City is also home to culturally significant venues such as the National Hispanic Cultural Center, the New Mexico Museum of Natural History and Science, and Indian Pueblo Cultural Center.

Albuquerque is also a center for film studios due to the areas of picturesque vistas and open country landscapes. There are four film studios located in the Albuquerque area. A number of well-known movies and television shows have been filmed in Albuquerque or the surrounding area which include westerns, such as *The Good, the Bad, and the Ugly*, parts of Marvel's *The Avengers* movie, and both the *Breaking Bad* and *Better Call Saul* television series.

The City has attracted a number of major companies that are either based in or have significant operations in Albuquerque. Specifically, Albuquerque is the medical hub in New Mexico, housing numerous hospitals throughout the city. These include hospitals associated with The University of New Mexico, Presbyterian Healthcare Services, Veterans Health Administration, and Lovelace Health System. Other major companies based or located in Albuquerque include Intel, Sandia National Laboratories, and Honeywell Aerospace.

1.2 Airport Location

The Airport is located in the northwestern quadrant of Bernalillo County and the far west side of the Albuquerque city limits. The Airport, totaling approximately 4,188 acres of land made up of 10 parcels, is also located approximately seven miles northwest of the City's central business district. Additionally, the Airport is located approximately 70 miles southwest of Santa Fe, New Mexico; 275 miles north of El Paso, Texas; and 300 miles west of Amarillo, Texas. See **Figure 1-1** for an Airport location map.

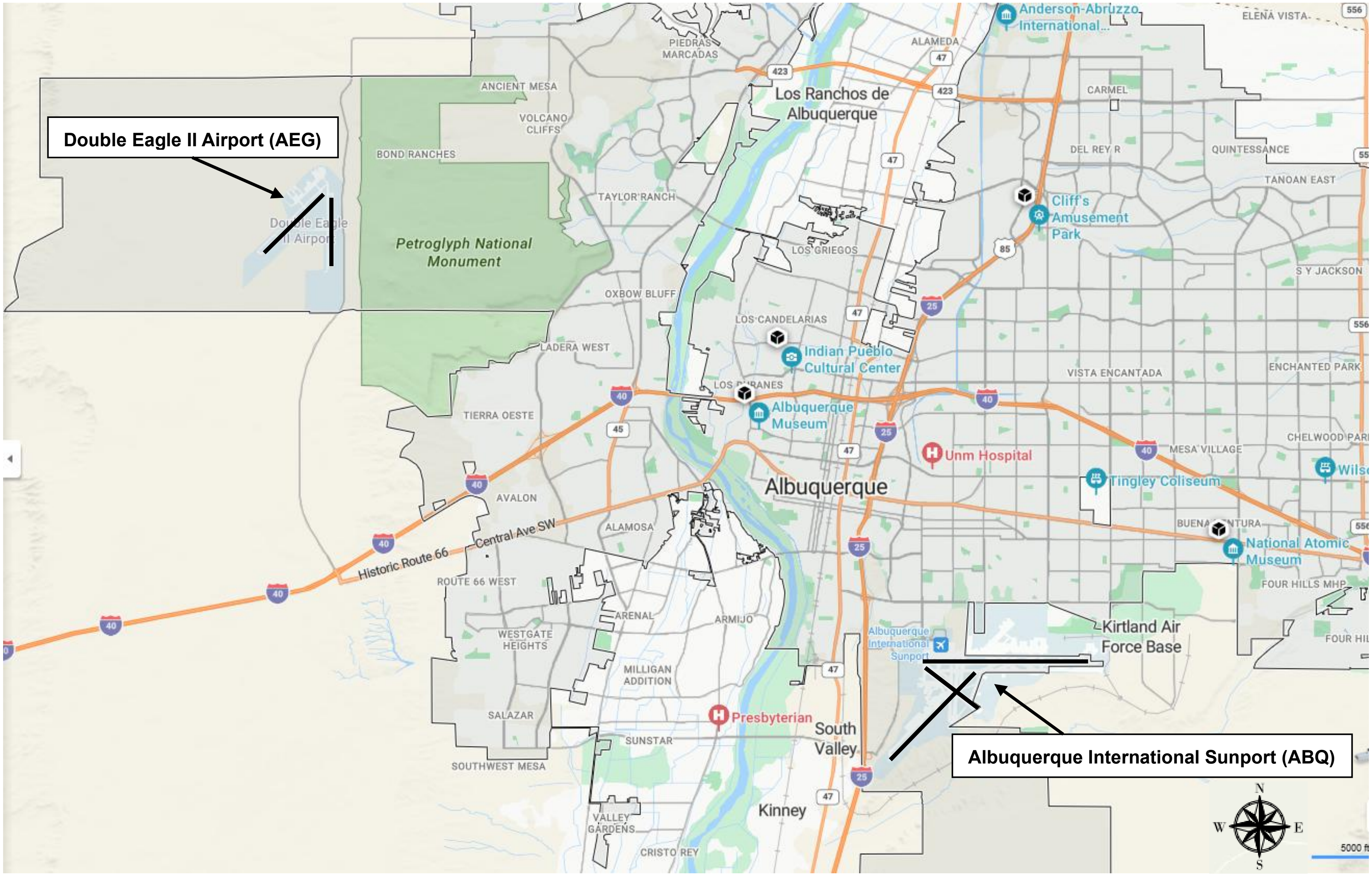

Figure 1-1. Airport Location Map

Source: Bing Maps

1.2.1 Airport Role

According to the Federal Aviation Administration (FAA), Double Eagle II Airport is classified as a reliever airport. A reliever airport is an airport that has been designated by the Secretary of Transportation to relieve congestion at a commercial service airport, and to provide more general aviation (GA) access to the overall community.

AEG serves its role by relieving potential congestion at Albuquerque International Sunport (ABQ). ABQ is the largest airport in New Mexico and is one of three international airports in the State. The Sunport is located approximately 3 miles southeast of the City's central business district. Most of the United States' major commercial service and cargo airlines operate through ABQ which currently provides commercial service to 33 domestic airports. The Sunport is also located adjacent to Kirtland Air Force Base which is the largest installation in Air Force Global Strike Command and the sixth largest Air Force Base in the United States.

1.2.1.1 National Plan of Integrated Airport Systems

The FAA's National Plan of Integrated Airport Systems (NPIAS) identifies nearly 3,300 public-use airports that are included in the national airport system, the roles they currently serve, and the amounts and types of airport development eligible for Federal funding under the Airport Improvement Program (AIP) over the next 5 years. Airport capital development needs are driven by many factors, including current and forecasted traffic, use and age of facilities, passenger and cargo facility requirements, meeting current FAA design standards, and evolving aircraft technology, all of which require airports to improve its infrastructure. The NPIAS includes development identified through the airport capital planning process. The NPIAS contains all commercial service airports, all reliever airports, and selected publicly-owned GA airports.

The NPIAS groups airports into two major categories: Primary and Nonprimary. Within the Primary category, the NPIAS has subcategories that include Large Hub, Medium Hub, Small Hub, and Nonhub airports. Within the Nonprimary category, the NPIAS has subcategories that include National, Regional, Local, Basic, and Unclassified airports.

According to the current NPIAS (2025-2029), AEG is classified as a Nonprimary Regional airport. Regional airports are typically in metropolitan areas and serve relatively large populations. These airports support regional economies with interstate and long-distance flying and have high levels of activity, including jets and multiengine propeller aircraft. These airports have identified projects that focus on reconstructing airfield pavement, bringing airports up to design standards, and improving terminals.

1.2.1.2 General Aviation Airports: A National Asset

A 2012 FAA study (ASSET 1) documented nearly 3,000 GA airports, heliports, and seaplane bases identified in the NPIAS. This study focused on the pivotal role GA airports play in our society, economy, and the aviation system. Similar to the NPIAS, the study aligned GA airports into four categories: National, Regional, Local, and Basic. The 2012 report classified AEG as a Regional – Reliever which according to the study, "supports regional economies by connecting communities to statewide and interstate markets."

1.2.1.3 New Mexico Airport System Plan Update

The November 2017 New Mexico Airport System Plan (NMASP) evaluated the needs of the New Mexico airport system, justified funding for needed airport improvements, and provided information for governmental and other entities concerning the value, use, and needs of the state's system of airports. The primary purpose of the airport system plan was to study the performance and interaction of the state's entire aviation system to understand the interrelationship of the member airports.

The 2017 NMASP classified AEG as one of four Regional General Aviation airports in the state. According to the 2017 report, Regional General Aviation airports primarily serve GA activity, with a focus on business activity including jet and turboprop aircraft. These airports support the system of commercial service airports and provide significant aviation access for the state's population.

1.2.2 Airport History, Ownership, and Management

Planning for the Double Eagle II Airport began in 1969 following a planning study conducted to help accommodate aviation growth in the Albuquerque area. Subsequently, in 1970, a joint Metropolitan Airport Evaluation Committee (later renamed the Metropolitan Airport Development Committee) was appointed to study the need for additional facilities.

In 1972, the State of New Mexico commissioned a study to prepare a state airport system plan. That plan identified an urgent need for additional GA facilities in the Albuquerque area. FAA grant money was received toward the development of a reliever Airport Master Plan. Two years later the West Mesa Air Facility Land Acquisition Task Force sought federal funding for land acquisition.

Construction of AEG began in 1982, and the Airport was named after the *Double Eagle II* balloon which was the first balloon to cross the Atlantic Ocean four years prior. The Airport opened in 1983 with one operating runway (Runway 4-22). The second runway, Runway 17-35, opened several years later. The Airport Traffic Control Tower (ATCT) was constructed in 2005-2006, using an old cab from the Albuquerque International Sunport.

Today, the City of Albuquerque Aviation Department owns and operates both AEG and ABQ. Currently, four full-time city staff are located at AEG: an airport manager, operations support, and airport maintenance support.

1.3 Airport Facilities

The Airport Facilities section discusses the existing airfield, landside, and support facilities at the Airport.

1.3.1 Airfield Facilities

This section provides a summary of the existing airfield facilities. This includes the runways, taxiways, aprons, pavement, and Navigational Aids (NAVAIDs) on the airfield at Double Eagle II Airport. See **Figure 1-2** for an overview of existing airfield facilities.

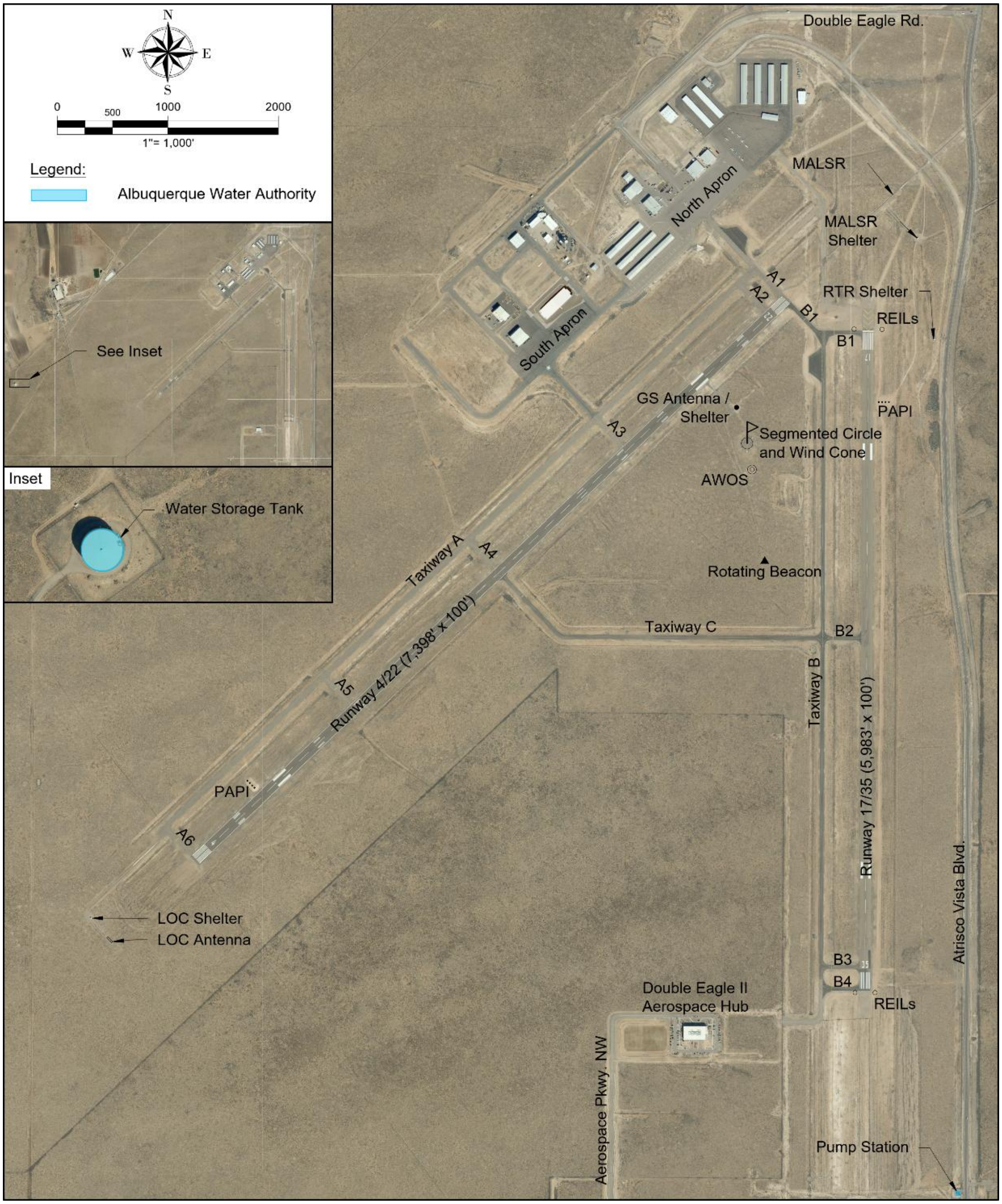

Figure 1-2. Existing Airfield Facilities

Source: FAA's Airport Data and Information Portal (ADIP), March 24, 2025, and Airport Staff

1.3.1.1 Runways

The airfield is made up of two runways: Runway 4-22 oriented in a northeast/southwest direction, and Runway 17-35 oriented in a north/south direction. Runways receive their designations using the first two digits of the compass (magnetic) bearings of their approach headings and are rounded to the nearest 10 degrees (°). These numbers represent the direction the aircraft can approach or depart the runway and are used by pilots so they can identify the best runway that aligns with the prevailing winds.

Runway 4 has a magnetic heading of 035º and Runway 22 has a magnetic heading of 215º. Since magnetic north changes over time, the headings are rounded up to 040º and 220º which leads to the runway identifiers of 4-22. Similarly, Runway 17 has a magnetic heading of 169º and Runway 35 has a magnetic heading of 349º, so the runway identifiers are 17-35.

See **Table 1-1** for details regarding physical and operational characteristics of both runways.

Table 1-1. Runway Information

Runway Characteristic	Runway 4	Runway 22	Runway 17	Runway 35
Magnetic Heading	035º	215º	169º	349º
True Heading	046º	226º	180º	360º
Length	7,398’		5,983’	
Width	100’		100’	
Surface	Asphalt		Asphalt	
Pavement Strength	30,000 lbs. (Single Wheel)		30,000 lbs. (Single Wheel)	
Markings	Precision		Non-Precision	
Edge Lighting	MIRL		MIRL	
End Elevations	5,837.4’	5,810.1’	5,805.9’	5,798.2’
Blast Pad	-	-	146’ x 123’	-

Abbreviation:

MIRL = Medium Intensity Runway Lights

Source: FAA’s Airport Data and Information Portal (ADIP), March 24, 2025

1.3.1.2 Taxiways

Taxiways provide access between the runways and landside areas and are named using letters in the phonetic alphabet. For example: Alpha (A), Bravo (B), and Charlie (C).

The taxiway system on the AEG airfield is made up of two full-length parallel taxiways (Taxiways A and B), ten connector taxiways that connect the parallel taxiways with the runways (Taxiways A1-A6 and Taxiways B1-B4), and one taxiway that crosses the airfield providing access to both runways (Taxiway C). Additionally, Taxiway A1 connects the airfield with the main aircraft parking apron while Taxiway A3 connects the airfield with the south apron. Taxiways A and A1-A6 all service Runway 4-22 while Taxiways B and B1-B4 all service Runway 17-35. Taxiway C turns into Taxiway B2 between Runway 17-35 and Taxiway B2. There is also a small aircraft turnaround area at the far south end of Taxiway B.

See **Table 1-2** for details regarding physical characteristics of the taxiway system on the airfield.

Table 1-2. Taxiway Information

Taxiway Identifier	Dimensions[1]	Pavement Type	Lighting	Location
A	7,400' x 40'	Asphalt	MITL	Full length parallel taxiway for Runway 4-22
A1	1,000' x 40'	Asphalt	MITL	Connects the main ramp with the Runway 22 end
A2	335' x 40'	Asphalt	MITL	Connects Taxiway A with Runway 4-22
A3	1,000' x 40'	Asphalt	MITL	Connects the south ramp with the Runway 4-22
A4	335' x 40'	Asphalt	MITL	Connects Taxiway A with Runway 4-22
A5	335' x 40'	Asphalt	MITL	Connects Taxiway A with Runway 4-22
A6	335' x 40'	Asphalt	MITL	Connects Taxiway A with the Runway 22 end
B	7,594' x 35'	Asphalt	MITL	Full length parallel taxiway for Runway 17-35
B1	315' x 35'	Asphalt	MITL	Connects the Runway 22 end with the Runway 17 end
B2	315' x 35'	Asphalt	MITL	Connects Taxiway C with Runway 17-35
B3	315' x 35'	Asphalt	MITL	Connects Taxiway B with Runway 17-35
B4	315' x 35'	Asphalt	MITL	Connects Taxiway B with the Runway 35 end
C	3,000' x 35'	Asphalt	MITL	Connects Taxiway B2 with Runway 4-22

Note:

1. *Taxiway dimensions are approximated based on available survey information.*

Abbreviation:
MITL: Medium Intensity Taxiway Lights

Source: Double Eagle II Airport – Airport Diagram, 20 MAR 2025 to 17 APR 2025

1.3.1.3 Aprons

The Airport has two paved aircraft parking aprons. The North Apron can be accessed from Taxiway A1 and is located between the north T-hangars, fixed-base operator (FBO) facilities, and the west T-hangars. The north apron totals approximately 49,400 square yards (SY) and is where the majority of single-engine aircraft are parked and stored. The South Apron is located southwest of the North Apron and can be accessed by Taxiway A3. The South Apron can be accessed by Taxiway A3 and is located adjacent to the High Flying Hangars T-hangar and the DuPont hangar. It consists of approximately 24,800 SY and is planned to be utilized more in the future. In total, both aprons consist of a total of approximately 50 tie-down spaces used by based and itinerant GA aircraft.

Both aprons are owned, operated, and maintained by the City of Albuquerque Aviation Department; however, the city leases the northeastern portion of the North Apron (approximately half of the North Apron) to Bode Aero Services. Typically, single-engine and multi-engine piston aircraft utilize and park on the north ramp, while heavy-lift helicopters such as the CH-47 Chinook park on the South Apron.

Additionally, the southwestern portion of the North Apron consists of two non-standard, marked, helicopter takeoff/landing locations and one marked helicopter parking position. One of the takeoff/landing locations measures approximately 50' x 45' while the other is 60' x 50'. The helicopter parking position is approximately 40 feet in diameter.

1.3.1.4 Pavement

In 2022, Furgo USA Land, Inc. (Furgo) completed a technical report documenting the results of a 2022 Airport Pavement Condition Data Collection Cycle for the New Mexico Department of Transportation (NMDOT) Aviation. NMDOT Aviation contracted Fugro to perform pavement condition surveys at 48 airports over a four-year period.

According to the report, Fugro used an automated distress data collection vehicle to collect pavement distress information. This information was converted to distress types, severities, and quantities in order to calculate Pavement Condition Index (PCI) values, which can be used to report the condition of an airport's pavement network. PCI is a composite condition index that facilitates decision making by selecting appropriate treatments and timing for maintenance, rehabilitation, and reconstruction strategies.

PCI	Condition Description
100-86	Good
85-71	Satisfactory
70-56	Fair
55-41	Poor
40-26	Very Poor
25-11	Serious
10-0	Failed

Figure 1-3. Pavement Condition Categories by PCI

Source: Airport Pavement Condition Data Collection for 2022, Furgo

Additionally, pavement condition is defined using descriptive ratings such as Good, Satisfactory, Fair, Poor, Very Poor, Serious, and Failed, and these descriptive ratings are tied to PCI ranges. **Figure 1-3** shows the pavement condition categories and their associated PCI ranges.

The Furgo report documented PCI scores from surveys done between 2014 and 2016 and compared those to the PCI scores from their findings on September 26, 2022. Airfield elements that were surveyed for AEG include aprons, runways, T-hangars, and taxiways. Since the Airport has multiple runways, taxiways, etc., an average number was determined to represent each airfield element. See **Table 1-3** for the results of both surveys and **Figure 1-4** for a visual depiction of the PCI scores in relation to the airfield.

Table 1-3. Average PCI Comparison (2014-2016 & 2022)

Apron		Runway		T-Hangar		Taxiway		All	
2014-2016	2022	2014-2016	2022	2014-2016	2022	2014-2016	2022	2014-2016	2022
65	49	94	73	51	33	86	69	79	59

Source: Airport Pavement Condition Data Collection for 2022, Furgo

Per the 2022 inspections, the Airport has an overall PCI of 59 which is categorized as "Fair" condition.

It is important to note that the FAA recently changed its Pavement Classification Number (PCN) method of reporting pavement strength to instead identifying a runway's Pavement Classification Rating (PCR) method to measure pavement strength in accordance with standardized International Civil Aviation Organization (ICAO) methods.

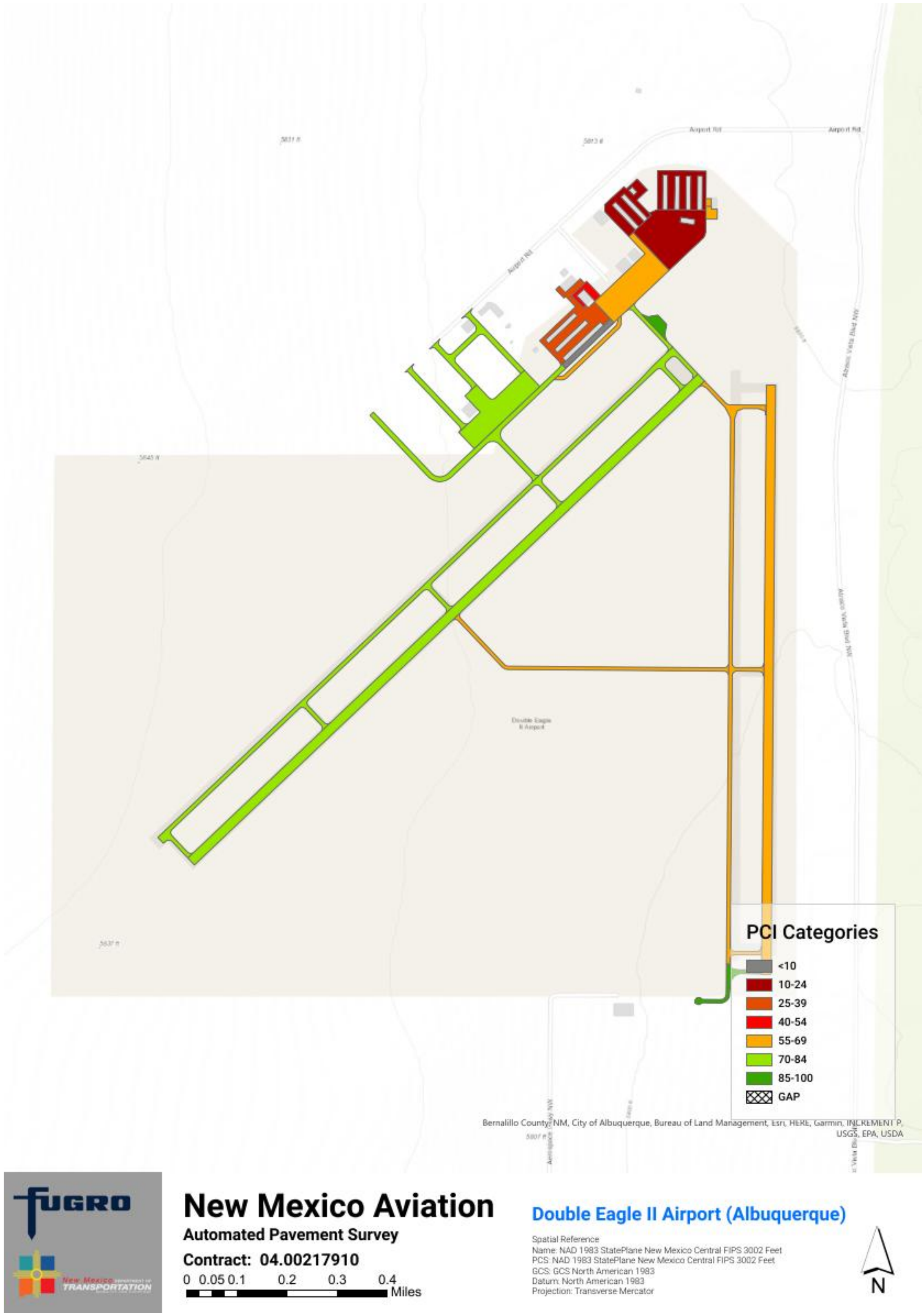

Figure 1-4. Double Eagle II Airport – Automated Pavement Survey

Source: Airport Pavement Condition Data Collection for 2022, Furgo

1.3.1.5 Navigational Aids (NAVAIDs)

NAVAIDs assist with the safe, efficient, and coordinated movement of aircraft throughout the National Airspace System (NAS) and typically consist of visual aids, instrument approach aids, and weather aids.

1.3.1.5.1 Visual Aids

Airport visual aids assist pilots by providing standardized visual references helpful in determining aircraft position, alignment, and airport operating conditions (e.g., wind direction, speed, traffic pattern orientation, etc.). Visual aids support aircraft activity when visual conditions permit (e.g., during clear daytime and clear nighttime conditions and during the last segment of an Instrument Flight Rules [IFR] approach).

One visual aid at AEG is a rotating beacon. A rotating beacon indicates the location of an airport by projecting beams of light spaced 180º apart. The rotating beacon is located in the middle of the airfield, approximately 875 feet northwest of where Taxiways B and C intersect.

Another visual aid located at the Airport are four-light Precision Approach Path Indicators (PAPIs). PAPIs help provide a visual indication of an aircraft's vertical position relative to the glidepath to a touchdown point on the runway by emitting a light array of equally spaced light units. The PAPIs are located near the approach ends of Runways 4 and 17.

Similarly, the Runway 17 and 35 ends are both equipped with Runway End Identifier Lights (REILs) which provide rapid and positive identification of the runway end. REILs consist of two synchronized flashing unidirectional or omnidirectional lights, located laterally with one on each side of the runway threshold facing the approaching aircraft.

The Airport also has a lighted wind cone that is located within a segmented circle. A wind cone visually indicates the prevailing wind direction while a segmented circle provides visual indication of current operations such as active landing direction and traffic patterns. Currently, the lighted wind cone and segmented circle are located between the two runways, near the ends of Runways 17 and 22.

The approach end to Runway 22 is equipped with a Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR). Used primarily in IFR weather conditions, a MALSR provides pilots with visual cues concerning aircraft alignment, height above the ground, and position relative to the runway end or runway threshold.

1.3.1.5.2 Instrument Aids

Instrument aids assist with flying during periods of reduced visibility, poor weather, nighttime operations, and low visibility conditions. Additionally, pilots use these instrument aids to perform Instrument Approach Procedures (IAPs) which can be divided into Precision Approach (PA), Non-Precision Approach with Vertical Guidance (APV), and Non-Precision Approaches (NPA).

Runway 22 has the capability of performing IAPs using equipment at the Airport associated with an Instrument Landing System (ILS). The ILS is composed of a Glide Slope (GS) antenna (located approximately 1,000 feet down the runway) and a Localizer (LOC) antenna (located approximately 1,000 feet beyond the Runway 4 end). These antennas work together to provide both vertical and lateral guidance information to pilots approaching the runway to land.

In addition to physical NAVAID equipment, Runway ends 4 and 22 have IAPs that utilize Area Navigation (RNAV) approach procedures, which use Global Positioning System (GPS) technology.

Lastly, pilots utilize other instrument aids in the vicinity of the Airport to assist with approach and departure procedures. Some of the aids include a Nondirectional Radio Beacon (NDB), Distance Measuring Equipment (DME), Very High Frequency Omni-Directional Range (VOR), Very High Frequency Omni-Directional Range/Tactical Air Navigation (VORTAC), and a VOR Test Facility (VOT).

1.3.1.5.3 Weather Aids

Weather aids help to accurately measure the cloud coverage, ceiling, visibility, wind speed, direction, temperature, and dew point at and around an airport.

AEG has one weather aid: an Automated Weather Observing System (AWOS)-3PT. An AWOS can measure meteorological parameters and then it processes and broadcasts weather reports, which can be received by aircraft operating up to 10,000 feet above ground level (AGL) and within 25 nm from the AWOS. In addition to the usual AWOS capabilities, the AEG AWOS can also sense precipitation types/intensity, as well as thunderstorms and lightning. The current AWOS is located approximately 250 feet south of the wind cone/segmented circle.

1.3.2 Landside Facilities

This section provides a summary of the existing landside facilities which include the existing landside buildings, the FBO at the Airport, as well as the access roads and vehicle parking lot at the Airport. See **Figure 1-5** for an overview of the existing landside facilities at the Airport.

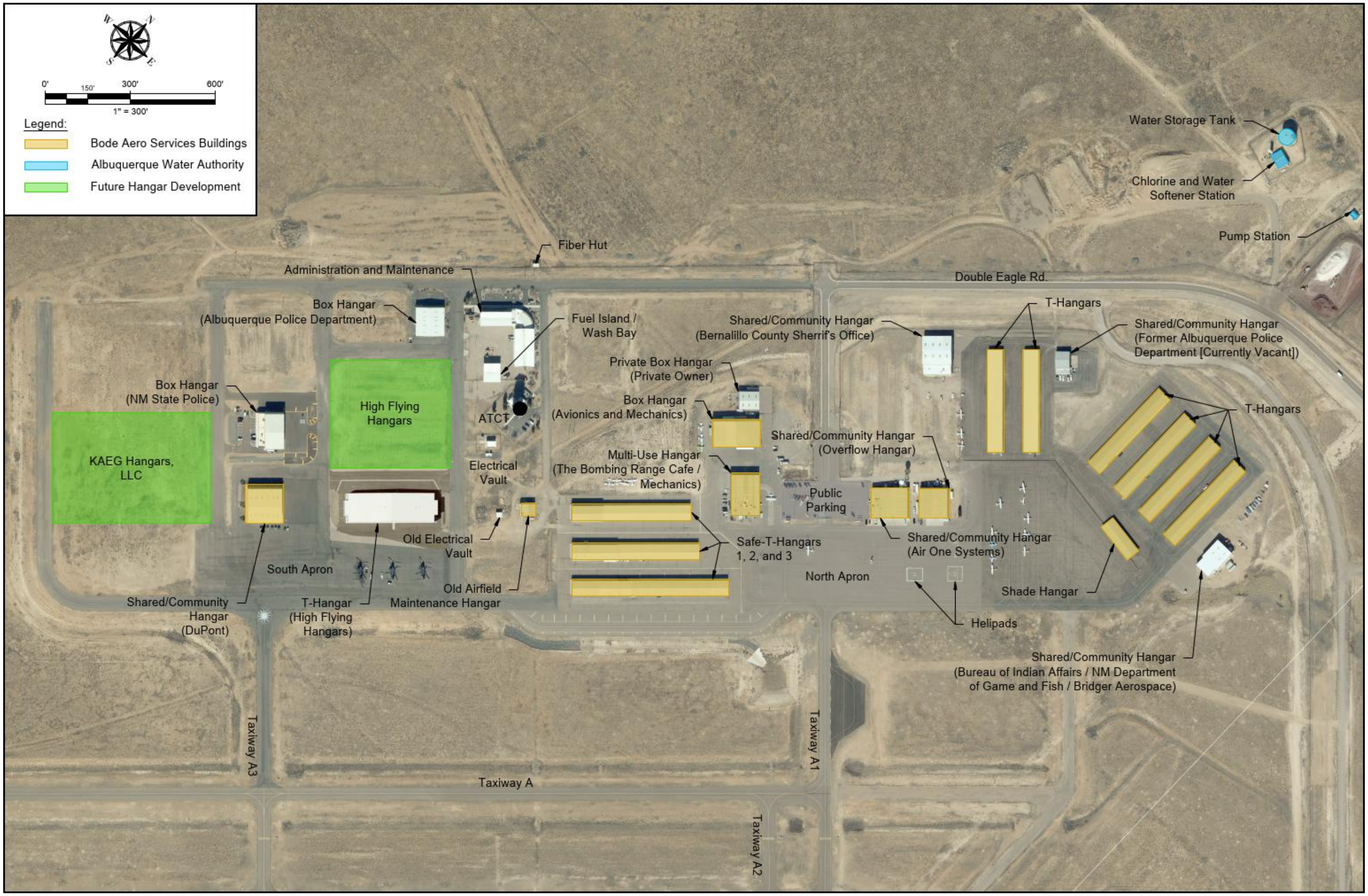

Figure 1-5. Existing Landside Facilities

Source: FAA's Airport Data and Information Portal (ADIP), March 24, 2025, and Airport Staff

1.3.2.1 Landside Buildings

As of March 2025, there are 39 facilities located on Airport property. The majority of these facilities are located along the aprons, flightline, or Airport access road areas, while the others include NAVAID shelters located throughout the airfield, facilities associated with the Albuquerque Water Authority, and other miscellaneous buildings. **Table 1-4** all facilities located on Airport property, the users and/or owners of these facilities, and their approximate areas.

Table 1-4. Landside Buildings

Facility/Building	User(s)/Owner(s)	Approximate Area (SF)
Apron Area (Hangars)		
16-Unit T-Hangar	Bode Aero Services	18,750
16-Unit T-Hangar	Bode Aero Services	18,750
16-Unit T-Hangar	Bode Aero Services	18,750
16-Unit T-Hangar	Bode Aero Services	18,750
16-Unit T-Hangar	Bode Aero Services	18,750
16-Unit T-Hangar	Bode Aero Services	18,750
10-Unit Shade Hangar	Bode Aero Services	8,220
Shared/Community Hangar	Bureau of Indian Affairs / New Mexico Department of Game and Fish / Bridger Aerospace	7,750
Shared/Community Hangar	Former Albuquerque Police Department Hangar (Currently Vacant)	3,780
Shared/Community Hangar	Bode Aero Services (Overflow Hangar)	10,180
Shared/Community Hangar	Bode Aero Services / Air One Systems	13,130
Multi-Use Hangar	Bode Aero Services Administration / The Bombing Range Café / Mechanics	14,320
Box Hangar	Bode Aero Services – Avionics and Mechanics	16,000
Box Hangar	Private Owner	4,320
10-Unit Safe-T-Hangar 1	Bode Aero Services	22,280
10-Unit Safe-T-Hangar 2	Bode Aero Services	23,920
11-Unit Safe-T-Hangar 3	Bode Aero Services	28,350
Box Hangar	Bernalillo County Sherrif's Office	13,600
Box Hangar	Albuquerque Police Department Hangar	10,190
Box Hangar	New Mexico State Police	14,000
Shared/Community Hangar	Bode Aero Services / DuPont	18,940
10-Unit T-Hangar	High Flying Hangars	31,200
Apron Area (Non-Hangars)		
Airport Traffic Control Tower	FAA	900
Electrical Vault	N/A	680
Old Electrical Vault	N/A	333
Old Airfield Maintenance Hangar	Bode Aero Services / SOAR	2,200
Administration and Maintenance	Airport Administration and Maintenance	18,940
Fiber Hut	Airport IT Staff	242
Fuel Island/Wash Bay	Airport Staff	3,910
FAA/NAVAID Shelters		

Facility/Building	User(s)/Owner(s)	Approximate Area (SF)
Glide Slope Shelter	FAA	83
Localizer Shelter	FAA	89
MALSR Shelter	FAA	106
RTR Shelter	FAA	91
Albuquerque Water Authority		
Pump Station	Albuquerque Water Authority	505
Pump Station	Albuquerque Water Authority	710
Chlorine and Water Softener Station	Albuquerque Water Authority	2,050
Water Storage Tank	Albuquerque Water Authority	2,102
Water Storage Tank	Albuquerque Water Authority	9,385
Miscellaneous		
Double Eagle II Aerospace Hub (Formerly SAMS)	Albuquerque Aviation Academy	25,736

Notes:

1. *There are three 12-Unit T-Hangars currently in design that will be owned and operated by High Flying Hangars. These three hangars will total approximately 54,000 SF.*
2. *There are additional hangars that are currently in design that will be owned and operated by KAEG Hangars, LLC. The total area leased to KAEG Hangars, LLC is approximately 5 acres and these hangars are anticipated to be under construction by the end of the Master Plan Update. The number of hangar units anticipated for the KAEG Hangars, LLC, is between 36 and 40.*

Abbreviations:
FAA: Federal Aviation Administration
IT: Information Technology
MALSR: Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
NAVAID: Navigational Aids
RTR: Remote Transmitter/Receiver
SF: Square Feet
SOAR: Special Operations Aviation Regiment

Source: Airport Staff

1.3.2.2 Fixed Based Operator

Bode Aviation, Incorporated is a diversified aviation business headquartered in Albuquerque that provides safety, security, and service with flight and maintenance operations in several locations. The FBO itself, Bode Aero Services, is owned by Bode Aviation and is headquartered at the Airport. Bode Aero Services has been operating at AEG since 2002 and offers a wide range of services including fueling, aircraft parking, and additional accommodations. **Table 1-5** provides a list of some of the services that the FBO offers at the Airport.

Table 1-5. Services Offered by Bode Aero Services

Fuel	Services, Facilities, and Amenities		Aircraft Parking	Accommodations
100LL Avgas	Aircraft Maintenance	Ground Power Unit	Tie-Downs	Courtesy Car
Jet A	The Bombing Range Café	Lavatories	T-Hangar Space	Rental Car
Fuel Discounts	Oxygen	Pilot Lounge	Shared Hangar Space	Rates w/Nearby Hotels
	Weather Briefing Stations	Wi-Fi		
	Snacks	Catering		

Source: flybode.com

1.3.2.3 Airport Access Roads

The Airport can be accessed using Double Eagle Road, a two-lane road that is the lone Airport entrance and exit road. Double Eagle Road connects Atrisco Vista Boulevard NW and the Airport's vehicle parking lot. Atrisco Vista Boulevard NW runs north to south along the western portion of Airport property. The road was constructed with FAA funds and is maintained by Airport staff between Double Eagle Road and Interstate-40. The Airport is located approximately seven miles north of Interstate-40.

1.3.2.3.1 Other Airport Roads

In addition to the roads that border Airport property, both Jim McDowell Road and Aerospace Parkway NW pass through Airport property. Approximately 1.5 miles of Jim McDowell Road passes through the southwestern portion of Airport property and connects Shooting Range Access Road with the Soils Amendment Facility and Gateway West. Aerospace Parkway NW runs north to south for approximately two-thirds of a mile in the southeastern portion of Airport property and connects Shooting Range Access Road with the Double Eagle II Aerospace Hub.

1.3.2.4 Vehicle Parking

The vehicle parking lot is located between two hangars used by Bode Aero Services. The parking lot is approximately 300 feet wide by 125 feet long totaling 37,500 SF and incorporates 85 vehicle parking positions. The parking lot also has signage for rideshare services, such as Uber and Lyft, that shows designated pick-up and drop-off locations situated near the fenced off area adjacent to the apron.

1.3.3 Support Facilities

This section provides an overview of the support facilities at and around the Airport. Examples of support facilities include fuel facilities, the ATCT, and utilities.

1.3.3.1 Fuel Facilities

Bode Aero Services operates two fuel farms at the Airport. They own two 20,000-gallon storage tanks containing Jet A fuel and two 20,000-gallon storage tanks containing 100LL. They also operate one Avgas refueling truck containing 1,200 gallons of 100LL and two jet fuel refueling trucks containing 8,000 gallons of Jet A fuel. They also provide two self-serve locations for Avgas and one for Jet A.

1.3.3.2 Airport Traffic Control Tower

The ATCT opened in 2008 to improve operational safety and efficiency at the Airport. The facility is situated on the northwest side of the airfield, adjacent to the Airport Administration and Maintenance facility. Opened between 6am and 10pm local time, the Double Eagle Tower operates under the FAA Contract Tower Program.

1.3.3.3 Utilities

In December 2024, AECOM completed an infrastructure study for the Airport. The report details the systems and locations of the existing utilities in and around the Airport. The utilities examined in this study include water systems, sanitary systems, natural gas systems, electrical systems, and communication systems. A copy of this study can be found in **Appendix A**.

1.4 Airspace

The U.S. airspace is divided into two major categories: Regulatory and Non-Regulatory airspace. Among these categories, there are four types of airspace: Controlled, Uncontrolled, Special Use (such as Military Operations Areas [MOAs], Prohibited Areas, Restricted Areas, Warning Areas, Alert Areas, Controlled Firing Areas [CFAs], and National Security Areas [NSAs]), and Other.

More specifically, Controlled airspace is split into five classes (Class A, Class B, Class C, Class D and Class E) while uncontrolled airspace is identified as Class G airspace. **Figure 1-6** depicts an illustration of Controlled and Uncontrolled airspace classifications while **Table 1-6** describes characteristics of Class A-G airspace.

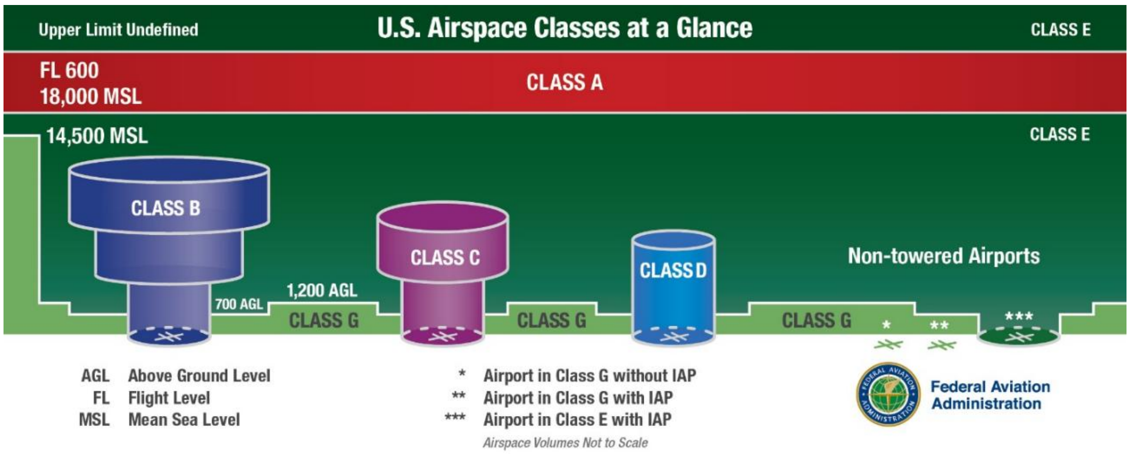

Figure 1-6. U.S. Airspace Classes

Source: FAA

Table 1-6. U.S. Airspace Classes Characteristics

Airspace	Flight Visibility	Distance From Clouds	Airspace Type
Class A	Not Applicable	Not Applicable	Controlled
Class B	3 Statute Miles	Clear of Clouds	Controlled
Class C	3 Statute Miles	500 feet Below 1,000 feet Above 2,000 feet Horizontal	Controlled
Class D	3 Statute Miles	500 feet Below 1,000 feet Above 2,000 feet Horizontal	Controlled
Class E[1]	3 Statute Miles	500 feet Below 1,000 feet Above 2,000 feet Horizontal	Controlled
Class E[2]	5 Statute Miles	1,000 feet Below 1,000 feet Above 1-SM Horizontal	Controlled
Class G[3]	-	-	Uncontrolled

Note:

1. *Less than 10,000 MSL.*
2. *At or above 10,000 MSL.*
3. *1,200 feet or less above the surface.*

Source: FAA

1.4.1 Airspace Around the Airport

Figure 1-7 represents the FAA Aeronautical "Sectional" chart depicting the airspace at, and in the vicinity of, the Airport. The Airport is situated within Class D airspace, which starts at ground level and rises to 7,500 feet above mean sea level (MSL). The Class D airspace is represented by the dark blue dashed line. It is currently activated between 1300 and 0500 Zulu time or during the hours when the ATCT is open. When the ATCT is closed, the Class D airspace becomes Class G airspace. Encircling this area is Class E airspace, with a floor of 700 feet AGL, and is illustrated by the light magenta boundary in the chart. Overlapping a portion of the AEG Class D airspace is the Class C airspace associated with ABQ (in the darker magenta color) having a base altitude of 6,900 feet MSL and top elevation of 9,400 feet MSL. The Class C airspace for ABQ affects the departure path of Runway 17 and the approach path of Runway 35 at AEG.

In addition to the standard airplane, rotorcraft, and glider operations, Albuquerque is widely known as the "Hot Air Ballooning Capital of the World." Balloon operators must contact the air traffic controllers at AEG if they are requesting approval to depart from anywhere inside of the Airport's Class D airspace.

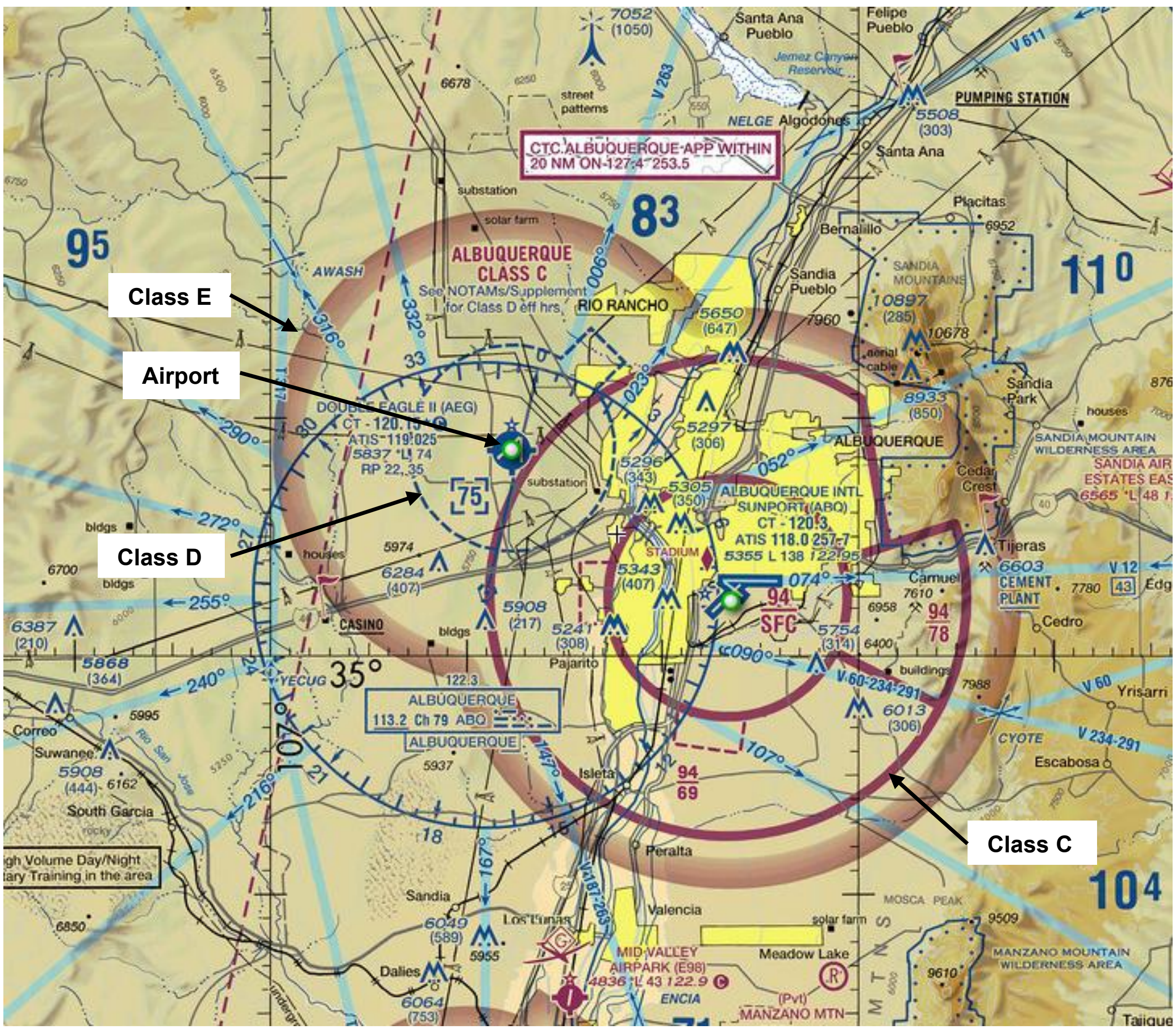

Figure 1-7. Airspace Around Double Eagle II Airport

Source: SkyVector

1.4.2 Other Airports

The Airport is located approximately 11 nm northwest of the Alburquerque International Sunport which is located southwest of Albuquerque. The Sunport, along with Kirtland Air Force Base, utilize the same runways, making ABQ a civil/military joint-use airport. **Figure 1-8** displays seven airports within 50 nm from the Airport.

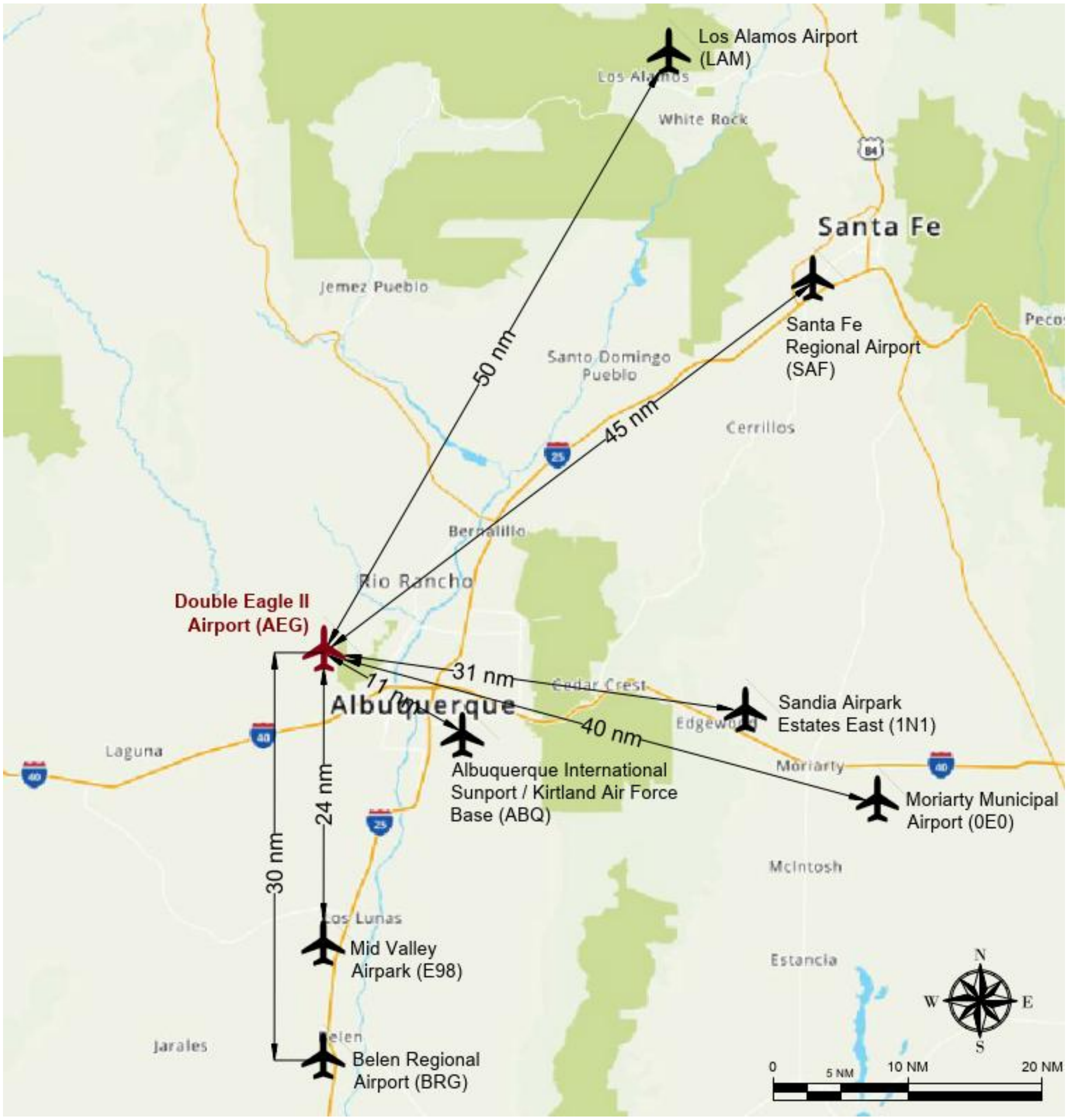

Figure 1-8. Airfields Around Double Eagle II Airport

Source: Mapquest

1.5 Meteorological Conditions

Meteorological data plays a crucial role in the master planning process, influencing various aspects of airport design as aircraft must be able to operate under diverse weather conditions, including strong winds, low visibility, and wet pavement. Among others, temperature data helps determine runway length requirements, while cloud ceiling and horizontal visibility data impact airfield capacity and IAPs. Depending on local climate patterns, weather considerations may necessitate new facilities, infrastructure upgrades, expanded runways, and well-maintained NAVAIDs to ensure safe and efficient operations.

The Code of Federal Regulations (CFR) divides flight rules within the NAS into two major categories: Visual Flight Rules (VFR) and IFR. The main difference between VFR and IFR is that when flying VFR, a pilot should stay clear of clouds, maintain good visibility, and be able to see the ground at all times. While flying IFR, a pilot must rely on cockpit instruments such as GPS, radar, and altimeters, which allow the pilot to fly in the clouds, at night, and in low visibility.

Meteorological conditions can be categorized as Visual Meteorological Conditions (VMC) and Instrument Meteorological Conditions (IMC). VMC is a meteorological condition in which the reported visibility is not less than 3 statute miles (SM) and the cloud ceiling is not less than 1,000 feet AGL, while IMC is a meteorological condition in which the reported visibility is less than 3 SMs and the cloud ceiling is less than 1,000 feet AGL.

1.5.1 Climate

The climate in and around Alburquerque is dry and sunny for almost the entire year with hot summers and mild winters. The peak hours of some summer days can be very hot at times, but the area does experience year-round, cool nights due to its higher elevation. The spring and fall seasons can be described as short and pleasant, but the monsoon season during the summer months can bring brief, yet intense thunderstorms to the area.

1.5.2 Temperature

Between January 2004 and December 2024, the minimum average temperature observed in Albuquerque ranged from 26.3°F in January to 67.6°F in July, while the maximum average temperature ranged between 48.6°F in both January and December, and 92.3°F in July. January experienced the coldest average monthly temperature at 37.7°F while July received the hottest average monthly temperature at 79.6°F. **Figure 1-9** displays minimum, maximum, and average monthly temperatures captured between January 2004 and December 2024.

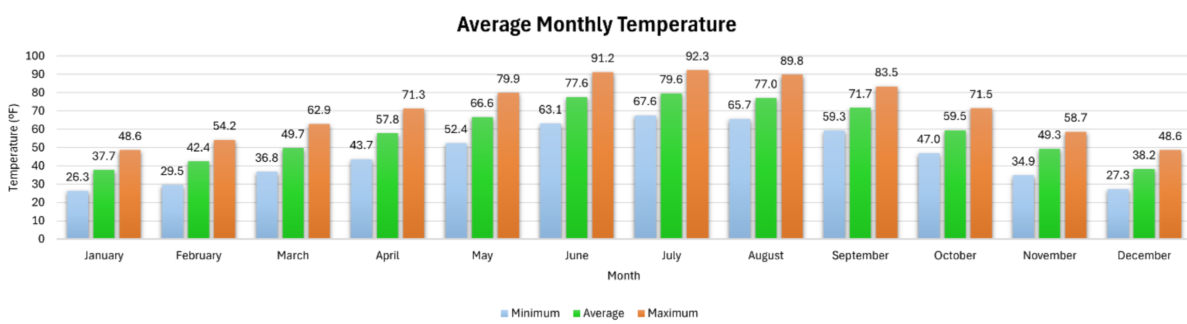

Figure 1-9. Average Monthly Temperature (January 2004 – December 2024)

Note: Average Daily Temperature was not recorded for this weather station between August 1, 2005 and March 31, 2013.

Source: National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information (NCEI) – Albuquerque International Airport, NM US – USW00023050

1.5.3 Precipitation

Between January 2004 and December 2024, Albuquerque experienced an average of approximately 8.2 inches of precipitation per year. The majority of precipitation occurs during the late summer and early autumn months with July experiencing the most precipitation with approximately 1.74 inches per year. **Figure 1-10** displays the average monthly precipitation quantities between January 2004 and December 2024.

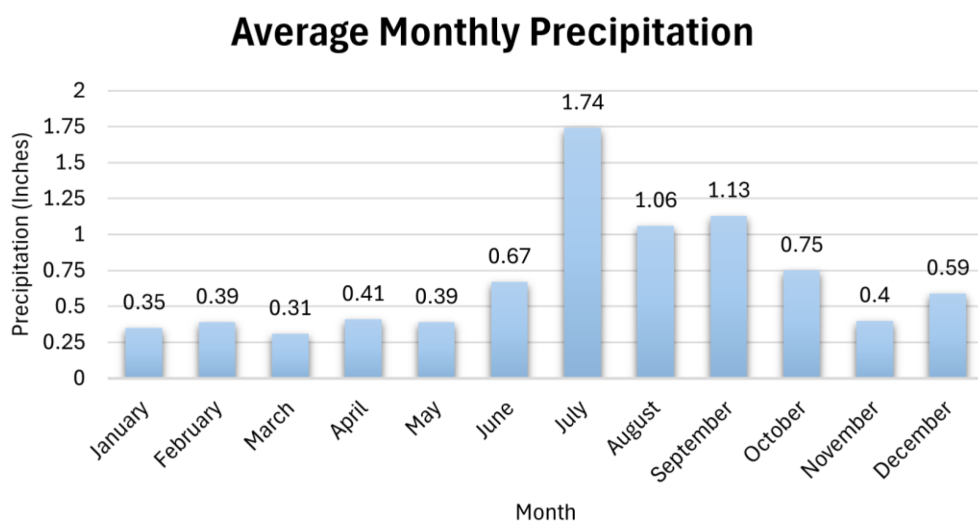

Figure 1-10. Average Monthly Precipitation (January 2004 – December 2024)

Source: National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information (NCEI) – Albuquerque International Airport, NM US – USW00023050

1.5.4 Wind Analysis

Analyzing the direction of the wind is a crucial part of airport planning as wind direction influences runway orientation and the number of runways needed. The desirable wind coverage for a single runway at an airport is 95 percent, based on the total number of weather observations. This value of 95 percent considers various factors influencing operations.

Crosswind components must also be taken into consideration. A crosswind component is a measure of the total wind velocity that occurs at a right angle to the runway centerline. It is generally desirable to minimize crosswind components by developing runways with centerline orientations that align with prevailing wind conditions.

Due to the large mix of airport activity, it is important to have proper wind coverage, so 10.5-, 13- and 16-knot crosswind components were considered in the wind analysis. Wind data was collected from FAA's ADIP for the last 10 years of observations (2015-2024).

Wind roses were developed for VFR, IFR, and All-Weather conditions. These wind roses are represented in **Figure 1-11**, **Figure 1-12**, and **Figure 1-13** respectively, and are quantified in **Table 1-7** as well.

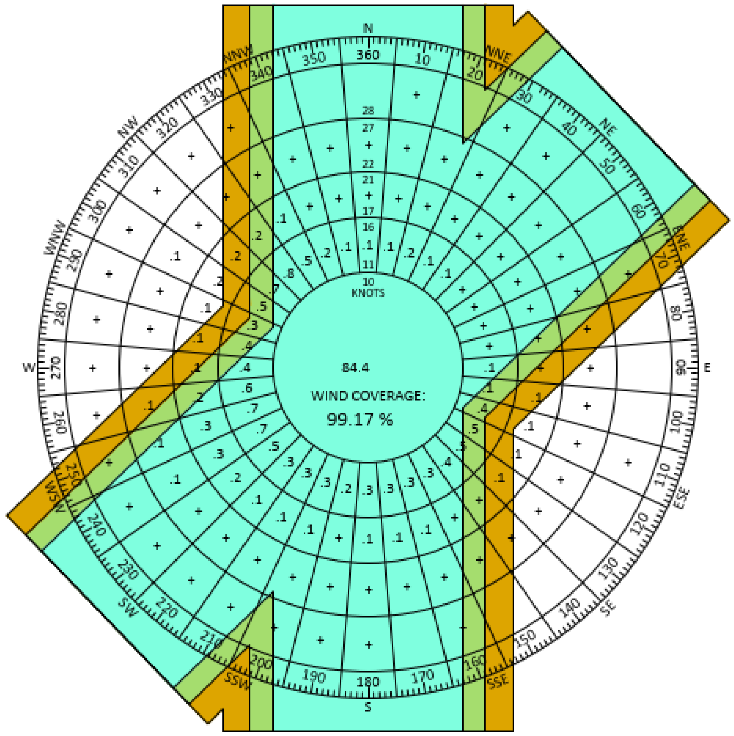

Figure 1-11. VFR Windrose

Source: ADIP – KAEG-NM-723647-03034-Double Eagle II Airport-2015,2016,2017,2018,2019,2020,2021,2022,2023,2024

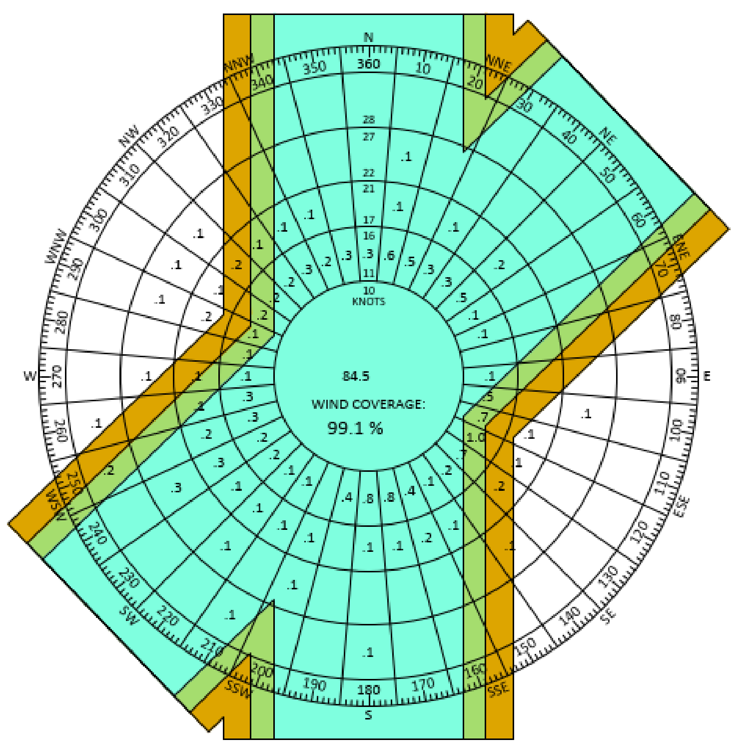

Figure 1-12. IFR Windrose

Source: ADIP – KAEG-NM-723647-03034-Double Eagle II Airport-2015,2016,2017,2018,2019,2020,2021,2022,2023,2024

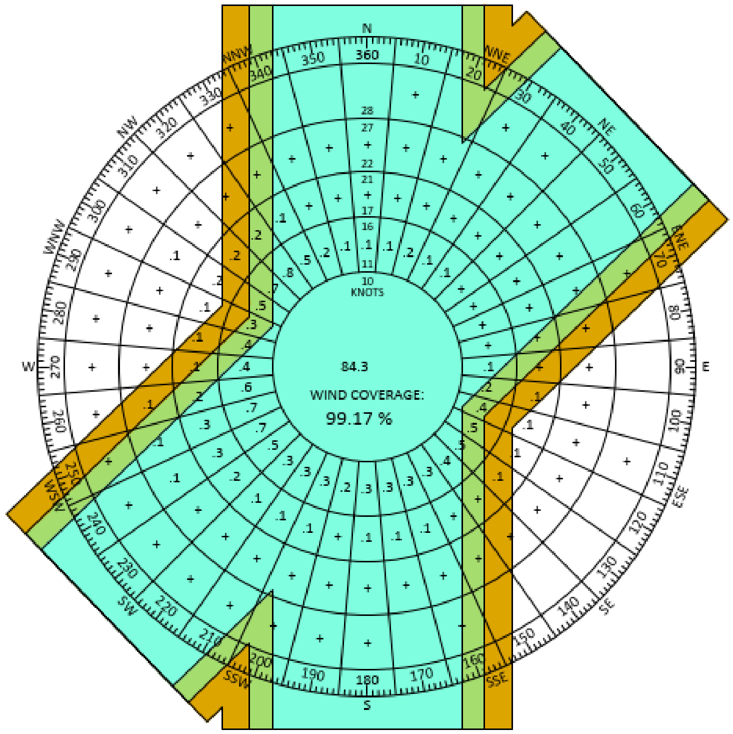

Figure 1-13. All-Weather Windrose

Source: ADIP – KAEG-NM-723647-03034-Double Eagle II Airport-2015,2016,2017,2018,2019,2020,2021,2022,2023,2024

Table 1-7. Wind Analysis

Crosswind Component	VFR			IFR			All-Weather		
	4-22	17-35	Total	4-22	17-35	Total	4-22	17-35	Total
10.5 Knots	91.2	91.36	95.28	91.79	92.64	95.68	91.2	91.36	95.27
13 Knots	94.48	94.81	97.72	95.08	95.43	97.78	94.49	94.8	97.71
16 Knots	97.92	97.76	99.17	97.89	97.91	99.1	97.92	97.75	99.17

Abbreviations:
IFR: Instrument Flight Rules
VFR: Visual Flight Rules

Source: ADIP – KAEG-NM-723647-03034-Double Eagle II Airport-2015,2016,2017,2018,2019,2020,2021,2022,2023,2024

1.6 Zoning and Land Use

This section discusses the land use and zoning associated with the Airport and its surroundings.

1.6.1 Land Use

The airport sponsor is responsible, to the extent practicable, for ensuring that land use around an airport is compatible with existing and future airport operations. State and local governments are responsible for land use planning, zoning, and regulation.

The Albuquerque/Bernalillo County (ABC) Comprehensive Plan identifies areas suitable for development at various levels of rural and urban services and includes both city and county jurisdictions. The ABC Comprehensive Plan is used to analyze zone change requests and development proposals and to shape other planning efforts made by the city of Albuquerque.

The ABC Comprehensive Plan contains 12 Community Planning Areas (CPAs) which provide specific planning and development guidelines for a defined geographic area. The Airport is located in the West Mesa CPA. Land use in the West Mesa CPA is comprised of residential development, complemented by non-residential uses, significant expanses of parks and open spaces and substantial areas of undeveloped land. The West Mesa CPA boundary is shown in **Figure 1-14**.

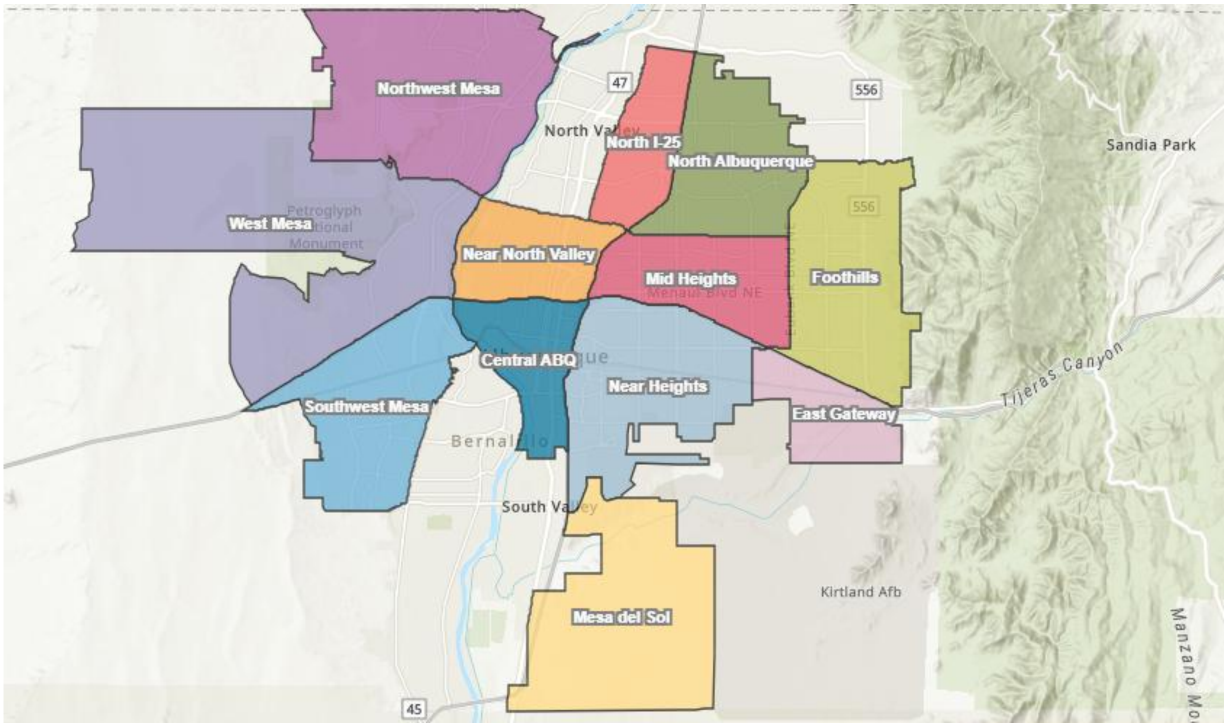

Figure 1-14. Community Planning Areas

Source: https://compplan.abq-zone.com/maps

Parks and Open space dominate the West Mesa CPA as shown on **Figure 1-15**. Thousands of acres are within the Petroglyph National Monument east of the Airport. The Monument and the major public open space west of the Airport creates an area of permanent open space. This separates the portion of the CPA into western and eastern sections.

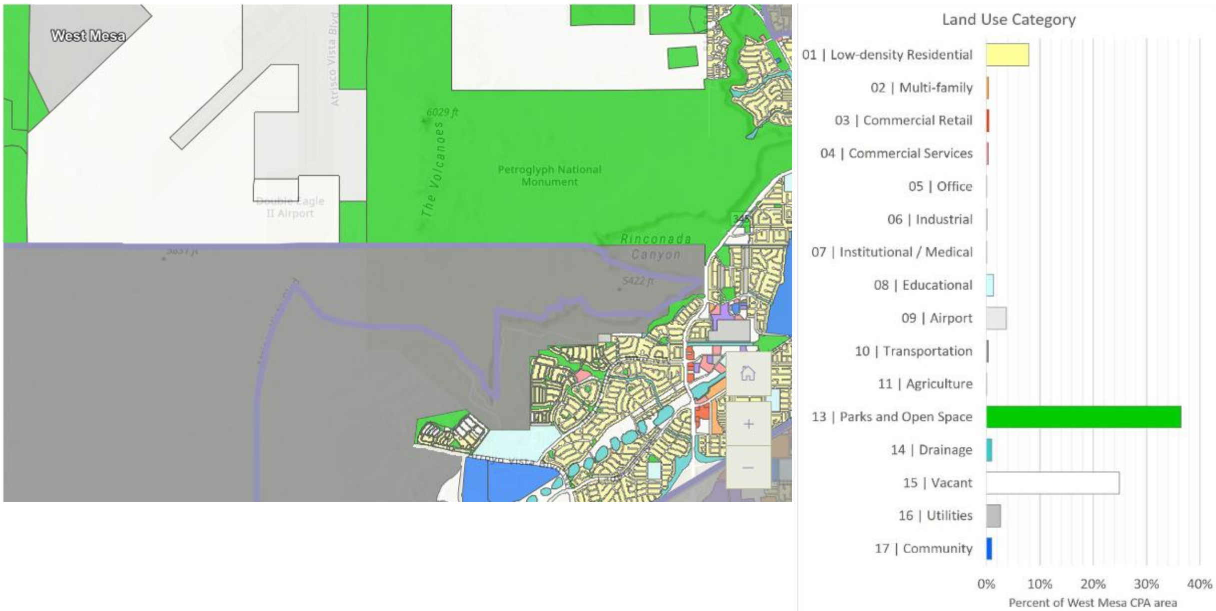

Figure 1-15. Land Use by Category

Source: West Mesa CPA Assessment Report, 2025

According to the ABC Comprehensive Plan, AEG is located within an Employment Center, an Area of Change (undeveloped land comprising 75% of the Airport site), and an Area of Consistency (Airport areas comprising 25% of the Airport site).

- Employment Centers are designated to offer a range of employment opportunities and remain predominantly industrial, business and retail centers with industrial, commercial, and office activity. Employment centers are intended to be auto-oriented, with excellent access for trucks and freight that connect near major intersections, along highways or major arterials.
- Areas of Change are intended to be the focus of urban-scale development that benefits job growth and housing opportunities.
- Areas of Consistency have policies to protect and enhance the character of existing single-family neighborhoods, areas outside of centers and corridors, parks, and major public open space and in this case, help preserve such critical airport facilities as the runways and other critical infrastructure. As a guidance tool, areas of change and consistency direct more dense development to areas where growth is desired (areas of change). In parallel, it is used to apply policies limiting new development to an intensity and scale consistent with places that are highly valued for their existing character (areas of consistency).

See **Figure 1-16** for the Areas of Change and Areas of Consistency.

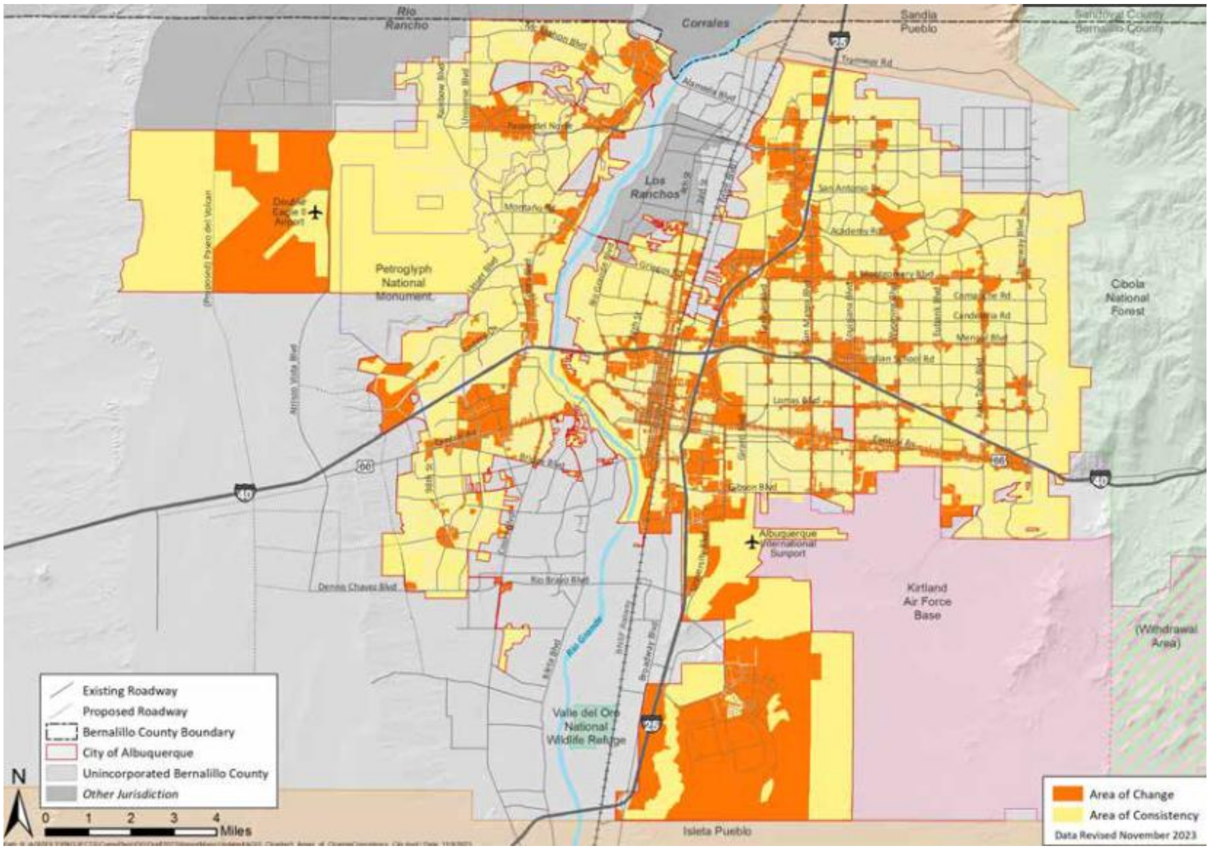

Figure 1-16. Areas of Change and Areas of Consistency

Source: West Mesa CPA Assessment Report, 2025

1.6.1.1 Surrounding Airport Property

Airport property is surrounded by a variety of land uses including facilities, public roads, and open space. To the east, the Airport is bordered by open space owned by the City of Albuquerque between Atrisco Vista Boulevard NW and the Petroglyph National Monument to the east. The southern portion of Airport property is bordered by Shooting Range Access Road, as well as a parcel of land belonging to the State of New Mexico Land Office. In addition to a portion of Shooting Range Access Road, a parcel of land belonging to the City of Albuquerque Public Services utilized by the Water Utility Authority of Albuquerque Soils Amendment Facility and Gateway West (an emergency housing shelter), and a parcel of open space owned by the City of Albuquerque Aviation Department mainly make up the western portion of Airport property. Lastly, the majority of the Airport's northern boundary is made up of open space associated with Quail Ranch.

1.6.2 Zoning

The city of Albuquerque Integrated Development Ordinance (IDO) includes zoning and subdivision regulations to govern land use and development within Albuquerque and establishes the city's system of planning. In August 2024, an “as-built” site plan of the Airport was submitted to the Albuquerque Environmental Planning Commission (EPC) for review and approval (EPC Project #2018-001577/SI 2024-00994). The Site Plan was approved and established a baseline for any future development and determinations for minimum dimensional design standards such as setbacks, building height, lighting, landscaping, etc. It was determined that the existing as-built conditions depicted in the Site Plan would remain valid until they are replaced. Any new development at AEG will need to be in compliance with the IDO.

According to the IDO, the Airport is zoned Non-Residential – Sensitive Use (NR-SU). The purpose of the NR-SU zone district is to accommodate highly specialized public, civic, institutions or natural resource-related uses that require additional review of location, site design, and impact mitigation to protect the safety and character of surrounding properties. See **Figure 1-17**. Allowable uses in the NR-SU Zone are listed in **Table 1-8**.

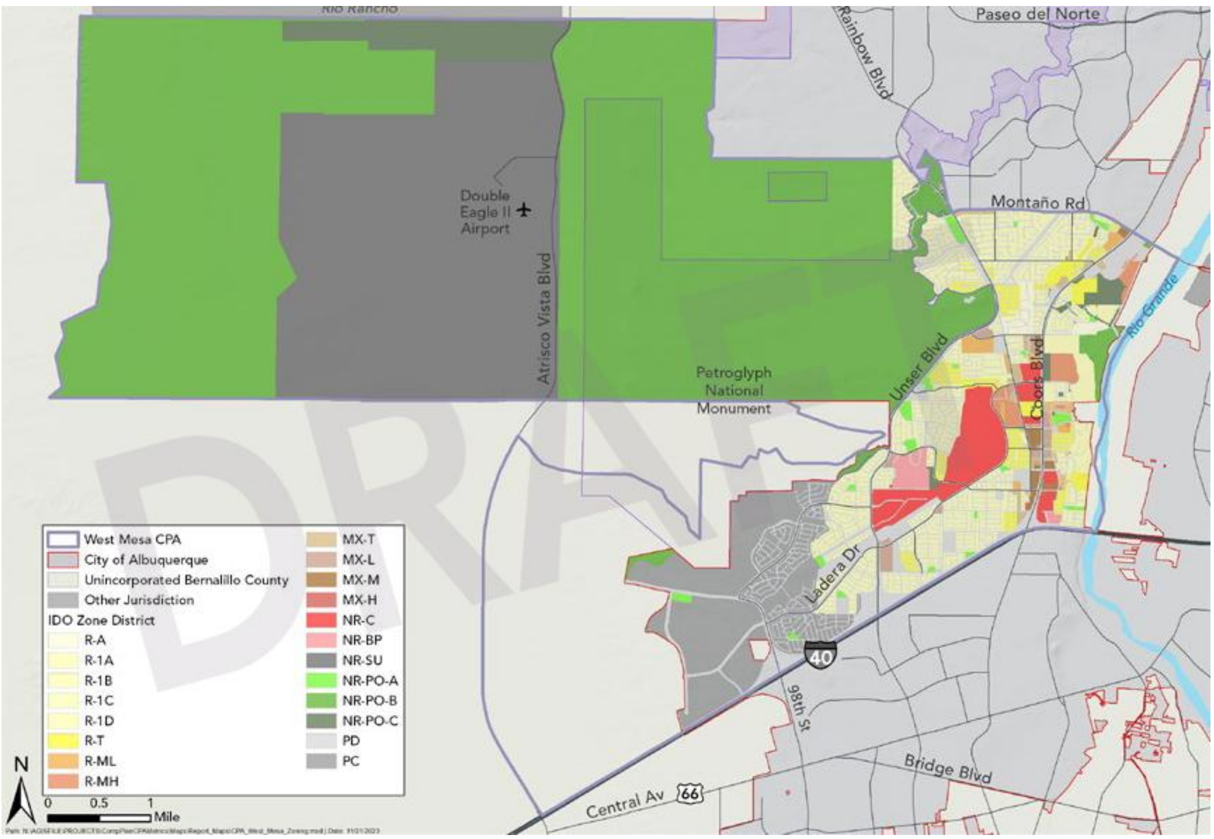

Figure 1-17. Zoning Map

Source: West Mesa CPA Assessment Report, 2025

Table 1-8. Allowable Land Uses in Zone Non-Residential – Sensitive Use (NR-SU)

Land Use	Allowable Use
Civic and Institutional Use	
Cemetery	P
Correctional Facility	P
Parks and Open Space	A
Motor Vehicle Related	
Paid Parking Lot	A
Paid Parking Structure	A
Offices and Services	
Crematorium	P
Mortuary	A
Outdoor Recreational and Entertainment	
Amphitheater	A
Fairgrounds	P
Stadium or Racetrack	P
Transportation	
Airport	P
Helipad	A
Park and Ride Lot	A
Manufacturing, Fabrication, and Assembly	
Natural Resource Extraction	P
Telecommunications, Towers, and Utilities	
Drainage Facility	A
Electric Utility	A
Energy Storage System	A
Major Utility, Other	A
Solar Energy Generation	A
Wind Energy Generation	A
Wireless Telecommunication Facility Architecturally Integrated	A
Wireless Telecommunication Non-Commercial or Broadcast Antenna	A
Wireless Telecommunication Collocation	A
Wireless Telecommunication Freestanding	A
Wireless Telecommunication Public Utility Collocation	A
Wireless Telecommunication Roof Mounted	A
Wireless Telecommunication Small Cell	A
Waste and Recycling	
Solid Waste Convenience Center	P
Waste and/or Recycling Transfer Station	P
Accessory and Temporary Uses	
Dwelling Unit Accessory	A

Land Use	Allowable Use
Mobile Food Truck	A
Outdoor Dining Area	A
Other Use Accessory to Non-Residential Primary Us	A
Temporary Uses That Require a Permit	
Construction Staging Area, Trailer, or Office	T
Dwelling	T
Fair, Festival, or Theatrical Performance	T
Park and Ride Facility	T
Temporary Uses That Do Not Require a Permit	
Hot Air Balloon Takeoff/Landing	T

Abbreviations:
P = Permissive Primary
A = Permissive Accessory
T = Temporary

Source: Albuquerque, New Mexico, Integrated Development Ordinance, Amended as of April 2025, Table 4-2-1 Allowable Uses

- The Airport is also within a city-designated Airport Protection Overlay Zone (APO) which is comprised of three sub-areas: Air Space Protection Sub-area, Runway Protection Sub-area, and Noise Contour Sub-area (see **Figure 1-18**). Air Space Protection Sub-area – This sub-area underlies the Horizontal Surface established at a height of 150 feet above the highest point of the usable landing area at the Airport, resulting in a Horizontal Surface at 6,028 feet for AEG.
- Runway Protection Sub-area – This sub-area includes runways, adjacent Approach Surfaces, and trapezoidal flares at the end of each runway.
- Noise Contour Sub-area – This irregularly-shaped sub-area reflects the intermittent noise levels that are expected in an airport area, based on average ambient conditions and existing and projected aircraft operations (landings and takeoffs). The effect of noise generated by any other specific land use is not reflected. The sub-area is bounded by the 65 Day-Night Noise Level (DNL) contour and includes the 75 DNL contour calculated by the FAA Integrated Noise Model (INM). It should be noted that the FAA INM was replaced with the Aviation Environmental Design Tool (AEDT) effective May 29, 2015.

These sub-areas correspond to the FAA designated zones or surfaces established for safe operations of the Airport including Airspace zones, Runway Protection Zones (RPZs), and Aviation Noise zones.[1] FAA has a limited regulatory role in land use planning, so the IDO provisions, which are consistent with FAA guidance, take precedence in local land use decision making.

[1] Source: FAA Advisory Circular 150/5190-4: Airport Land Use Compatibility Planning, September 16, 2022

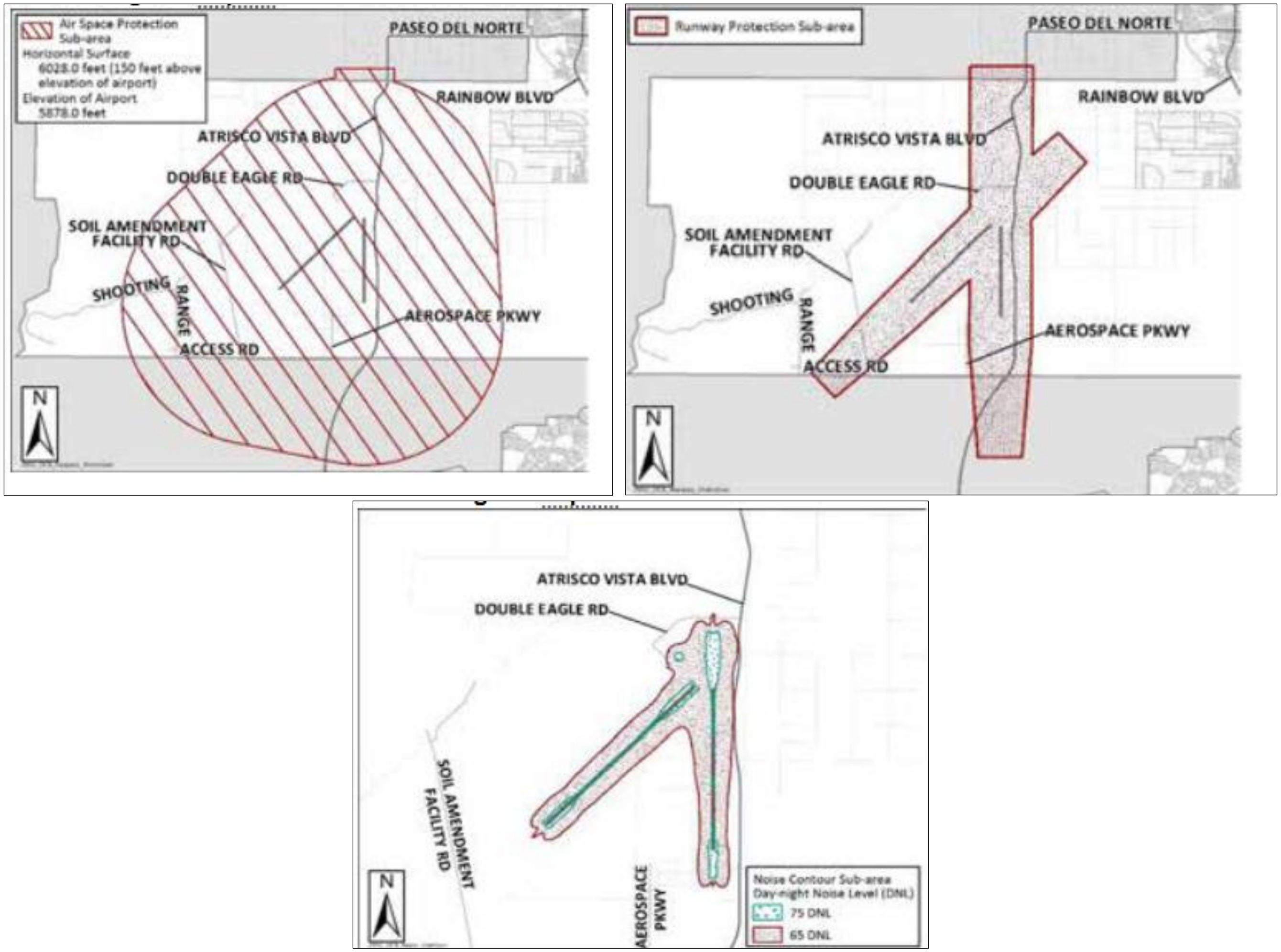

Figure 1-18. Airport Overlay Zone Sub-Areas

Note: The graphic on the top left is the Air Space Protection Sub-area, the graphic on the top right is the Runway Protection Sub-area, and the graphic on the bottom is the Noise Contour Sub-area.

Source: City of Albuquerque Integrated Development Ordinance

DRAFT

Double Eagle II Airport

Airport Master Plan Update
Working Paper #1 - Inventory and Forecast Update
Inventory
Appendix A - Double Eagle II Infrastructure Study

City of Albuquerque Aviation Department

Project Number: 7540.003

March 30, 2026

City of Albuquerque Aviation Department
Administration Office, 3rd Level
2200 Sunport Blvd. SE
Albuquerque, NM 87106

Delivering a better world

DOUBLE EAGLE II INFRASTRUCTURE STUDY

DOUBLE EAGLE II AIRPORT (AEG)

7540.003 Task 4

Prepared For:

City of Albuquerque
Aviation Department
2200 Sunport Blvd.
Albuquerque, NM 87106

Prepared by:
AECOM Technical Services, Inc.
6501 Americas Parkway
Albuquerque, NM 87110

10 December 2024

Table of Contents

Section Page

Figures

1 INTRODUCTION

The City of Albuquerque Aviation Department have contracted AECOM to evaluate the infrastructure at Double Eagle II Airport (AEG). The Double Eagle II Airport is a vital transportation hub serving the Albuquerque metropolitan area and surrounding regions. As a key component of New Mexico's aviation infrastructure, it plays an essential role in regional connectivity, supporting general aviation and private flights. After years of flat growth at the airport, new facilities are in development in the midfield area as well as non-aviation development on the north boundary.

1.1 Scope

The purpose of the study is to develop a comprehensive inventory of existing landside utilities at DEII will be conducted. Inventory of airfield utilities will not be included in the scope of work. Utilities to include:

1. Water systems
2. Sanitary systems
3. Natural Gas systems
4. Electrical systems
5. Communications systems

The study did not include an evaluation of the airfield infrastructure

1.2 Existing Building Facilities

Table 1.1 Existing Building Facilities

Bldg. #	Description	Size (SF)
2	Airfield Electrical Vault	680
3	Bode Aviation	2,200
4	T-Hangars	23,920
5	T-Hangars	28,350
6	T-Hangars	22,280
7	FBO Hangar	14,320
8	FBO Hangar	16,000
9	FBO Hangar	4,320
13	FBO Hangar	13,130
14	FBO Bay Hangar	10,180
15	FBO Hangar	13,600
16	T-Hangars	18,750
17	T-Hangars	18,750
18	APD Air Support Hangar	3,780
19	T-Hangars	18,750
20	T-Hangars	18,750
21	T-Hangars	18,750
22	T-Hangars	18,750
23	Bureau of Indian Affairs	7,750
26	Executive Hangar	14,800
27	Executive Hangar	10,190
28	Airfield Maintenance Facility	18,940

29	Airport Traffic Control Tower	900
30	Training Facility	26,100
73	Executive Hangar	14,000
78	Executive Hangar	32,000

AECOM

DOUBLE EAGLE II INFRASTRUCTURE STUDY
FIGURE 1.1 PROPERTY BOUNDARY

#	Description	Size (SF)
2	Airfield Electrical Vault	680
3	Bode Aviation	2,200
4	T-Hangars	23,920
5	T-Hangars	28,350
6	T-Hangars	22,280
7	FBO Hangar	14,320
8	FBO Hangar	16,000
9	FBO Hangar	4,320
13	FBO Hangar	13,130
14	FBO Bay Hangar	10,180
15	FBO Hangar	13,600
16	T-Hangars	18,750
17	T-Hangars	18,750
18	APD Air Support Hangar	3,780
19	T-Hangars	18,750
20	T-Hangars	18,750
21	T-Hangars	18,750
22	T-Hangars	18,750
23	Bureau of Indian Affairs	7,750
26	Executive Hangar	14,800
27	Executive Hangar	10,190
28	Airfield Maintenance Facility	18,940
29	Airport Traffic Control Tower	900
30	Training Facility	26,100
73	Executive Hangar	14,000
78	Executive Hangar	32,000

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DOUBLE EAGLE II INFRASTRUCTURE STUDY
FIGURE 1.2 EXISTING FACILITIES

2 WATER

The existing water system and layout were evaluated to assess the current condition and system components and capacity..

2.1 Original Water System Development

The original water system at Double Eagle II, constructed in 1986, consisted of a well, storage tank and fire pump equipment building to provide the water supply. Domestic water supply consisted of a 15,000 gallon storage tank which was paired with a 5,000 gallon pressure tank which provided water in the 50-80 psi pressure range. Fire protection supply consisted of a 500,000 gallon storage tank paired with a 3,500 GPM fire pump. Water distribution consisted of an 8" domestic loop paired with a separate 20" fire protection loop which were placed in parallel around the original midfield complex of T-Hangars and FBO buildings.

2.2 2007 Improvements

In 2007 a new system was constructed which replaced the well supply system with a connection to the Albuquerque Bernalillo County Water Utility Authority (ABCWUA) domestic water system. The new system consisted of a connection to the existing well No. 1 and 6-million gallon Volcano Cliffs storage reservoir near Unser Blvd (since supplemented with an additional 3..7 M gallon storage reservoir). The water from this storage reservoir was pumped to the Double Eagle II site using a new 1,000 GPM pump station (Lower Pump Station) and routed to the site though a 10-inch water line. The routing of the 10-inch water line travels a circuitous route of approximately 7-miles heading west along Viejo Vista Ave, turning north along Boulevard De Oest Ln, west along Paseo del Volcan the south along Atrisco Vista Blvd. where it connected to the original Double Eagle II pumphouse. The new 10-inch water line was constructed in a new utility corridor which also included a new 8" sewage force main and communication conduit.

2.3 Water Storage

At Double Eagle II , the existing well was de-commissioned and the fire pump was removed and replaced with a new 1,000 GPM pump station (Upper Pump Station). The existing 500,000 gallon (Lower Reservoir) and 15,000 gallon storage tanks were refurbished and integrated into the new system. In addition, a new 1-million gallon storage reservoir (Upper Reservoir) was constructed approximately 3 miles SW of the Lower Storage Reservoir at a higher elevation to provide system pressure and additional storage for fire protection. The new Upper Reservoir was connected to the main system with a 24-inch transmission line. The new system was connected to the existing 8-inch 8" domestic service loop. The existing 20-inch fire loop was also connected to the same system and is no longer an independent system. In addition, a new 24-inch transmission was routed south to the Technology Park and distribution lines.

2.4 Existing Demand

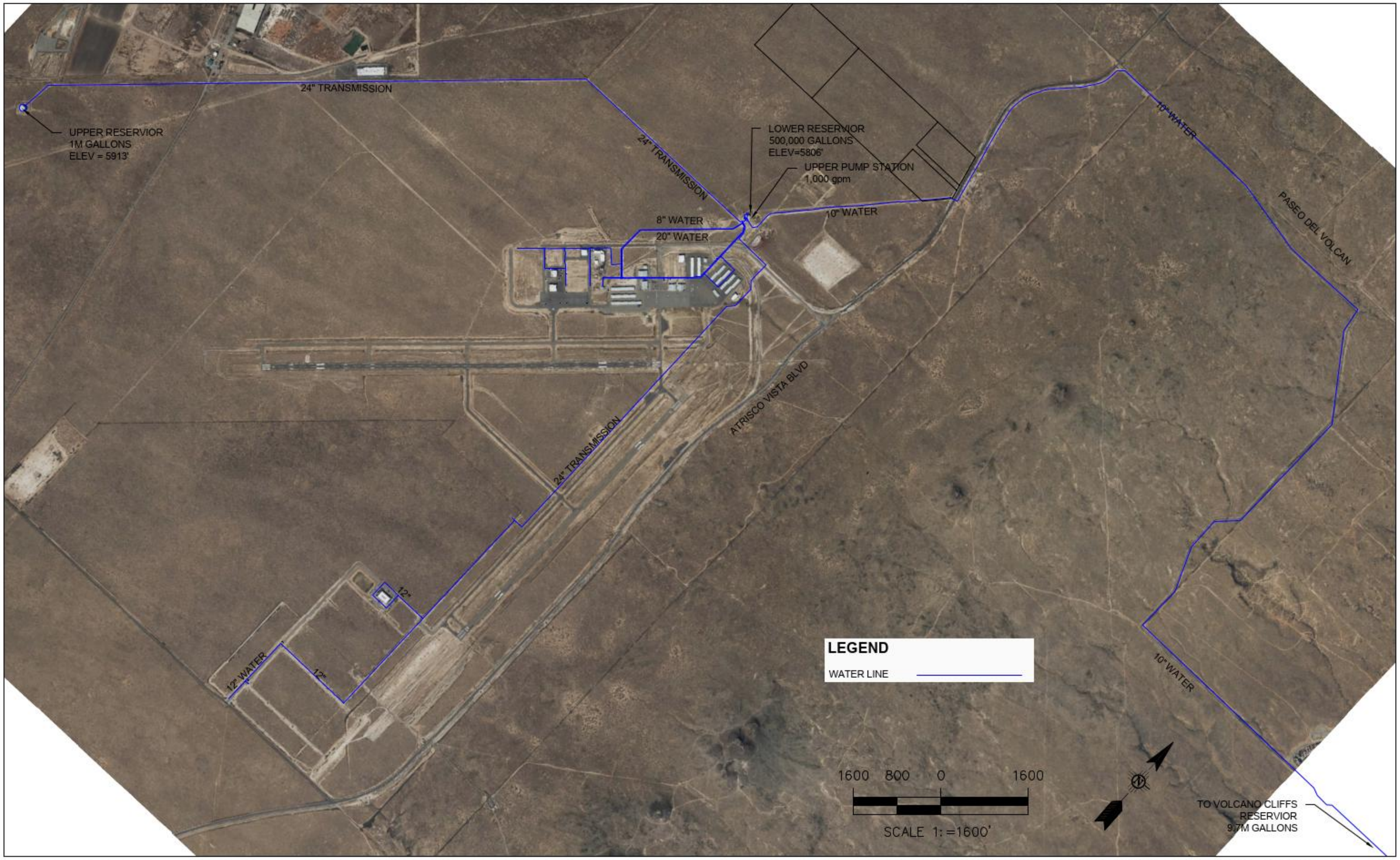
The demand from existing operations at the airport include employed personnel with the City of Albuquerque, employees of the FBO operations and other aviation related businesses at the airport as well as transient pilots and visitors. As the number of persons at the airport using facilities can vary, a baseline population of 75 persons was used.

Number of Persons	Water Demand		
	gpcd	Gallons per minute	Peak Domestic Usage (gpm)
75	1500	3.13	12.5

.

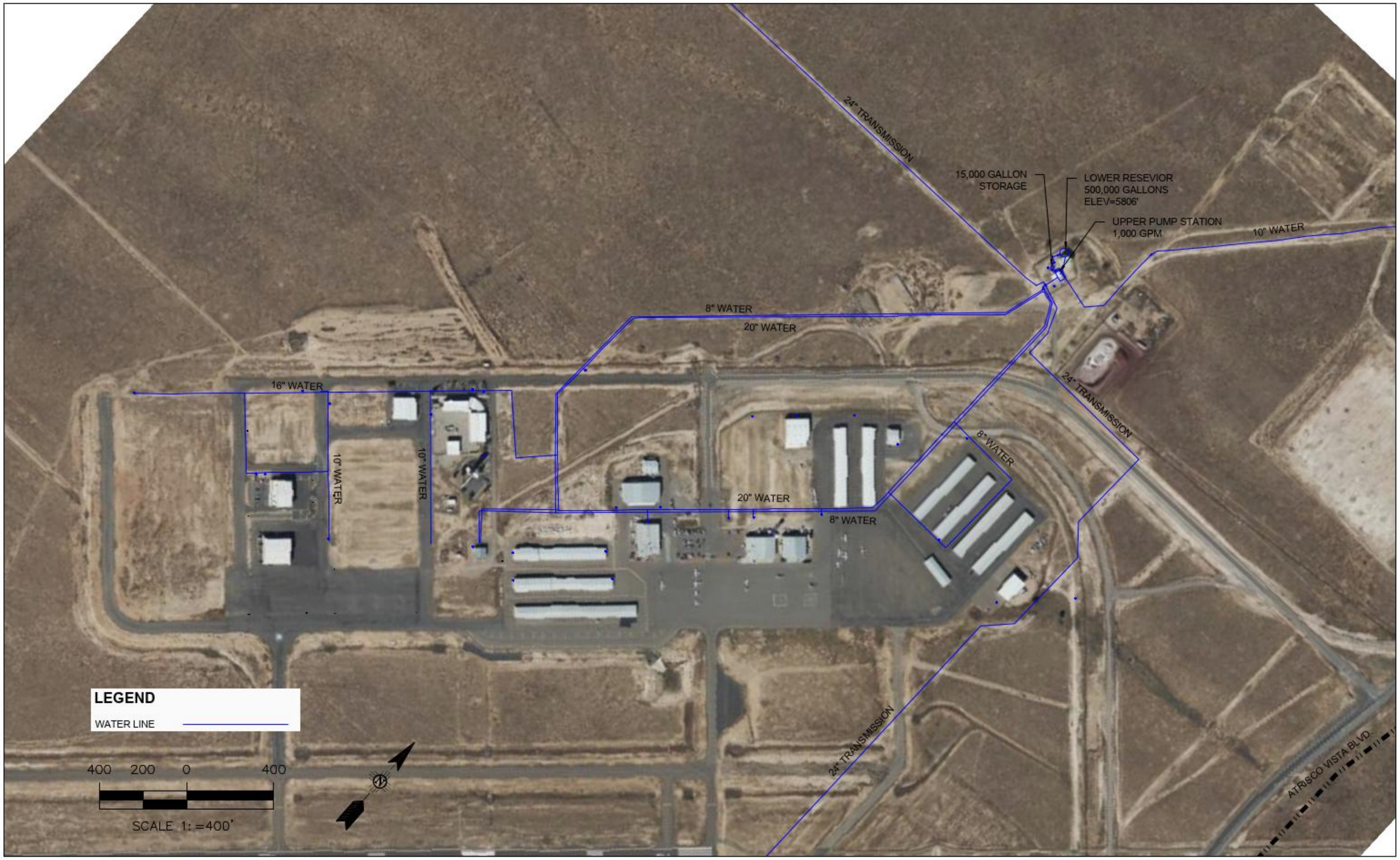
2.5 Existing Capacity

The existing water system has a combined storage capacity at Double eagle II of 1.515 Million gallons with a system pressure of 50-80 psi and peak capacity of 1,000 gpm



AECOM

DOUBLE EAGLE II INFRASTRUCTURE STUDY
FIGURE 2.1 WATER



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DOUBLE EAGLE II INFRASTRUCTURE STUDY
FIGURE 2.2 WATER

3 SANITARY SEWER

The sanitary sewer system and layout were evaluated to assess the current condition, system components and capacity.

3.1 Original Sanitary system Development

The original sanitary sewer system at Double Eagle II, constructed in 1986, consisted of 8" gravity flow pipes serving the original midfield complex of T-hangars and FBO Hangars. The original system provided wastewater discharge to a septic tank and leach field north of the building site.

3.2 2007 Improvements

In 2007 a new system was constructed which replaced the septic and leach field. The new system routed wastewater using a combination of 8" force main and 12" gravity main approximately 4-miles to the east to an existing manhole on Unser Blvd where it entered the Albuquerque Bernalillo County Water Utility Authority (ABCWUA) wastewater system. The routing of the wastewater discharge lines travels a circuitous route of approximately 7-miles heading north from the DEII hangar complex along Atrisco Vista Blvd , turning east along paseo del Volcan, south along Boulevard De Oest Ln, and then east again along Vista Vieja Ave until it reaches Unser Blvd.

The 2007 improvements also extended service 2-miles south to the Technology Park with an 8" force main. The Technology park as well as midfield hangar area are served by a network of 8" gravity sewer pipes which then discharge to the 8" force main system.

3.3 Lift Stations

The South Lift Station (Lift Station #14) consists of two 4" submersible pumps in an 8' diameter sump which conveys wastewater under pressure to a discharge point just west of the North Lift Station. The North Lift Station (Lift Station #3) also consists of two 4" submersible pumps in an 8' diameter sump which conveys wastewater under pressure to a discharge point near Unser Blvd. Both lift stations are powered by utility power and include a 150 hp diesel emergency generator for emergency backup power.

3.4 Existing Demand

The demand from existing operations at the airport include employed personnel with the City of Albuquerque, employees of the FBO operations and other aviation related businesses at the airport as well as transient pilots and visitors. As the number of persons at the airport using facilities can vary, a baseline population of 75 persons was used.

Number of Persons	Sewer Demand
	Waste (gallons per day)
75	1,500

3.4 Sanitary Sewer Capacity

The 8" force main as well as the downstream 12" gravity sewer has a maximum capacity of approximately 320 GPM.

DOUBLE EAGLE II INFRASTRUCTURE STUDY
FIGURE 3.1 SANITARY SEWER

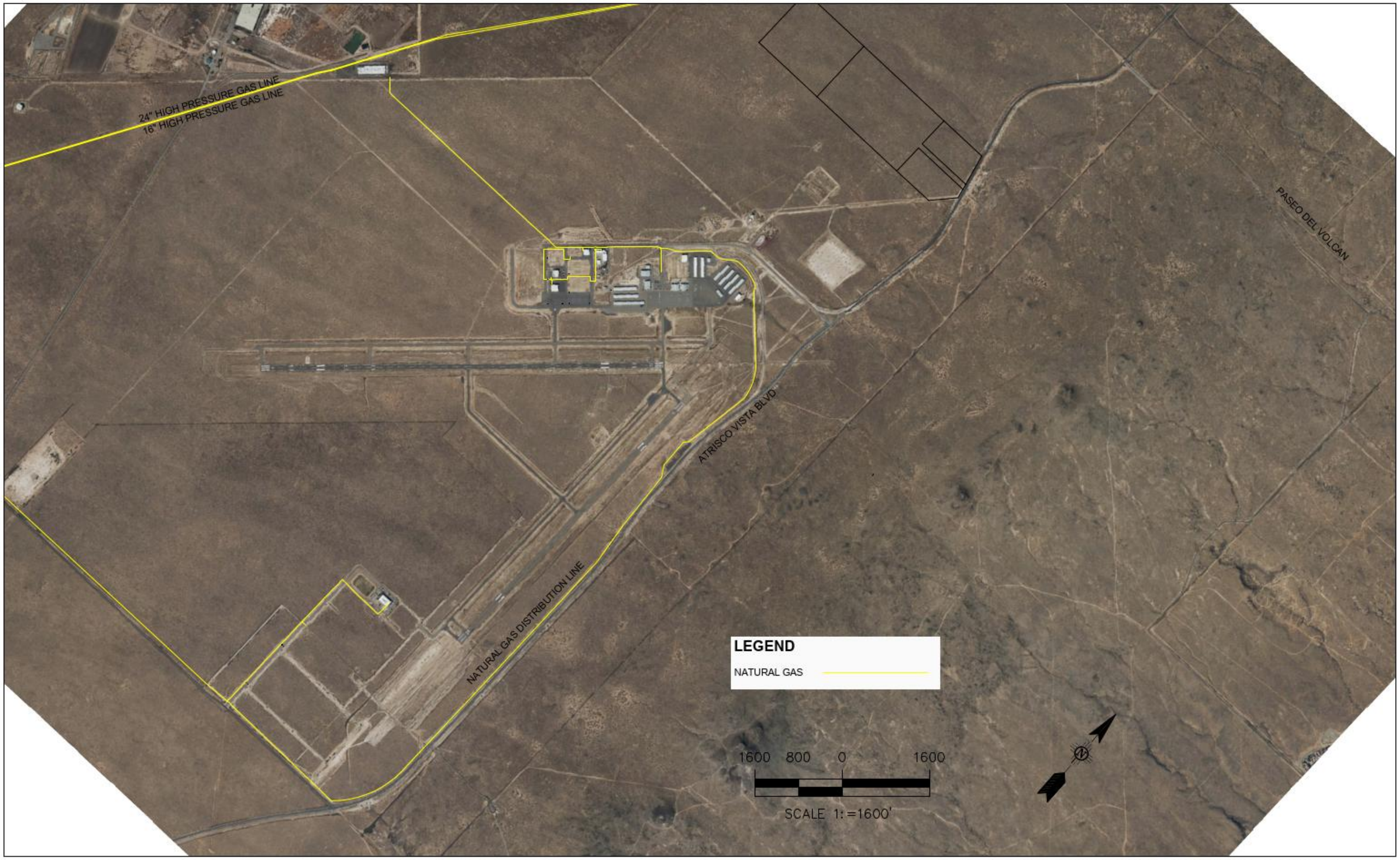
4 NATURAL GAS

The natural gas system and layout were evaluated to assess the current condition, system components.

4.1 Existing Conditions

Natural gas distribution was not included in the 1986 utility build out for the original midfield T-hangar and FBO complex. Individua propane tanks provided gas heating to many of the original structures and continue to be used to this day.

16" and 24" high pressure natural gas transmission lines pass along the western boundary of the Double Eagle II property. Natural gas distribution lines are extended east to the midfield complex to a distribution loop serving the area and then extend south along Atrisco Visa Blvd to the Technology park.



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DOUBLE EAGLE II INFRASTRUCTURE STUDY
FIGURE 4.1 NATURAL GAS

5 ELECTRICAL

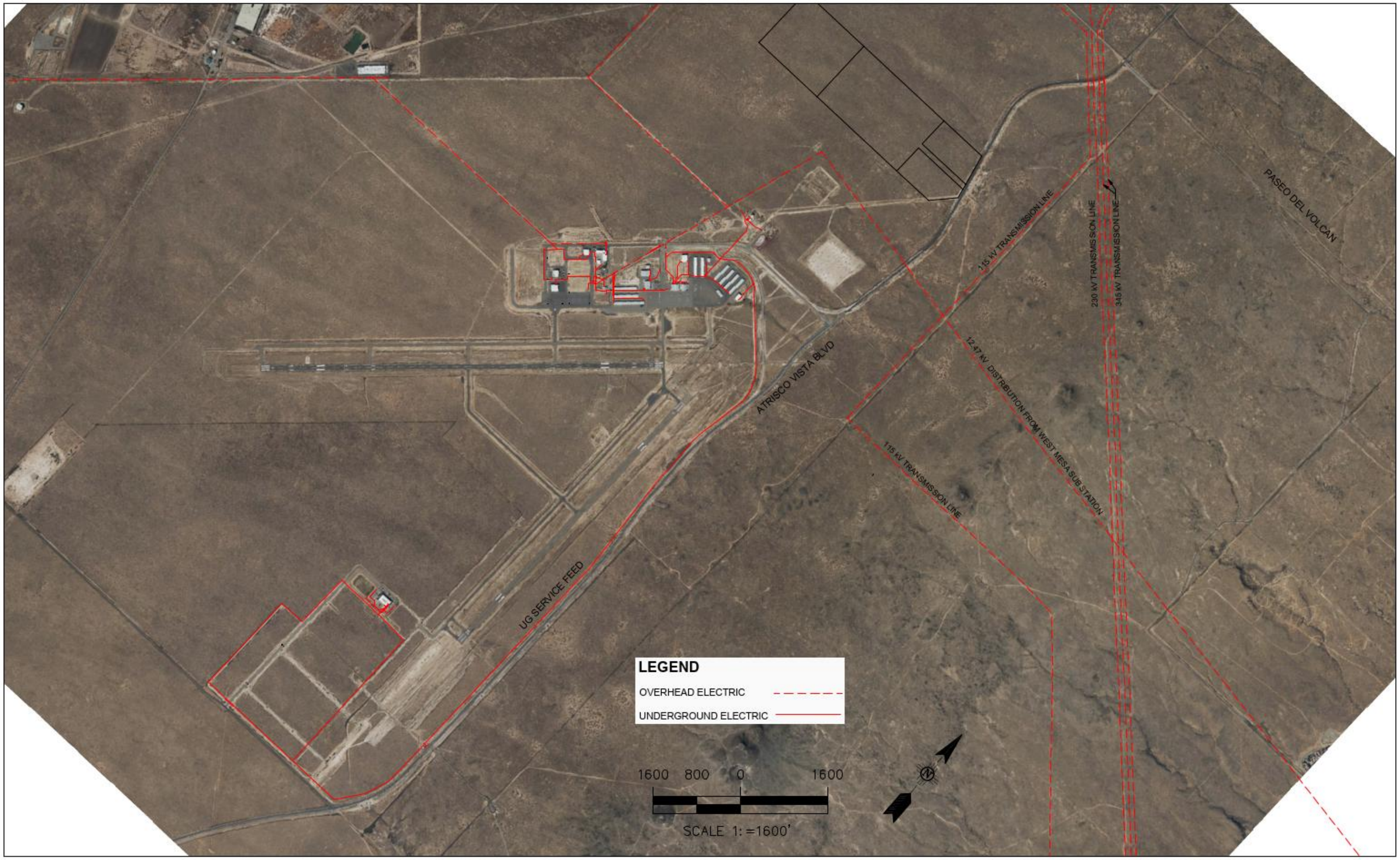
The electrical system and layout were evaluated to assess the current condition, system components and capacity.

5.1 Existing Conditions

The Double Eagle II Airport is served by an 12.47 kV primary distribution which is routed in overhead lines west from the West Mesa substation. The overhead lines enter the midfield area to the airport electrical vault. From the vault underground distribution cables route power to individual buildings

Multiple other overhead high voltage regional power transmission lines travel along the travel along the northeast and north border of DEII.

Since the original build out, PNM has constructed a new Petroglyph substation approximately 5 miles south of DEII. Future power service expansion is available from the Petroglyph substation.



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DOUBLE EAGLE II INFRASTRUCTURE STUDY
FIGURE 5.1 ELECTRIC

6 COMMUNICATIONS

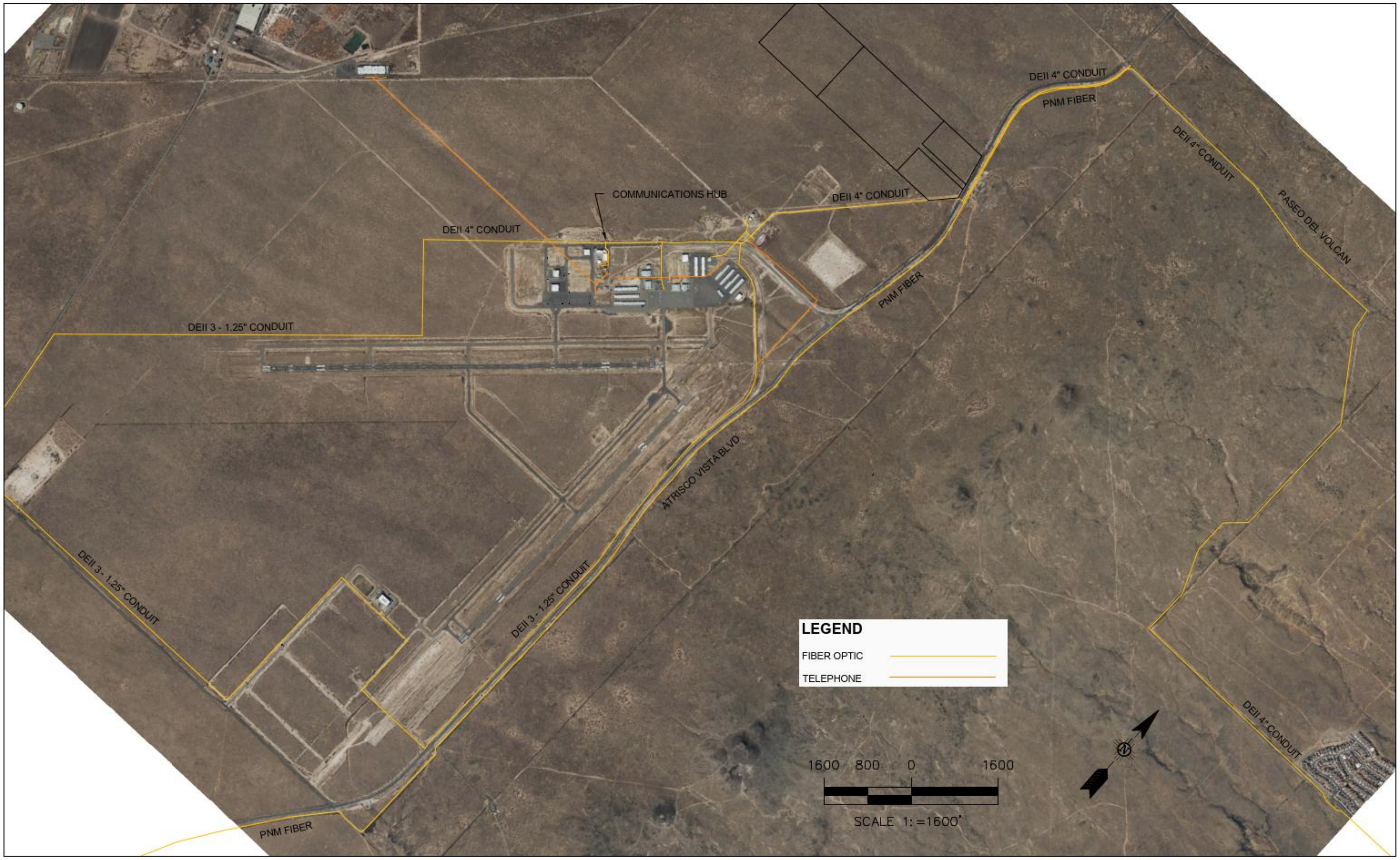
The communications system and layout were evaluated to assess the current condition, system components and capacity.

6.1 Existing Conditions

Overhead telephone lines were extended to Double Eagle II airport during the original build out in 1986. Providing telephone communications to the site

In 2007 a 4-inch Fiber Optic conduit was constructed along with the 10-inch water line and 8-inch force main that extended in a 7-mile utility corridor from Double Eagle II to the terminus location near the intersection of Unser Blvd. and Montano Road. In a 2007 companion project , Fiber Optic conduit was constructed in a loop around double Eagle II airport consisting of 4-inch HDPE conduit with (3) 1.25-inch inter-ducts. The Fiber Optic conduit loop was routed to a new Communications Hub Building which was constructed northwest of the Airport Traffic Control Tower. Within one of the inter-ducts a new 72 Fiber FO Cable was installed providing .

All 72 fibers were terminated in the Hub patch panel. 12 fibers were dedicated to the ATCT and 24 fibers were dedicated to the technology park



AECOM

DOUBLE EAGLE II INFRASTRUCTURE STUDY
FIGURE 6.1 COMMUNICATIONS

DRAFT

Double Eagle II Airport

Airport Master Plan Update
Working Paper #1 - Inventory and Forecast Update
General Aviation Demand Forecasts

City of Albuquerque Aviation Department

Project Number: 7540.003

September 26, 2025

City of Albuquerque Aviation Department
Administration Office, 3rd Level
2200 Sunport Blvd. SE
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Revision History

Revision	Revision date	Details	Authorized	Name	Position
1	6/16/2025	Revision includes response to City of Albuquerque comments received on June 6, 2025	Tezla, Anthony	Au, Carmen	Data Analytics & Simulation Technical Lead
2	9/26/2025	Revision includes response to Committee member comments received between July 10, 2025 and August 29, 2025	Tezla, Anthony	Au, Carmen	Data Analytics & Simulation Technical Lead

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Disclaimer

All forecasts are subject to levels of uncertainty. The forecasts provided in this Technical Report are based on the information available at the time of their creation. Various factors, other than those included in the forecast models, can influence future aviation demand. Unexpected events may occur, and some underlying forecast assumptions and/or expectations may not materialize. Therefore, actual performance may differ from the forecasts presented in this report and could be significant.

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Figures

Tables

List of Acronyms

A

AAC	Aircraft Approach Category
ABQ	Albuquerque International Sunport
AC	Advisory Circular
ADG	Airplane Design Group
AEG, Airport	Double Eagle II Airport
AIBF	Albuquerque International Balloon Fiesta
ALP	Airport Layout Plan
AMPU	Airport Master Plan Update
APD	City of Albuquerque Police
ARC	Airport Reference Code
ATADS	Air Traffic Activity System
ATCT	Airport Traffic Control Tower

C

CAGR	Compound Annual Growth Rate
CFI	Certified Flight Instructor
CFII	Certified Flight Instructor – Instrument
CMG	Cockpit to Main Gear
COVID-19	2019 Novel Coronavirus
CPI	Consumer Price Index

D

DEAA	Double Eagle Aviation Academy
DoD	Department of Defense

E

EAA	Experimental Aircraft Association
EIA	Energy Information Administration

F

FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FBO	Fixed-Based Operator
FFY	Federal Fiscal Year

G

GA	General Aviation
GAMA	General Aviation Manufacturers Association
GARA	General Aviation Revitalization Act
GPU	Ground Power Unit

I

IFR	Instrument Flight Rules
ISR	Intelligence, Surveillance, and Reconnaissance

L

LOC ID	Location Identifier
LOEFI	Land of Enchantment Fly-In

M

MRI	Multi-Engine Instructor
MGW	Main Gear Width
MRO	Maintenance and Repair Overhaul
MSA	Metropolitan Statistical Area
MTOW	Maximum Takeoff Weight

N

N/A	Not Applicable
NAS	National Airspace System
NMASP	New Mexico Airport System Plan
NMSP	New Mexico State Police
NPIAS	National Plan of Integrated Airport Systems

O

OPEC	Organization of Petroleum Exporting Countries

P

PCPI	Per Capita Personal Income

S

SAMS	Southwest Aeronautics, Mathematics and Science Academy
SOW	Special Operations Wing

T

TAF	Terminal Area Forecast
TDG	Taxiway Design Group
TFMS	Traffic Flow Management System
TFMSC	Traffic Flow Management System Counts

U

UAV	Unmanned Aerial Vehicle

V

VA	Veterans Affairs
VFR	Visual Flight Rules
VR&E	Veteran Readiness and Employment

W

W&P	Woods & Poole Economics
WHO	World Health Organization

2. General Aviation Demand Forecast

Executive Summary

AECOM has been engaged by the City of Albuquerque Aviation Department to provide airport planning services associated with an Airport Master Plan update for the Double Eagle II Airport (AEG, the Airport). This chapter of the Master Plan report presents a summary of historical general aviation (GA) demand at the Airport and a forecast of unconstrained GA demand through the 20-year planning horizon (the forecast period).

Forecast scenarios were developed for based aircraft and aircraft operations. The supporting analyses required in developing the forecasts are presented in this chapter and include an explanation of the forecast approach and methodology; the forecast results; and a comparison with other forecasts prepared for the Airport, including the Federal Aviation Administration (FAA) Terminal Area Forecast (TAF), the 2017 New Mexico Airport System Plan Update (NMASP), and the previous 2018 Airport Master Plan forecast.

The recommended based aircraft and annual operation forecasts, as summarized in the table below, provide the basis for determining future facility requirements identified in the next chapter of this Airport Master Plan Update (AMPU).

Summary of General Aviation Demand Forecasts

Fiscal Year	Itinerant Operations				Local Operations			Total Operations	Total Based Aircraft
	Air Taxi	GA	Military	Total Itinerant Operations	Civil	Military	Total Local Operations		
Actual									
2024 (Base year)	191	21,678	566	22,435	34,475	378	34,853	57,288	125
Forecast									
2029 (Base year+5)	276	24,195	566	25,037	36,620	378	36,998	62,035	137
2034 (Base year+10)	398	27,034	566	27,998	38,900	378	39,278	67,276	150
2039 (Base year+15)	411	27,706	566	28,683	40,363	378	40,741	69,424	159
2044 (Base year+20)	424	28,398	566	29,388	41,882	378	42,260	71,648	170
Period					**CAGR**				
2024 to 2029 (5-year)	7.6%	2.2%	0.0%	2.2%	1.2%	0.0%	1.2%	1.6%	1.9%
2024 to 2034 (10-year)	7.6%	2.2%	0.0%	2.2%	1.2%	0.0%	1.2%	1.6%	1.8%
2024 to 2044 (20-year)	4.1%	1.4%	0.0%	1.4%	1.0%	0.0%	1.0%	1.1%	1.5%

Note:

Fiscal year – Fiscal year refers to the federal fiscal year (FFY) adopted by the FAA TAF, which is from 1 October to 30 September of the following year (e.g. FFY2024 began October 1, 2023, and ends September 30, 2024).

Operations – The number of arrivals (landings) and departures (takeoffs) from the airport.

Local operations – Local operations are those performed by aircraft that remain in the local traffic pattern, and the operations to or from the airport and a designated practice area within a 20-mile radius of the airport.

Itinerant operations – Itinerant operations are operations performed by an aircraft that lands at an airport, arriving from outside the airport area, or departs an airport and leaves the airport area.

Air Taxi operations – Operations by an aircraft designed to have a maximum seating capacity of 60 seats or less or a maximum payload capacity of 18,000 pounds or less carrying passengers or cargo for hire or compensation.

GA operations – Takeoffs and landings of all civil aircraft, except those classified as air carriers or air taxis. (Definition of air taxi is given above. Air carriers refer to aircraft with seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds carrying passengers or cargo for hire or compensation. Air carriers include U.S. and foreign flagged carriers.)

Military operations – Operations by all classes of military aircraft takeoffs and landings at the airport.

Based aircraft – A based aircraft is an aircraft that is operational and airworthy, which is typically based on the airport for a majority of the year (greater than six months). Based aircraft typically have an agreement with the airport for storage.

CAGR – Compound annual growth rate.

Photo Credit: Matthew Croshaw.
Photo date: March 16, 2025.
Location: AEG.

2.1 Introduction

Forecasts of future aviation activity levels are the basis for effective decisions in airport master planning. The recommended forecasts provide the basis for determining the future needs of the community and future facility requirements in the AMPU. It also provides a basis for the development of alternatives to meet the projected demand, environmental analyses, and economic and financial plans.

The forecast elements for the AEG APMU include:

- Based aircraft
- Aircraft operations
  - Air taxi and GA operations
  - Military aircraft operations
  - Itinerant and local operations

Each forecast includes unconstrained demand for the 20-year planning horizon (2024 through 2044) grouped into 5-year periods and utilizes actual 2024 statistics as the baseline.

The historical and forecast annual statistics in this report are summarized by federal fiscal year (FFY), which is the 12-month period beginning 1 October and ending 30 September the following year. The identification of a fiscal year is the calendar year in which it ends (i.e., FFY2024 began on 1 October 2023 and ended on 30 September 2024). The use of fiscal year ensures consistency with the FAA TAF.

This report includes the following sections:

- Section 2.2, Airport Service Region, defines the catchment area around the Airport. It establishes the framework for analyzing the aviation demand.
- Section 2.3, General Aviation in the Region, describes the GA activity, pilot populations, and aircraft shipments in the U.S., New Mexico, and the local area surrounding AEG. It also documents the growth in the local pilot population.
- Section 2.4, Economic Basis for General Aviation Demand, identifies the economic drivers for aviation demand and trends of aviation fuel prices. It provides the economic parameters for the forecast models.
- Section 2.5, Historical General Aviation Demand, describes the historical GA development and industry trends at the Airport. It provides historical background and baseline conditions for forecast development and analysis.
- Section 2.6, General Aviation Demand Forecasts, provides the aviation demand forecasts for based aircraft and annual operations. It also identifies the critical aircraft over the planning horizon.
- Section 2.7, Summary of General Aviation Demand Forecasts, summarizes the GA demand forecasts for 2029, 2034, 2039, and 2044, compared with the FAA TAF.

2.2 Airport Service Region

AEG is an active GA facility on Albuquerque's west side. The Airport sits at an elevation of 5,834 feet above sea level and is located approximately eight miles north of Interstate 40 at the top of Nine Mile Hill on Albuquerque's West Mesa.

The FAA classifies AEG as a reliever and a regional airport. As a reliever, AEG is expected to relieve congestion at a commercial service airport and to provide more GA access to the overall community. Specifically, AEG serves as a reliever to Albuquerque International Sunport (ABQ). In its role as a regional airport, AEG is within the Albuquerque Metropolitan Statistical Area (MSA) and supports regional economics by connecting communities to regional and national markets. Regional airports are typically characterized by high levels of activity, including operations by jets and multiengine propeller aircraft.

For the purposes of the GA demand forecast analysis, the primary catchment area (i.e. the airport service region) around AEG consists primary of Bernalillo County and portions of Sandoval County based on a 30-minute drive time. The secondary catchment area served by AEG may extend beyond the primary area to cover the Albuquerque MSA and portions of Cibola and Santa Fe counties based on a 60-minute drive time, population density, and availability of other GA airport facilities. The Albuquerque MSA includes four counties: Bernalillo, Sandoval, Torrance, and Valencia counties. **Figure 2-1** shows the airport service region, the counties, and the MSA boundaries. Airports within the primary and secondary catchment areas are summarized in **Table 2-1**.

Table 2-1. Airports within the Primary and Secondary Catchment Areas

Airport LOC ID	Airport Name	County	City	Ownership	NPIAS Category (Service Level)	NPIAS Role (for Nonprimary Airports)
AEQ	Double Eagle II Airport	Bernalillo	Albuquerque	Public	Reliever	Regional
ABQ	Albuquerque International Sunport	Bernalillo	Albuquerque	Public	Commercial Service - Primary	N/A
BRG	Belen Regional Airport	Valencia	Belen	Public	GA	Local
0E0	Moriarty Municipal Airport	Torrance	Moriarty	Public	GA	Local

Abbreviations:
GA: General Aviation
LOC ID: Location Identifier
N/A: Not Applicable
NPIAS: National Plan of Integrated Airport Systems

Note: There is no existing airport in Sandoval County. The NMASP mentioned a proposed Sandoval County Airport referencing a 2008 Sandoval County Airport Feasibility Study which was updated in 2014.

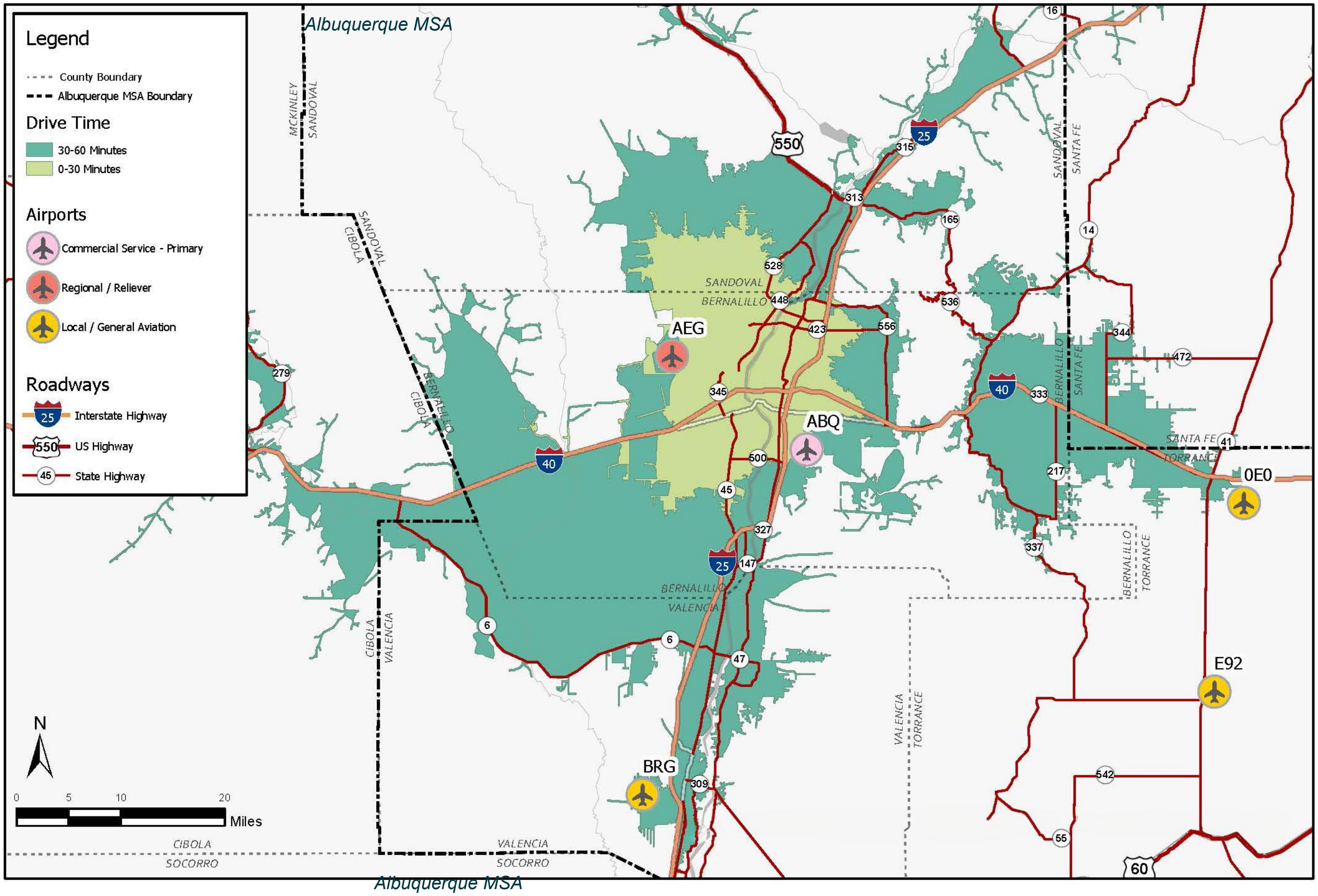

Figure 2-1. Airport Service Region

Sources:

1. *Street network data and drive times from ESRI ArcGIS Online Services*
2. *AECOM analysis*

According to the U.S. Department of Commerce, the Census Bureau, and the 2024 New Mexico State Profile from Woods & Poole Economics (W&P), the population of the 4-county Albuquerque MSA was nearly 1 million in 2024 (see **Table 2-2**), representing approximately 44 percent of the total New Mexico population of 2.1 million. AEG is in Bernalillo County, which accounts for about 73 percent of the population of the Albuquerque MSA as reflected by the population distributions shown in **Table 2-2**. Most of the areas within a 60-minute drive to/from AEG are within the Albuquerque MSA.

Figure 2-2 shows the distribution of the aircraft owners who store their aircraft at AEG in 2024 by location (based on the address of the registered owner). Seventy-two (72) percent of AEG aircraft owners are located within New Mexico, 95 percent of which are from the Albuquerque MSA, including 82 percent from the Bernalillo County and 11 percent from Sandoval County. It is anticipated that the majority of the GA users at AEG are from the Albuquerque MSA, Bernalillo County, and Sandoval County. The socio-economic conditions in these areas would be a key factor in driving the GA demand in the region and at AEG.

Table 2-2. Population Distribution in Albuquerque MSA and New Mexico

Area	2024 Population (Thousands)	Percentage
New Mexico (NM)	**2,130**	
Albuquerque MSA	**931**	**44% of NM**
Bernalillo County	677	72.7%
Sandoval County	159	17.1%
Valencia County	80	8.6%
Torrance County	16	1.7%

Sources:

1. *W&P*
2. *AECOM analysis*

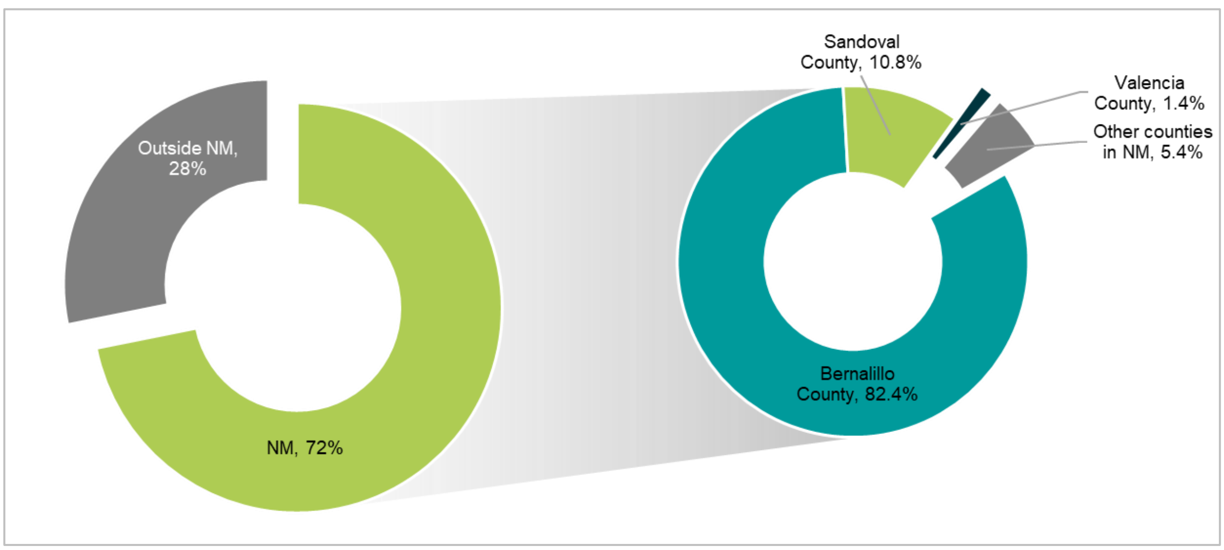

Figure 2-2. Locations of the AEG Based Aircraft Registered Owners

Sources:

1. *Aircraft registration (N-number) records obtained from the Airport (March 2025)*
2. *AECOM analysis*

2.3 General Aviation in the Region

2.3.1 Composition of General Aviation Activity

General aviation plays an important role in aviation activities both across New Mexico and at AEG. In 2024, over 71 percent of all towered operations[1] statewide were GA and air taxi operations, while commercial air carriers accounted for only 18 percent. At AEG, GA and air taxi operations represent more than 98 percent of towered operations. GA encompasses a wide range of flying activities, including flight training, personal and recreational, business and corporate, on-demand charters, aerial work (e.g., observation, firefighting, agricultural use), sightseeing, air medical, and more.

Flight training has traditionally made up a large portion of GA activity at smaller airports due to its high frequency of takeoffs and landings. Although this segment declined alongside the shrinking active pilot population since the 1980s, a national rebound in student pilot numbers has recently been observed, as discussed in the next section.

In recent years, new business models for corporate and business aviation have contributed to an increase in this sector's share of GA activities. Air taxi operators are air carriers that transport people, property, and mail using small aircraft under 30 seats or a maximum payload capacity of 7,500 lbs. Air taxi operators typically hold Federal Aviation Regulations (FAR) Part 135 certification and provide on-demand services (for compensation or hire). Operations in which persons or cargo are transported without compensation or hire are conducted under FAR Part 91. There are many business aircraft that are not used for compensation or hire and are thus only governed by FAR Part 91. These business aircraft are typically owned by individuals or businesses.

Other than full ownership of the business aircraft, users have a variety of options such as air charter, fractional ownership, leasing, time-share agreements, partnerships, aircraft management contracts, and interchange agreements, etc. On-demand air charter provides convenience to business aircraft users with instant access to business aircraft. Fractional ownership enables multiple users to acquire ownership interests in the same business aircraft in exchange for the aircraft's shared utilization.

Some users are willing to allow others to use their aircraft part of the time, and they enter into partnerships, time-share or interchange agreements. Some aircraft owners who want to offset the expense of operating and maintaining their aircraft, offer their aircraft for charter under FAR Part 135 regulations through charter operators. When the owners fly their aircraft as general aviation for personal use, they are governed by FAR Part 91.

For the purpose of the GA demand forecast, the GA sector includes on-demand flight activity operated under FAR Part 135, commonly known as air taxi operations, since they are often indistinguishable from the general aviation operations operated under FAR Part 91.

The FAA conducts annual surveys of GA and Part 135 activity, classifying it into fourteen operational categories. **Table** 2-3 presents relevant data from the FAA General Aviation and Part 135 Activity Survey 2023, which details average annual flight hours by usage type. While many aircraft serve multiple purposes, this data provides useful insight into average use patterns and long-term trends.

Between 2015 and 2023, the survey reported the highest annual growth in flight hours in the following categories:

- Instructional: flying under the supervision of a flight instructor, including student pilot solo. Hours flown increased at an average annual growth rate of 7.4 percent.
- Aerial application in agriculture and forestry: crop and timber production, including fertilizer and pesticide application. Hours flown increased at an average annual growth rate of 2.6 percent.
- Air medical services: air ambulance services, rescue, human organ transportation, and emergency medical services. Hours flown increased at an average annual growth rate of 2.5 percent.
- Other work use: construction work, parachuting, aerial advertising, towing gliders, etc. Hours flown increased at an average annual growth rate of 2.3 percent.

[1] Tower operations include airport operations and overflights.

Although the FAA GA and Part 135 Activity Survey 2023 provides only national statistics, some of the characteristics are consistent with AEG activities. Interviews with the fixed base operator (FBO) and new hangar developer in April 2025 provide additional information on the characteristics of AEG for consideration in the forecast analysis. For instance, the GA community at AEG remains vibrant, with personal and instructional flying activity levels expected to align closely with national averages.

Table 2-3. General Aviation and Part 135 Activity in the U.S. in 2023

Aircraft Use	Primary Use	Actual Use	Percentage of Total Hours	Average Hours Flown per Active Aircraft
	Active Aircraft	Hours Flown (Thousand Hours)		
General Aviation				
Personal[1]	143,505	8,372	29.3%	58.3
Business without paid flight crew[2]	14,503	1,632	5.7%	112.5
Business with paid flight crew[3]	9,723	2,320	8.1%	238.6
Instructional[4]	19,905	8,256	28.9%	414.7
Aerial Application Agriculture[5]	2,972	1,156	4.0%	389.0
Aerial Observation[6]	4,710	1,210	4.2%	256.8
Aerial Application Other[7]	883	205	0.7%	232.4
External Load[8]	347	191	0.7%	551.5
Other Work[9]	1,208	290	1.0%	240.0
Sightseeing[10]	1,049	154	0.5%	146.6
Air Medical[11]	195	63	0.2%	321.8
Other[12]	6,716	1,101	3.9%	164.0
Total GA	**205,716**	**24,949**	**87.3%**	**121.3**
On Demand FAR Part 135				
Air Taxi	6,100	2,573	9.0%	421.9
Air Tours	400	137	0.5%	342.6
Air Medical	2,000	903	3.2%	451.4
Total Part 135	**8,500**	**3,613**	**12.7%**	**425.1**
Total GA & Part 135	**214,216**	**28,563**	**100.0%**	**133.3**

Notes:

1. *Flying for personal reasons (includes recreational, excludes business transportation).*
2. *Individual or group use for, or in the furtherance of, a business (without a paid flight crew).*
3. *Individual or group business transportation with a paid flight crew (including fractional ownership).*
4. *Flying under the supervision of a flight instructor, including student pilot solo.*
5. *Include applications in agriculture and forestry, e.g. crop and timber production, fertilizer and pesticide application.*
6. *Aerial mapping/photography, patrol, search and rescue, hunting, traffic advisory, surveillance, oil & mineral exploration, etc.*
7. *Public health spraying, cloud seeding, firefighting, including forest fires, etc.*
8. *Operation under FAR Part 133, rotorcraft external load operations, e.g. helicopter hoist, hauling logs, etc.*
9. *Construction work (exclude FAR Part 135) parachuting, aerial advertising, towing gliders, etc.*
10. *Commercial sightseeing conducted under FAR Part 91.*
11. *Air ambulance services, rescue, human organ transportation, emergency medical services (excludes FAR Part 135).*
12. *Positioning flights, proficiency flights, training, ferrying, sales demos, etc.*

Sources:

1. *The FAA General Aviation and Part 135 Activity Survey 2023*
2. *AECOM analysis*

2.3.2 Pilot Population

The number of pilots in New Mexico has been growing continuously in recent years, following the national trend. With there being a shortage of pilots across the country and worldwide, the aviation industry creates a high demand for student pilots. The growth of student pilots in New Mexico is as robust as the national trend.

Figure 2-3 and **Figure 2-4** show the historical number of active pilots and student pilots in the U.S. and in New Mexico, respectively. Both **Figure 2-3** and **Figure 2-4** share a similar growth pattern. The total number of pilots is increasing at 3 percent per year in New Mexico over the recent eight years, while the increase in the U.S. is approximately 4.8 percent per year over the same period. The increase in student pilots is over 11 percent per year in New Mexico, and over 13 percent per year in the U.S.

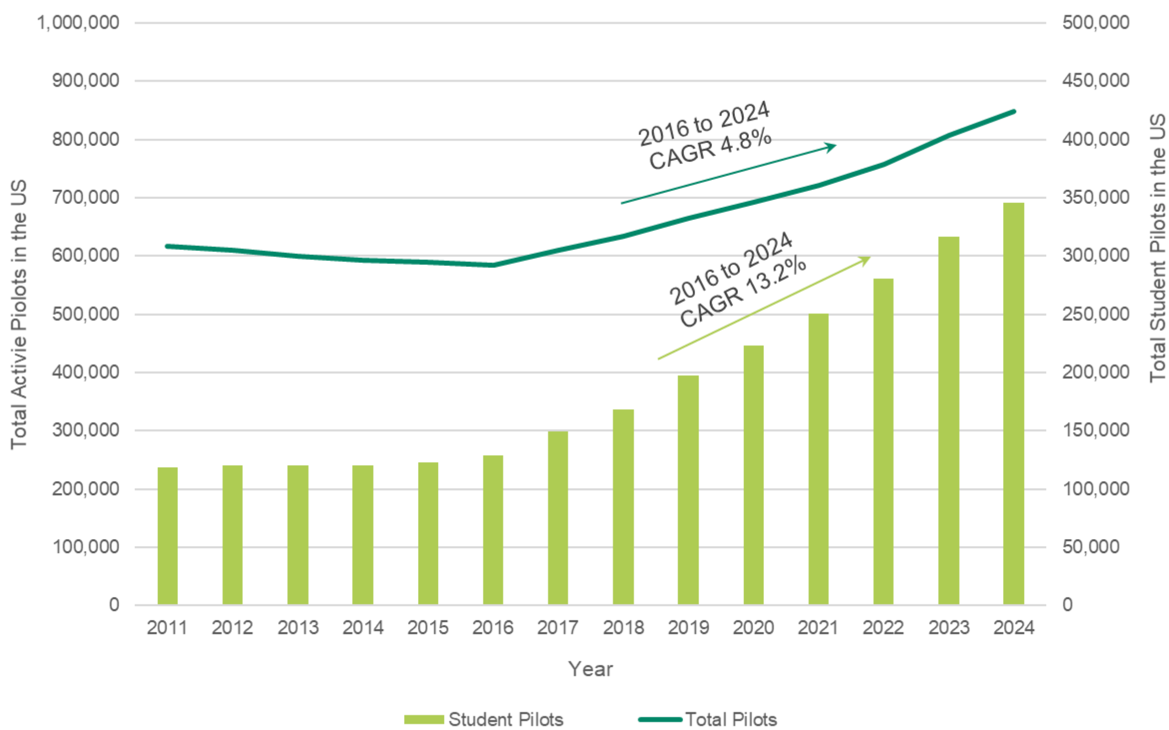

Figure 2-3. Historical Pilot Populations in the U.S.

Abbreviation:

CAGR: Compound Annual Growth Rate

Sources:

1. *The FAA Airmen Registration Statistics 2011 to 2024*
2. *AECOM analysis*

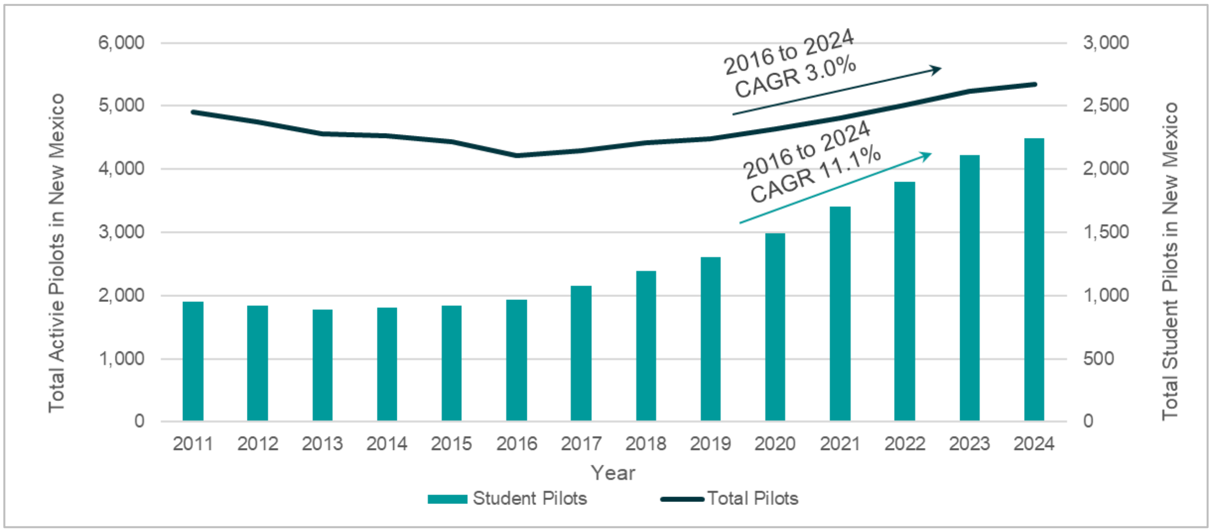

Figure 2-4. Historical Pilot Populations in New Mexico

Abbreviation:

CAGR: Compound Annual Growth Rate

Sources:

1. *The FAA Airmen Registration Statistics 2011 to 2024*
2. *AECOM analysis*

The current pilot distribution within New Mexico is given in **Figure 2-5**. The majority of the pilots in New Mexico are located within the MSA, and 49 percent of them are within the Bernalillo and Sandoval County. The airport service area of AEG is supported by a strong active pilot and student pilot community. It is anticipated that the growth is comparable to the national trend.

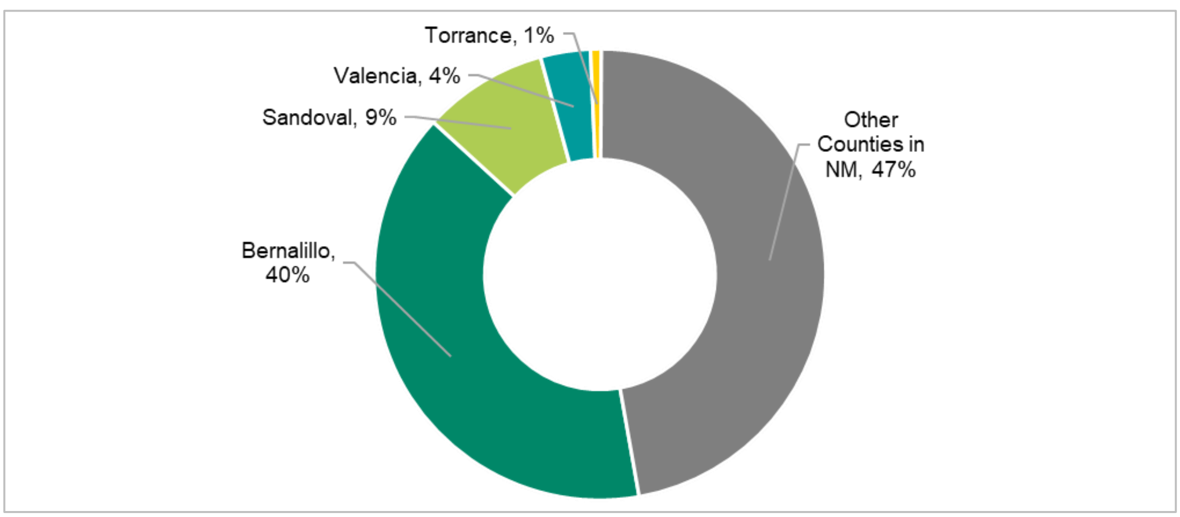

Figure 2-5. Distribution of Pilot Populations in New Mexico and in the MSA

Sources: The FAA Airmen Downloadable Database dated March 2025 and AECOM analysis.

2.3.3 Flight Schools

Flight schools operate under either Part 141 or Part 61 of the FAR, each offering different training structures and requirements. Part 141 schools follow a structured FAA-approved curriculum and are subject to regular FAA audits. Part 61 schools provide more flexible programs, allowing students to train at their own pace.

There are currently eight registered Part 141 flight schools in New Mexico, with five located in Albuquerque. The remaining three are situated farther away across the state. Of the five in Albuquerque, one is the Kirtland Flight Center, based at Kirtland Air Force Base; another is Airborne Heat, which specializes in training for private and commercial hot air balloon pilots. Vertical Limit Aviation, located at ABQ, offers helicopter flight training. The remaining two are both registered under Bode Aviation, with one location at the Sunport, and the other at AEG. As such, Bode Aviation is the only provider of Part 141 fixed-wing flight training in the region.

Numerous Part 61 flight schools are also active across the state. The closest within the region include ATP Flight School with a listed location at AEG; Del Sol Aviation, based at ABQ; Alas de San Miguel (Wings of Saint Michael), Jet Warbird Training Center, and Sierra Aviation based at Santa Fe Regional Airport, which lies just outside the edge of AEG's 60-minute drive time catchment area.

Given that ABQ primarily supports commercial airline operations, AEG is well-positioned in its Reliever role to accommodate increased instructional activity and meet the growing demand driven by a rising student pilot population.

Two public institutions in New Mexico offer pilot training programs. Of these, only one is within the region - Albuquerque Aviation Academy (formerly Southwest Aeronautics, Mathematics and Science Academy, SAMS). It is a public charter school with an aviation-focused curriculum, offering private pilot flight training opportunities at AEG. The second institution, Eastern New Mexico University - Roswell, is a community college that provides flight training as part of its community college programs at the Roswell Air Center. However, Roswell is more than a three-hour drive from Albuquerque. This geographic separation further strengthens AEG's role in serving high school–aged aspiring pilots who seek aviation education as part of a traditional academic setting.

2.3.4 General Aviation Aircraft Shipments

The General Aviation Manufacturers Association (GAMA) collects shipment data from 39 manufacturers and includes detailed aircraft registry data from 47 countries, representing a vast majority of the global GA market. **Figure 2-6** shows the trend in GA aircraft (fixed wing) shipments and total billings since the 90's. **Figure 2-7** shows the GA helicopter shipments and billings since 2012 when GAMA started providing helicopter data.

Since the end of the financial crisis of 2008 (recession from December 2007 to June 2009), shipments of new aircraft have increased gradually at an average annual rate of 3.2 percent from 2010 to 2023. Following the impact of the COVID-19[2] pandemic (recession from February 2020 to April 2020), the recovery in GA aircraft shipments has been strong, with an average annual growth rate of 8.2 percent from 2020 to 2023. During the same period, helicopter shipments experienced even higher growth than fixed-wing aircraft, increasing at an average rate of 12.9 percent per year.

Among the various types of fixed-wing aircraft, turboprop and single-engine piston aircraft saw greater increases in shipments compared to business jets. Within the business jet category, the 12,500 to 50,000-pound segment experienced the highest growth, while shipments of jets over 50,000 pounds declined over the past three years.

[2] 2019 Novel Coronavirus (COVID-19): Coronavirus disease 2019 is a contagious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The World Health Organization (WHO) declared the outbreak of COVID-19 a global pandemic in March 2020. The aviation activity level has dropped significantly since the pandemic.

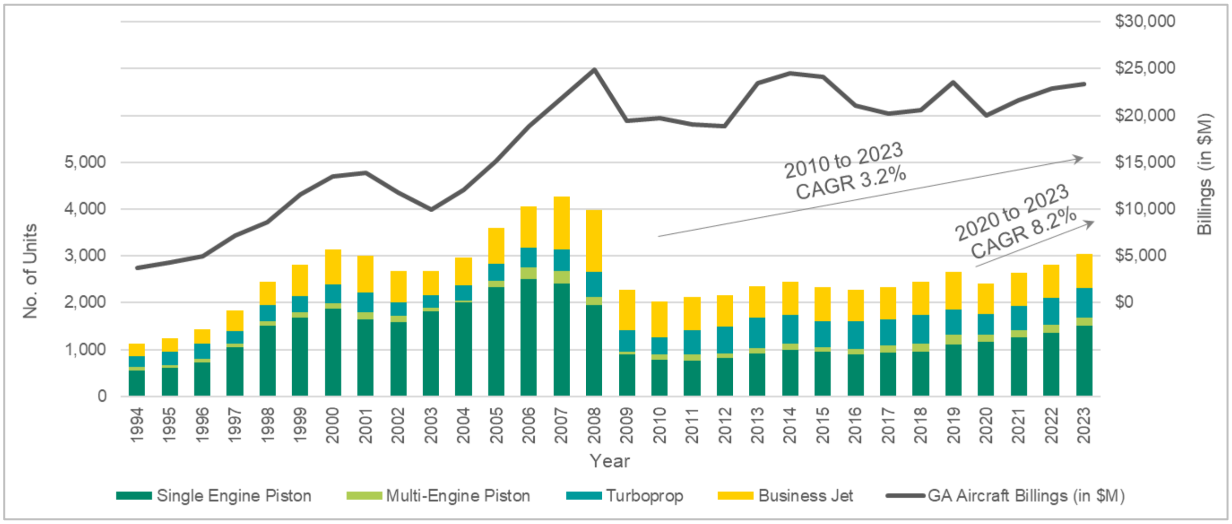

Figure 2-6. General Aviation Airplane Shipments (1994 to 2023) by Type and Billings

Abbreviation:

CAGR: Compound Annual Growth Rate

Sources:

1. *GAMA*
2. *AECOM analysis*

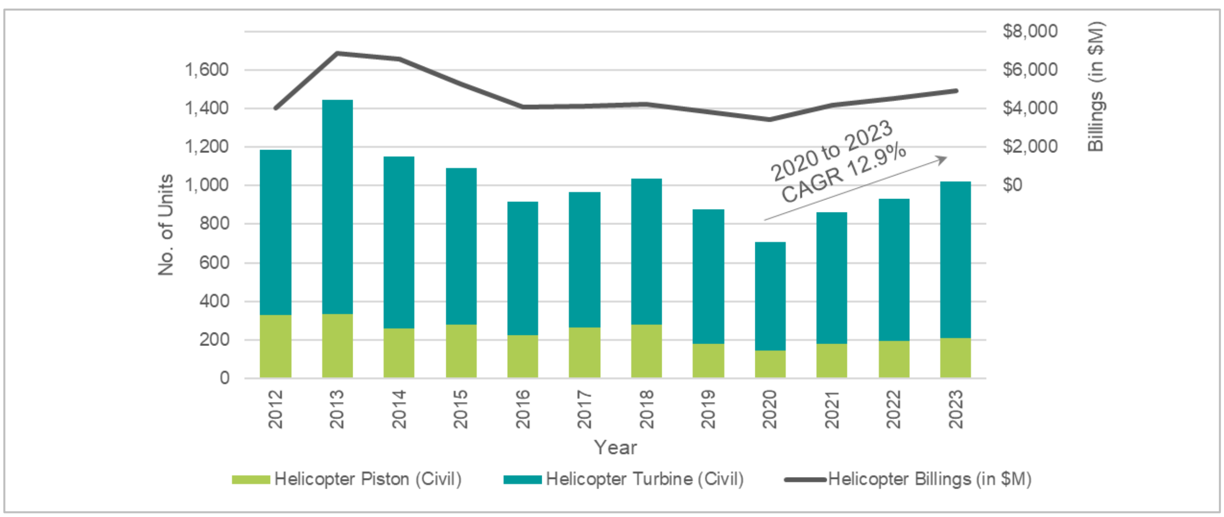

Figure 2-7. General Aviation Helicopter Shipments (2012 to 2023) by Type and Billings

Abbreviation:

CAGR: Compound Annual Growth Rate

Sources:

1. *GAMA*
2. *AECOM analysis*

2.4 Economic Basis for General Aviation Demand

GA activities typically thrive in a strong economy and become more vulnerable during downturns. GA often involves discretionary spending. In periods of economic growth, increased household income and personal wealth tend to drive higher levels of private aircraft ownership, flight training, and recreational flying. Conversely, during economic downturns, these activities are often among the first to be reduced or postponed.

A significant portion of GA supports business operations, such as executive travel, aerial inspections, and medical transport. As business activity expands, so does the demand for efficient and flexible air travel options. In times of economic contraction, companies may scale back on travel budgets, leading to reduced business GA usage.

Economic conditions also influence fuel prices and inflation, which directly affect aircraft operating costs. Rising fuel, insurance, and maintenance costs can discourage both private and business GA operations, particularly for smaller operators and flight schools.

Aircraft acquisition and hangar construction development are capital-intensive. In a strong economy, easier access to credit and higher investor confidence support aircraft purchases, hangar construction development, and aviation-related startups. During downturns, tighter credit markets and investment caution can slow industry growth.

Economic growth supports increased enrollment in pilot training programs, with many new pilots entering the workforce through GA. A robust job market and strong airline hiring trends also create demand for flight training services. Economic slowdowns may reduce student enrollment and limit job opportunities, impacting flight school viability and training capacity.

The following subsections provide a more detailed overview of the socioeconomic characteristics influencing aviation demands. This includes summaries of population trends, nonfarm employment, per capital personal income, and the economic outlook for the United States, New Mexico, and the Albuquerque MSA, along with a summary of historical and projected fuel prices.

2.4.1 Statewide and Regional Socioeconomics

The socioeconomic characteristics of the region served by the Airport are an important determinant of long-term aviation demand at AEG. The development and diversity of the economic base of the Airport service region is important to future traffic growth. The Albuquerque MSA has a diverse population and economic base. It is the primary commercial hub in New Mexico and is emerging in recent years as a leading market in innovative technology, science, film, manufacturing, aerospace defense, and bio life sciences.[3]

2.4.1.1 Population

The population of Albuquerque MSA increased from 732,000 in 2000 to 931,000 in 2024, reflecting an average annual growth rate of 1 percent. This rate outpaced both the state of New Mexico's growth (0.65 percent) and the national average (0.75 percent) over the same period.[4]

Looking ahead, the population of the Albuquerque MSA is expected to continue following this historical trend, growing at a faster pace than both New Mexico and the nation overall. Within the MSA, Sandoval County has experienced the fastest population growth, outpacing other counties in the region. As shown in **Figure 2-8**, projected annual growth rates for the Albuquerque MSA range between 0.74 percent and 0.95 percent over the 20-year planning horizon. During the same period, Sandoval County's projected growth rates range from 1.73 percent and 2.04 percent, more than double the average growth rates for the MSA. According to W&P projections, the total population of Albuquerque MSA is expected to reach 1.1 million by 2044.

[3] Greater Albuquerque Region Talent and Industry Profile – 2024, Albuquerque Regional Economic Alliance.
[4] For example, a year-over-year growth rate of 0.75 percent results in cumulative increases of approximately 3.8 percent over 5 years, 8 percent over 10 years, 12 percent over 15 years, and 16 percent over 20 years.

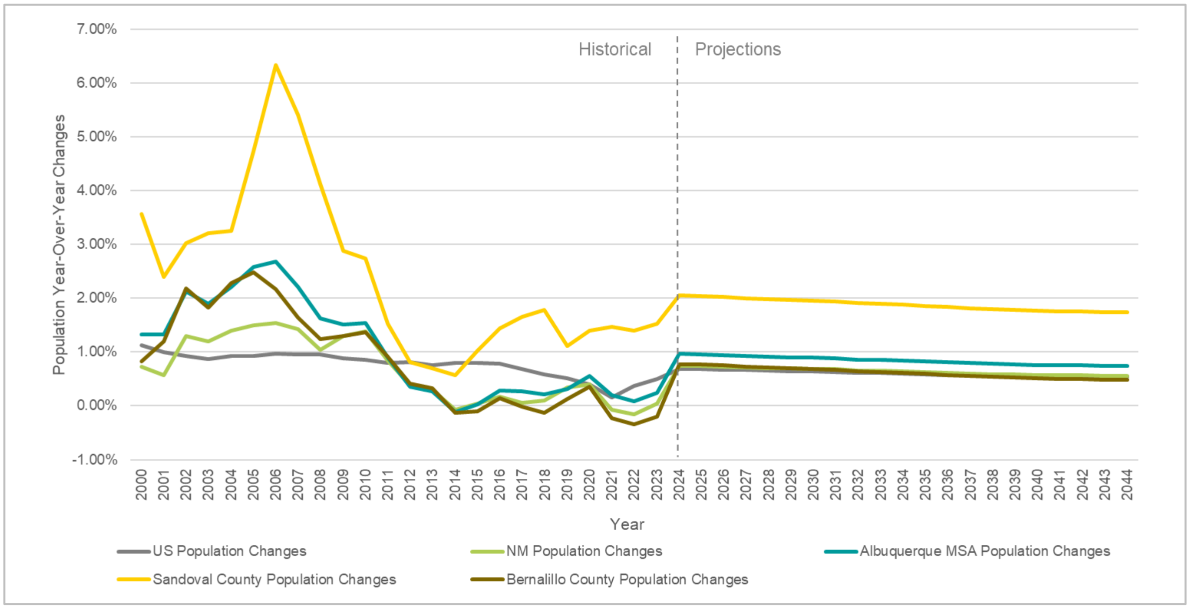

Figure 2-8. Historical and Projected Population Year-Over-Year Changes

Sources:

1. *W&P*
2. *AECOM analysis*

2.4.1.2 Business and Employment

As New Mexico's primary commercial center and a leading market for companies and top talent alike, the Albuquerque MSA is a destination on the rise. A strong pool of qualified talent, a competitively priced operating environment, and access to world-class innovation assets position the Albuquerque MSA as a location of choice for high-quality industries. With low commercial and industrial real estate costs, a low corporate income tax, companies can tap into a low-cost operating environment with available tax deductions.

The region's overall quality of life, coupled with a relatively lower cost of living compared to the national average, continues to attract individuals, families, and entrepreneurs to live, work, and invest in the area. **Figure 2-9** presents a range of leading employers in Albuquerque MSA, while **Table 2-4** highlights major advanced industrial employers with ongoing or planned expansions and job creation efforts.

Within the MSA, Sandoval County has experienced the fastest employment growth, outpacing other counties in the region. From 2000 to 2024, the nonfarm employment at Sandoval County is increased by an average of 1.6 percent annually – exceeding the average growth rates of the Albuquerque MSA (0.8 percent), New Mexico (0.7 percent), and the U.S. (1.2 percent). [5]

Looking ahead, the Albuquerque MSA is expected to continue to generate jobs at a steady pace over the next 20-year planning horizon. As shown in **Figure 2-10**, the nonfarm employment in the MSA is projected to grow at an annual rate of 0.7 percent, while Sandoval County is projected to grow at 1.7 percent. Sandoval County's nonfarm employment growth also surpasses the projected rates for New Mexico (0.8 percent) and the national average (1.0 percent to 1.4 percent).

[5] For example, a year-over-year growth rate of 1.2 percent results in cumulative increases of approximately 6.1 percent over 5 years, 13 percent over 10 years, 20 percent over 15 years, and 27 percent over 20 years.

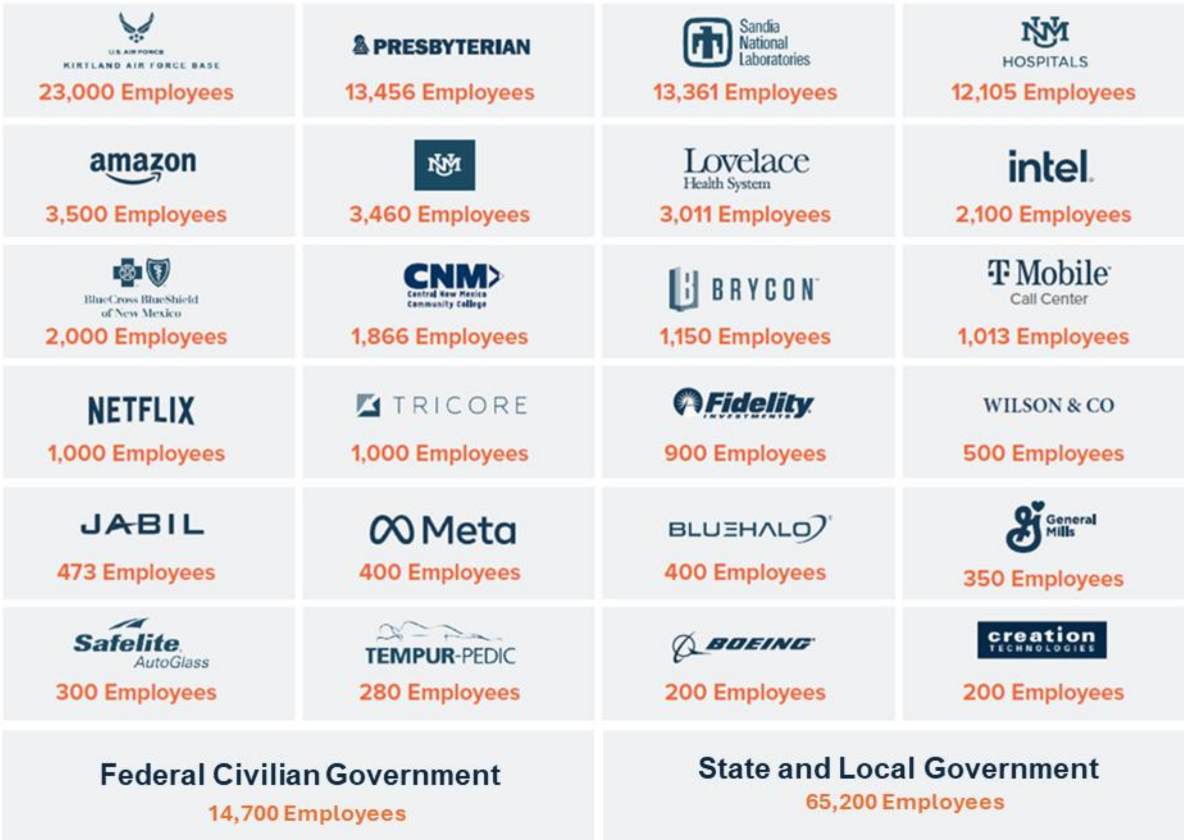

Figure 2-9. Leading Employers in the Region

Sources:

1. *The Greater Albuquerque Region Talent & Industry Profile 2024*
2. *AREA*
3. *CBRE*
4. *2024 Federal Civilian, State and Local Government employees in the MSA from W&P.*

Notes:

1. *Federal civilian includes all Federal government workers regardless of their establishment classification. Federal civilian employment includes executive offices and legislative bodies; courts; public order and safety; correctional institutions; taxation; administration and delivery of human resource programs, such as health, education, and public assistance services; housing and urban development programs; environmental programs; regulators, including air traffic controllers and public service commissions; the U.S. Postal Service; and other Federal government agencies.*
2. *State and local government is defined the same as Federal civilian, except that the activities are run by state and local governments. At the local level, this includes all public schools as well as police and fire departments; at the state level, it includes all public junior colleges, colleges, and universities.*

Table 2-4. Major Advanced Industrial Employers and Recent Jobs Announced

Employer	Location	Industry	Scale of Premises and Jobs Announced
Intel	Rio Rancho, Sandoval County	Semiconductor Manufacturing	• $3.5 Billion Expansion (2023) • 150 Acres (2023) • 700 Jobs Announced (2021)
ABB Installation Products	Southwest Mesa, Bernalillo County	Plastics Manufacturing / Elastimold Manufacturing & Assembly Plant	• 40 Acres • 90,000 SF expansion (2023) • 50 Jobs in the coming months (2025)
Boeing	Albuquerque, Bernalillo County	Defense Systems Manufacturing	• 27,000 SF expansion (2024) • 30 Jobs Announced (2024)
Universal Hydrogen	Southeast Heights, Bernalillo County	Hydrogen Commercial Aviation / Manufacturing & Assembly Plant	• 50 Acres, 2024 Construction Complete • 500 Jobs Announced (2023)
mtex Antenna Technology	Southeast Heights, Bernalillo County	Satellite AI Panels / Manufacturing & Assembly Plant	• 70,000 SF • 62 Jobs Announced (2023)
Maxeon Solar Technologies	Mesa Del Sol, Bernalillo County	Renewable energy and solar panel manufacturing / 1st U.S Expansion / Manufacturing & Assembly Plant	• 160 Acres • 1,700 Jobs Announced (2023)
Kairos Power	Mesa Del Sol, Bernalillo County	Nuclear Power Components / Production & Manufacturing	• 180,000 SF (2023) • 88 Jobs
Meta	Los Lunas, Valencia County	Data Center	• 4.2 million SF Building • 750-Acre Campus • 400 Jobs Announced (2016)

Source: 2024 Industrial Market Profile and AREA – ABB Press Release April 10, 2025

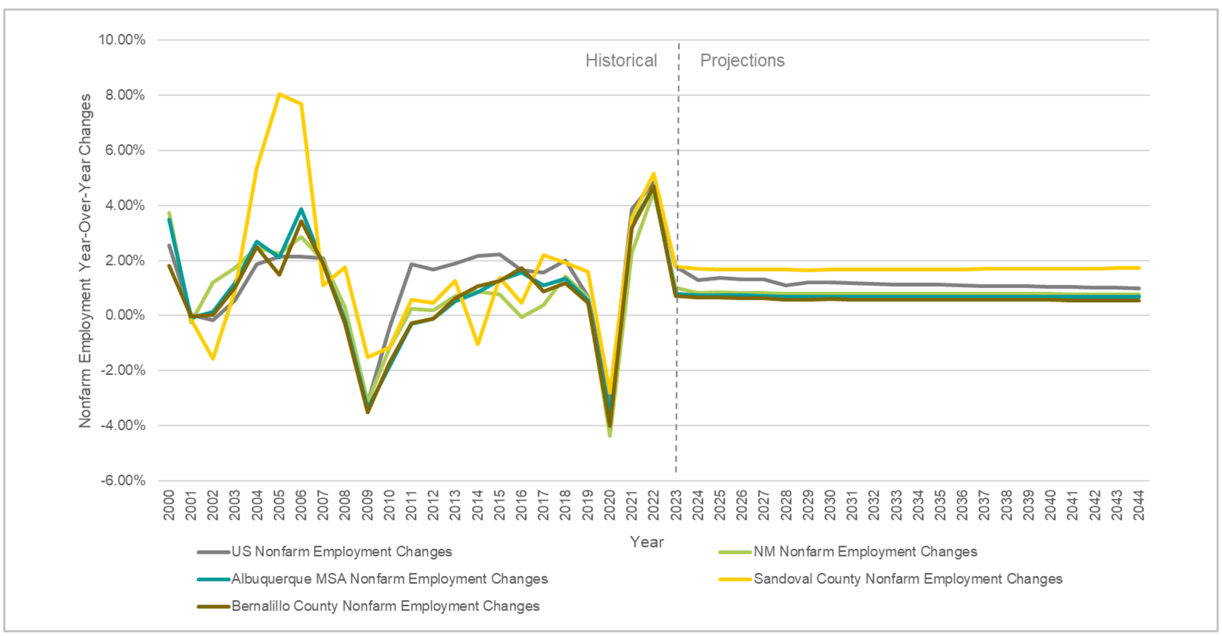

Figure 2-10. Historical and Projected Nonfarm Employment Year-Over-Year Changes

Sources:
1. *W&P*
2. *AECOM analysis*

New Business – Mesa Film Studios

New businesses are bringing momentum to Albuquerque's economy, with one of the most prominent developments being the Mesa Film Studios development project. This venture—launched by a group of world-class media and production partners—aims to establish a state-of-the-art, full-service film and media campus on approximately 60 acres of land at AEG (see **Figure 2-11**). Phase One of the project includes the construction of a purpose-built soundstage complex featuring six soundstages, production offices, mill space, and flex space. The development is projected to create approximately 230 construction jobs, drawn from local labor sources whenever possible.[6] Once operational, the studio is expected to generate 24 full-time positions along with over 750 production-related jobs within its first year.[7]

Beyond employment, Mesa Film Studios is expected to stimulate broader economic growth by supporting a wide range of local industries. The film industry's economic footprint extends far beyond its on-set crew, benefiting local suppliers of construction materials, food vendors, security and insurance services, and more. Production companies often lease warehouses, parking lots, and city-owned buildings, and pay location rental fees to private property owners throughout the community. These ripple effects enhance the city's economic prosperity and contribute to increased tax revenues.

The Mesa Film Studios project is anticipated to bring increased activity to AEG through the movement of production crews, equipment, and support services. This may lead to higher demand for GA services such as air charter, fueling, aircraft parking, and ground handling.

Figure 2-11. The 60-Acre Mesa Film Studio Project at AEG

Source: Mesa Film Studios

[6] Mesa Film Studios Local Economic Development Act (LEDA) Hearing, August 2024.
[7] City of Albuquerque, Economic Development, March 2024.

2.4.1.3 Per Capita Personal Income

Per capita personal income represents the total of all salaries, wages, dividends, and other forms of income and profits received by individuals in an area, divided by total population. Generally, there is a positive correlation between higher per capita personal income and increased air travel or aircraft ownership within a service area population. Historically, per capita personal income in the Albuquerque MSA has closely tracked with both state and national levels.

Projections for the 20-year planning horizon, as shown in **Figure 2-12**, indicate that per capita personal income in the Albuquerque MSA, including Sandoval and Bernalillo counties, is expected to grow at rates similar to the state and national average, ranging between 1.3 and 1.5 percent annually.[8]

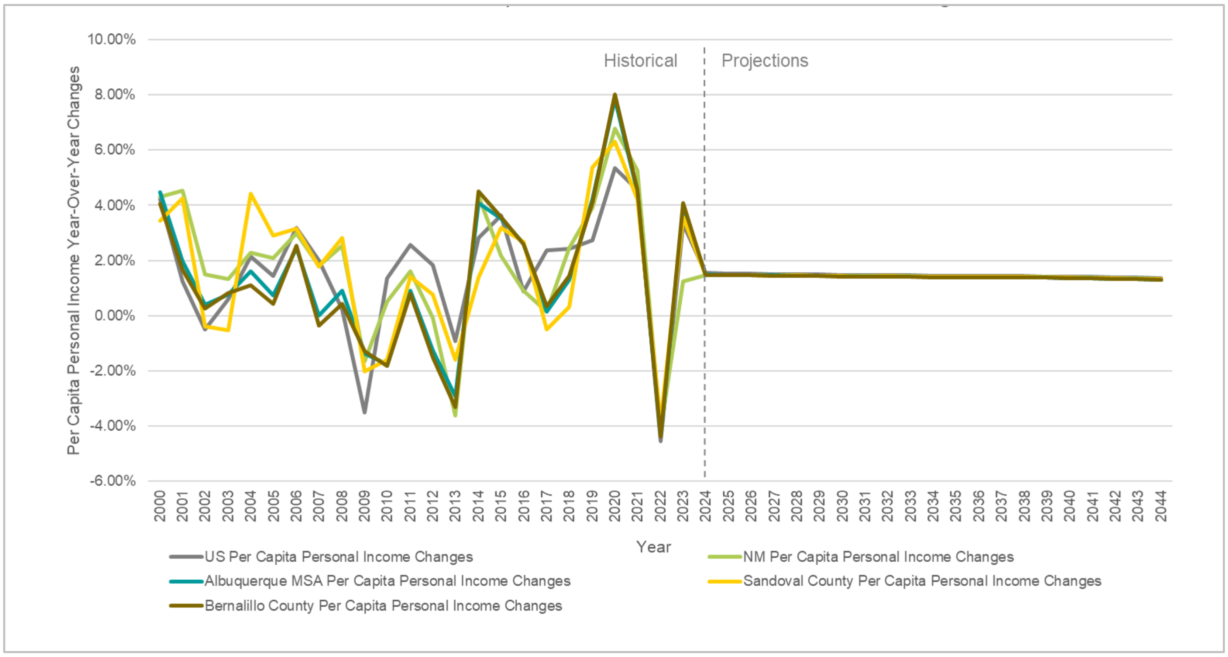

Figure 2-12. Historical and Projected Per Capita Personal Income Year-Over-Year Changes

Sources:

1. *W&P*
2. *AECOM analysis*

2.4.1.4 Economic Outlook

The national economy influences both the Albuquerque MSA and New Mexico economy in several ways. Interest rates impact consumer purchasing and construction activity; while federal spending supports the local economy through funding and employment at federal agencies, national laboratories and military installations. Inflation affects the prices of local goods and services as well as wages and employee salaries across the region. [9]

The economic outlook for the U.S., New Mexico and Albuquerque MSA is based on the 2024 State Profile for New Mexico prepared by W&P. The national economic outlook is also drawn from the FAA Aerospace Forecast Fiscal Years 2024-2044, which incorporates projections from S&P Global, and from the City of Albuquerque Five-Year Forecast Fiscal Years 2024-2028.

[8] For example, a year-over-year growth rate of 1.5 percent results in cumulative increases of approximately 7.7 percent over 5 years, 16 percent over 10 years, 25 percent over 15 years, and 35 percent over 20 years.
[9] Five-Year Forecast Fiscal Year 2024-2028, City of Albuquerque.

Figure 2-13 presents historical and projected year-over-year changes in gross domestic product (GDP) for the Albuquerque MSA, New Mexico, and the U.S.

The national GDP forecasts from both the FAA Aerospace Forecast and the City of Albuquerque Five-Year Forecast show similar near-term projects, with both anticipating approximately 1.7 percent annual growth in FY2027 and FY2028. W&P offers a more optimistic outlook, projecting average GDP growth of 2 percent per year over the next five years and 1.9 percent annually over the 20-year horizon.

As the economic engine for the state, the Albuquerque MSA accounts for approximately 44 percent of New Mexico's population, and 43 percent of its GDP. Looking ahead, the region is expected to continue recovering steadily from the economic disruptions caused by the COVID-19 pandemic. According to W&P, the Albuquerque MSA's GDP is projected to grow at an average rate of 1.5 percent over the 20-year planning horizon. Notably, Sandoval County is expected to lead regional growth, with projected average annual GDP increases ranging between 2.1 and 2.4 percent.[10]

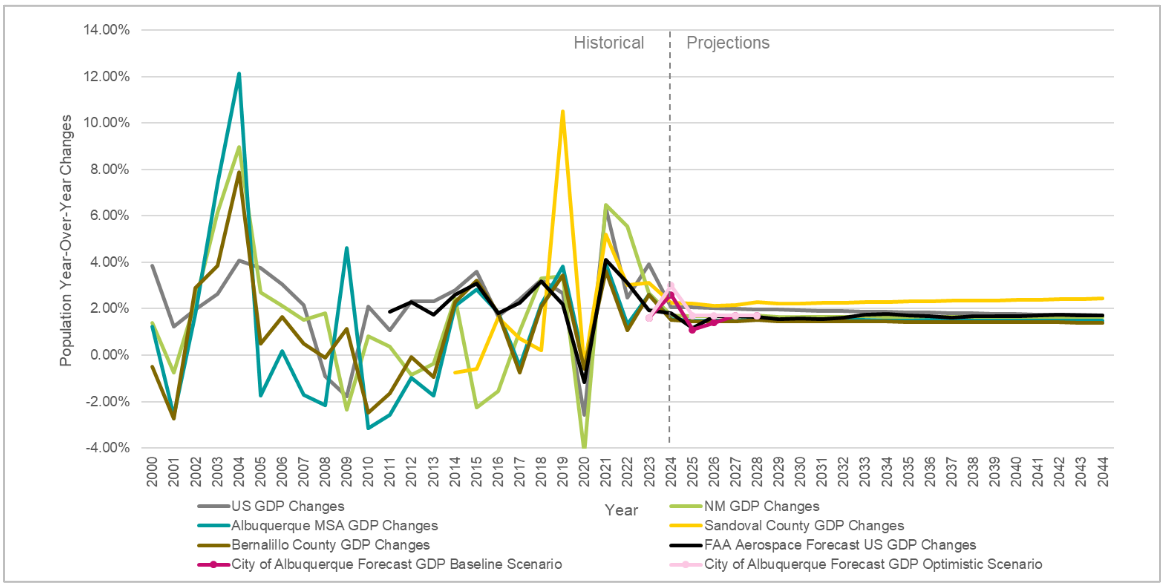

Figure 2-13. Historical and Projected GDP Year-Over-Year Changes

Note: GDP data for Sandoval County is inconsistent for the period before 2014, hence excluded in this chart.

Sources:

1. *W&P. FAA Aerospace Forecast FY2024-2044, S&P Global*
2. *Five-Year Forecast FY2024-2028, City of Albuquerque, HIS Global Insight*
3. *AECOM analysis*

[10] For example, a year-over-year growth rate of 2.4 percent results in cumulative increases of approximately 12.6 percent over 5 years, 27 percent over 10 years, 43 percent over 15 years, and 61 percent over 20 years.

2.4.2 Fuel Prices

Fluctuations and long-term trends in aviation fuel and oil prices significantly impact the GA industry, as fuel costs constitute a major portion of operating expenses and directly influence demand. Aviation fuel prices are particularly sensitive to global economic conditions, geopolitical instability, and shifts in energy production. Beginning in 2003, prices began rising due to factors such as the Iraq War, political instability in key oil-producing nations, and rapid economic growth in countries like China and India. By mid-2008, average fuel prices had tripled compared to 2003. However, as the global recession intensified in the second half of 2008, fuel demand declined sharply, causing prices to fall. During the initial economic recovery in 2009, prices rebounded and stabilized between $3 and $3.5 per gallon until mid-2014. A surge in oil production, coupled with weakened global demand, led to a sharp decline in fuel prices, which remained in the $1 to $2.5 per gallon range from 2015 onward, as shown in **Figure 2-14**.

The COVID-19 pandemic brought another significant downturn in aviation activity, drastically reducing fuel demand. By summer 2020, fuel prices dropped to $1 to $1.2 per gallon—lows not seen since 2004. As the global economy began to recover, however, supply struggled to keep pace with rising demand, prompting another increase in fuel costs.

Entering the post-pandemic period in 2022, geopolitical tensions became the dominant factor affecting fuel prices. The Russian invasion of Ukraine in February 2022 introduced substantial volatility to global energy markets. Fuel prices surged past $3 per gallon between March 2022 and February 2023, peaking at $4 per gallon in July 2022 (see **Figure 2-14**). Concerns over potential disruptions in Russian oil exports, sanctions, and the ability of other Petroleum Exporting Countries (OPEC) members to increase output created a high level of uncertainty. The long-term implications of this crisis remain unclear and will depend on its duration, the resilience of national oil reserves, and adjustments in global supply chains.

Given these uncertainties, analysts offer differing views on the future trajectory of fuel prices. Forecasts vary based on assumptions around market conditions, geopolitical developments, exchange rates, and technological advancements in oil extraction. To consider future uncertainties, organizations such as the U.S. Energy Information Administration (EIA) produces multiple scenarios such as the high and low oil price forecasts in addition to a baseline reference case. The long-term annual projections of jet fuel by the EIA's latest Annual Energy Outlook 2025 (AEO2025), including the reference case and the high and low oil price cases, are illustrated in **Figure 2-15**.

From 2024 to 2050, the EIA projects average annual changes in jet fuel prices of -1.1 percent (low oil price case), 0.9 percent (reference case), and 2.7 percent (high oil price case). The FAA Aerospace Forecast FY2024–2044 projects U.S. jet fuel prices to decline at 0.5 percent per annum from 2024 to 2044 (based on the actual price in 2024 and 2024 dollars), which is on the low side but falls within the projections by the EIA's reference and low oil price cases.

Although aviation gasoline (100LL avgas) is not specifically forecasted in the EIA or FAA models, its price trends are expected to mirror those of jet fuel over the long term, as both are fundamentally tied to fluctuations in crude oil markets.

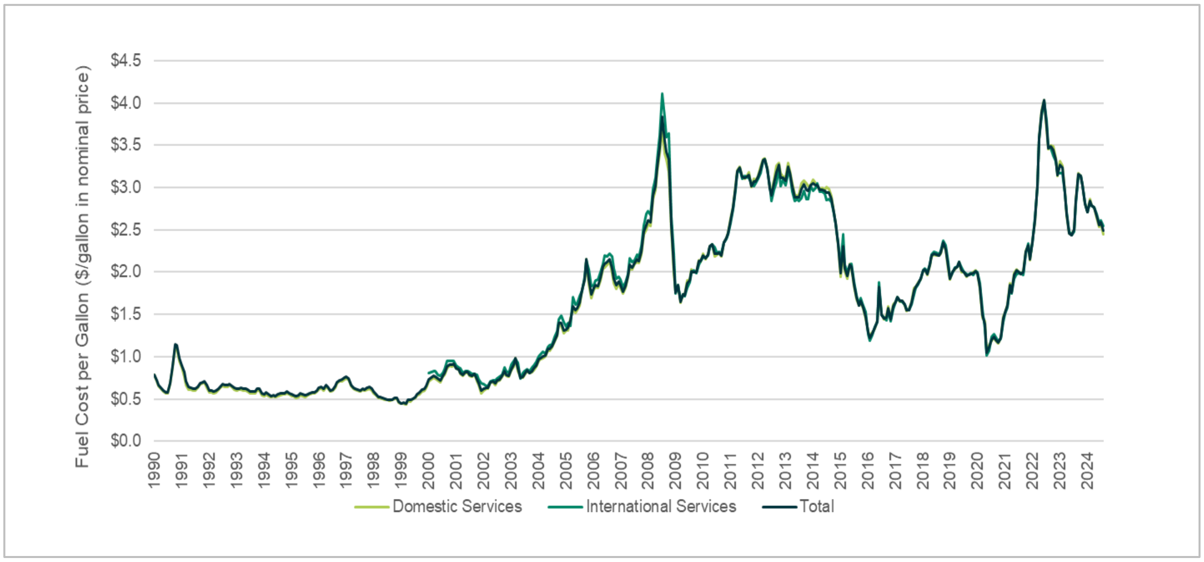

Figure 2-14. Historical Monthly Average Aviation Fuel Costs per Gallon (nominal dollars)

Sources:

1. *Historical fuel cost – U.S. Bureau of Transportation Statistics (BTS) F41 Schedule P12A, accessed April 2025*
2. *Fuel cost per gallon calculations – AECOM analysis*

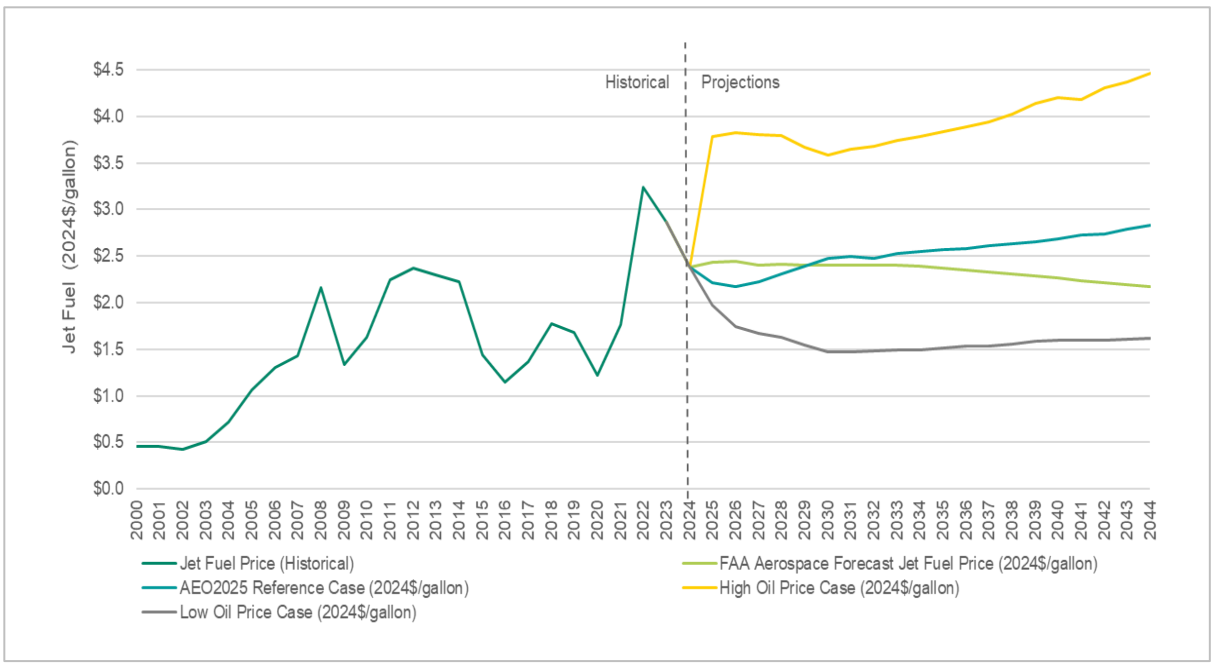

Figure 2-15. Historical and Projections of Annual Average Jet Fuel Price per Gallon (2024 dollars)

Sources:

1. *Historical jet fuel cost – U.S. Bureau of Transportation Statistics (BTS) F41 Schedule P12A, accessed April 2025*
2. *Consumer price index (CPI) for all urban consumers – U.S. Bureau of Labor Statistics, accessed April 2025*
3. *Projected jet fuel price – U.S. Energy Information Administration, Annual Energy Outlook 2025, issue April 15, 2025*
4. *FAA Aerospace Forecast FY2024–2044*
5. *Conversions to 2024 dollars – AECOM analysis*

2.5 Historical General Aviation Demand

2.5.1 Historical Industry Trends

Understanding of the past trends provides an insight into expectations of the future activity levels. GA activity grew to peak levels in the 70s, accompanied by high manufacture rates of new general aviation aircraft until it was set back by high fuel costs and concerns on liability issues with increasing insurance costs and aircraft accidents with aged aircraft at the end of the decade. During the 1980s, tax incentives for using aircraft for business purposes were reversed[11], leading to a decline in hours flown and overall business aircraft use. GA activity levels began a slow recovery in the late 80s; however, during the early 90s, with the Gulf war, and economic downturn, activity levels declined.

The General Aviation Revitalization Act (GARA) was passed by Congress in 1994. The legislation limited the liability of aircraft manufacturers to accidents involving their aircraft and aircraft parts to less than eighteen years after delivery. The enactment of GARA resulted in an increase in aircraft production. During the same time, an increase in fractional ownership programs, benefiting from co-ownership tax treatment, stimulated demand for general aviation aircraft. The next drop-in general aviation activity during the early 2000s was most likely due to the burst of the dotcom bubble in 2001, and the September 11 attacks. The GA activities continued to decline with the rising fuel prices until another economic downturn that began in December 2007.

Following the financial crisis, GA activity began stabilizing in the early 2010s. The recovery was facilitated by a drop in fuel prices to early 2000s levels and the gradual improvement in the national economy. The industry continued its recovery trajectory until the COVID-19 pandemic (recession from February 2020 to April 2020), which led to another sharp decline in activity.

However, since the pandemic's peak, the GA sector has experienced a notable recovery. The past three to four years have seen increased demand for private and chartered flights, as businesses and individuals have sought flexible, safe travel options outside of crowded commercial flights. The pandemic also sparked a rise in new aircraft purchases, with many individuals and companies looking to own aircraft as a means of avoiding the complexities and risks of public travel. This surge has been supported by a mix of factors, including lower interest rates, a growing demand for personal and business aviation, and a renewed focus on aviation as an essential service in post-pandemic economies. Furthermore, the trend toward remote work, by offering greater flexibility in travel and encouraging a new wave of personal and business aviation users, has contributed to the recovery and continued growth of general aviation activity in the post-pandemic period.

2.5.2 Based Aircraft

Historical based aircraft information was obtained from the FAA TAF, the Airport, and the FBO: Bode Aero Services. **Table 2-5** and **Figure 2-16** present details on the aircraft based at AEG over the past two decades, including the counts of single-engine, multi-engine, jet, and helicopter aircraft.

Over the past 20 years, the total number of based aircraft at AEG declined from 228 in 2004 to 125 in 2024, reflecting an average annual decrease of 3 percent. Between 2016 and 2018, there was a notable increase, with the number of based aircraft rising to nearly 200. However, in the last five years, the number of based aircraft dropped during the COVID-19 pandemic. Despite this decline, the number of based aircraft has stabilized at 125 in recent years.

[11] The Tax Reform Act of 1986 significantly revised the U.S. tax code, eliminating many favorable provisions for business aircraft owners, including accelerated depreciation and the ability to easily deduct operating losses.

Table 2-5. Historical Based Aircraft by Type

Year	Number of Based Aircraft						Percentage of Total Based Aircraft				
	Single	Multi	Jet	Helios	Other	Total	Single	Multi	Jet	Helios	Other
2004	187	20	2	17	2	228	82.0%	8.8%	0.9%	7.5%	0.9%
2005	212	20	1	17	2	252	84.1%	7.9%	0.4%	6.7%	0.8%
2006	212	20	1	17	4	254	83.5%	7.9%	0.4%	6.7%	1.6%
2007	212	20	1	17	4	254	83.5%	7.9%	0.4%	6.7%	1.6%
2008	116	9	0	6	4	135	85.9%	6.7%	0.0%	4.4%	3.0%
2009	116	9	3	6	4	138	84.1%	6.5%	2.2%	4.3%	2.9%
2010	116	9	3	6	0	134	86.6%	6.7%	2.2%	4.5%	0.0%
2011	116	9	3	6	0	134	86.6%	6.7%	2.2%	4.5%	0.0%
2012	109	6	0	6	4	125	87.2%	4.8%	0.0%	4.8%	3.2%
2013	109	6	0	6	4	125	87.2%	4.8%	0.0%	4.8%	3.2%
2014	109	6	0	6	4	125	87.2%	4.8%	0.0%	4.8%	3.2%
2015	127	9	1	10	0	147	86.4%	6.1%	0.7%	6.8%	0.0%
2016	159	18	2	14	4	197	80.7%	9.1%	1.0%	7.1%	2.0%
2017	155	19	2	13	4	193	80.3%	9.8%	1.0%	6.7%	2.1%
2018	155	19	2	13	4	193	80.3%	9.8%	1.0%	6.7%	2.1%
2019	107	14	2	9	4	136	78.7%	10.3%	1.5%	6.6%	2.9%
2020	96	15	1	7	6	125	76.8%	12.0%	0.8%	5.6%	4.8%
2021	96	15	1	7	6	125	76.8%	12.0%	0.8%	5.6%	4.8%
2022	96	15	1	7	6	125	76.8%	12.0%	0.8%	5.6%	4.8%
2023	97	15	1	7	6	126	77.0%	11.9%	0.8%	5.6%	4.8%
2024	96	15	1	7	6	125	76.8%	12.0%	0.8%	5.6%	4.8%
Period			**CAGR**								
2004 to 2024 (20-year)	-3.3%	-1.4%	-3.4%	-4.3%	5.6%	-3.0%					
2014 to 2024 (10-year)	-1.3%	9.6%	N/A	1.6%	4.1%	0.0%					
2019 to 2024 (5-year)	-2.1%	1.4%	-12.9%	-4.9%	8.4%	-1.7%					

Abbreviations:
CAGR: Compound Annual Growth Rate
N/A: Not Applicable

Sources:

1. *The FAA TAF 2024 Model, issue January 2025*
2. *Based aircraft counts from stakeholder interviews - High Flying Hangars (14 based aircraft) and Bode (110 based aircraft)*
3. *AECOM analysis*

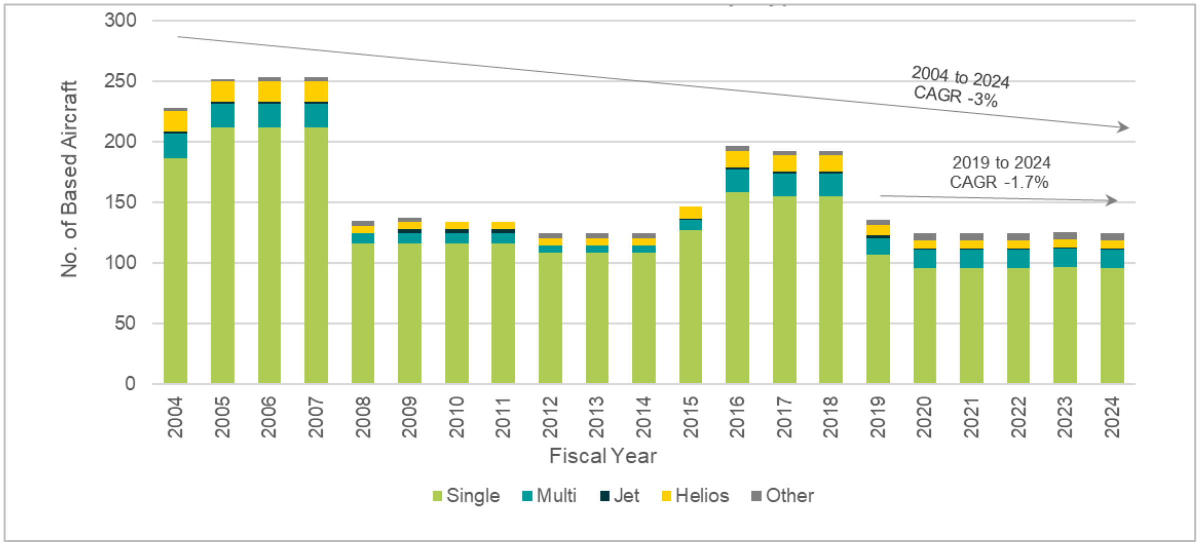

Figure 2-16. Historical Based Aircraft by Type

Sources:
1. *The FAA TAF – Issued January 2025*
2. *AECOM analysis*

2.5.3 General Aviation and Air Taxi Operations

Historical GA and air taxi operations from the FAA Operation and Performance Data / Air Traffic Activity System (ATADS) are summarized in **Table 2-6** and graphically depicted in **Figure 2-17**.

Airport traffic control tower (ATCT) data has been available at AEG since 2009. Over the past 15 years, annual operations have fluctuated between 55,000 and 70,000. While the 15-year, 10-year, and 5-year trends indicate a consistent average annual decline, there has been a notable recovery between 2023 and 2024, with operations increasing by 8 percent.

FAA's Traffic Flow Management System Counts (TFMSC) includes information, such as aircraft model for air carrier, air taxi, GA, and military operations to and from a landing facility as well as airspace fixes, both in the U.S. and in nearby countries that participate in the TFMS. The source data is created when pilots file flight plans and/or when flights are detected by the National Airspace System (NAS), usually via radar. The TFMSC records are assembled by the FAA Air Traffic Airspace Lab by combining electronic messages transmitted to the host computer for each flight into a complete record of that flight.

Table 2-7 summarizes the historical operations recorded in TFMSC by aircraft engine type. Although TFMSC data do not record all operations, the recorded operations provide the lower bound estimates for the different types of aircraft. It is anticipated that most of the unrecorded flights are domestic local flights that fly under Visual Flight Rules (VFR) and by smaller GA aircraft.

Table 2-6. AEG Historical Annual Operations

Fiscal Year	Air Taxi	Itinerant GA	Itinerant Military	Local GA	Local Military	Total Operations
2009	1,819	24,519	695	35,542	480	63,055
2010	2,255	27,168	1,194	38,070	909	69,596
2011	2,229	27,705	1,366	37,881	755	69,936
2012	1,983	26,314	1,889	35,860	1,854	67,900
2013	1,334	25,037	1,477	35,088	2,306	65,242

Fiscal Year	Air Taxi	Itinerant GA	Itinerant Military	Local GA	Local Military	Total Operations
2014	609	25,384	1,096	38,257	1,817	67,163
2015	732	23,342	1,009	38,566	1,577	65,226
2016	716	24,607	1,291	35,930	2,085	64,629
2017	536	23,007	774	36,048	1,557	61,922
2018	525	25,261	963	34,003	1,964	62,716
2019	454	22,717	802	32,006	1,653	57,632
2020	597	22,472	771	30,272	1,194	55,306
2021	480	22,841	640	35,310	1,599	60,870
2022	385	22,727	772	32,183	693	56,760
2023	298	22,264	665	29,070	750	53,047
2024	191	21,678	566	34,475	378	57,288
Period			**CAGR**			
2009-2024 (15-year)	-14.0%	-0.8%	-1.4%	-0.2%	-1.6%	-0.6%
2014-2024 (10-year)	-10.9%	-1.6%	-6.4%	-1.0%	-14.5%	-1.6%
2019-2024 (5-year)	-15.9%	-0.9%	-6.7%	1.5%	-25.6%	-0.1%

Abbreviation:

CAGR = Compound Annual Growth Rate

Source: The FAA Operation and Performance Data / Traffic Activity System (ATADS) – Tower data is only available after 2009

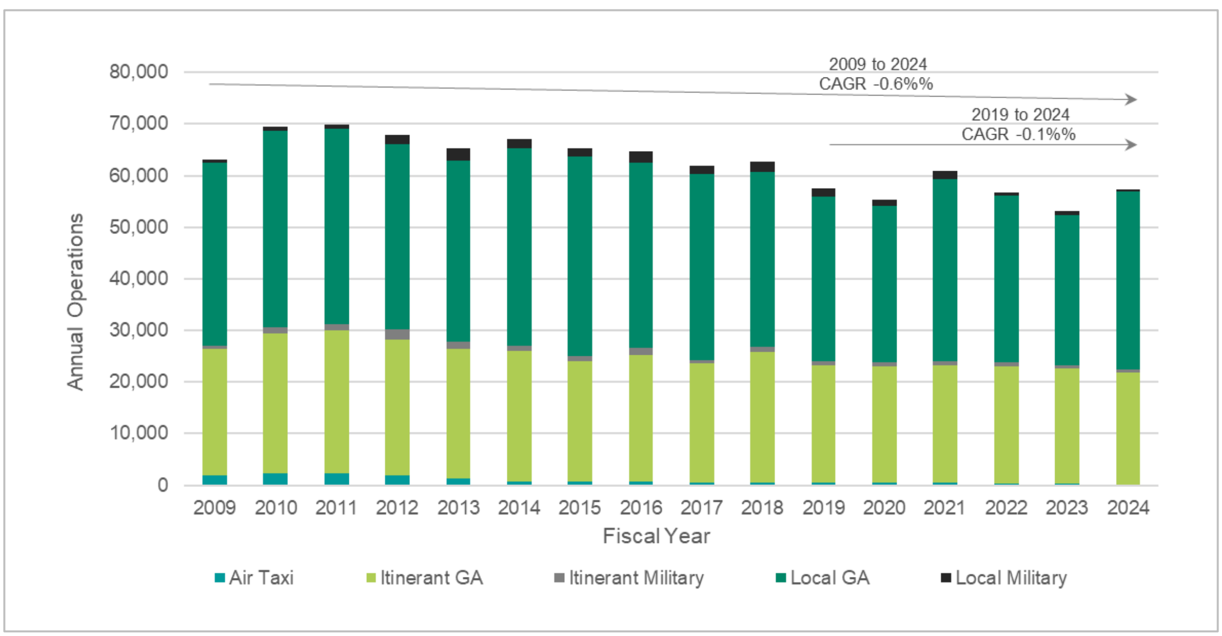

Figure 2-17. AEG Historical Annual Operations

Source: The FAA Operation and Performance Data / Traffic Activity System (ATADS) – Tower data is only available after 2009

Table 2-7. AEG Historical Annual Operations by Aircraft Type based on FAA TFMSC Records (Lower Bound Estimates)

Fiscal Year	Piston	Turbine	Jet	Unknown	Operations Recorded in TFMSC	Operations Not Recorded in TFMSC	Total Operations from ATADS
2010	1,746	724	666	67	3,203	66,393	69,596
2011	1,275	721	460	49	2,505	67,431	69,936
2012	1,338	386	504	60	2,288	65,612	67,900
2013	1,184	542	550	81	2,357	62,885	65,242
2014	1,114	720	453	84	2,371	64,792	67,163
2015	1,067	711	388	45	2,211	63,015	65,226
2016	944	880	421	49	2,294	62,335	64,629
2017	873	1,050	371	19	2,313	59,609	61,922
2018	835	1,173	343	22	2,373	60,343	62,716
2019	801	1,197	240	25	2,263	55,369	57,632
2020	667	1,479	131	36	2,313	52,993	55,306
2021	809	1,382	158	8	2,357	58,513	60,870
2022	757	813	233	28	1,831	54,929	56,760
2023	943	567	195	25	1,730	51,317	53,047
2024	797	491	171	32	1,491	55,797	57,288

Sources:

1. *The FAA Traffic Flow Management System Counts (TFMSC)*
2. *The FAA Operation and Performance Data / Air Traffic Activity System (ATADS)*

2.5.4 Existing General Aviation Business Communities, and Law Enforcement Activities

GA accounts for most of the total aircraft operations at AEG. The GA activities at the Airport are supported by FBOs and other service providers that provide aeronautical services, including aircraft handling (fueling/cleaning/catering), aircraft maintenance, flight instructions, aircraft rentals, air charter services, tie-downs and hangar facilities, aircraft sales, ground transportation, and car parking, etc. The operations characteristics and the number of based aircraft of the air charter services and flight schools at AEG are relevant information for the forecast analysis.

Full-Service Fixed Base Operators:

- **Bode Aero Services** (also known as Bode Aviation, Inc., operate under the brand name of Bode) is headquartered at the Airport. They offer a comprehensive range of aviation services including aircraft fueling (both full and self-service 100L, and Jet A), oxygen and nitrogen service, aircraft parking (hangars, tie-downs, and ramps), a passenger terminal with a lounge, pilot's lounge, café, wireless internet, public telephone, and restrooms (**Figure 2-18**). Additional services include ground power unit (GPU) support, aircraft maintenance, repair and overhaul (MRO), avionics sales and services, aircraft rentals, flight training, sightseeing tours, and rental cars. Bode Aero also provides charter services and is well regarded for supporting both small private aircraft and larger business jets. Additionally, they offer highly specialized training venues for elite military and law enforcement forces, focusing on integrated flight and ground operations that address current and emerging threats.[12]

[12] Bode Aviation. https://flybode.com/what-we-do/

Figure 2-18. Bode Aviation – Terminal Building, Aircraft Parking Apron (Top Left), Café (Top Right), and Based Charter-Beech King Air 90 (Bottom)

Source: Bode Aviation

Charter Services (Part 135 On-Demand Operations):

- **Bode Aviation, Inc.** is a Part 135 certificate holder for commuter or on-demand charter operations. They have seven registered aircraft certified for Part 135 operation, and two of them are based at AEG – a Beech King Air 90 (N975SP) (**Figure 2-18**) and a Cessna T210M (N761ST).[13] They operate under the same brand name as Bode.

Flight Schools:

- **Bode Academy of Aviation**, (certified as Bode Aviation, Inc. under Part 141) offers comprehensive flight training programs, including courses toward the Private Pilot Certificate, Commercial Pilot Certificate, Instrument Rating, Multi-Engine Rating, Airline Transport Pilot Certificate (Single Engine Land), Certified Flight Instructor (CFI), Certified Flight Instructor – Instrument (CFII), and Multi-engine Instructor (MEI). It is one of the only two flight Schools in the state to meet the higher FAA Part 141 requirements for flight training. Additionally Bode Academy is the only fixed-wing flight school in New Mexico that meets the Veterans Affairs (VA) training provider requirements (specifically the Veteran Readiness and Employment (VR&E) program). This designation allows U.S. military veterans to use their GI Bill benefits for advanced flight training.
- **ATP Flight School**, a nationally recognized flight training provider with over 85 locations across the United States, has expanded its operations to AEG. Known for its fast-track airline career programs, ATP's presence at AEG enhances the airport's role in meeting the growing demand for commercial pilot training in the region.

[13] N-numbers are public aircraft registration identifiers published by the FAA and used in this report for illustrative and analytical purposes only.

Albuquerque Aviation Academy:

- **Albuquerque Aviation Academy (formerly Southwest Aeronautics, Mathematics and Science Academy, SAMS)**, is a public charter school that offers classes for students in 6th to 12th grade. They include a flight program, hot ballon class, and drone program. The school owned a full motion Redbird MCX simulator, fleet of unmanned aerial vehicles (UAVs or drones), and a fixed-wing Cessna 172 based at AEG (**Figure 2-19**). Their new campus is located on Albuquerque's Westside and is only 7 miles from AEG. The old campus is located approximately 1,500 feet west of AEG's Runway 35 threshold, which has been closed and unoccupied since relocation to the new building in 2023.

Figure 2-19. SAMS Redbird Simulator and Cessna 172 (N739HK) Based at AEG

Source: SAMS

Crossroads Flying Club:

- **The Cooperative Crossroads Flying Club**, based at AEG, is an equity-based club formed in 1954 that provides affordable flying opportunities for its 16 member pilots. The club owns two aircraft stored in dedicated hangars at AEG - a Cessna 172 Hawk XP and a Piper Lance (**Figure 2-20**), both IFR-certified. Designed for both local and cross-country flights, these aircraft support a range of flying needs from recreational to instructional use. With over six decades of history, Crossroads Flying Club continues to foster a collaborative and cost-effective model of aircraft ownership and aviation community engagement.

Figure 2-20. Crossroads Flying Club's Aircraft – Piper Lance (N1723H) and Cessna 172 (N9681V) Based at AEG

Source: Crossroads Flying Club

Private Hangar Developer:

- **High Flying Hangars** specializes in the development and delivery of private hangar space for GA aircraft owners. In response to the high demand and long waiting list for hangars at AEG, the company is actively constructing 46 new GA hangars as part of a larger plan to develop a total of 100 units. As of late 2024, 10 hangars—comprising approximately 31,200 square feet—have already opened (**Figure 2-21**). The remaining 36 hangars are scheduled for completion by 2026, ultimately bringing the total new hangar space to approximately 87,000 square feet across four rows of buildings. This development significantly expands AEG's capacity to accommodate private aircraft and supports the airport's growing GA activity.

Figure 2-21. New Hangars Opened by High Flying Hangars at AEG

Source: KRQE News, September 2024

- **KAEG Hangars** is another private hangar developer responding to the unmet demand for GA aircraft storage at AEG. The company has leased approximately five acres (217,800 square feet) of land from the City of Albuquerque for the development of new GA hangar facilities. The site is located on the west side of the airfield, as depicted in **Figure 2-22.** Construction is anticipated to commence in late 2025 or 2026.

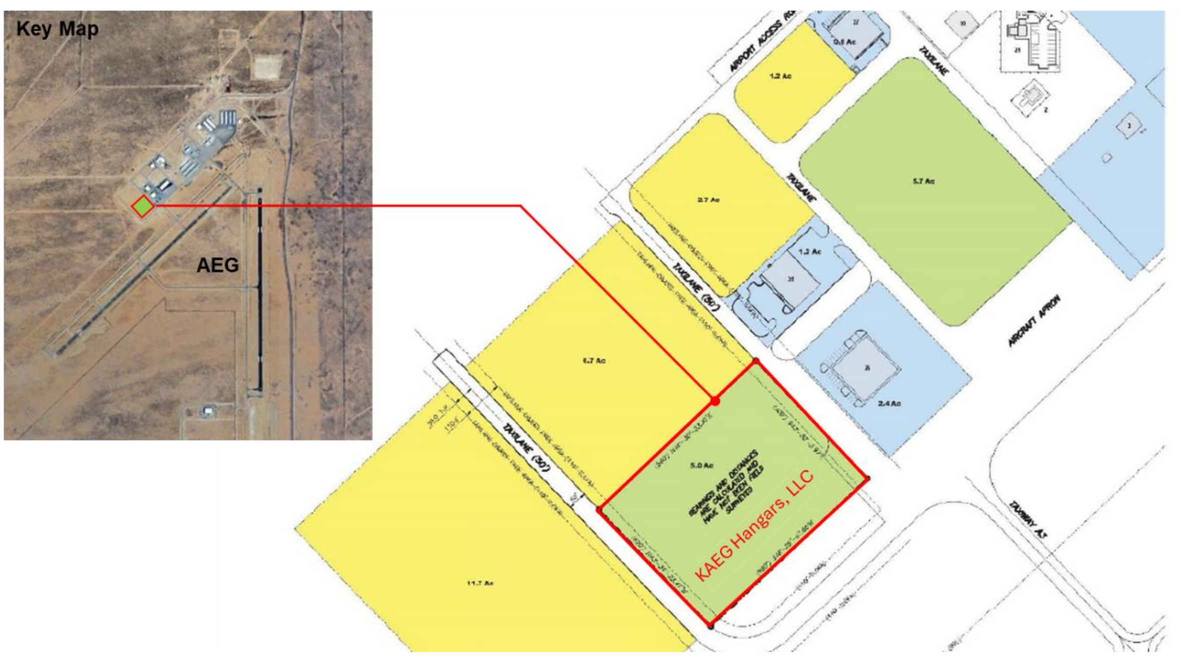

Figure 2-22. Location of the New Hangars to be Constructed by KAEG Hangars at AEG

Source: Ground Lease and Agreement, City of Albuquerque, October 2024

Law Enforcement Agencies:

- **New Mexico State Police (NWSP) Aircraft Section:** NWSP Aircraft Section provides critical airborne law enforcement services across the State of New Mexico. The section is equipped to deploy at short notice for a wide range of missions, including (but not limited to) search and rescue, airborne patrol, tactical law enforcement operations, complex criminal investigations, surveillance operations, and border security missions. The agency operates a helicopter (Airbus MBB-BK 117 D-2) from the Sgt. Andrew F. Tingwall Aviation Facility, located at the west end of the Airport property (**Figure 2-23**). According to a recent Helicopter Siting Study[14], NWSP is planning to add two additional helicopters (ASTAR 125) and one undefined fixed-wing aircraft.

Figure 2-23. NWSP's Helicopter N607SP Based at AEG

Source: NWSP

- **City of Albuquerque Police (APD) Air Support Unit:** APD operates a fixed-wing aircraft (CESSNA 182) and a helicopter (Airbus AS 350B3) from the APD Air Support Hangar at the Northeast of the Airport (**Figure 2-24**). Their previous helicopter 120PD (also known as Air 1) was retired and deregistered with the FAA recently. APD has plans to purchase a second helicopter with a combination of city and state funding. Helicopters can help APD's ground units as a platform from which to observe, track, and illuminate people or places on the ground. Flight crews can provide a perspective that cannot be achieved on the ground. The helicopter's altitude and onboard equipment, particularly the searchlight and infrared camera, create a tactical advantage for police by providing them with assistance and aerial cover. The addition of a second helicopter will help APD in its mission of reducing crime while increasing officer safety in patrol and high-risk operations. The additional helicopter will help avoid long periods where air support is not available at all to APD commanders because of federally mandated maintenance. Another chopper will ensure there is continued coverage over Albuquerque's skies. According to a recent Helicopter Siting Study[15], APD is also planning to add a fixed-wing aircraft (Cessna 208).

Figure 2-24. APD's Fixed-Wing Single Engine Aircraft N9958H, and Helicopter N125PD Based at AEG

Source: APD Air Support Unit

[14] Helicopter Siting Study prepared by Garver, February 2025.
[15] Helicopter Siting Study prepared by Garver, February 2025.

- **Bernalillo County Sheriff's Department Metropolitan Air Support Unit (Metro Air):** Metro Air provides aerial assistance to all Law Enforcement and Fire agencies in need of the Units specific capabilities and equipment, including search and rescue hoist missions. Metro Air has two helicopters – Metro 1 (Eurocopter AS350B3), and Metro 4 (Bell UH-1H) based at AEG (**Figure 2-25**). According to a recent Helicopter Siting Study[16], Metro Air has a fixed-wing Cessna 172 aircraft (namely Metro 3) for training purposes only[17]; and they are also planning to add one additional fixed-wing aircraft (Cessna 208), and one additional undefined helicopter.

Figure 2-25. County Sheriff's Metro Air's Helicopters – N911ZZ and N911SZ Based at AEG

Source: Bernalillo County Sheriff's Metro Air

2.5.5 Existing Military Training and Other Activities

AEG provides an ideal high-altitude and desert environment for training and operations. Military training and special mission flight operations at AEG are not uncommon. Below are some examples of these military activities:

Special Mission Flight Operations and Special Mission Aviation Training Support:

- Bode Aviation has been conducting a variety of special mission aviation operations for over two decades. They offer a full range of special mission aviation activities, such as integration and operation of special mission payloads that are highly relevant to deployed intelligence, surveillance, and reconnaissance (ISR) operations. Bode also provides realistic training environments used by the Department of Defense (DoD) and others, mirroring deployment sites.[18] (**Figure 2-26**)

Figure 2-26. Special Mission Aviation Training Support at AEG

Source: Bode Aviation

Environmental Training[19]:

- At AEG, the U.S. Army's 1st Battalion, 351st Aviation Regiment (166th Aviation Brigade), also known as the "Nighthawks," conducts critical environmental training for National Guard and Reserve aircrews preparing for deployment. This training replicates the high-altitude, rugged terrain, and dusty conditions of Afghanistan, helping pilots adapt to the challenges of reduced aircraft performance at elevation and dangerous "brownout" landings, where dust obscures visibility during descent.

[16] Ibid.
[17] KRQE News, December 2023.
[18] Bode Aviation. https://flybode.com/what-we-do/special-mission-operations/
[19] U.S. Army, Division West, May 2012.

- Pilots typically receive six to ten days of hands-on training in techniques for navigating mountainous regions and landing safely in low-visibility, dust-heavy environments. The high-altitude terrain surrounding AEG, combined with its naturally dusty conditions, makes it an ideal site for this life-saving instruction (**Figure 2-27**). The goal of the program is to reduce risk during deployment by improving pilot proficiency in the harsh environments they are likely to encounter overseas.

Figure 2-27. U.S. Army Trains National Guard and Reserve Aircrews at High Altitude and Dusty Environment at AEG

Source: U.S. Army, Division West

Aerial Delivery Training[20]:

- The 58th Special Operations Wing (SOW) at Kirtland Air Force Base has expanded its training capabilities by establishing a new drop zone, the Howard Drop Zone, at AEG in 2024 (**Figure 2-28**). This drop zone supports regular aerial delivery training for MC-130J aircrews, who use the site two to three times per week to practice critical skills needed to accurately deploy equipment, rescue supplies, and aid packages during missions.
- By utilizing AEG for these exercises, the 58th SOW increases its training capacity while reducing noise impacts on Albuquerque residents. The drop zone plays a key role in preparing aircrews for operational readiness and enhances the wing's ability to deliver mission-critical support in real-world scenarios.

Figure 2-28. Kirtland Air Force Base Established a new Drop Zone for Regular Aerial Delivery Training at AEG

Source: Kirtland Air Force Base, 58th Special Operations Wing

AEG has an active GA community and hosts annual aviation events that engage the GA community and aviation enthusiasts. Some of the events hosted at AEG or a nearby area are described below.

[20] Kirtland Air Force Base, 58th Special Operations Wing, October 2024.

Land of Enchantment Fly-In (LOEFI)

- Organized by the Experimental Aircraft Association (EAA) Chapter 179, LOEFI is a major annual event showcasing a variety of aircraft, including amateur-built, vintage, military, ultralight, sailplanes, and production models. The event features aviation seminars, aircraft awards, exhibitors and activities for all ages. It typically takes place in late September and has been a recurrent event for many years. It serves as a significant gathering for the local aviation community and attracts participants from across the region. (**Figure 2-29**)

Figure 2-29. Land of Enchantment Fly-In and other Events at AEG

Source: EAA Chapter 179, September 2024 – KRQE News, August 2019

Double Eagle II Summer Fly-In and Burque Breakfast Bash

- This event, held on July 19, 2024, offered pilots and aviation enthusiasts a chance to gather at AEG for breakfast, live music, and discounted fuel from Bode. It served as a stopover for those enroute to the EAA AirVenture in Oshkosh, Wisconsin. The organizer may consider this event to be an annual tradition in the future.

Young Eagles Program

- The Young Eagles program, organized by EAA Chapter 179, is a recurring event held at AEG. This program offers free flights to youth aged 8–17, aiming to spark interest in aviation. Flight rallies are scheduled throughout the year. Participants experience a 15 to 20-minute flight, providing them with a unique perspective of aviation. This initiative not only introduces young individuals to the world of aviation but also fosters community engagement at AEG. (**Figure 2-30**)

Double Eagle Aviation Academy

- The Double Eagle Aviation Academy (DEAA) is a week-long summer program held annually at AEG, organized by EAA Chapter 179. Aimed at youth aged 14–17, the academy offers hands-on learning in aviation topics such as aerodynamics, navigation, and aircraft systems. Students are engaged in aircraft pre-flights, involved in building simple aircraft components, visiting the control tower, and exploring aviation careers. The program concludes with an optional Young Eagles flight, giving students the chance to experience flying alongside a volunteer pilot. (**Figure 2-30**)

Albuquerque International Balloon Fiesta

- The Albuquerque International Balloon Fiesta (AIBF), held annually at Balloon Fiesta Park, is located approximately 10 miles north of AEG. The close proximity of the two locations allows AEG to benefit from the increased aviation activity generated by the event. As AIBF attracts thousands of visitors, pilots, and aviation enthusiasts from around the world, many choose AEG as an alternative location for their aviation needs due to its convenience, accessibility, and less congested airspace compared to Albuquerque International Sunport. While airspace restrictions and temporary flight restrictions during the event may limit some operations, they also encourage the diversion of certain traffic to AEG. Consequently, the Balloon Fiesta results in a positive economic impact by increasing the number of transient aircraft, as well as providing opportunities for local businesses, including aviation services, transient ramp usage, and fueling, etc.

Figure 2-30. Young Eagles Program (Top) and Double Eagle Aviation Academy (Bottom) at AEG

Source: EAA Chapter 179 – March 2025 and June 2024

Scenic Natural and Cultural Heritage Areas

- AEG is well-positioned for a variety of aerial sightseeing tours, offering stunning views of the unique landscapes and cultural landmarks surrounding the Albuquerque area. Some of the most popular scenic areas for aerial tours from AEG are listed below.
  - Petroglyph National Monument: West of the city and adjacent to AEG, this area features ancient volcanic escarpments etched with thousands of Native American petroglyphs. Aerial views highlight the scale and natural beauty of the terrain.
  - Mount Taylor: Located approximately 40 nautical miles west-northwest of AEG, Mount Taylor rises to over 11,300 feet and is one of New Mexico's most prominent volcanic peaks. It holds deep cultural and spiritual significance for several Native American tribes. Scenic flights offer striking views of the forested slopes, surrounding mesas, and expansive high desert landscape.
  - Sandia Mountains: Located just 18 nautical miles east of AEG, the Sandia Mountains offer dramatic vistas, especially during sunrise or sunset. Tours often follow the ridgeline, showcasing the dramatic drop to the city below and the vibrant colors of the rock formations. (**Figure 2-31**)
  - Rio Grande River Valley: Flying along the Rio Grande offers breathtaking views of the winding river, lush cottonwood bosque (woodland), and contrasting desert terrain. It's a popular route for photography and nature-focused tours. It is approximately 20 nautical miles south of AEG. (**Figure 2-31**)
  - Old Town Albuquerque & Downtown Skyline: Low-altitude urban flyovers provide views of Albuquerque's historic districts, Spanish colonial architecture, and the modern skyline backed by the mountains.
  - Jemez Mountains and Valles Caldera: A bit farther out, but within reach of extended tours, the Jemez range and the massive volcanic caldera offer lush forests, meadows, and geothermal features—ideal for nature lovers. It is located approximately 43 nautical miles north of AEG.

- White Mesa and Ojito Wilderness: These areas feature stark white and red rock formations, badlands, and unique desert landscapes perfect for geology and photography-focused flights. It is located approximately 22 nautical miles north of AEG.
- Acoma Pueblo ("Sky City"): Located about 41 nautical miles west, Acoma Pueblo sits atop a 367-foot sandstone mesa and is one of the oldest continuously inhabited communities in North America. Scenic flights provide a striking perspective on this historic and cultural site.

Figure 2-31. Scenic Natural and Cultural Heritage Areas for Aerial Sightseeing Tours from AEG – Sandia Mountains (Top) and Rio Grande (Bottom)

Source: City of Albuquerque

2.6 General Aviation Demand Forecasts

2.6.1 Based Aircraft

2.6.1.1 Forecast Methodology

The forecast for based aircraft considers the historical trends and includes both top-down and bottom-up approaches:

- The top-down approach estimates the total regional demand for based aircraft in the airport service region based on historic activities and socioeconomic factors. The projected based aircraft fleet is then allocated to each airport in the region to derive future based aircraft at AEG.
- The bottom-up approach projects the based aircraft by type of aircraft based on growth rates predicted nationally and locally by the FAA. Reference is also made to the recent historical GA aircraft shipment trends reported by GAMA. Different growth rates are applied for fixed-wing single-engine piston or turboprop aircraft, multi-engine piston or turboprop aircraft, jet, helicopters, guiders and ultra-light aircraft.

The outcomes of different approaches are compared and consolidated into a recommended baseline scenario, along with high and low growth scenarios. These results are then compared with the FAA TAF based aircraft forecasts for consistency.

2.6.1.2 Based Aircraft Projections for the Region

The future regional demand for based aircraft is estimated using econometric regression models that relate aviation demand – such as based aircraft numbers (dependent variables) – to key economic parameters (independent variables) including fuel prices, income, population, and employment. Historical data is analyzed to identify the strongest correlations between the dependent and independent variables, which are then applied to forecast future regional based aircraft numbers using projected economic data through 2044.

Multiple regression analyses conducted on historical data from 2010 to 2024 identified strong correlations between regional based aircraft numbers and two key economic variables: fuel prices and per capita personal income (PCPI) of the MSA. The model yielded a coefficient of determination (R^2) of 0.8 which signifies a high percentage of variation in the estimated based aircraft numbers (dependent variables) that are explained by these economic factors (independent variables).

Three scenarios were developed to estimate the future based aircraft numbers in the region using the U.S. EIA AEO2025 fuel price projections and PCPI forecasts from W&P. These scenarios include:

- Reference Case: Based on the EIA's reference oil price forecast and W&P's PCPI projections (CAGR 1.4%)
- High Oil Price / Low Economic Growth Case: Assumes EIA's high oil price case and a lower PCPI growth (CAGR 1.0%)
- Low Oil Price / High Economic Growth Case: Assumes EIA's low oil price case and a higher PCPI growth (CAGR 1.8%)

W&P's forecast PCPI and the fuel price cases projected by U.S. EIA are given in **Figure 2-12** and **Figure 2-15** in **Section 2.4**.

Figure 2-32 presents the outcome of the econometric regression model and the FAA TAF projections. It is estimated that the number of based aircraft in the region will grow from 539 in 2024 to between 707 and 910 by the end of the 20-year planning period.

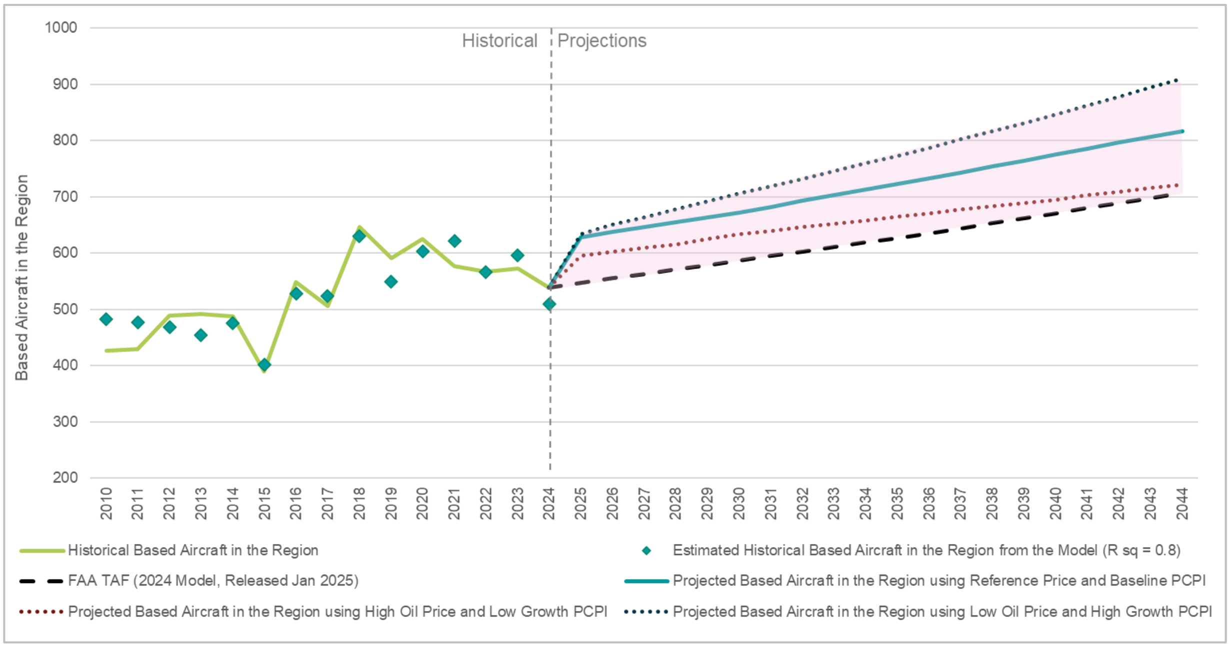

Figure 2-32. Forecast Based Aircraft in the Region

Sources:

1. *The FAA TAF – Issued January 2025*
2. *AECOM analysis*

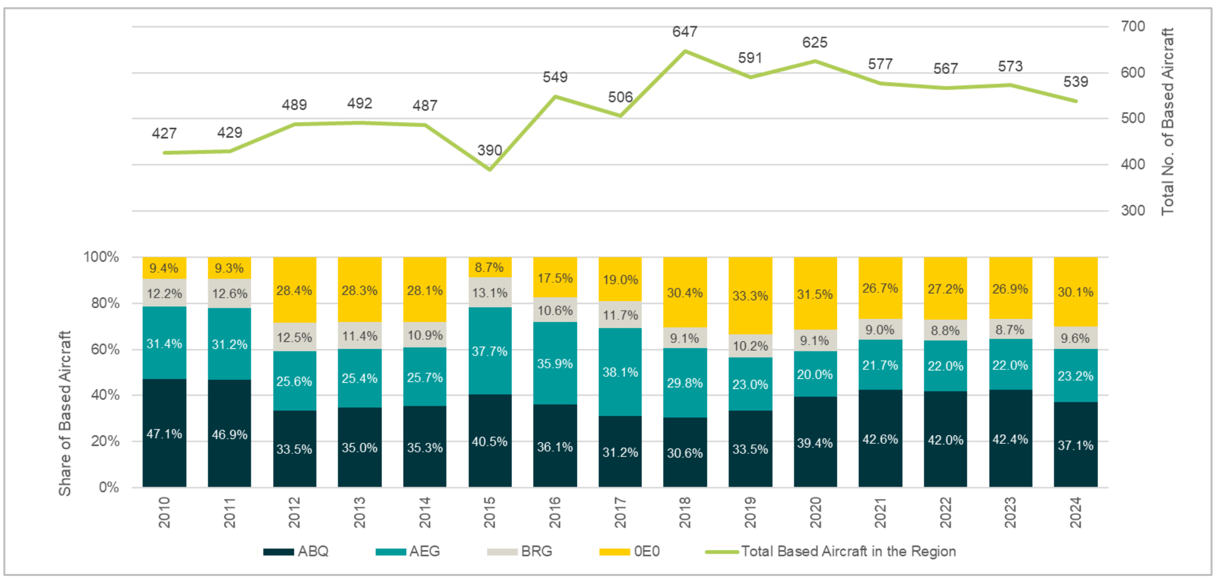

Figure 2-33. Historical Total Based Aircraft and Market Share in the Region

Sources:

1. *The FAA TAF – Issued January 2025*
2. *AECOM analysis*

2.6.1.3 Based Aircraft Projections for AEG

Top-Down Approach

The top-down method estimates future based aircraft at AEG by distributing the total forecast regional demand among airports based on historical market shares. **Figure 2-33** illustrates the historical number of based aircraft and market share across the region. The forecast using the top-down method includes the following three scenarios:

- Existing-Share Case: Assumes the relative attractiveness of AEG to other airports in the region will stay constant throughout the planning horizon, and that the share of based aircraft at the Airport remains constant at its current level of 23 percent. Total based aircraft in the region is projected to grow at an average annual rate of 2.1 percent, reflecting EIA's reference oil price and W&P's moderate PCPI growth forecast from the last section.
- Increasing-Share Case: Assumes AEG will attract a larger share of based aircraft, gradually increasing its market share to 27 percent—its historical average since 2010. Regional growth in this scenario is stronger, with an average annual rate of 2.7 percent, based on the low oil price and higher PCPI growth projections from the last section.
- Reducing-Share Case: Assumes a relatively slower growth at AEG compared to other airports in the region, resulting in a market share decline to 20 percent—its lowest historical share since 2010. Regional aircraft growth is assumed to be more conservative, at 1.4 percent annually, as projected by the FAA TAF.

Table 2-9 summarizes the projected number of based aircraft allocated to AEG under each scenario.

Bottom-Up Approach

The bottom-up approach forecasts the based aircraft at AEG by type, referencing growth rates from the FAA Aerospace Forecast and the FAA TAF projections. Two scenarios are developed – High Growth and Low Growth Cases. **Table 2-8** presents the historical and projected average annual growth rates for different types of aircraft. **Table 2-9** details the forecast number of based aircraft under each growth scenario using the bottom-up approach.

Table 2-8. Historical and Projected Based Aircraft Growth Rates by Aircraft Type

Source / Scenario	Single Engine	Multi-Engine	Jet	Helicopter	Other	Total
Historical CAGR (2010 to 2024)						
FAA Aerospace Forecast	-0.78%	-0.86%	2.86%	-0.01%	-1.62%	-0.44%
Historical AEG	-1.34%	3.72%	-7.55%	1.11%	N/A	-0.50%
Forecast CAGR (2024 to 2044)						
FAA Aerospace Forecast	-0.21%	0.37%	2.57%	1.66%	0.26%	0.43%
FAA TAF for AEG	0.95%	0.00%	0.00%	0.00%	0.00%	0.74%
Bottom-Up Approach Assumed CAGR (2024 to 2044)						
Low Growth Case	-0.21%	0.00%	0.00%	0.00%	0.00%	-0.16%
High Growth Case	0.95%	0.37%	2.57%	1.66%	0.26%	0.91%

Abbreviation:
CAGR: Compound Annual Growth Rate

Note: Most of the single engine aircraft at AEG are piston. Growth rates obtained from the FAA Aerospace Forecast assume the same and multi-engine aircraft include both multi-engine piston and turboprop.

Sources:

1. *FAA Aerospace Forecast FY2024-2044*
2. *FAA TAF – Issued January 2025*

Table 2-9. Summary of the Top-Down and Bottom-Up Based Aircraft Projections

Fiscal Year	Top-Down Approach: Existing-Share Case	Top-Down Approach: Increasing-Share Case	Top-Down Approach: Reducing-Share Case	Bottom-Up Approach: High Growth Case	Bottom-Up Approach: Low Growth Case
			Historical		
2024 (Base Year)	125	125	125	125	125
			Forecast		
2029	143	154	129	131	124
2034	164	190	133	137	123
2039	176	216	137	143	122
2044	188	246	141	150	121

Consolidated Based Aircraft Forecast

By comparing the outcomes of the top-down and bottom-up models, it is estimated that the number of based aircraft at AEG will range between a conservative estimate of 121 aircraft and an optimistic estimate of 246 aircraft by the end of the 20-year planning horizon. The baseline scenario projects a moderate increase, reaching 170 based aircraft (CAGR 1.6 percent).

Figure 2-34 and **Table 2-10** summarize the consolidated baseline, low, and high scenarios, along with a comparison to the FAA TAF projections. In the near- and mid-term timeframes, the baseline scenario differs from the current FAA TAF by 4.7 percent at year 5 and 11 percent at year 10 — both within acceptable variance (i.e., less than 10 and 15 percent, respectively). For the long-term planning horizon (years 11–20), the baseline scenario's annual growth rate differs from the TAF by just 0.5 percent. Overall, the baseline-based aircraft forecast is consistent with the FAA TAF.

Forecast based aircraft numbers from the previous AEG Master Plan 2018 and the NMASP Update 2017 (Base Case and High Range scenarios) are also depicted in **Figure 2-34** for reference**.** The previous Master Plan used a base year of 2015, with 196 based aircraft and a projected increase to 266 by 2035 (CAGR 1.5 percent). The 2017 NMASP used 2013 as its base year, starting with 121 based aircraft. Its Base Case projected growth to 171 aircraft (CAGR 1.4 percent), while the High Range forecast anticipated 197 aircraft by 2035 (CAGR 2.2 percent). Differences in base-year aircraft counts contribute to the variation in forecasted numbers. However, when comparing average annual growth rates, both the previous Master Plan and the 2017 NMASP Base Case are consistent with this Master Plan's baseline forecast CAGR of 1.6 percent.

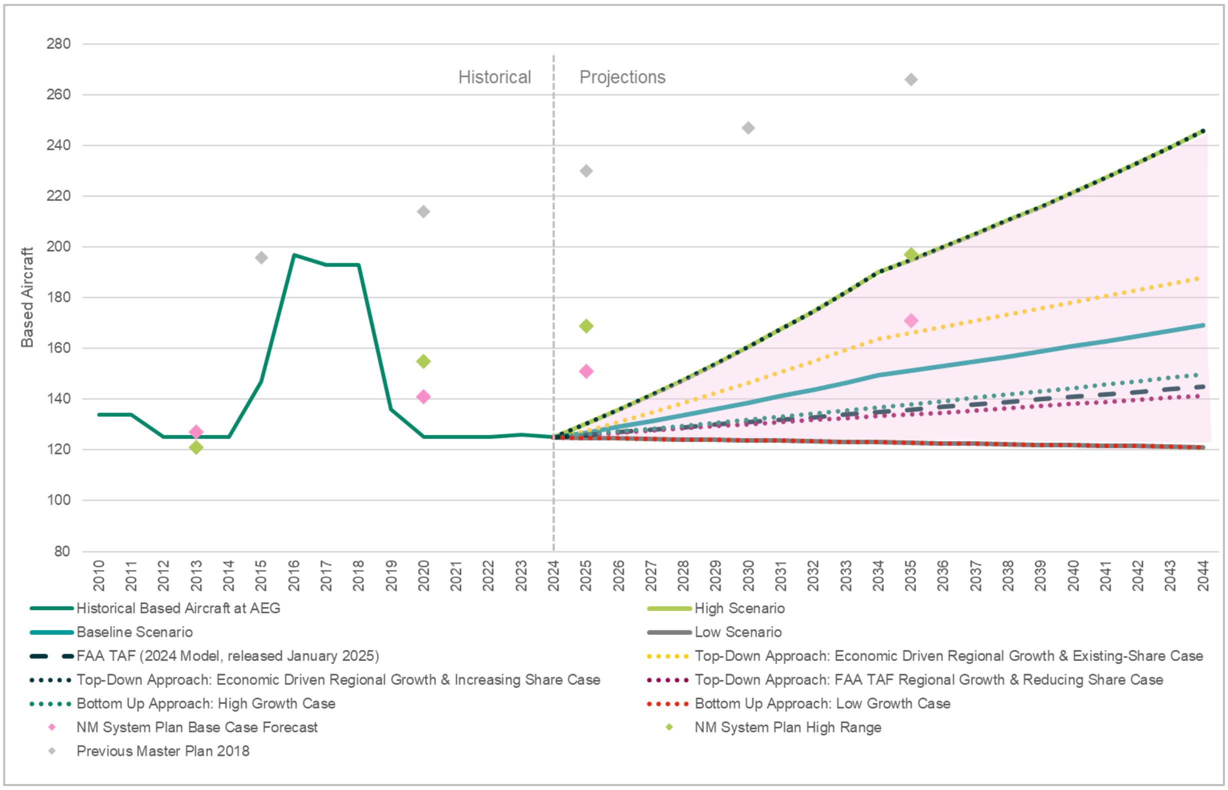

Figure 2-34. Based Aircraft Forecast

Sources:

1. *The FAA TAF, issue January 2025*
2. *New Mexico Airport System Plan Update 2017*
3. *AEG Master Plan Update 2018*
4. *AECOM analysis*

Table 2-10. Based Aircraft Forecast and Comparison with FAA TAF

Fiscal Year	High Scenario	Baseline Scenario	Low Scenario	FAA TAF (2024 Model, released Jan 2025)	% Difference between Baseline Scenario and FAA TAF
		Historical		Historical	
2024 (Base Year)	125	125	125	125	0.0%
		Forecast		Forecast	
2029	154	137	124	130	5.4%
2034	190	150	123	135	11.1%
2039	216	159	122	140	13.6%
2044	246	170	121	145	17.2%
Period		**CAGR**		**CAGR**	
2024 to 2029 (5-year)	4.3%	1.8%	-0.2%	0.8%	N/A
2024 to 2024 (10-year)	4.3%	1.8%	-0.2%	0.8%	N/A
2024 to 2044 (20-year)	3.4%	1.6%	-0.2%	0.7%	N/A
2035 to 2044 (from the 11th to 20th year)	2.6%	1.2%	-0.2%	0.7%	0.5%

Abbreviation:
CAGR: Compound Annual Growth Rate

Sources:
1. *The FAA TAF – Issued January 2025*
2. *AECOM analysis*

2.6.2 GA and Air Taxi Operations

The forecast for GA and air taxi operations is based on the estimated number of landings per based aircraft, using historical trends and benchmarking the aircraft type, ownership, and usage patterns at the Airport referencing the national statistics. The based aircraft forecast given in the previous section is used to estimate the GA and air taxi operations forecast. The overall methodology is illustrated in **Figure 2-35**, with key assumptions summarized below:

Figure 2-35. General Aviation Operations Methodology Illustration

Source: AECOM

- The estimated number of landings per type of active aircraft, based on usage categories from the FAA GA and Part 135 Activity Survey 2023, is presented in **Table 2-11**. Generally, based aircraft owned by individuals are used primarily for personal use, those owned by corporations are used mostly for business purposes, and flight school aircraft are used for instructional flying. Using historical numbers of based aircraft and operations at AEG, the estimated average number of landings per based aircraft was approximately 190-200 in 2023 and 2024. Since operations include both landings and takeoffs, this translates to 380–400 annual operations per based aircraft. The baseline scenario assumes this operational level will continue throughout the 20-year planning horizon. The high scenario assumes an increase to 210 average landings (or 420 operations) per based aircraft, while the low scenario assumes a decrease to 180 average landings (or 360 operations) per based aircraft.
- Based on the GA operations in 2023 and 2024, the model assumes approximately 82 percent of the total operations flown by all the based aircraft in each year are either departures, arrivals or touch-and-go operations at AEG. It includes 65 percent of local operations (e.g., instructional, sightseeing, and touch-and-go operations) and 18 percent itinerant operations (e.g. cross-country flight training, flights to other airports) at AEG. The remaining are based aircraft operations that took place at other airports.
- Transient GA operations accounted for approximately 25 percent of total GA operations, based on interviews with the FBO and benchmarking data from 2023 and 2024. The baseline scenario assumes this proportion remains constant (25 percent transient vs. 75 percent based aircraft operations). The high scenario anticipates stronger growth in based aircraft, resulting in a transient share decreasing to 20 percent over the 20-year horizon. Conversely, the low scenario anticipates weaker growth in based aircraft, with transient operations increasing to 35 percent.
- Air taxi operations comprised 0.6 percent of total GA and air taxi operations in 2023 but dropped to 0.3 percent in 2024. The baseline scenario expects the air taxi activity level recovery to 2023 levels by mid-term (10-year). The high scenario anticipates a potential increase in Part 135 based aircraft at AEG and that air taxi operations will grow gradually to the historical average of 1.5 percent through the 20-year planning horizon. The low scenario assumes the proportion of air taxi operations to remain at the current 2024 level.

Table 2-11. National Average Number of Landings per Aircraft for Different Use

Type of Aircraft	Overall Average	Personal Use	Business (without a paid flight crew)	Business (with a paid flight crew)	Instructional	Sightseeing	Aerial Observation (including patrol, search and rescue)	Aerial Application Other (including firefighting, forest fires)
Single-Engine Piston	176	87	160	255	668	N/A	354	N/A
Multi-Engine Piston	163	75	104	142	538	N/A	396	N/A
Single-Engine Turboprop	371	194	211	494	420	N/A	450	264
Multi-Engine Turboprop	308	151	151	230	1,141	N/A	247	394
Jet Aircraft	192	120	100	177	704	N/A	61	151
Helicopter	641	142	224	343	698	892	628	554
Other Aircraft	53	43	N/A	N/A	77	113	N/A	N/A
All Aircraft	191	84	161	342	595	210	369	334

Abbreviation:

N/A: Not Available

Note: N/A are estimates with too few survey observations to support reliable estimates according to the FAA survey.

Sources:

1. *FAA General Aviation and Part 135 Activity Survey 2023*
2. *AECOM analysis*

The baseline, high and low scenarios for total GA and air taxi operations are illustrated in **Figure 2-36** and summarized in **Table 2-12**. The long-term forecasted average annual growth rates for these three scenarios are 1.1 percent (baseline scenario), 3.3 percent (high scenario), and 0 percent (low scenario).

Although the long-term historical trends show a decline in GA operations, AEG's GA community remains highly active. New hangar developments, strong regional economic outlook, and near-term trends suggest an optimistic trajectory with continued growth potential. Consequently, all three forecast scenarios (high: 3.3 percent; baseline: 1.1 percent; and low: 0 percent) are more optimistic than the long-term historical trend (-1.7 percent), while the lower bound of the forecast scenario aligns closely with the near-term historical trend (-0.1 percent), offering a conservative outlook.

Table 2-13 provides a comparison between the forecast and the FAA TAF projections. In the near- and mid-term timeframes, the baseline scenario differs from the current FAA TAF by 6.1 percent at year 5 and 14.6 percent at year 10 — both within acceptable variance (i.e., less than 10 and 15 percent, respectively). Over the long-term planning horizon (years 11–20), the baseline scenario's annual growth rate differs from the TAF by just 0.5 percent. Overall, the baseline GA operation forecast is consistent with the FAA TAF.

Forecast total GA operations from the previous AEG Master Plan 2018 and the NMASP Update 2017 are also shown in **Figure 2-36** for reference**.** The State System Plan's base case projected an average annual growth rate of 1.2 percent, closely aligning with the current Master Plan's baseline forecast of 1.1 percent. The previous Master Plan's high and low scenarios projected average annual growth rates of 3.7 percent and 0.4 percent, respectively – differing by only 0.4 percent from this Master Plan's high and low scenarios, further supporting the alignment of the forecasts.

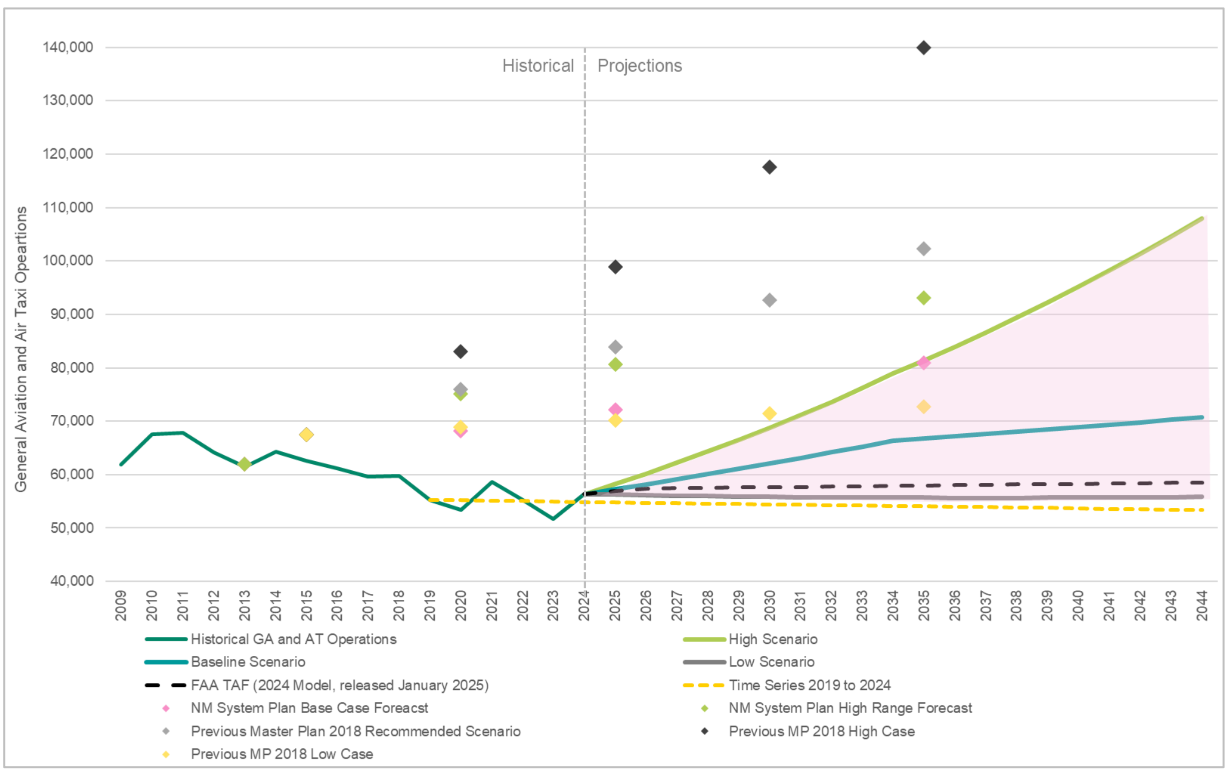

Figure 2-36. General Aviation and Air Taxi Operation Forecast

Sources:

1. *The FAA TAF, issue January 2025*
2. *New Mexico Airport System Plan Update 2017*
3. *AEG Master Plan Update 2018*
4. *AECOM analysis*

Table 2-12. General Aviation and Air Taxi Operation Forecast

Fiscal Year	High Scenario				Baseline Scenario				Low Scenario			
	Air Taxi	General Aviation		Total	Air Taxi	General Aviation		Total	Air Taxi	General Aviation		Total
		Itinerant	Local			Itinerant	Local			Itinerant	Local	
Historical												
2024	191	21,678	34,475	**56,344**	191	21,678	34,475	**56,344**	191	21,678	34,475	**56,344**
Forecast												
2029	326	24,961	41,216	**66,503**	276	24,195	36,620	**61,091**	191	22,921	32,807	**55,919**
2034	556	29,054	49,276	**78,886**	398	27,034	38,900	**66,332**	191	24,279	31,220	**55,690**
2039	949	33,861	57,430	**92,241**	411	27,706	40,363	**68,480**	191	25,764	29,709	**55,664**
2044	1,620	39,465	66,933	**108,018**	424	28,398	41,882	**70,704**	191	27,385	28,272	**55,848**
Period	**CAGR**											
2024 to 2029 (5-year)	11.3%	2.9%	3.6%	**3.4%**	7.6%	2.2%	1.2%	**1.6%**	0.0%	1.1%	-1.0%	**-0.2%**
2024 to 2034 (10-year)	11.3%	3.0%	3.6%	**3.4%**	7.6%	2.2%	1.2%	**1.6%**	0.0%	1.1%	-1.0%	**-0.1%**
2024 to 2044 (20-year)	11.3%	3.0%	3.4%	**3.3%**	4.1%	1.4%	1.0%	**1.1%**	0.0%	1.2%	-1.0%	**0.0%**

Abbreviation:
CAGR: Compound Annual Growth Rate

Source: AECOM analysis

Table 2-13. Total GA Operation Forecast and Comparison with FAA TAF

Fiscal Year	High Scenario	Baseline Scenario	Low Scenario	FAA TAF (2024 Model, released Jan 2025)	% Difference between Baseline Scenario and FAA TAF
Historical				**Historical**	
2024 (Base Year)	56,344	56,344	56,344	56,344	0.0%
Forecast				**Forecast**	
2029	66,503	61,091	55,919	57,580	6.1%
2034	78,886	66,332	55,690	57,893	14.6%
2039	92,241	68,480	55,664	58,210	17.6%
2044	108,018	70,704	55,848	58,531	20.8%
Period		**CAGR**		**CAGR**	
2024 to 2029 (5-year)	3.4%	1.6%	-0.2%	0.4%	N/A
2024 to 2024 (10-year)	3.4%	1.6%	-0.1%	0.3%	N/A
2024 to 2044 (20-year)	3.3%	1.1%	0.0%	0.2%	N/A
2035 to 2044 (from the 11th to 20th year)	3.2%	0.6%	0.0%	0.1%	0.5%

Abbreviation:
CAGR: Compound Annual Growth Rate

Sources:

1. *The FAA TAF – Issued January 2025*
2. *AECOM analysis*

2.6.3 Military Operations

Historical operations from the U.S. armed forces (U.S. Army, National Guard, and Air Force) were discussed in **Section 2.5.5**. For the purpose of airport master plan forecasts, the military activities at the Airport over the planning horizon assume maintaining annual aircraft operations at the 2024 level (i.e., 566 itinerant, 378 local, and total 944 annual military operations) as summarized in **Table 2-14**.

2.6.4 Total Aircraft Operations

The total aircraft operations forecast, including general aviation, air taxi and military aircraft operations, for the 20-year planning period are summarized in **Table 2-14**.

Table 2-14. Total Aircraft Operations Forecast

Fiscal Year	Itinerant			Local		Total
	Air Taxi	GA	Military	Civil	Military	
Historical						
2024	191	21,678	566	34,475	378	**57,288**
Baseline Scenario						
2029	276	24,195	566	36,620	378	**62,035**
2034	398	27,034	566	38,900	378	**67,276**
2039	411	27,706	566	40,363	378	**69,424**
2044	424	28,398	566	41,882	378	**71,648**
High Scenario						
2029	326	24,961	566	41,216	378	**67,447**
2034	556	29,054	566	49,276	378	**79,830**
2039	949	33,861	566	57,430	378	**93,185**
2044	1,620	39,465	566	66,933	378	**108,962**
Low Scenario						
2029	191	22,921	566	32,807	378	**56,863**
2034	191	24,279	566	31,220	378	**56,634**
2039	191	25,764	566	29,709	378	**56,608**
2044	191	27,385	566	28,272	378	**56,792**

Source: AECOM analysis

2.6.5 Critical Aircraft

FAA Advisory Circular (AC) No. 150/5000-17, *Critical Aircraft and Regular Use Determination*, provides guidance for identifying the critical aircraft (also known as design aircraft) in airport facility planning studies. The critical aircraft is defined as the most demanding aircraft type – or a group of aircraft with similar characteristics – that makes regular use of the airport. Regular use is considered to be at least 500 annual operations, excluding touch-and-go operations. This determination is based on operations data by aircraft make and model for the most recent available 12-month period.

FAA AC 150/5300-13B Change 1, *Airport Design*, further recommends that the critical aircraft for airport geometric design be defined as a composite aircraft representing a collection of aircraft classified by three parameters: Aircraft Approach Category (AAC), Airplane Design Group (ADG), and Taxiway Design Group (TDG). These classification criteria are outlined in **Table 2-15**. The Airport Reference Code (ARC) – An airport designation that combines AAC and ADG – for AEG was previously identified as D-II in the 2018 Airport Master Plan report and "C-II or Greater" in the 2017 NMASP Update. Meanwhile, the 2017 Airport Layout Plan (ALP) identifies the existing runways as C-I/C-II and the ultimate runways as C-II/D-II.

Table 2-15. Classification Criteria for AAC, ADG, and TDG

Aircraft Approach Category (AAC)	Approach Speed	
A	Approach speed less than 91 knots	
B	Approach speed 91 knots or more but less than 121 knots	
C	Approach speed 121 knots or more but less than 141 knots	
D	Approach speed 141 knots or more but less than 166 knots	
Airplane Design Group (ADG)	**Tail Height**	**Wingspan**
I	< 20 ft	< 49 ft
II	20 ft to < 30 ft	49 ft to < 79 ft
III	30 ft to < 45 ft	79 ft to < 118 ft
Taxiway Design Group (TDG)	**Cockpit to Main Gear (CMG)**	**Main Gear Width (MGW)**
1A	0 to ≤ 20 ft	0 to ≤ 15 ft
1B	20 ft to ≤ 40 ft	0 to ≤ 15 ft
2A	0 to ≤ 40 ft	15 ft to ≤ 20 ft
2B	40 ft to ≤ 40 ft	0 to ≤ 20 ft
3	0 to ≤ 65 ft	20 ft to ≤ 30 ft

Abbreviations:
AAC = Aircraft Approach Category
ADG = Airplane Design Group
TDG = Taxiway Design Group
CMG = Cockpit to Main Gear
MGW = Main Gear Width

Note: Only categories related to AEG are shown. Large aircraft within AAC Group E, ADG Group V, V, and VI, and TDG Group 4, 5, and 6 are not shown for simplicity. A full list of AAC, ADG, and TDG criteria can be found in FAA AC 150/5300-13B Change 1, Airport Design, Tables 1-2, 1-3, and 1-4.

Source: The FAA AC 150/5300-13B Change 1, Airport Design

Table 2-16 provides the number of operations at AEG from April 2024 to March 2025 by AAC, ADG, and TDG classifications, based on FAA TFMSC.

As previously noted in **Table 2-7**, TFMSC data captures less than 3 percent of total operations at AEG. According to the FAA, the Traffic Flow Management System (TFMS) is a data exchange system for supporting the management and monitoring of national air traffic flow. TFMS processes all available data sources such as flight plan messages, flight plan amendment messages, and departure and arrival messages. These flight messages are compiled into a single record per flight in the NAS Data Warehouse. However, TFMS only includes flights operating under IFR that are tracked by FAA's enroute computers. Most VFR and some non-enroute IFR traffic are excluded.[21] Business jets and corporate aircraft are almost universally required to submit a flight plan and fly under IFR. As a result, TFMSC tends to reflect operations by business jets and corporate aircraft, which are more likely to file IFR flight plans, and underrepresent operations by smaller piston or turbine-powered fixed-wing aircraft, helicopters, gliders, and ultralight aircraft at AEG.

By applying the proportion breakdown of AAC, ADG, and TDG categories from the TMFS in the recent 12-month period to the total historical and forecasted annual operation, the estimate for annual operations in each category was derived to identify the critical aircraft. As presented in **Table 2-16**, the most demanding aircraft meeting the 500-operations threshold during the April 2024-March 2025 period is the following group of aircraft:

- AAC – C (Approach speed 121 knots or more but less than 141 knots)
- ADG – II (Wingspan 49 feet or more but less than 79 feet, tail height between 20 feet and 30 feet)
- TDG – 2A (Cockpit to main gear less than 40 feet, and main gear between 15 feet and 20 feet)

Examples of C-II aircraft with historical operations at AEG include the Dassault Falcon 2000, Falcon 900, Falcon/Mystère 50, Bombardier Challenger 300, Challenger 600, Gulfstream III/G300, Gulfstream II/G200, Cessna Citation X, and Hawker 800 (see **Figure 2-37**).

Looking forward, the high scenario projects more than 500 annual operations by aircraft in the AAC – D category during the 15- to 20-year timeframe as shown in **Table 2-16**. An example of AAC – D aircraft operated at AEG is the Gulfstream IV/G400 (**Figure 2-38**). Additionally, the high scenario projects that aircraft within the TDG – 3 category will surpass 500 annual operations by the 10-year mark. Representative TDG – 3 aircraft at AEG include turboprops such as the Embraer Brasilia EMB 120, and Saab SF 340 (**Figure 2-38**).

Based on these projections, the future critical aircraft group is proposed to include the following characteristics:

- AAC – D (Approach speed 141 knots or more but less than 166 knots)
- ADG – II (same as existing critical aircraft)
- TDG – 3 (Cockpit to main gear less than 65 feet, and main gear between 20 feet and 30 feet)

The ultimate ARC D-II category remains consistent with the classifications outlined in the NMASP Update 2017 and the previously approved 2017 ALP-of-record.

2.6.5.1 Critical Aircraft by Runway

The FAA also requires a critical aircraft designation for each runway. This determination for AEG is based on historical runway usage referencing wind data, live flight tracking from FlightAware[22] during a two-week period in July 2025, and discussions with the air traffic controllers at the AEG airport traffic control tower (ATCT).

Aircraft performance and wind conditions directly affect runway utilization. For both takeoffs and landings, aircraft perform best with a direct headwind, which allows an aircraft to achieve lift at slower groundspeeds and shorter runway lengths. Although aircraft can operate safely in crosswind conditions, these situations are less desirable, particularly for smaller aircraft – due to limitations imposed by weight, landing speed, and maximum allowable crosswind components. As such, airports serving smaller general aviation aircraft, like AEG, often include crosswind runways to accommodate variable wind conditions.

At AEG, Runway 4-22 serves as the primary runway and is oriented to align with prevailing winds. Crosswind Runway 17-35 supports operations when winds are less favorable for the primary runway.

[21] The FAA TFMS.
[22] FlightAware is a digital aviation company and operates flight tracking and data platform. FlightAware's tracking capabilities are powered by a combination of diverse data sources and advanced technology, such as air traffic control radar and flight plan information, and ADS-B network.

As described in Chapter 1, Runway 22 is the only runway at AEG equipped with an Instrument Landing System (ILS), providing both vertical and lateral guidance for aircraft landing during reduced visibility, poor weather, or nighttime operations. Additionally, Runway ends 4 and 22 feature Instrument Approach Procedures (IAPs) that utilize Area Navigation (RNAV) Global Positioning System (GPS) for guidance. Consequently, larger GA aircraft, business jets, and aircraft operating under IFR primarily use Runway 4-22.

In summary, the existing and future ultimate critical aircraft group by runway is identified as follows:

- Existing Primary Runway 4-22: C-II
- Existing Crosswind Runway 17-35: B-II
- Future Ultimate Primary Runway 4-22: D-II
- Future Ultimate Crosswind Runway 17-35: B-II

C-II Aircraft

- Model: Dassault Falcon 900
- Approach speed 130 knots
- Wingspan: 63.4 ft
- Tail height 24.8 ft
- CMG: 26 ft
- MGW: 16.6 ft
- MTOW: 49,000 lb.
- AAC: C
- ADG: II
- TDG: 2A

- Model: Dassault Falcon 2000
- Approach speed 130 knots
- Wingspan: 63.4 ft
- Tail height 23.2 ft
- CMG: 25 ft
- MGW: 16.6 ft
- MTOW: 42,400 lb.
- AAC: C
- ADG: II
- TDG: 2A

- Model: Bombardier Challenger 300 / 600
- Approach speed 126 knots / 137 knots
- Wingspan: 63.8 ft / 64.3 ft
- Tail height 20.3 ft / 20.7 ft
- CMG: 27.8 ft / 26.2 ft
- MGW: 12.6 ft / 13 ft
- MTOW: 38,850 lb. / 47,600 lb.
- AAC: C
- ADG: II
- TDG: 1B

- Model: Gulfstream II / G200
- Approach speed 125 knots / 130 knots
- Wingspan: 68.8 ft / 58.1 ft
- Tail height 24.5 ft / 21.4 ft
- CMG: 26 ft / 24.3 ft
- MGW: 13.8 ft / 12 ft
- MTOW: 62,000 lb. / 35,650 lb.
- AAC: C
- ADG: II
- TDG: 1B

Figure 2-37. Examples of Existing Critical Aircraft with C-II Category

Abbreviations:
AAC = Aircraft Approach Category
ADG = Airplane Design Group
CMG = Cockpit to Main Gear
MGW = Main Gear Width
MTOW = Maximum Takeoff Weight
TDG = Taxiway Design Group

Sources:
1. *Dassault (Top two)*
2. *Bombardier (Third)*
3. *Gulfstream (Bottom)*

D-II Aircraft

(Photo Credit: Matthew Croshaw, Photo date: March 16, 2025, Location: AEG)

- Model: Gulfstream IV
- Approach speed 150 knots
- Wingspan: 77.8 ft
- Tail height 24.4 ft
- CMG: 38.1 ft
- MGW: 15.7 ft
- MTOW: 73,200 lb.
- AAC: D
- ADG: II
- TDG: 2A

TDG-3 Aircraft

- Model: Saab SF 340
- Approach speed 124 knots
- Wingspan: 74.6 ft
- Tail height 22.9 ft
- CMG: 22.9 ft
- MGW: 23.8 ft
- MTOW: 28,000 lb.
- AAC: C
- ADG: II
- TDG: 3

- Model: Embraer EMB 120
- Approach speed 113 knots
- Wingspan: 64.9 ft
- Tail height 21.4 ft
- CMG: 22.9 ft
- MGW: 23.5 ft
- MTOW: 26,433 lb.
- AAC: B
- ADG: II
- TDG: 3

Figure 2-38. Examples of Ultimate Critical Aircraft with D-II and TDG-3 Category

Abbreviations:
AAC = Aircraft Approach Category
ADG = Airplane Design Group
CMG = Cockpit to Main Gear
MGW = Main Gear Width
MTOW = Maximum Takeoff Weight
TDG = Taxiway Design Group

Sources:
1. *Matthew Croshaw (Top)*
2. *Saab (Middle)*
3. *Embraer (Bottom)*

Table 2-16. Estimated Annual Operations by AAC, ADG, and TDG

Categories	TFMSC 12-Month Operations by Aircraft Type				Total TFMSC	Estimated Proportion	Historical	Baseline Scenario				High Scenario				Estimated Runway Usage
AAC	**Piston**	**Turbine**	**Jet**	**Unknown**			**2024**	**2029**	**2034**	**2039**	**2044**	**2029**	**2034**	**2039**	**2044**	
A	593	282	30	0	905	62.9%	36,029	39,015	42,310	43,662	45,060	42,418	50,205	58,605	68,527	Rwy 4-22 Rwy 17-35 50/50 split
B	91	207	71	0	369	25.6%	14,690	15,908	17,251	17,802	18,373	17,295	20,471	23,895	27,941	
C	0	2	20	0	22	1.5%	876	948	1,029	1,061	1,095	1,031	1,220	1,425	1,666	Rwy 4-22
D	0	0	7	0	7	0.5%	279	302	327	338	349	328	388	453	530	Rwy 4-22
Unknown	97	10	0	29	136	9.5%	5,414	5,863	6,358	6,561	6,771	6,374	7,545	8,807	10,298	N/A
Total	781	501	128	29	1,439	100.0%	57,288	62,035	67,276	69,424	71,648	67,447	79,830	93,185	108,962	N/A
ADG	**Piston**	**Turbine**	**Jet**	**Unknown**	**Total TFMSC**	**Estimated Proportion**	**2024**	**2029**	**2034**	**2039**	**2044**	**2029**	**2034**	**2039**	**2044**	**Runway Usage**
I	679	150	66	0	895	62.2%	35,631	38,583	41,843	43,179	44,562	41,949	49,651	57,957	67,770	Rwy 4-22 Rwy 17-35 50/50 split
II	5	337	60	0	402	27.9%	16,004	17,330	18,794	19,394	20,016	18,842	22,301	26,032	30,440	
III	0	4	2	0	6	0.4%	239	259	281	289	299	281	333	389	454	Rwy 4-22
Unknown	97	10	0	29	136	9.5%	5,414	5,863	6,358	6,561	6,771	6,374	7,545	8,807	10,298	N/A
Total	781	501	128	29	1,439	100.0%	57,288	62,035	67,276	69,424	71,648	67,447	79,830	93,185	108,962	N/A
TDC	**Piston**	**Turbine**	**Jet**	**Unknown**	**Total TFMSC**	**Estimated Proportion**	**2024**	**2029**	**2034**	**2039**	**2044**	**2029**	**2034**	**2039**	**2044**	**N/A**
1A	651	263	58	0	972	67.5%	38,696	41,903	45,443	46,894	48,396	45,559	53,922	62,943	73,601	N/A
1B	3	2	42	0	47	3.3%	1,871	2,026	2,197	2,268	2,340	2,203	2,607	3,044	3,559	N/A
2A	28	218	26	0	272	18.9%	10,829	11,726	12,716	13,123	13,543	12,749	15,089	17,614	20,596	N/A
3	0	8	2	0	10	0.7%	398	431	468	482	498	469	555	648	757	N/A
Unknown	99	10	0	29	138	9.6%	5,494	5,949	6,452	6,658	6,871	6,468	7,656	8,936	10,449	N/A
Total	**781**	**501**	**128**	**29**	**1,439**	100.0%	57,288	62,035	67,276	69,424	71,648	67,447	79,830	93,185	108,962	N/A

Note: Green highlighted cells are the categories with over 500 annual operations.

Abbreviations:

AAC = Aircraft Approach Category

ADG = Airplane Design Group

TDG = Taxiway Design Group

N/A = Not applicable

Sources:

1. *The FAA TFMSC*
2. *AECOM analysis*

2.7 Summary of General Aviation Demand Forecasts

Forecasts of future GA activity levels and the identification of the critical aircraft are essential components for planning new or expanded infrastructure at AEG as part of the airport master planning process. AEG's GA community remains highly active, supported by strong regional economic outlook, ongoing hangar development, and an improving near-term historical trend. Collectively, these factors point to an optimistic trajectory and continued growth potential for GA operations and based aircraft. **Table 2-17** summarizes the unconstrained GA demand forecast over the 20-year planning horizon, including projections for based aircraft, itinerant GA, air taxi, and military operations, as well as local GA and military activities.

Table 2-17. Summary of General Aviation Demand Forecasts for the 20-Year Planning Horizon

Fiscal Year	Itinerant Operations				Local Operations			Total Operations	Based Aircraft					Total Based Aircraft
	Air Taxi	GA	Military	Total Itinerant Operations	Civil	Military	Total Local Operations		Single-Engine	Multi-Engine	Jet	Helicopter	Other	
								Historical						
2024 (Base year)	191	21,678	566	22,435	34,475	378	34,853	57,288	96	15	1	7	6	125
								Forecast						
2029 (Base year+5)	276	24,195	566	25,037	36,620	378	36,998	62,035	105	16	1	8	7	137
2034 (Base year+10)	398	27,034	566	27,998	38,900	378	39,278	67,276	115	18	1	9	7	150
2039 (Base year+15)	411	27,706	566	28,683	40,363	378	40,741	69,424	122	19	1	9	8	159
2044 (Base year+20)	424	28,398	566	29,388	41,882	378	42,260	71,648	131	20	1	10	8	170
Period								**CAGR**						
2024 to 2029 (5-year)	7.6%	2.2%	0.0%	2.2%	1.2%	0.0%	1.2%	1.6%	1.8%	1.3%	0.0%	2.7%	3.1%	1.9%
2024 to 2034 (10-year)	7.6%	2.2%	0.0%	2.2%	1.2%	0.0%	1.2%	1.6%	1.8%	1.8%	0.0%	2.5%	1.6%	1.8%
2024 to 2044 (20-year)	4.1%	1.4%	0.0%	1.4%	1.0%	0.0%	1.0%	1.1%	1.6%	1.4%	0.0%	1.8%	1.4%	1.5%

Abbreviation:

CAGR: Compound Annual Growth Rate

Table 2-18 summarizes the forecast levels and growth rates, and **Table 2-19** summarizes the comparison with the FAA TAF. These tables adopt the format required by the FAA.

Table 2-18. Summary of Forecast Levels and Growth Rates

A. Forecast Levels and Growth Rates

Specify Base Year: 2024

	Base Yr. Level	Base Yr. +1yr.	Base Yr. +5yrs.	Base Yr. +10yrs.	Base Yr. +15yrs.	Average Annual Compound Growth Rates Base Yr. to +1	Base Yr. to +5	Base Yr. to +10	Base Yr. to +15
	2024	2025	2029	2034	2039	2024 to 2025	2024 to 2029	2024 to 2034	2024 to 2039
Operations									
Itinerant									
Air Taxi	191	205	276	398	411	7.3%	7.6%	7.6%	5.2%
General Aviation	21,678	22,158	24,195	27,034	27,706	2.2%	2.2%	2.2%	1.6%
Military	566	566	566	566	566	0.0%	0.0%	0.0%	0.0%
Local									
General Aviation	34,475	34,894	36,620	38,900	40,363	1.2%	1.2%	1.2%	1.1%
Military	378	378	378	378	378	0.0%	0.0%	0.0%	0.0%
TOTAL OPERATIONS	57,288	58,201	62,035	67,276	69,424	1.6%	1.6%	1.6%	1.3%
Based Aircraft									
Single-Engine (Non-jet)	96	97	105	115	122	1.0%	1.8%	1.8%	1.6%
Multi-Engine (Non-jet)	15	15	16	18	19	0.0%	1.3%	1.8%	1.6%
Jet Engine	1	1	1	1	1	0.0%	0.0%	0.0%	0.0%
Helicopter	7	8	8	9	9	14.3%	2.7%	2.5%	1.7%
Other	6	6	7	7	8	0.0%	3.1%	1.6%	1.9%
Military	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TOTAL	125	127	137	150	159	1.6%	1.9%	1.8%	1.6%

B. Operational Factors

	Base Yr. Level	Base Yr. +1yr.	Base Yr. +5yrs.	Base Yr. +10yrs.	Base Yr. +15yrs.
	2024	2025	2029	2034	2039
GA operations per based aircraft	451	451	446	442	431

Table 2-19. Comparison Between Airport Planning and FAA TAF Forecasts

	Fiscal Year	Airport Forecast	FAA TAF (2024 Model, issued January 2025)	% Difference
Total Operations				
Base yr.	2024	57,288	57,288	0.0%
Base yr. + 5yrs.	2029	62,035	58,525	6.0%
Base yr. + 10yrs.	2034	67,276	58,838	14.3%
Base yr. + 15yrs.	2039	69,424	59,155	17.4%

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Double Eagle II Airport

Airport Master Plan Update
Working Paper #2 – Basis for the Proposed Development
Facility Requirements

City of Albuquerque Aviation Department

Project Number: 7540.003

July 2026

City of Albuquerque Aviation Department
Administration Office, 3rd Level
2200 Sunport Blvd. SE
Albuquerque, NM 87106

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Revision	Revision Date	Details	Authorized	Name	Position
1	3/30/2026	Revision includes response to City of Albuquerque comments received on February 19, 2026, and March 17, 2026.	Tezla, Anthony	Mayer, Gregory	Senior Airport Planner
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Tables

List of Acronyms

A

A&P	Aircraft and Powerplant
AAC	Aircraft Approach Category
AAM	Advanced Air Mobility
ABQ	Albuquerque International Sunport
ABQ1	Amazon Fulfillment Center
AC	Advisory Circular
ACHP	Advisory Council on Historic Preservation
ACR	Aircraft Classification Rating
ACRP	Airport Cooperative Research Program
ADG	Airplane Design Group
ADIP	Airport Data and Information Portal
ADPM	Average Day Peak Month
AEG/Airport	Double Eagle II Airport
AFR	Albuquerque Fire Rescue
AMR	Airport Master Record
AOA	Air Operations Area
APA	Centennial Airport
ARC	Airport Reference Code
ARPA	Archaeological Resources Protection Act
ARPZ	Approach Runway Protection Zone
ASOS	Automated Surface Observing System
ATCT	Airport Traffic Control Tower
ASV	Annual Service Volume
AWOS	Automated Weather Observing System

C

CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
City	City of Albuquerque

D

DoD	Department of Defense
DOT	Department of Transportation
DRPZ	Departure Runway Protection Zone

E

EPA	Environmental Protection Agency
eVTOL	Electric Vertical Takeoff and Landing

F

FAA	Federal Aviation Administration
FBO	Fixed-Based Operator
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Mapping
FUDS	Formerly Used Defense Sites

G

GA	General Aviation
GPS	Global Positioning System
GS	Glide Slope
GSE	Ground Support Equipment

H

HIRL	High Intensity Runway Lights

I

IAP	Instrument Approach Procedure
IDO	Integrated Development Ordinance
IFR	Instrument Flight Rules
ILS	Instrument Landing System
iPAC	Information for Planning and Consultation
ITS	Intelligent Transportation System

L

LOC	Localizer

M

MALSR	Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
MIRL	Medium Intensity Runway Lights
MITL	Medium Intensity Taxiway Lights
MRCOG	Mid-Region Council of Governments
MTOW	Maximum Takeoff Weight
MTP	Metropolitan Transportation Plan

N

NAAQS	National Ambient Air Quality Standards
NAVAID	Navigational Aid
NDA	New Demolition Area
NHPA	National Historic Preservation Act
NMASP	New Mexico Airport System Plan
NMDOT	New Mexico Department of Transportation
NPA	Non-Precision Approach
NPDES	National Pollutant Discharge Elimination System
NPIAS	National Plan of Integrated Airport Systems
NPL	National Priorities List
NRHP	National Register of Historic Places

O

OFZ	Obstacle Free Zone

P

PA	Precision Approach
PAL	Planning Activity Level
PAPI	Precision Approach Path
PCN	Pavement Classification Number
PCR	Pavement Classification Rating
PDV	Paseo del Volcan
POFZ	Precision Obstacle Free Zone
PNM	Public Service Company of New Mexico
PUB	Pueblo Memorial Airport

R

RCRA	Resource Conservation and Recovery Act
RDC	Runway Design Code
REIL	Runway End Identifier Light
RNAV	Area Navigation
ROFA	Runway Object Free Area
ROW	Right-of-Way
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RVR	Runway Visibility Range

S

SF	Square Foot/Feet
SFHA	Special Flood Hazard Area
SM	Statute Mile
SSA	Sole Source Aquifer
SWPPP	Stormwater Pollution Prevention Plan
SY	Square Yard

T

TAF	Terminal Area Forecast
TDG	Taxiway Design Group
TLOFA	Taxilane Object Free Area
TOFA	Taxiway Object Free Area
TSA	Taxiway Safety Area

U

USFWS	United States Fish and Wildlife Service

V

V/C	Volume-to-Capacity
VFR	Visual Flight Rules
VSR	Vehicle Service Road

3. Facility Requirements

This chapter assesses the ability of the existing facilities at Double Eagle II Airport (AEG, Airport) to meet the current and future demand presented in **Chapter 2:** *General Aviation Demand Forecasts* and identifies requirements for the airfield, landside, and support facilities on and around Airport property for the 20-year planning period. The chapter also includes an overview of existing airport and vicinity environmental features and conditions.

The timing of facility improvements is driven by when aviation activity levels will be reached, not a predicted set point in time. The actual timing of development may vary from the Master Plan forecast years depending on the actual progression of future activity. As a result, Planning Activity Levels (PALs), which are activity-based milestones that can be used to make future improvement decisions, are encouraged to be used by the City of Albuquerque (City) in evaluating the need for additional facilities.

Photo Credit: Greg Mayer
Photo Date: June 24, 2025
Location: AEG

3.1 Airside Facility Requirements

The Airside Facilities Requirements section includes an assessment of the airside's ability to handle forecast activity levels; analysis of its compliance with current Federal Aviation Administration (FAA) design and safety standards; and a determination of design standards for new facilities or the improvement of existing facilities. The airside facility requirements evaluated in this chapter include:

- Airfield Capacity Analysis
- Runway Requirements
  - Runway Orientation
  - Runway Length
- Airfield Design
  - Runway Design, Protection, and Separation Standards
  - Taxiway Design, Protection, and Separation Standards
- Navigational Aids (NAVAIDs)
- Airfield Lighting

3.1.1 Airfield Capacity Analysis

An airfield capacity analysis was conducted using methodology contained in FAA Advisory Circular (AC) 150/5060-5, *Airport Capacity and Delay.* This methodology uses a series of tables, graphs, and equations to calculate an airfield's annual capacity. However, because it is estimated that the capacity of the existing airfield far exceeds the current and projected number of annual aircraft operations, the handbook's capacity values for "long-range planning" were used in lieu of conducting a more detailed assessment. The long-range planning section of the handbook presents capacity values based on a series of simplified assumptions that reduces the calculation process.

An airfield's annual capacity is referred to as Annual Service Volume (ASV). ASV is defined as a reasonable estimate of an airport's annual capacity. It accounts for differences in runway use, aircraft fleet mix, weather conditions, and other factors that would be encountered during a one-year period.

For the Airport's capacity analysis, the existing runway configuration was selected along with an estimate of the percentage of large aircraft (>12,500 pounds) found within the current and projected aircraft fleet mix. Using a projected fleet mix of <20 percent large aircraft for the planning period, the ASV is estimated at approximately 230,000 annual operations.

Table 3-1 provides a comparison of the current and forecast annual aircraft operations with the airfield's estimated ASV. As the table indicates, aircraft operations in 2024 consumed 25 percent of available capacity whereas annual aircraft operations in 2044 are projected to consume 31 percent of available airfield capacity.

Table 3-1. Comparison of Forecast Annual Aircraft Operations to ASV

Year	Forecast of Annual Operations	Estimated ASV	Forecast Operations as a Percentage of ASV
PAL 0 – 2024 (Base Year)	57,288	230,000	25%
PAL 1 – 2029 (Base Year + 5)	62,035		27%
PAL 2 – 2034 (Base Year + 10)	67,276		29%
PAL 3 – 2039 (Base Year + 15)	69,424		30%
PAL 4 – 2044 (Base Year + 20)	71,648		31%

Abbreviation:
ASV: Annual Service Volume

Sources:
1. *FAA AC 150/5060-5, Airport Capacity and Delay*
2. *AECOM Analysis*

FAA Order 5090.3C, *Field Formulation of the National Plan of Integrated Airport Systems (NPIAS)* specifies that airport sponsors should begin planning airfield capacity improvements when annual aircraft operations are between 60 to 75 percent of annual capacity. Since the Airport is not expected to reach 60 percent of capacity during the master planning period, capacity improvements that increase annual airfield capacity, such as additional runways, taxiways, or runway exit taxiway locations are not expected to be needed during the study period.

3.1.2 Runway Requirements

Runway design standards are based on aircraft performance and the operating conditions of the airport. The Airport is located at a high elevation and regularly experiences very high temperatures, both of which can significantly degrade aircraft takeoff performance and necessitate a review of runway design considerations. The following characteristics were examined:

- Airport Elevation: 5,837.4 feet above mean sea level (AMSL)
- Mean Maximum Temperature: 92.3ºF (July)
- Runway Gradient: 0.37 percent (Runway 4-22) and 0.13 percent (Runway 17-35)

3.1.2.1 Runway Orientation

A factor influencing runway orientation and number of runways is wind. Ideally, a runway should be aligned with the prevailing winds. Generally, the smaller the airplane, the more it is affected by wind, particularly crosswind components. The crosswind component of wind direction and velocity is the resultant vector acting at a right angle to the runway. These components can be divided into 10.5-knot, 13-knot, 16-knot, and 20-knot components. As discussed in **Chapter 1**: *Inventory*, the desirable wind coverage for the primary runway is 95 percent, based on the total number of weather observations.

During takeoff headwinds help to increase lift, meaning a lower ground speed and a shorter runway distance is needed for the plane to get airborne. Landing into the wind has similar advantages; less runway is needed and ground speed is lower at touchdown.

As shown in **Table 3-2**, neither runway by itself meets the FAA-desired 95 percent wind coverage at a 10.5-knot crosswind component for Instrument Flight Rules (IFR) and All-Weather conditions, as well as a 13-knot crosswind component for All-Weather conditions; however, the combined wind coverage of both runways meets the FAA standard of 95 percent coverage. See the red text in **Table 3-2** for the runways with crosswind components of deficient wind coverage. Therefore, it is necessary that the Airport maintains both existing runways to accommodate operations by aircraft requiring adequate wind coverage that keeps crosswind components within aircraft operating performance requirements.

Additionally, there are times when runways are closed due to operational or maintenance purposes. During these times, providing the crosswind runway would allow aircraft using AEG to continue operating at the airport during single runway conditions, rather than being diverted to another airport.

Table 3-2. Wind Analysis

Crosswind Component	IFR			All-Weather		
	4-22	17-35	Total	4-22	17-35	Total
10.5 Knots	**91.79**	**92.64**	95.68	**91.2**	**91.36**	95.27
13 Knots	95.08	95.43	97.78	**94.49**	**94.8**	97.71
16 Knots	97.89	97.91	99.1	97.92	97.75	99.17

Abbreviations:
IFR: Instrument Flight Rules
VFR: Visual Flight Rules

Source: ADIP – KAEG-NM-723647-03034-Double Eagle II Airport-2015,2016,2017,2018,2019,2020,2021,2022,2023,2024

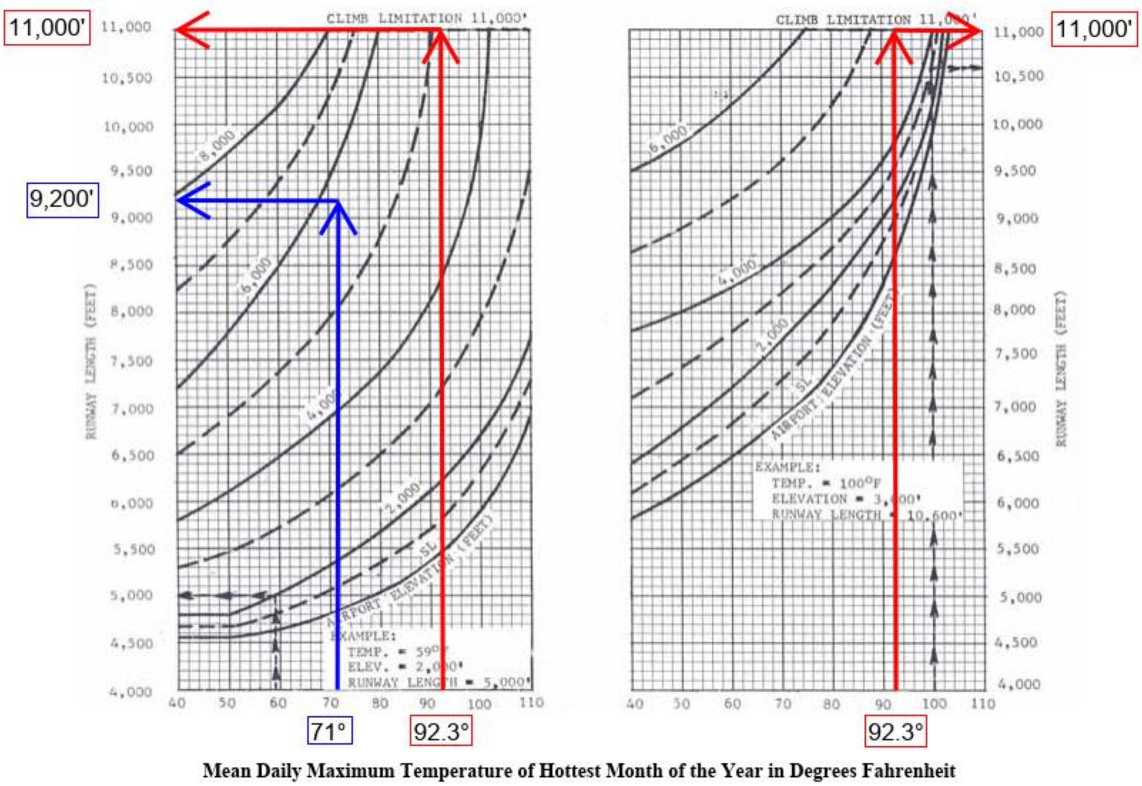
3.1.2.2 Runway Length Requirements – Primary Runway (Runway 4-22)

Primary Runway 4-22 is the longer of the two runways, equipped with a precision approach, and provides convenient access to the landside and support facilities. The combination of high altitude and high temperature conditions make AEG, and all airports located in the high-desert plateau of New Mexico, among the most challenging in the United States. Airports in such conditions often have substantially longer and wider runways than elsewhere. To access these locations, aircraft operators will often operate at reduced takeoff and landing weights and/or stage length (i.e. operating range). A common practice used by operators to access high elevation airports is to minimize fuel loads by fueling at lower elevation/cooler airports, thereby enhancing passenger or material volume that can be transported.

However, the primary runway's existing length (7,398 feet) imposes restrictions on potential operators of most common types of business and corporate aircraft comprising the GA fleet and can be considered access-restricted during high temperature operating conditions experienced at the airport. Enabling and/or increasing access helps the Airport contribute economically to the region and improves the return on Airport infrastructure investment.

Chapter 3 of FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*, analyzes runway lengths for airplanes within a maximum certificated takeoff weight of more than 12,500 pounds up to and including 60,000 pounds at the airport. The chapter also includes two tables that provide examples of aircraft that make up a fleet mix. The chapter states that "if a relatively few airplanes under evaluation are listed in Table 3-2, then Figure 3-2 should be used to determine the runway length," thus, Table 3-2 and Figure 3-2 from the AC were utilized. Examples of aircraft that are listed in Table 3-2 of the AC, have used or are anticipated to use Runway 4-22, include the Bombardier 600 Challenger, Cessna Citation S550 and 650, and the Dassault Falcon 900 and 2000. **Figure 3-1** below includes an analysis using Figure 3-2 from the AC.

Figure 3-2. 100 Percent of Fleet at 60 or 90 Percent Useful Load



100 percent of fleet at 60 percent useful load **100 percent of fleet at 90 percent useful load**

Figure 3-1. Runway Length Analysis for 100 Percent of Fleet at 60 or 90 Percent Useful Load

Source: FAA AC 150/5325-4B, Runway Length Requirements for Airport Design

As shown in **Figure 3-1**, the aircraft performance limitations of the fleet are exceeded during the hottest month. This means that even with a runway length of 11,000 feet, operations would be restricted to less than 60 percent useful load, affecting the economy of using those aircraft during high-temperature conditions. The charts also indicate that the existing runway length of 7,398 feet is only adequate for this set of aircraft operating at 60 percent useful load during cool weather periods, significantly limiting the fleet's ability to operate at AEG during most conditions. As shown in the figure, a runway length of 9,200 feet would permit this fleet mix to operate at 60 percent useful load about half of the year (at 71ºF or lower), which is the average high temperature for the calendar year in Albuquerque. Weight restrictions would continue to affect about 30 percent of operating conditions even at a maximum performance length of 11,000 feet. The combination of high average temperatures at high elevation reduces the utility of much of the operating fleet, meaning that most operations would be conducted at reduced payloads in terms of passengers, cargo, and fuel.

A comparison of other airports having similar aircraft activity, elevation, and temperatures further support the case for additional runway length at AEG. Pueblo Memorial Airport (PUB) has a length of 10,498 feet and Centennial Airport (APA) has a length of 10,001 feet. In order to better accommodate the GA fleet mix that serve the Albuquerque region using the Double Eagle II Airport, a primary runway length of 11,000 feet for ultimate planning purposes is appropriate. An incremental increase in length of primary Runway 4-22 to 9,200 feet would support much of the expected aircraft fleet with reasonable load factors throughout the year.

3.1.2.3 Runway Length Requirements – Crosswind Runway (Runway 17-35)

Runway 17-35 is utilized as the Airport's secondary, or crosswind, runway. Crosswind runways are important since they improve an airport's likelihood of providing aircraft with lower crosswind components which facilitate taking off and landing into the wind. Taking off and landing into a headwind improves aircraft lifting capabilities which provides the performance needed to reduce the ground roll portion of a takeoff and landing and clear obstacles during the climb portion of the takeoff. A crosswind runway is used to moderate the amount of crosswind component that imposes a sideload on the aircraft and affects aircraft controllability during takeoff and landing. Because lighter and slower aircraft are more susceptible to crosswinds than heavier and faster ones, crosswind runways are more commonly needed to support light aircraft operations.

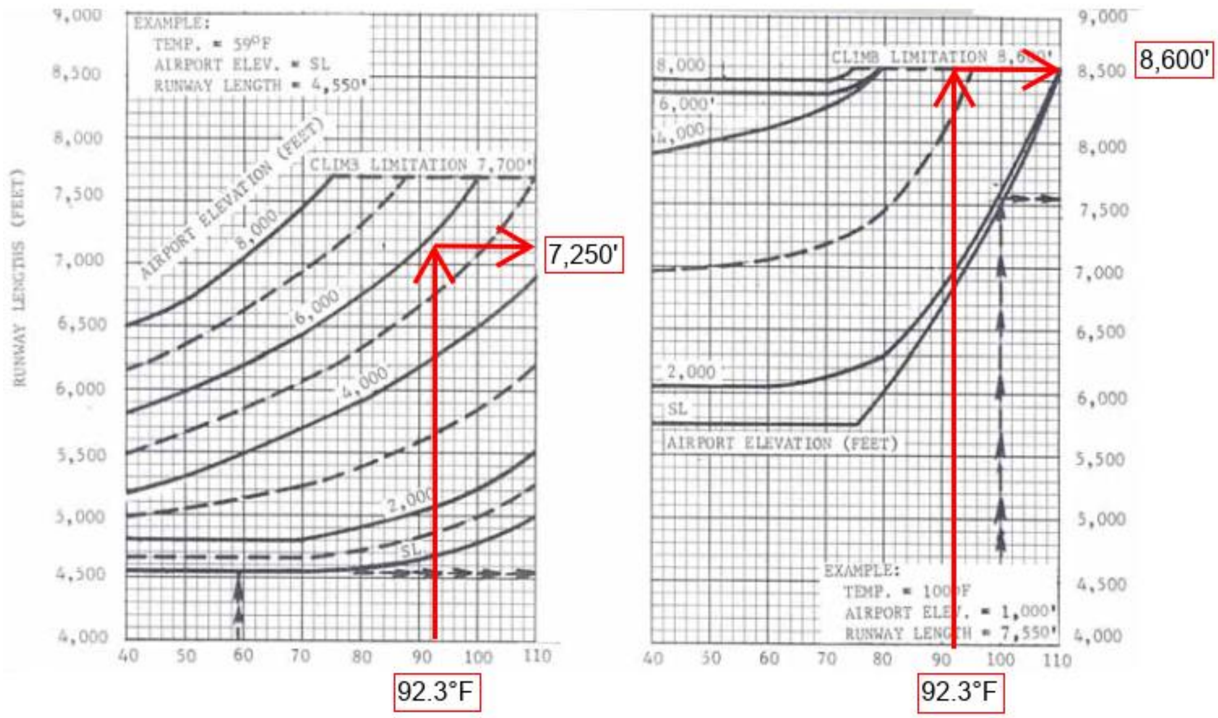
Chapter 2 of FAA AC 150/5325-4B analyzes runway lengths for airplanes within a maximum certificated takeoff weight of 12,500 pounds or less. Runway 17-35 accommodates a significant number of operations from these aircraft. Using Figure 2-1 from the AC, a total runway length of 6,800 feet for 95 percent of the fleet would be required for Runway 17-35, while 7,300 feet for 100 percent of the fleet would be required for Runway 17-35.

Chapter 3 of the same AC analyzes runway lengths for airplanes within a maximum certificated takeoff weight of more than 12,500 pounds up to and including 60,000 pounds and is the recommended analysis for Runway 17/35 in case of a runway closure to Runway 4/22. Therefore, to analyze runway length for Runway 17-35, Table 3-1 and Figure 3-1 from the AC was utilized. Examples of aircraft that are listed in Table 3-1 of the AC that also currently and are anticipated to operate on Runway 17-35, include the Cessna Citation I, II, II, 550 Bravo, and 560 Encore, the Dassault Falcon 50, the Learjet 40, and the Raytheon Hawker 400.

The graph displaying 75 percent of fleet at 60 percent useful load was also used as most of the aircraft in that table would need to take a payload penalty or have climb limitations at 90 percent useful load. See **Figure 3-2**. The resulting analysis indicates that Runway 17-35 should be extended from its current length of 5,983' to at least 7,250 and up to a preferred length of 8,600 feet.

AEG's two-runway system has significant advantages over comparable single-runway airports, primary of which is the ability to remain operational when one runway is closed for operational purposes or for prolonged maintenance/repair work such as pavement rehabilitation. The capability to remain operational is important for the tenant businesses located at the Airport; for businesses basing or considering basing their aircraft at AEG; and for aircraft users visiting the Albuquerque area. For these reasons, the length of the crosswind runway can be an important consideration further supporting a future length of 8,600 feet to permit operations by most or all operators.

Figure 3-1. 75 Percent of Fleet at 60 or 90 Percent Useful Load



Mean Daily Maximum Temperature of Hottest Month of the Year in Degrees Fahrenheit

75 percent of fleet at 60 percent useful load **75 percent of fleet at 90 percent useful load**

Figure 3-2. Crosswind Runway Length Analysis

Source: FAA AC 150/5325-4B, Runway Length Requirements for Airport Design

3.1.3 Airfield Design Standards

Meeting FAA airfield design standards is important for aircraft to safely conduct operations. FAA AC 150/5300-13B, *Airport Design*, *Change 1*, recommends that the critical aircraft (or group of aircraft) for airport design be defined as a composite aircraft representing a collection of aircraft classified by three parameters: AAC, ADG, and Taxiway Design Group (TDG). Combined, the AAC and ADG form the critical aircraft or Airport Reference Code (ARC).

The critical aircraft is defined as the most demanding aircraft type – or a group of aircraft with similar characteristics – that makes regular use of the airport. Regular use is considered to be at least 500 annual operations, excluding touch-and-go operations. Since the Airport does not have one critical aircraft for the planning period, a critical aircraft grouping was established and will be referenced throughout the chapter.

This section describes and applies the FAA design standards to the existing and future critical aircraft grouping to determine if the existing airfield design and geometry meet standards.

3.1.3.1 Runway Design, Protection, and Separation Standards

As discussed in **Chapter 2**: *General Aviation Demand Forecasts*, the Airport's existing critical aircraft group is C-II, while the future critical aircraft group is D-II. In terms of airfield design standards, there are no differences between C-II and D-II requirements for runway design, protection, and separation (*Table G-8. Runway Design Standards Matrix, C/D/E-II) or taxiway design standards (Table 4-1, Design Standards based on Airplane Design Group (ADG)*) as found in FAA AC 150/5300-13B, *Airport Design*, *Change 1*.

The demand forecasts chapter also identifies existing and future critical aircraft groups by runway. The critical aircraft grouping is made up of the most demanding AAC and ADG for each runway end. See **Table 3-3** for the existing and future critical aircraft grouping by runway.

Table 3-3. Existing and Future Critical Aircraft Group by Runway

Runway End	Aircraft Approach Category (AAC)	Airplane Design Group (ADG)	Critical Aircraft Grouping
Existing Runway			
4-22	C	II	C-II
17-35	B	II	B-II
Future Runway			
4-22	D	II	D-II
17-35	B	II	B-II

Source: ***Chapter 2:*** *General Aviation Demand Forecasts*

In addition to ARC and critical aircraft determination, runway design, protection, and separation standards dimensions are determined by the visibility minimums for each runway end. According to the *Airport Design* AC, visibility minimums are defined as the ability, as determined by atmospheric conditions and expressed in units of distance, to see and identify prominent unlighted objects by day and prominent lighted objects by night. These minimums are reported in units of statute miles (SM) or hundreds of feet.

Visibility minimums for runway ends are identified in published instrument approach procedures (IAPs). IAPs for an airport's runway(s) are established by the FAA and publications depicting the instrument approaches are updated every 56 days. Currently, Runway ends 4 and 22 have published IAPs while Runway ends 17 and 35 do not and are currently identified as "visual" runways.

When measured in feet, a runway's lowest visibility is expressed as Runway Visibility Range (RVR). For a visual approach only runway, its visibility minimums and RVR is expressed as VIS. The existing visibility minimums for each runway end at the Airport are as follows:

- Runway 4 – Not lower than ¾-SM or RVR of 4,000 feet
- Runway 22 – Lower than ¾-SM or RVR of 2,400 feet
- Runway 17 – Visual (VIS)
- Runway 35 – Visual (VIS)

Together, the AAC, ADG, and RVR components establish the design characteristics for a particular runway and result in a particular runway end's Runway Design Code (RDC). The existing RDC is C-II-4000 for Runway 4, C-II-2400 for Runway 22, and B-II-VIS for Runways 17 and 35. The future RDCs will have the same ADG for all four runway ends (II) and the future RVR values will be evaluated in the alternatives chapter. The forecast is anticipating that the AACs are projected to upgrade from the 'C' category to the 'D' category for Runway 4 and Runway 22 within the Master Plan planning period.

3.1.3.1.1 Runway Design

Table G-4. Runway Design Standards Matrix, A/B-II and *Table G-8. Runway Design Standards Matrix, C/D/E-II*, in FAA AC 150/5300-13B, *Airport Design*, Change 1, depict the runway design standards for the existing and future RDCs for the four runway ends at Double Eagle II Airport. The runway design elements of the tables include standards for runway width, runway shoulder width, blast pad width, blast pad length, and a crosswind component. See **Table 3-4**.

Table 3-4. Runway Design Standards Matrix

Item	Standard			Runway End (Existing)			
	B-II Visual	C-II/D-II Not Lower Than ¾ Mile	C-II/D-II Lower Than ¾ Mile	Runway 4	Runway 22	Runway 17	Runway 35
Visibility Minimum				Not Lower Than ¾ Mile	Lower Than ¾ Mile	Visual	Visual
Existing RDC				C-II-4000	C-II-2400	B-II-VIS	B-II-VIS
Future RDC				D-II	D-II	B-II	B-II
Runway Design							
Runway Width	75’	100’	100’	100’	100’	75’	75’
Shoulder Width[1]	10’	10’	10’	10’	10’	10’	10’
Blast Pad Width[2]	95’	120’	120’	None	None	120’	None
Blast Pad Length[2]	150’	150’	150’	None	None	150’	None
Crosswind Component	13 Knots	16 Knots	16 Knots	16 Knots	16 Knots	13 Knots	13 Knots

Abbreviation:

RDC: Runway Design Code

Notes:

1. *Paved shoulders are only required for runways accommodating ADG-IV and larger aircraft which the Airport is not anticipating within the planning period. The AC states that runways servicing critical aircraft groups less than ADG-IV are required to provide 10-foot, stabilized, soil treated shoulders.*
2. *Blast pads are only required for runways accommodating ADG-IV and larger aircraft which the Airport is not anticipating within the planning period.*

Source: FAA AC 150/5300-13B, Airport Design, Change 1, Table G-4. Runway Design Standards Matrix, A/B-*II* and *Table G-8. Runway Design Standards Matrix, C/D/E-II*

Runway Width

Currently, both runways measure 100 feet in width, which is consistent with existing C-II and future D-II runway design standards. Runway 17-35 meets the minimum standards for runway width for a B-II runway.

Runway Shoulders

Both runways currently provide 10-foot, stabilized, soil treated shoulders which are consistent with runway design standards for ADG-II runways.

Blast Pads

Currently, there is one blast pad located on the airfield, beyond the Runway 17 end. The blast pad is 120 feet by 150 feet which meets minimum blast pad standards.

Runway Pavement Strength and Condition

Runway pavement strength and condition is an essential rating to determine the performance of an individual aircraft on different pavements with a single unique number, the Aircraft Classification Rating (ACR). ACR varies according to aircraft weight and configuration (e.g. tire pressure, gear geometry, etc.), pavement type, and subgrade strength. Together, along with PCR (formally Pavement Classification Number – PCN), a number that expresses the load-carrying capacity of a pavement for unrestricted operations, these ratings create the ACR-PCR method.

According to online sources such as the FAA's Airport Data and Information Portal (ADIP) and the Airport's 5010 Airport Master Record (AMR), the weight bearing capacity PCN for Runway 4-22 is 16 while the PCN for Runway 17-35 is 11, and both runways have a pavement strength of Single Wheel 30,000 lbs. Based on these ratings, the existing runway pavement strength is insufficient to regularly accommodate operations by aircraft weighing greater than 30,000 pounds, such as some aircraft within the critical aircraft groupings for both runways within the 20-year planning period. This finding doesn't insinuate that the pavement will fail with occasional use of heavier aircraft but indicates that with such increased usage by such aircraft types, the pavement life will likely be shortened and/or require increased maintenance and repair cycles.

3.1.3.1.2 Runway Protection Standards

Table G-4. Runway Design Standards Matrix, A/B-II and *Table G-8. Runway Design Standards Matrix, C/D/E-II*, in FAA AC 150/5300-13B, *Airport Design*, Change 1, depicts the runway protection standards for the existing and future RDCs for the four runways at Double Eagle II Airport. The runway protection elements of the table include standards for the Runway Safety Area (RSA), Runway Object Free Area (ROFA), Obstacle Free Zone (OFZ), Precision Obstacle Free Zone (POFZ), Approach Runway Protection Zone (ARPZ), and Departure Runway Protection Zone (DRPZ). See **Table 3-5**.

Table 3-5. Runway Protection Standards

Item	Standard			Runway End (Existing)			
	B-II Visual	C-II/D-II Not Lower Than ¾ Mile	C-II/D-II Lower Than ¾ Mile	Runway 4	Runway 22	Runway 17	Runway 35
Visibility Minimum				Not Lower Than ¾ Mile	Lower Than ¾ Mile	Visual	Visual
Existing RDC				C-II-4000	C-II-2400	B-II-VIS	B-II-VIS
Future RDC				D-II	D-II	B-II	B-II
Runway Protection							
Runway Safety Area (RSA)							
Length Beyond Departure End	300’	1,000’	1,000’	1,000’	1,000’	300’	300’
Length Prior to Threshold	300’	600’	600’	600’	600’	300’	300’
Width	150’	500’	500’	500’	500’	150’	150’
Runway Object Free Area (ROFA)							
Length Beyond Runway End	300’	1,000’	1,000’	1,000’	1,000’	300’	300’
Length Prior to Threshold	300’	600’	600’	600’	600’	300’	300’
Width	500’	800’	800’	800’	800’	500’	500’
Runway Obstacle Free Zone (ROFZ)							
See ROFZ Section							
Precision Obstacle Free Zone (POFZ)							
Length	N/A	N/A	200’	N/A	200’	N/A	N/A
Width	N/A	N/A	800’	N/A	800’	N/A	N/A
Approach Runway Protection Zone (ARPZ)							
Length	1,000’	1,700’	2,500’	1,700’	2,500’	1,000’	1,000’
Inner Width	500’	1,000’	1,000’	1,000’	1,000’	500’	500’
Outer Width	700’	1,510’	1,750’	1,510’	1,750’	700’	700’
Departure Runway Protection Zone (DRPZ)							
Length	1,000’	1,700’	1,700’	1,700’	1,700’	1,000’	1,000’
Inner Width	500’	500’	500’	500’	500’	500’	500’
Outer Width	700’	1,010’	1,010’	1,010’	1,010’	700’	700’

Source: FAA AC 150/5300-13B, Airport Design, Change 1, Table G-4. Runway Design Standards Matrix, A/B-*II* and *Table G-8. Runway Design Standards Matrix, C/D/E-II*

Runway Safety Area (RSA)

An RSA is defined as an area surrounding a runway consisting of a prepared surface suitable for reducing the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway. The RSA is rectangular shaped, and the dimensions are evenly offset from the runway centerline and extend beyond the runway ends. Per FAA standards, the RSA must be free of all objects except those that must be located in the RSA because of their function.

Currently, there is unused and unmaintained pavement associated with a portion of old Taxiway B that used to connect the North Apron with the Runway 17 end that lies within the RSAs beyond the Runway 17 and 22 ends (see **Figure 3-3**). Where this pavement meets the apron, there are three small blue bollards signifying to pilots to not use this pavement. It is important that this pavement, if not demolished and removed, is graded to RSA grading standards, which requires no hazardous ruts, humps, depressions, or other surface variations.

Runway Object Free Area (ROFA)

A ROFA is a clear area limited to equipment necessary for air and ground navigation and provides wingtip protection in the event of an aircraft excursion from the runway. Per FAA standards, the ROFA must be free of all objects except for objects that need to be located for air navigation or aircraft ground maneuvering purposes.

Currently, a NAVAID service road leading to the Localizer shelter located beyond the Runway 4 end is located within the ROFA. While not considered a non-standard condition, service roads within ROFAs are not recommended (see **Figure 3-4**). Additionally, and similarly to the RSAs, the former portion of Taxiway B located beyond the Runway 17 and 22 ends is also located within the ROFAs beyond the Runway 17 and 22 ends (see **Figure 3-3**). Similar to RSA grading standards, it is important that this pavement is graded to the appropriate standards.

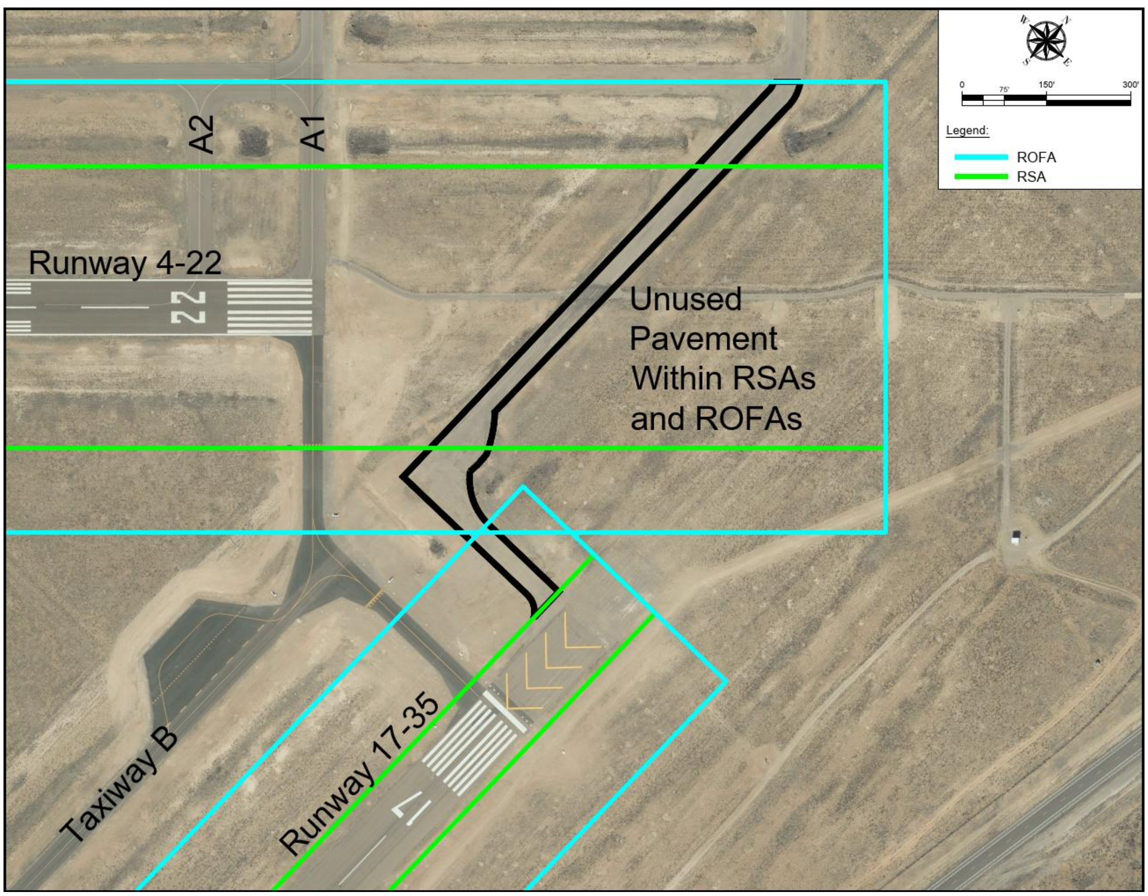


Figure 3-3. Runway 4-22 and Runway 17-35 – RSA and ROFA

Source: AECOM

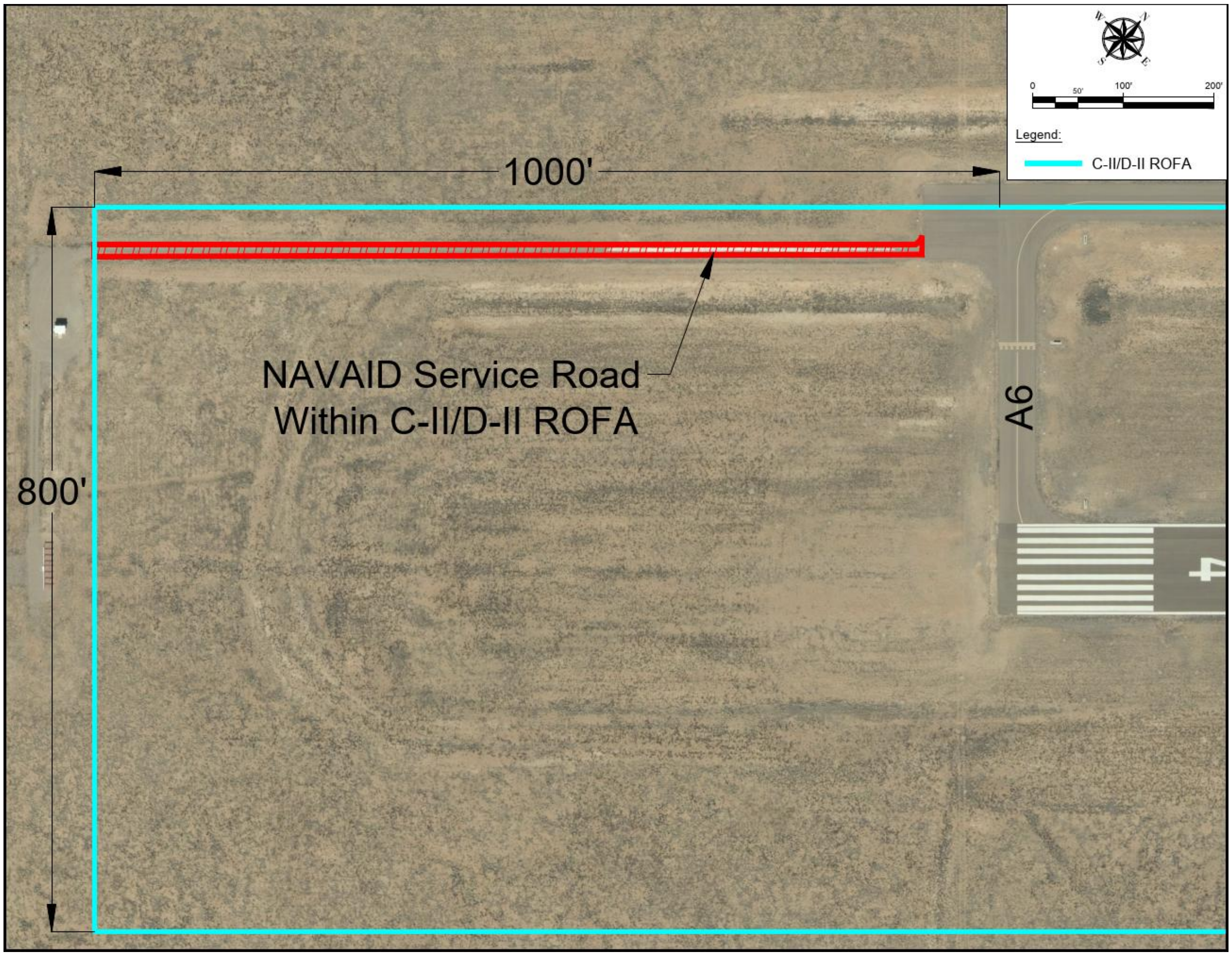


Figure 3-4. Runway 4-22 ROFA

Source: AECOM

Runway Obstacle Free Zone (ROFZ)

An ROFZ is a defined volume of airspace centered on the runway centerline, whose base elevation is that of the highest runway elevation at that particular location. A ROFZ extends 200 feet beyond each end of the runway and is 400 feet wide for runways that operate aircraft greater than 12,500 pounds, such as the four runway ends at AEG. Currently, there are no obstacles that penetrate the ROFZ for any runway end.

Precision Obstacle Free Zone (POFZ)

A POFZ is a volume of airspace above an area beginning at the threshold, at the threshold elevation. The POFZ extends along the extended runway centerline beyond the runway end for a distance of 200 feet at a width of 800 feet. The POFZ is applicable to any runway served by a vertically guided approach with landing minimums less than 250 feet or visibility less than ¾ statute mile (or RVR is below 4,000 feet). Runway 22 is the only existing runway end in which a POFZ is applicable, and there are no obstacles that penetrate the POFZ.

Approach Runway Protection Zone (ARPZ)

An RPZ is defined as an area at ground level prior to the threshold or beyond the runway end to enhance the safety and protection of people and property on the ground. RPZs are trapezoidal in shape, centered about the extended runway centerline, and typically located off each runway end. Additionally, RPZs can be divided into Approach RPZs (ARPZs) and Departure RPZs (DRPZs).

Currently, there are no known incompatible land uses or non-standard conditions associated with the existing ARPZs for the Runway 4, 17, and Runway 35 ends. The only elements located within these ARPZs are Navigational Aids (NAVAIDs) and their shelters, all of which are compatible land uses according to the FAA. Additionally, the Airport owns all of the land within these three ARPZs.

The Runway 22 ARPZ includes the same land uses as the other APRZs; however, ±1,630 feet of Atrisco Vista Boulevard (a public road) and ±8.9 acres of non-Airport owned and controlled land are located within the Runway 22 ARPZ. This portion of Atrisco Vista Boulevard is owned by the City of Albuquerque and is located completely on Airport property; however, a public roadway is considered an incompatible use according to FAA RPZ directives.

Departure Runway Protection Zone (DRPZ)

Similarly, the DRPZs for Runways 17, 22, and 35 all include compatible land uses such as NAVAIDs and their shelters. The only incompatible land use is ±123 feet of Atrisco Vista Boulevard located within the Runway 4 DRPZ. This portion of Atrisco Vista Boulevard is owned by the City of Albuquerque and is located fully on Airport property. See **Figure 3-5**.

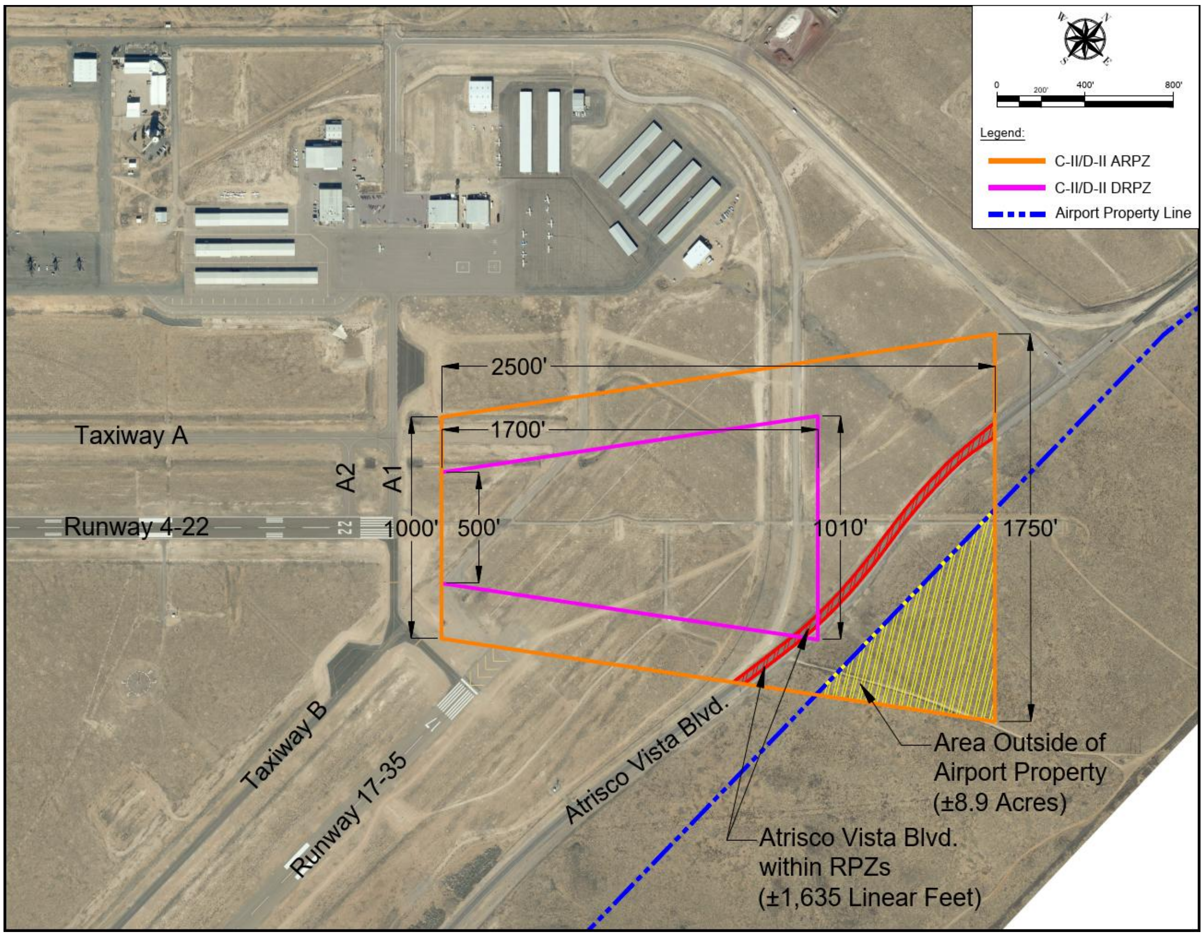


Figure 3-5. Runway 22 ARPZ / Runway 4 DRPZ – Incompatible Land Uses

Source: AECOM

3.1.3.1.3 Runway Separation Standards

Runways 4-22 and 17-35 each possess a parallel taxiway. A parallel taxiway increases airfield capacity and improves safety by eliminating the need for aircraft to use the runway for taxiing. See **Table 3-6** for the existing and future separation standards for the airfield.

Table 3-6. Runway Separation Standards

Item	Standard			Runway End (Existing)			
	B-II Visual	C-II/D-II Not Lower Than ¾ Mile	C-II/D-II Lower Than ¾ Mile	Runway 4	Runway 22	Runway 17	Runway 35
Visibility Minimum				Not Lower Than ¾ Mile	Lower Than ¾ Mile	Visual	Visual
Existing RDC				C-II-4000	C-II-2400	B-II-VIS	B-II-VIS
Future RDC				D-II	D-II	B-II	B-II
Runway Separation							
Runway Centerline to:							
Holding Position	200'	250'	250'	250'	250'	300'	300'
Parallel Taxiway/Taxilane Centerline	240'	300'	400'	400'	400'	400'	400'

Source: FAA AC 150/5300-13B, Airport Design, Change 1, Table G-4. Runway Design Standards Matrix, A/B-*II* and *Table G-8. Runway Design Standards Matrix, C/D/E-II*

Runway Centerline to Holding Position Distance

The existing distance between holding positions for Taxiways A1-A6 and the Runway 4-22 centerline is 250 feet, which meets C-II and D-II runway design standards. The existing distance between holding positions for Taxiways B1-B4 and Runway 17-35 centerline is 300 feet, which meets the minimum B-II runway design standards for visual runways.

Runway Centerline to Parallel Taxiway/Taxilane Centerline Distance

The existing distance between the Taxiway A centerline and the Runway 4-22 centerline is 400 feet, which meets C-II and D-II runway design standards for runways with visibility minimums lower than ¾ mile. The existing distance between the Taxiway B centerline and Runway 17-35 centerline is also 400 feet, which meets the minimum B-II runway design standards for visual runways.

3.1.3.2 Taxiway Design Standards

Taxiway design standards are based on the ADG and TDG of the critical aircraft or group of aircraft with similar characteristics that make regular use of the airport. The ADG determines the taxiway safety area (TSA) and taxiway object free (TOFA) areas, separation standards, and wingtip clearances, while the TDG determines the required taxiway width, taxiway edge safety margin, and shoulder width. **Table 3-7** shows the taxiway design requirements for existing and future ADG II taxiway standards and **Table 3-8** shows the design requirements for existing TDG 2A and future TDG 3 standards, as these encompass all of the taxiway design standards throughout the airfield.

Table 3-7. Taxiway Design Standards Based on Airplane Design Group (ADG) II

Item	ADG II Standard
Taxiway Protection	
Taxiway Safety Area (TSA)	79’
Taxiway Object Free Area (TOFA)	124’
Taxiway Separation	
Taxiway Centerline to Fixed or Moveable Object	62’
Wingtip Clearance	
Taxiway Wingtip Clearance	22.5’

Source: FAA AC 150/5300-13B, Airport Design, Table 4-1

Table 3-8. Taxiway Design Standards Based on Taxiway Design Group (TDG) 2A and 3

Item	Existing TDG 2A Standard	Future TDG 3 Standard
Taxiway Width	35’	50’
Taxiway Edge Safety Margain	7.5’	10’
Taxiway Shoulder Width	15’	20’

Source: FAA AC 150/5300-13B, Airport Design, Table 4-2

Taxiway Safety Area

All taxiways have an existing TSA of 79’ wide which meet standards for all existing TSAs.

Taxiway Object Free Area

All taxiways have an existing and future TOFA of 124’ wide which meet standards for all existing TOFAs.

Taxiway Design

All existing taxiway pavements currently measure between 35 and 40 feet wide which meet existing TDG 2A standards; however, taxiway fillet designs for existing Taxiways A, A1-A6, and C do not meet the existing taxiway fillet design criteria. Additionally, all existing taxiway segments lack paved taxiway shoulder, but similar to both runways, all taxiway segments provide at least 15 feet of stabilized, soil treated shoulders. All existing taxiway segments provide 15’ of stabilized, soil treated shoulders.

3.1.3.3 Taxilane Design Standards

It is assumed that the existing taxilanes on the North Apron and taxilanes surrounding the nine T-hangars are reserved for ADG I aircraft, while there is one ADG II taxilane that connects the North and South Aprons. **Table 3-9** below shows the taxilane design requirements for existing and future ADG I and II taxilane standards.

Table 3-9. Taxilane Design Standards Based on Airplane Design Group (ADG) I and II

Item	ADG I Standard	ADG II Standard
Taxilane Protection		
Taxilane Object Free Area (TLOFA)	79’	110’
Taxilane Separation		
Taxilane Centerline to Parallel Taxilane Centerline	64’	94.5’
Taxilane Centerline to Fixed or Moveable Object	39.5’	55’
Wingtip Clearance		
Taxilane Wingtip Clearance	15’	15.5’

Source: FAA AC 150/5300-13B, Airport Design, Table 4-1

There are multiple sub-standard conditions with TLOFA dimensions around the nine T-hangar facilities. Measurements between the six, 16-unit T-hangars vary between approximately 60 and 75 feet, which does not meet ADG I separation standards of 79 feet. Additionally, distances between the three T-hangars to the southwest portion of the North Apron measure between 65 and 80 feet, which primarily does not meet ADG I TLOFA separation standards. See **Figure 3-6**.

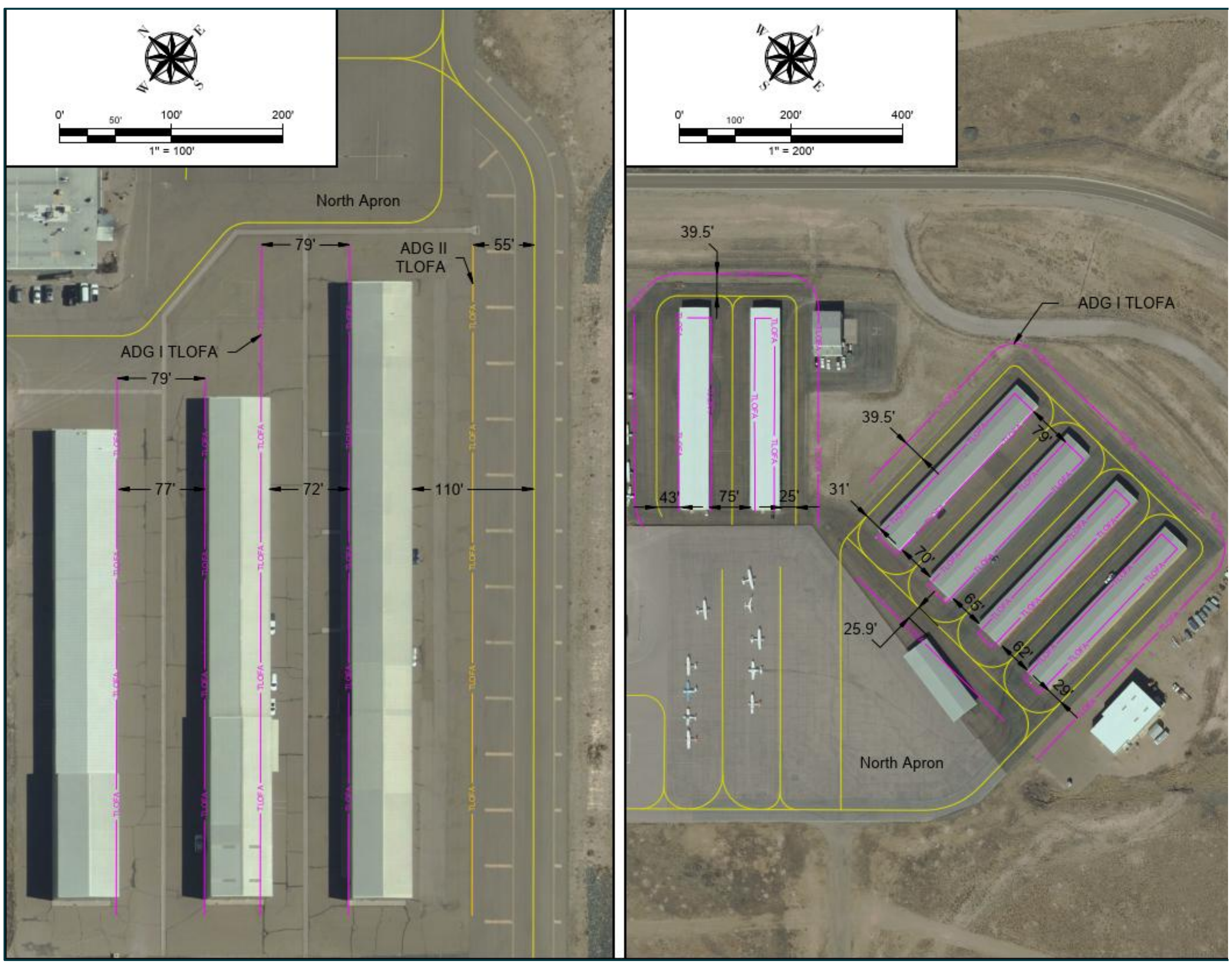


Figure 3-6. Taxilane Non-Standard Conditions

Source: AECOM

3.1.4 Navigational Aids

As discussed in **Chapter 1**: *Inventory*, the Airport is equipped with a number of visual and instrument NAVAIDs. Runway 22 is equipped with an Instrument Landing System (ILS) made up of a Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR), Glide Slope (GS) antenna, and Localizer (LOC) antenna, all of which adequately satisfy the NAVAIDs needed for a Precision Approach (PA). Runway 4 is equipped with a Precision Approach Path Indicator (PAPI) and can provide Non-Precision Approaches (NPA) by utilizing Area Navigation (RNAV) approach procedures, which uses Global Positioning System (GPS) technology. Runway ends 17 and 35 are both equipped with Runway End Identifier Lights (REILs) and Runway 17 is equipped with a PAPI; however, neither runway end has published IAPs and only provides visual approaches. Because of the relatively easy ability to implement approach upgrades due to the drastic improvements in GPS technology, it is assumed both the Runway 17 and 35 ends could be upgraded to having NPA capabilities while the Runway 4 end could be upgraded to having PA capabilities in the future. Adequate protections will be assigned to ensure that these procedures can be readily implemented by the FAA at the request of airport operators.

3.1.4.1 Weather Aids

The airfield is also equipped with wind cones and a segmented circle, both of which provide visual aid for pilots. The airfield also includes an Automated Weather Observing System (AWOS). While an AWOS relays pertinent weather information to pilots such as wind speed and direction, visibility, temperature, dew point, and cloud ceiling heights, an Automated Surface Observation System (ASOS) can detect a variety of meteorological conditions such as fog, dust, smoke, ash, tornadoes, and unconventional precipitation which more aligns with the weather experienced in the proximity of the Airport. Consideration should be given to replacing the AWOS system with an ASOS.

3.1.5 Airfield Lighting

Both runways contain Medium Intensity Runway Lights (MIRLs). MIRLs are required for runways that provide visual approaches and non-precision approaches. Currently, the Runway 17 and 35 ends provide only visual approaches, and the Runway 4 end can provide non-precision approaches, so MIRLs are acceptable. However, the Runway 22 end provides a precision approach which requires High Intensity Runway Lights (HIRLs); therefore, it is recommended that HIRLs be implemented for the entirety of Runway 4-22. All taxiways contain Medium Intensity Taxiway Lights (MITLs). MITLs are sufficient for taxiways and aprons at airports where runway lighting systems are installed, such as Double Eagle II Airport; therefore, the current taxiway lighting system at the Airport is adequate for the planning period.

3.1.6 Summary of Airside Facility Requirements

The following summarizes the minimum recommended airside improvements:

- Extend primary Runway 4-22 from its current length of 7,398’ to a length of approximately 9,200’ during the planning period. Identify means to protect for an 11,000’ Runway 4-22, should forecast activity be reached or exceeded. Extend crosswind Runway 17-35 from its current length of 5,983’ to a length of at least 7,250’ with consideration to protecting for an ultimate length of 8,600’.
- Improve pavement strength to accommodate expected aircraft operations having greater than 30,000 pounds single wheel weight.
- Address incompatible land uses within the Runway 22 ARPZ/Runway 4 DRPZ.
- Address non-standard RSA and ROFA conditions prior to the Runway 22 and Runway 4 ends.
- Address existing non-standard taxiway design fillet issues for Taxiways A, A1-A6, and C and construct all taxiways to TDG 3 standards to meet design aircraft requirements.
- Upgrade the Runway 4 end to have PA capabilities and the Runway 17 and 35 ends to have NPA capabilities.
- Upgrade existing AWOS to an ASOS weather reporting system.
- Upgrade the existing runway lighting system for Runway 4-22 from MIRLs to HIRLs.

3.2 Building Area Facility Requirements

The Building Area Facilities Requirements section includes a review of how the existing conditions of the building area elements compare to the forecasted operations of the PALs established in **Chapter 2:** *General Aviation Demand Forecasts*. The building areas evaluated in this section include:

- Apron Areas
- Helipad Planning
- Advanced Air Mobility
- Hangar Areas
- GA Terminal
- Vehicle Parking
- Security Fencing

3.2.1 Apron Areas

A detailed analysis of the apron area facility requirements section can be found in **Appendix A**. It was determined that the Airport has sufficient tie-down positions and apron space for transient and based aircraft throughout the planning period.

3.2.1.1 Helipads

The demand for additional based helicopters and operations is projected to grow during the Master Plan planning period and will require special design considerations. Currently, the Airport has two helipads located on the north apron which services two existing based helicopters for the Albuquerque Police Department; two existing and one future based helicopter for the Bernalillo County Sherrif's Office; and one existing and one future based helicopter for the New Mexico State Police. The Airport also experiences daily itinerant helicopter operations from local news stations and a helicopter flight school that are based at the Albuquerque International Sunport (ABQ). There is also potential for increased helicopter operations to occur with the proposed development of Mesa Film Studios, which may require the transport of individuals to/from filming locations or aerial filming.

In addition to the existing and future based helicopters, the Airport experiences frequent military training operations from the CH-47 Chinook and MH-6 Little Bird rotorcraft which are temporarily based on the south apron. Aerial firefighting operations occur with CH-47 Chinooks and S-64 Skycranes on an as-needed basis during fire season.

The City of Albuquerque is actively developing a separate helicopter siting study. This study was driven by the additional space needed by helicopters and to increase the physical separation between large/frequent helicopter activity and adjacent fixed wing facilities. While the proposed helicopter campus will be primarily for rotorcraft, it is anticipated that the proposed special-use facility will accommodate other aircraft types being used or that could be used by these operators (i.e., fixed wing aircraft, drones, electric/hybrid vertical takeoff and landing (eVTOL) aircraft.

It is recommended that AEG plan for increased helicopter usage by providing:

- At least one helipad aligned to the primary runway to maximize wind coverage
- One 15,000 SF hangar space per operator
- Taxi-through helicopter parking positions to accommodate six CH-47 Chinooks
- Taxilanes to accommodate a Cessna 208
- A fuel farm dedicated to helicopter fueling
- Vehicle access and parking

3.2.1.2 Advanced Air Mobility

In terms of emergent technology, the aviation industry is currently in the development stages of new advanced air mobility (AAM) technology such as eVTOL aircraft. It is anticipated that these future aircraft at the Airport will share many characteristics of helicopters and may be utilized for a variety of purposes including medical transport, passenger transport, or transport of goods/materials. Inclusion of this emergent technology is subject to factors such as regulatory approval and local market conditions. Due to the potential for entrance into the market and conformity with helicopter operations, eVTOL should also be considered for future facility planning.

3.2.2 Hangars

A summary of the existing hangar facilities and their storage capabilities at the Airport is summarized in **Table 3-10** below. Additionally, see **Figure 3-7** for a visual representation of aircraft parking in the existing hangar facilities.

Table 3-10. Existing Hangar Facilities

	Facilities	Available Storage Units	Approximate Area (SF)	Notes
T-Hangars	10	110	218,250	
Conventional/Box Hangar	5	24	58,110	16,000 SF Bode Avionics and Mechanics does not provide aircraft parking; therefore, is not considered in this analysis
Shared/Community Hangar	5	31	32,070	7,750 SF Bureau of Indian Affairs / New Mexico Department of Game and Fish / Bridger Aerospace hangar does not provide aircraft parking; therefore, is not considered in this analysis
Shade Hangar	1	10	8,220	
Multi-Use Hangar	1	5	14,320	Aircraft storage encompasses approximately 10,000 SF as this hangar also services administrative functions, a café, and mechanics
Total	22	180	330,390	
Updated Total	20	180	302,320	Updated totals do not include the total area for the Bode Avionics and Mechanics hangar, Bureau of Indian Affairs / New Mexico Department of Game and Fish / Bridger Aerospace hangar, and a portion of the Multi-Use hangar

Source: Airport Staff

Future demand for storage hangars is typically dependent upon the number and types of aircraft expected to be based at the Airport, as well as local climatic conditions, airport security, owner preferences, and other site-specific factors. The Airport is currently developing 36 T-hangar units within three facilities associated with High Flying Hangars that will encompass 54,000 SF, as well as ±36 T-hangar units associated with KAEG Hangars; however, the approximate area of these T-hangars is currently unknown.

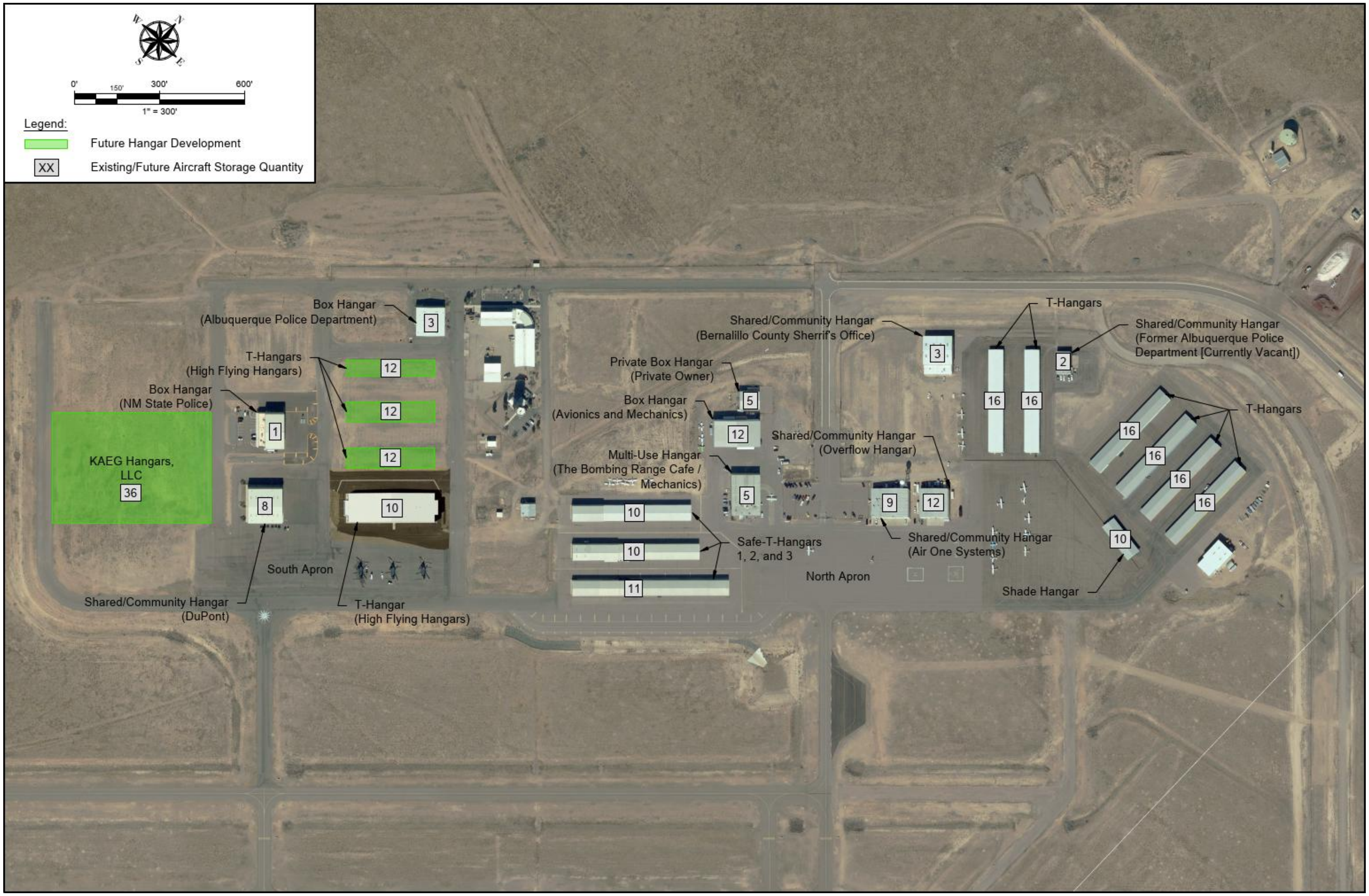


Figure 3-7. Aircraft Storage

Source: AECOM

As stated in the New Mexico Department of Transportation (NMDOT) New Mexico Airport System Plan (NMASP), Regional General Aviation airports are recommended to provide hangar storage for 60 percent of based aircraft and 25 percent of transient aircraft. The actual percentage of aircraft stored in hangars varies from one airport to another and is highly dependent on hangar rents and availability. Currently, approximately 15 percent of the aircraft parked in hangars are transient aircraft while 85 percent of aircraft parked in hangars are based aircraft. See **Table 3-11**.

Table 3-11. Transient and Based Aircraft at the Airport

	Based Aircraft Total	60 Percent Based Aircraft	Transient Aircraft Total	25 Percent Transient Aircraft	Total Aircraft Recommended in Hangars
2024 (Base Year)	125	75	17	5	80
2029 (Base Year + 5)	127	77	20	5	82
2034 (Base Year + 10)	137	83	22	6	89
2039 (Base Year + 15)	150	90	23	6	96
2044 (Base Year + 20)	159	96	23	6	102

Sources: The FAA TAF – Issued January 2025 and AECOM Analysis.

According to **Table 3-15**, the Airport has sufficient hangar units available for existing and forecast transient and based aircraft storage. The Alternatives chapter will evaluate locations for potential additional hangar storage facilities, should demand warrant during the planning period.

3.2.3 General Aviation Terminal

Minimum terminal space requirements have been determined by applying the planning factors contained in ACRP Report 113. This document specifies that a space allocation of up to 150 square feet per peak hour passenger should be used to attain an estimate of the appropriate size of a GA terminal. In addition, the ACRP report suggests applying a minimum factor of 2.5 people (pilots and passengers) per peak-hour operation.

The Airport does not currently have a GA terminal; however, there is an ongoing project for a GA terminal that is under design. The proposed terminal is anticipated to be two floors that encompass ±10,769 square feet (SF) and is expected to be constructed in the location of the existing vehicle parking lot. See **Table 3-12** for the minimum terminal building space requirements.

Table 3-12. Minimum Terminal Building Space Requirement

	Design Day Peak Hour Operations	Design Day Peak Hour Passengers[1]	High Space Requirements (150 SF Per Passenger)
PAL 0 – 2024 (Base Year)	13	33	4,950
PAL 1 – 2029 (Base Year + 5)	15	38	5,700
PAL 2 – 2034 (Base Year + 10)	17	43	6,450
PAL 3 – 2029 (Base Year + 15)	17	43	6,450
PAL 4 – 2044 (Base Year + 20)	18	45	6,750

Note:

1. *Uses a minimum factor of 2.5 passengers per peak hour operation.*

Sources:

1. *ACRP Report 113 – Guidebook on General Aviation Facility Planning*
2. *FAA ATADS*
3. *AECOM Analysis*

As depicted in **Table 3-12**, the proposed GA terminal facility is expected to meet the minimum GA terminal building space requirements and provide space for future growth.

3.2.4 Vehicle Parking

Providing access and parking areas for airfield facilities is an integral part of landside facility planning. Currently, the existing vehicle parking lot is approximately 300 feet wide by 125 feet long totaling 37,500 SF and incorporates 85 vehicle parking positions.

The ongoing project for a GA terminal is expected to be constructed in the location of the existing vehicle parking lot. This proposed terminal is anticipated to provide vehicle parking for 103 vehicle parking positions: 90 standard stalls, 8 accessible parking stalls, and 5 electric vehicle parking stalls. Four of the 90 standard stalls are planned to be for oversized vehicles such as trucks, vans, or buses. The new vehicle parking lot is anticipated to be located in the open space behind the GA terminal, the Air One Systems hangar, and adjacent to a box hangar that Bode Aero Services uses for avionics and mechanics.

In terms of required vehicle parking positions, ACRP Report 113 recommends that the number of parking spaces be calculated using local parking requirements or a planning factor of 2.5 spaces per peak hour operation and one (1) space per 200 SF of office space or a minimum of 5 spaces. The proposed GA terminal is planned to have ±580 SF of office space. See **Table 3-13**.

Table 3-13. Design Day Peak Hour Itinerant Operations

	Peak Hour Operations	Parking Space Requirement[1]	Estimated Office Space Parking Requirements[2]	Total Parking Spaces Required
PAL 0 – 2024 (Base Year)	13	33	-	33
PAL 1 – 2029 (Base Year + 5)	15	38	5	43
PAL 2 – 2034 (Base Year + 10)	17	43	5	48
PAL 3 – 2029 (Base Year + 15)	17	43	5	48
PAL 4 – 2044 (Base Year + 20)	18	45	5	50

Notes:

1. *Assumes 2.5 parking spaces per peak hour operation and rounds up if needed.*
2. *Minimum of 5 spaces is used as one (1) space per 200 square feet of office space rounded up would only equate to three (3) spaces (580 SF → 600 SF).*

Sources:

1. *ACRP Report 113 – Guidebook on General Aviation Facility Planning*
2. *FAA ATADS*
3. *AECOM Analysis*

As depicted in **Table 3-13**, the existing vehicle parking lot is adequate. The new GA terminal and vehicle parking lot is anticipated to be constructed in the short term, and the proposed vehicle parking lot is also anticipated to meet GA terminal vehicle parking requirements during the 20-year planning period. Existing vehicle parking practices and future conventional hangar parking requirements should be evaluated on a site-by-site basis.

See **Figure 3-8** for a conceptual site plan of the proposed GA terminal building and vehicle parking area.

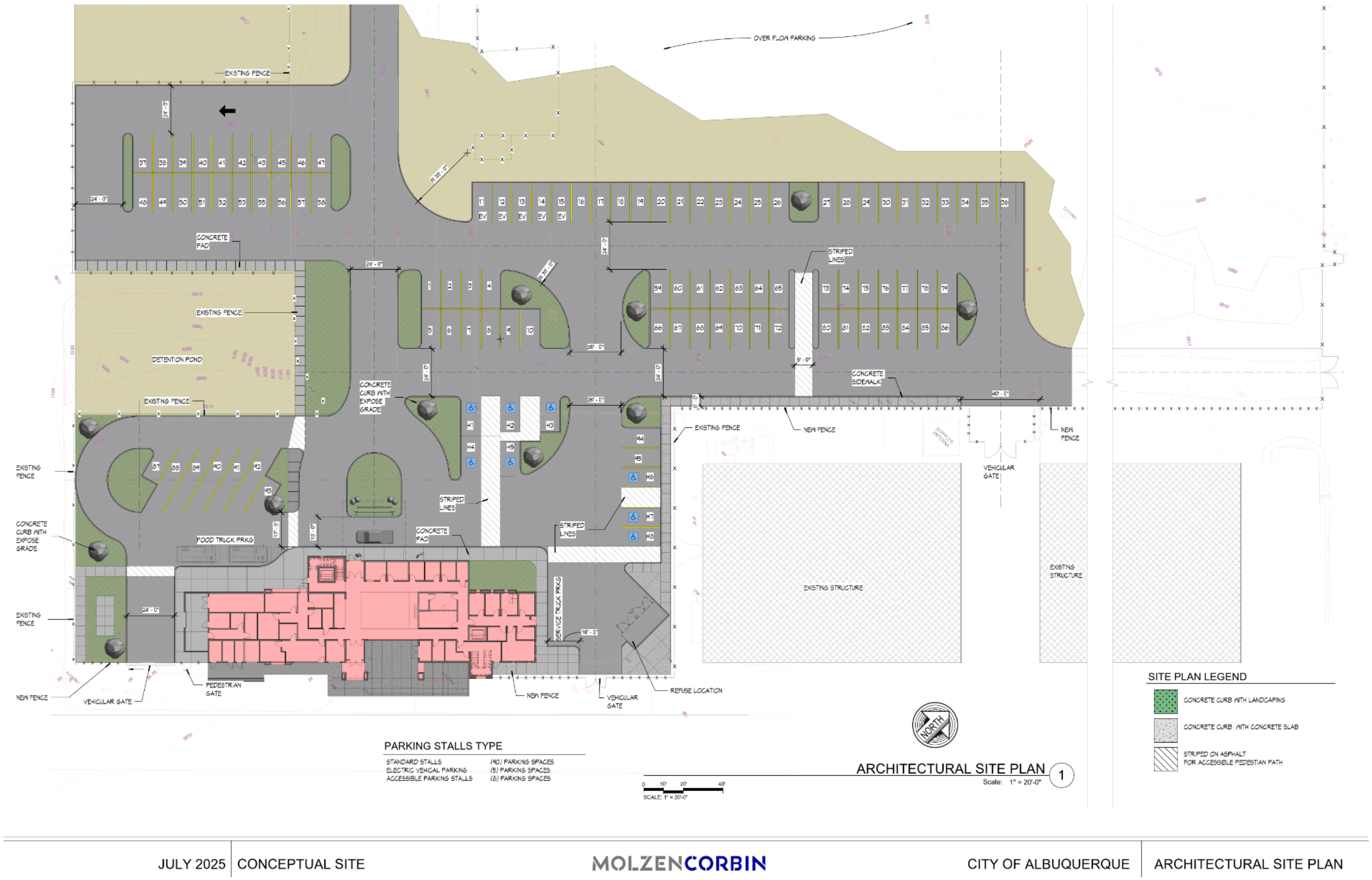


Figure 3-8. GA Terminal and Vehicle Parking Area

Source: Molzen-Corbin & Associates

3.2.5 Security Fencing

The Airport is equipped with a perimeter fence that follows the majority of the Airport property line. The security fence is made up of multiple gate access points, the majority of which can only be accessed by Airport operations staff. In particular, the Airport staffs two security guards at two access points. One is at an Air Operations Area (AOA) gate in the vehicle parking lot which separates the parking lot from the North Apron. The other is on Double Eagle Road that separates the public road from secure facilities such as the Administration Building and Airport Traffic Control Tower (ATCT). The Airport does not need any additional security fencing within the planning period, unless additional parcels are acquired.

3.2.6 Summary of Building Area Facility Requirements

All aspects of the existing building area are adequately developed for the 20-year Master Plan planning period. However, it is recommended that the Airport preserves a building development area approximately 2-3 times the size of the existing building area footprint in the case of potential land use developments, such as one or more runway extensions or potential growth opportunities, such as new tenants with jet-sized aircraft, the implementation of air cargo activities, increased rotorcraft development, or AAM opportunities. This additional building development area should be included in the development of the City Site Plan as a future phase. It is also recommended that any proposed building area development be an extension of the existing building area to the northwest.

3.3 Landside Facility Requirements

The Landside Facilities Requirements section analyzes a variety of landside aspects important to the Airport for the 20-year planning period and beyond.

Examples of landside facility requirements evaluated in this chapter include:

- Airport Access Roads
- Utilities

3.3.1 Airport Access Roads

The Airport can be accessed using Double Eagle Road, a two-lane road that connects Atrisco Vista Boulevard and the Airport's vehicle parking lot. Double Eagle Road is located approximately seven miles north of Interstate-40 (via Atrisco Vista Boulevard) and two miles south of Paseo Del Norte Boulevard (also via Atrisco Vista Boulevard).

3.3.1.1 Atrisco Vista Boulevard Reconstruction

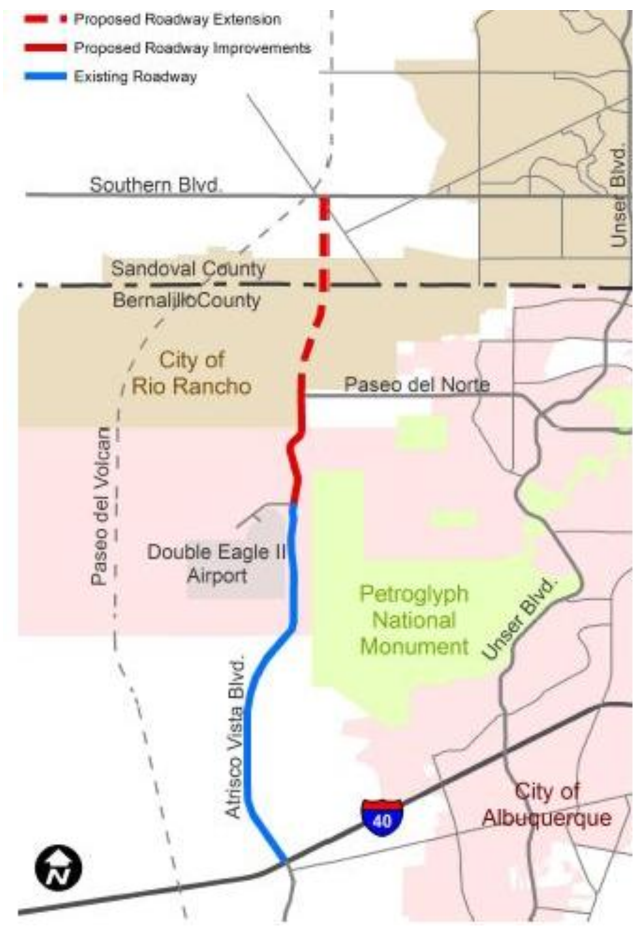


Figure 3-9. Atrisco Vista Boulevard – Reconstruction Project

Source: Bernalillo County

Atrisco Vista Boulevard is the lone access road that connects the Airport with the western portion of the Albuquerque city limits. Currently, there are no existing capacity or congestion issues with vehicle traffic on Atrisco Vista Boulevard or Double Eagle Road. In March 2024, Bernalillo County was awarded $4 million in federal funding to support a reconstruction project along Atrisco Vista Boulevard from Double Eagle Road to Paseo Del Norte Boulevard. This project is anticipated to improve public safety and vital infrastructure, and will include a bike lane, pedestrian facility, lighting, signage, Intelligent Transportation System (ITS), and drainage improvements.

A portion of Atrisco Vista Boulevard is currently located within the Runway 22 ARPZ and Runway 4 DRPZ. Additionally, through the section in which Atrisco Vista Boulevard runs parallel to the Airport, the road is located on the eastern portion of Airport property. City of Albuquerque, Aviation Department staff currently maintain the road all the way down to I-40; however, the City has evaluated the possibility of exchanging property to eliminate the Aviation Department's maintenance of this roadway which has become a major throughway. While this may be beneficial, this will not resolve the issue of the road running through the Runway 22 ARPZ/Runway 4 DRPZ. See **Figure 3-9** for the roadway project limits and **Figure 3-5** for the RPZs in relation to the existing Atrisco Vista Boulevard alignment. Chapter 4 will assess potential property and easement ownership options, as well as options to resolve the road/RPZ existing condition conflict.

3.3.2 Utilities

A summary of the existing utilities at the Airport can be found in the Double Eagle II Infrastructure Study which can be found in an appendix to the overall AMPU. The Airport consists of water systems, sanitary systems, natural gas systems, electrical systems, and communications systems. Currently, there are no outstanding issues with any of the existing utilities, but an extension of the existing utility lines should be considered for long-term growth. These should be expanded if the Airport plans on developing in areas where there is currently a lack of utilities.

One area of concern is the existing overhead power lines which enter the midfield area from the north and west (West Mesa substation). If the Airport decides to develop aeronautical uses in this direction it may be preferred for the Airport to move the power lines underground or reroute them.

3.3.3 Summary of Landside Facility Requirements

Aspects of landside facility requirements at the Airport appear to be adequate throughout the Master Plan planning period. However, the planned roadway improvement projects for the Atrisco Vista Boulevard reconstruction could have direct impacts on Airport property, such as the Runway 22 ARPZ and Runway 4 DRPZ mentioned in the Airside Facility Requirements section. It is important that the City of Albuquerque and Airport staff continue to monitor all proposed projects anticipated during the planning period.

3.4 Support Facility Requirements

Support facilities at an airport encompass a broad range of functions that ensure the smooth, efficient, and safe operation of the airport. The Support Facilities Requirements section analyzes a variety of elements important to the Airport for the 20-year planning period and beyond.

Support facilities evaluated in this chapter include:

- Aircraft Maintenance
- Fuel Facilities
- Aircraft Rescue and Fire Fighting

3.4.1 Aircraft Maintenance

All aircraft maintenance at the Airport is performed in hangars. Currently, aircraft maintenance is performed in six hangars at the Airport. Bode Aero Services operate in three hangars, while the three public safety tenants (Bernalillo County Sherrif's Office, New Mexico State Police, and Albuquerque Police Department) all perform their own aircraft and helicopter maintenance.

Bode Aero Services performs FAA-certified Aircraft and Powerplant (A&P) maintenance, airframe maintenance, and annual inspections. Both Airport staff and Bode have confirmed that there are no existing issues with aircraft maintenance storage or capacity and do not anticipate any capacity issues within the Master Plan planning period.

3.4.2 Fuel Facilities

Careful planning is needed to provide fuel storage facilities that meet the existing and long-term needs of the airport users. The Airport's fixed-based operator (FBO), Bode Aero Services, currently owns two 20,000-gallon storage tanks containing Jet A and two 20,000-gallon storage tanks containing AvGas 100LL (see **Figure 3-10**). They also operate three fuel trucks with a capacity totaling approximately 9,200 gallons (8,000 gallons Jet A and 1,200 gallons AvGas). It is estimated that 75 percent of the Jet A fuel is used by helicopters while 75 percent of the 100LL is used by single-engine aircraft. **Table 3-14** below depicts the annual fuel sales for 2022-2024 distributed by Bode Aero Services.

Table 3-14. Bode Aero Services – Fuel Sales by Gallons – 2022-2024

	2022	2023	2024
Fuel Jet A	102,683	99,867	77,207
Contract Jet A Sales	247,948	226,199	225,241
Total Jet A	350,631	326,066	302,448
100LL	119,740	129,543	126,393
Total Fuel	470,371	455,609	428,841

Abbreviation:
100LL = 100 Low Lead

Source: Bode Aero Services

Requirements to estimate fuel facility requirements are estimated by comparing the existing storage capacity to the average day peak month (ADPM) operations. This results in the number of days of fuel storage the Airport has.

Figure 3-10. Airport Fuel Farm

Source: Airport Staff

Table 3-15. Fuel Storage Requirements

	ADPM Daily Total Operations	Existing Capacity (Gallons) [1]	Days Storage
2024 (Base Year)	169	80,000	473
2029 (Base Year + 5)	200	80,000	400
2034 (Base Year + 10)	217	80,000	369
2039 (Base Year + 15)	224	80,000	357
2044 (Base Year + 20)	231	80,000	346

Note:

1. *Based on two 20,000-gallon storage tanks of AvGas 100LL and two 20,000-gallon storage tanks of Jet A.*

Abbreviation:
ADPM = Average Day Peak Month

Sources:

1. *FAA ATADS*
2. *AECOM Analysis*

As shown in **Table 3-15**, the Airport is expected to have adequate fuel storage throughout the Master Plan planning period.

3.4.3 Aircraft Rescue and Fire Fighting

There are currently no firefighting or emergency response capabilities located at the Airport. The City of Albuquerque Aviation department has an existing interdepartmental agreement with the Albuquerque Fire Rescue (AFR) department. In July of 2025, Bernalillo County Fire Station #66 (**Figure 3-11**) was opened at the corner of Central Avenue and Atrisco Vista Boulevard NW (approximately 7.5 miles south of the Airport) and will be first on scene in case of a fire emergency through a Mutual Aid Agreement between the City of Albuquerque and Bernalillo County.

Figure 3-11. Bernalillo County Fire Station #66

Source: Bernalillo County Fire & Rescue Facebook Page

3.4.4 Summary of Support Facility Requirements

All aspects of support facility requirements at the Airport appear to be adequate throughout the Master Plan planning period. However, it is important that the City of Albuquerque and Airport staff continue to monitor all proposed projects anticipated during the planning period.

3.5 Environmental Considerations

This section focuses on the environment of the Airport and describes the natural features and built surroundings that may influence how airport improvements may impact the environment.

3.5.1 Air Quality

Air quality is the measure of the condition of the air expressed in terms of ambient pollutant concentrations and their distribution. Air quality regulations are based on concerns that high concentrations of air pollutants can harm human health, especially for children, the elderly, and people with compromised health conditions; as well as adversely affect public welfare by damage to crops, vegetation, buildings, and other property.

The Albuquerque-Bernalillo County area is in “attainment” of the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants: (ozone (O_3), particulate matter (PM10 and PM2.5), lead (Pb), carbon monoxide (CO), sulfur dioxide (SO_2), and nitrogen dioxide (NO_2), and has been since the mid-1990’s. Per federal regulations, the Albuquerque-Bernalillo County region has a network of five Environmental Protection Agency (EPA)-certified ambient air monitoring stations that measure the concentrations of these pollutants on an hourly basis throughout the year.

Related to air emissions from potential future Airport development, excavation for new construction, dirt tracked onto paved surfaces and travel on unpaved roads are considered sources of suspended particulates. Fugitive dust permits (issued by the Air Quality Program) for construction sites that disturb more than three-quarters of an acre of soil and the paving or surfacing of dirt roads reduces particulates from these sources. Air Quality Permits are typically required for specific business operations with potential emissions, such as gasoline dispensing facilities and equipment such as emergency generators, engines, boilers, rock crushers, and conveying systems. Bernalillo County land use approvals such as Special Use Permits or building permits can require Air Quality Permits as conditions of approval, where applicable.

3.5.2 Biological Resources

Airport property encompasses approximately 4,188 acres of land which encompasses impervious and undeveloped areas. The impervious areas include buildings and paved areas such as roadways, runways, taxiways, aircraft aprons, and vehicular parking lots. The undeveloped areas consist of desert grasslands and plains-mesa grasslands. These existing vegetative communities could provide habitat for wildlife, some of which may be classified as threatened, endangered, rare, or of special concern. Based on a review of the US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (iPAC) database, 22 federally listed species are known to occur in the vicinity of the Airport. No critical habitat is established on or near Airport property. See **Table 3-16** and **Appendix B**.

The New Mexico Department of Game and Fish, Natural Heritage Program maintains a list of all vertebrate and many invertebrate species that occur in New Mexico, including all threatened and endangered species. This information is made available to the public in the interest of promoting wildlife interests and to assist with the decision-making processes of our stakeholders. The species needing greatest conservation in Bernalillo County is provided in **Appendix C**.

Table 3-16. Threatened and Endangered Species

Species	Scientific Name	Status
Mammals		
Mexican Wolf	*Canis lupus baileyi*	Endangered
New Mexico Meadow Jumping Mouse	*Zapus hudsonius*	Endangered
Birds		
Mexican Spotted Owl	*Strix occidentalis lucida*	Threatened
Yellow-billed Cuckoo	*Coccyzus americanus*	Threatened
Golden Eagle	*Aquila chrysaetos*	Protected Under the Bald and Golden Eagle Protection Act and the MBTA
Bendire's Thrasher	*Toxostoma bendirei*	BCC
Black-chinned Sparrow	*Spizella atrogularis*	BCC
Broad-tailed Hummingbird	*Selasphorus platycercus*	BCC
Cassin's Finch	*Haemorhous cassinii*	BCC
Lesser Yellowlegs	*Tringa flavipes*	BCC
Pectoral Sandpiper	*Calidris melanotos*	BCC
Virginia's Warbler	*Leiothlypis virginiae*	BCC
Insects		
Monarch Butterfly	*Danaus plexippus*	Proposed Threatened
Suckley's Cuckoo Bumble Bee	*Bombus suckleyi*	Proposed Endangered

Abbreviation:
BCC: Bird of Conservation Concern

Source: USFWS iPAC

The FAA's significance threshold for biotic communities is when an airport's proposed action would have the potential for:

- A long-term or permanent loss of unlisted plant or wildlife species (i.e., extirpation of a species from a large project area);
- Adverse impacts to special status species or their habitats;
- Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or
- Adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance.

Agency consultation may be required to determine the presence or absence of listed species and habitat when proposed projects are programmed for implementation. The outcome of these consultations would dictate if any mitigation measures were necessary to protect listed species and their habitat.

3.5.3 Water Resources

The Airport is located within two watersheds as shown in **Figure 3-12**: 1) The City of Paradise Hills – Rio Grande Watershed and 2) The West Mesa Airport – Rio Grande Watershed.

According to the National Wetlands Inventory (NWI), there are mapped wetlands at the northern limit and at the southeast corner of the Airport. There are no surface water features on Airport property. The closest aquifer, the Espanola Basin Aquifer System Sole Source Aquifer (SSA) is located 40 miles northeast of the Airport.

FAA's significance threshold for surface water is that a significant impact exists if the action would:

- Exceed water quality standards established by federal, state, local, and tribal regulatory agencies.
- Contaminate public drinking water supply such that public health may be adversely affected.

The FAA's significance threshold for groundwater is that a significant impact exists if either of the following are true:

- The action would exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies.
- The action would contaminate an aquifer used for public water supply such that public health may be adversely affected.

The construction and operation of airport projects have the potential to affect the quality and quantity of water resources. Potential sources of surface water and groundwater pollution associated with airport activities include erosion and sedimentation from construction, waste from fueling and cleaning operations, fuel and oil spills, and fertilizers and pesticides used for insect and vegetation control.

The Airport currently maintains a National Pollutant Discharge Elimination System (NPDES) Permit and associated Stormwater Pollution Prevention Plan (SWPPP) to control water pollution. A modification of the existing NPDES permit may be required as well as an NPDES construction permit for future airport development projects.

3.5.4 Floodplains

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Mapping (FIRM), almost the entirety of the Airport is mapped as Zone "A" Area of Minimal Flooding. One floodplain is associated with the wetland feature at the northern end of the Airport property; this floodplain is mapped as Zone "AO" Special Flood Hazard Area.

Any airport improvement project involving earthmoving, grading, paving, storm drain improvement, building additions, and new building construction in a Special Flood Hazard Area (SFHA) would require a Floodplain Development Permit. Compliance with the requirements of the Flood Hazard Ordinance is required of every applicant for subdivision, site development plan, work order, and/or building permit approval.

3.5.5 Soils

Several soil series are present at the Airport. As depicted in **Figure 3-12**, the most common are WaB, Wink fine sandy loam 0 to 5 percent slopes, LtB, Lateen sandy loam 1 to 5 percent slopes and MWA Madurez-Wink association, gently sloping. All of these soil types are well drained. None of these soils are classified as prime, unique, or of statewide importance.

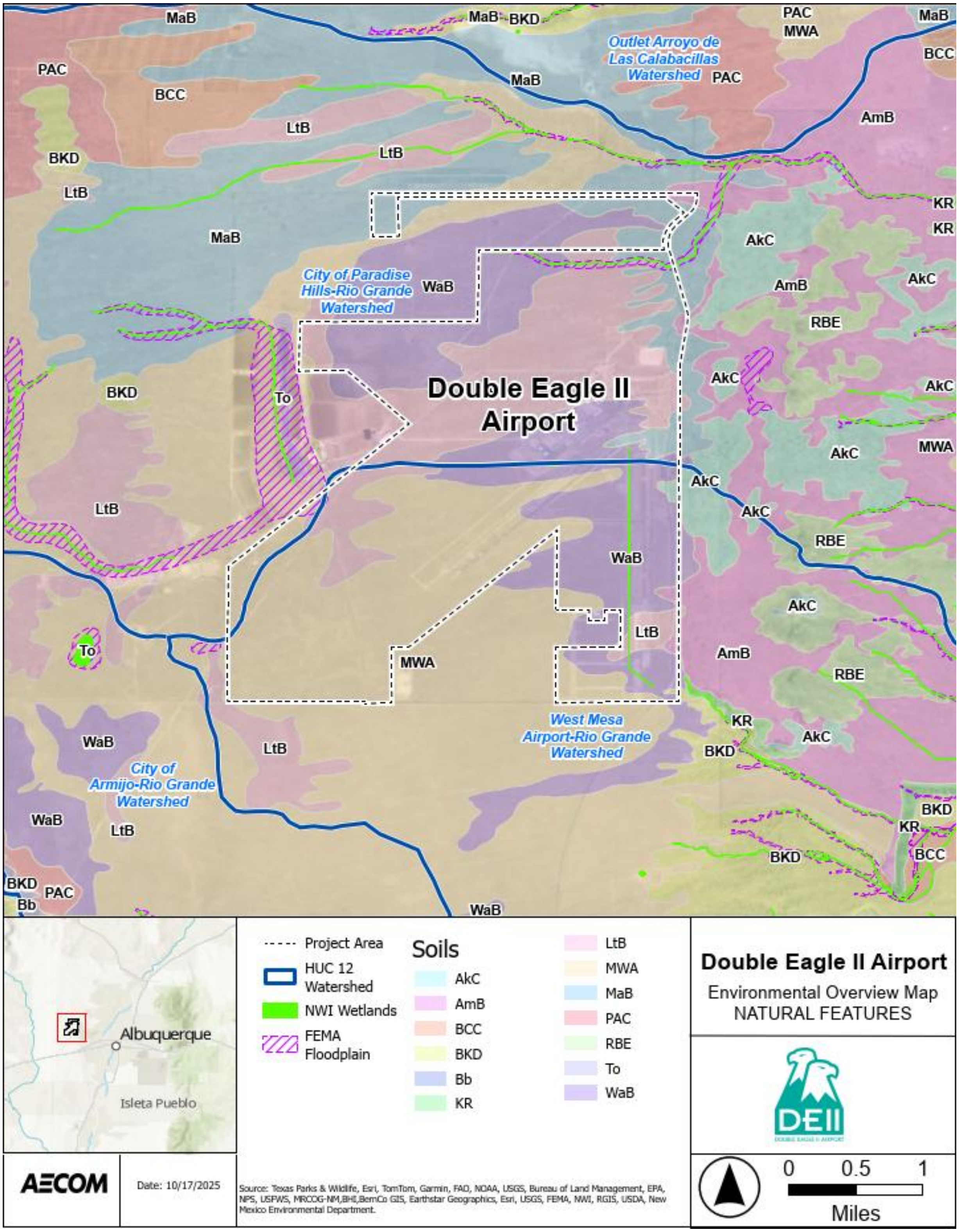


Figure 3-12. Natural Features

Sources: See Graphic

3.5.6 Historic, Archaeological, and Cultural Resources

Historic properties affected by proposed airport projects or actions are federally regulated under the National Historic Preservation Act (NHPA), the Archaeological Resources Protection Act (ARPA), and other applicable laws and regulations intended to protect historic properties. Section 106 of the NHPA requires federal agencies to consider the effects of their actions on historic properties, to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment and include an opportunity for consultation with all interested parties. Historic properties include any prehistoric or historic district or site that is listed or eligible for listing in the National Register of Historic Places (NRHP).

3.5.6.1 On-Airport

There are no NRHP listed or eligible above ground historic resources on existing Airport property. Therefore, no physical disturbances to aboveground historic resources are anticipated from potential airport development, as none are present.

In 1942, the U.S. Army Bombardier School leased 15,246 acres of land west of Albuquerque from the City of Albuquerque, the Santa Fe Pacific Railroad, and the Department of Interior. This area was divided into eight precision bombing ranges that were used to train WWII bomber pilots until 1947. Three are in the vicinity of the airport. Two of the three overlap Airport property: 1) the N2/New Demolition Area (NDA) West Mesa Precision Bombing Range, an approximately 1,252-acre area where two precision bombing targets were created and 2) the N1/Railroad Roundhouse target. The third site, the oil refinery target is west of Airport property (see **Figure 3-13**).

The N2/NDA site has been identified as NRHP eligible under Criterion A which is to be associated with events that have made a significant contribution to the broad patterns of our history.

A recent archeological survey was conducted in the area of N2/NDA in July 2025. This Class III intensive pedestrian survey was conducted for a 130-acre parcel slated for development of the Double Eagle II Mesa Film Studio. The survey recommended continuation of the N2/NDA site as NHRP eligible.

3.5.6.2 Off-Airport

A number of off-Airport cultural, historic, and archaeological resource sites have been identified and documented in the vicinity of the airport. The most significant of these sites is the entirety of the Petroglyph National Monument. As depicted in **Figure 3-13**, the Monument is located just east of the airport. The Monument was established in 1990 and is cooperatively managed by the National Park Service and the City of Albuquerque Open Space Division. Prior to becoming a national monument, in 1986 the area was listed on the NRHP as the Las Imágines National Register District. The Monument is home to a variety of cultural and natural resources including volcanoes, archeological sites, an estimated 20,000 carved images, and numerous plant and animal species.

The natural environment of the Petroglyph National Monument includes two primary geologic features: the basalt escarpment and the volcanoes. The basalt escarpment is part of a 17-mile feature known as the West Mesa because of its rise above the Rio Grande valley to the east. Five dormant volcanoes, referred to as the Butte, Bond, Vulcan, Black, and JA volcanoes, are located within the Monument. These impressive geologic features provide context for the notable cultural features found in the area (see **Figure 3-13**).

3.5.7 Department of Transportation Section 4(f) Resources

The U.S. Department of Transportation (DOT) Act of 1966 included a special provision, Section 4(f), which protects the use of land by publicly owned parks, recreation areas, wildlife and waterfowl refuge areas of national, state or local significance, and public and private historical sites. A “use” of Section 4(f) property may be a direct use (property is permanently incorporated into the transportation project), a temporary use (property is temporarily occupied in a way that is averse to the property’s purpose), or a constructive use (the project’s impacts substantially impair the protected activities, features, or attributes of the property).

FAA’s significance threshold for Section 4(f) properties notes that a significant impact would occur when the action involves more than a minimal physical use of a Section 4(f) resource or constitutes a “constructive use” based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource.

In the vicinity of the Airport there are not many resources protected by Section 4(f). The largest and most notable is the Petroglyph National Monument (see **Figure 3-13**).

Any future Airport development would need to identify if there would be a physical “use” of any Section 4(f) properties or a “constructive use.” An analysis may be required to address potential indirect effects on Section 4(f) resources farther from the Airport, such as aircraft overflights and noise impacts, when projects are ready for implementation.

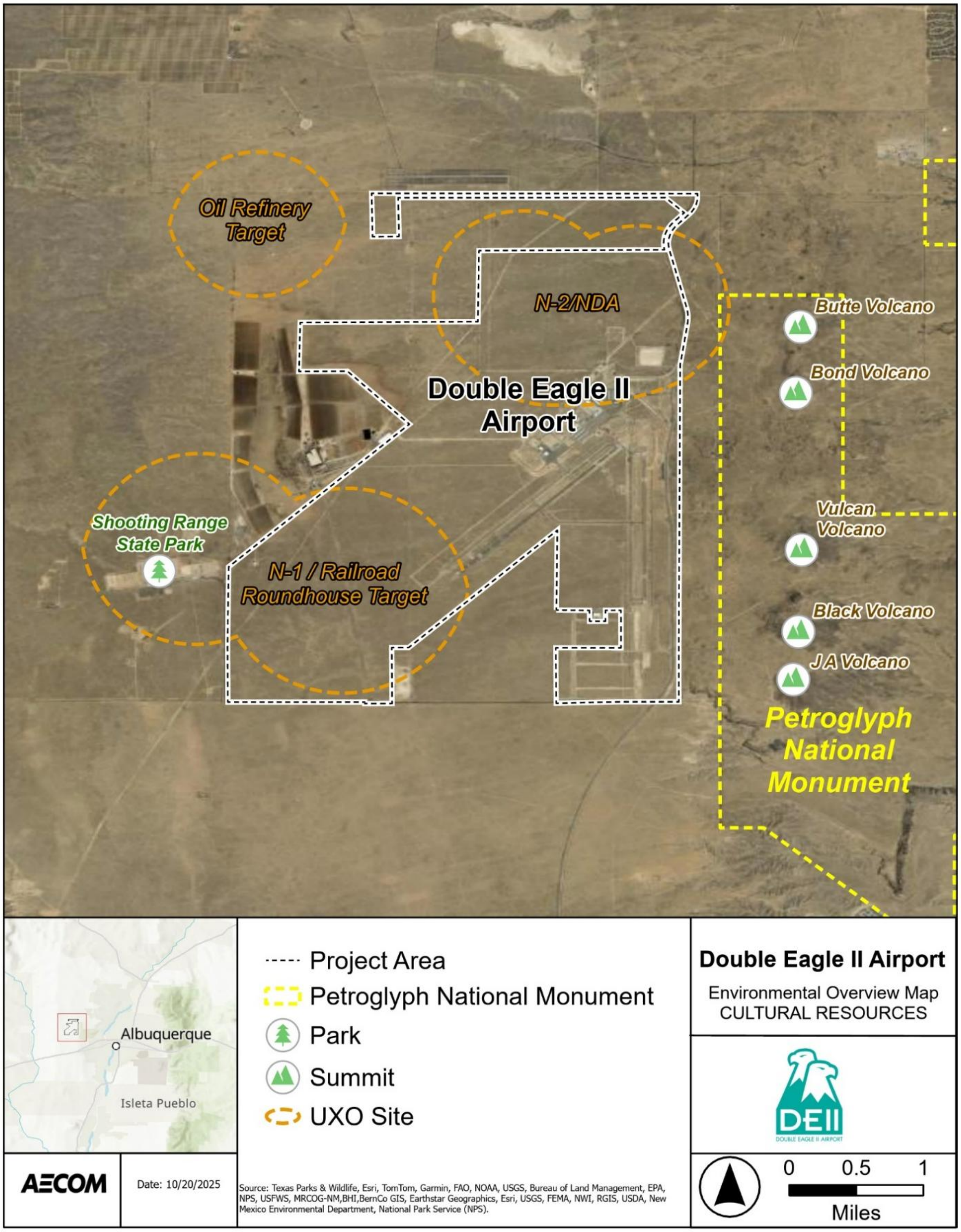


Figure 3-13. Cultural Resources

Sources: See Graphic

3.5.8 Hazardous Material and Solid Waste

Hazardous waste is considered any waste that can be dangerous or potentially harmful to human health or the environment. The Hazardous Waste program originated in 1965 with the federal Solid Waste Disposal Act. In 1976, the United States passed the Resource Conservation and Recovery Act, commonly known as RCRA, which split Hazardous Waste and Solid Waste into two distinct areas. This law gave the U.S. EPA greater ability to regulate hazardous waste from “cradle-to-grave.”

The FAA has not yet established a significance threshold for hazardous materials, solid waste, or pollution prevention. However, the FAA has identified factors to consider in evaluating the context and intensity of potential impacts. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors considering context and intensity to determine if there are significant impacts.

Factors to consider that may be applicable to hazardous materials, solid waste, and pollution prevention include, but are not limited to, situations in which the proposed action or alternative(s) would have the potential to:

- Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management.
- Involve a contaminated site (including, but not limited to, a site listed on the National Priorities List [NPL]).
- Produce an appreciably different quantity or type of hazardous waste.
- Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity.
- Adversely affect human health and the environment.
- The use, handling, storage, and disposal of hazardous materials and other regulated substances at the Airport are typical of most commercial airports. Activities that involve the use of these materials include:
- Fueling, servicing, maintenance, and repair of aircraft, ground support equipment (GSE), and motor vehicles.
- Operation and maintenance of the airfield, commercial passenger terminal complex, and passenger concourses.
- Other special purposes connected with commercial aviation (e.g., rental car and air cargo facilities, navigation and air traffic control functions).

Airport activities with the highest involvement of hazardous and/or regulated materials include fuel storage and maintenance of aircraft, equipment, and buildings. Other, smaller amounts of petroleum products (e.g., lubricants and solvents), waste materials (e.g., used oils, cleaning residues, spent batteries), and manufactured chemicals (e.g., herbicides, fertilizers, paints, etc.) are found at various locations throughout the Airport. These are used on a routine basis in support of aircraft, GSE, and motor vehicle maintenance activities and for a range of other functions to keep the Airport operational.

According to the Environmental Protection Agency’s NEPA Assist website, there are no designated Superfund sites, Brownfield sites, or Toxic Release sites within or adjacent to the Airport.

As described in the previous section, portions of the Airport overlap properties that are known as Formerly Used Defense Sites (FUDS). Once the bombing ranges were no longer needed by the military, land leases were cancelled, and the land reverted back to its original ownership. Clean up activities on these sites have been conducted over the years, but many munitions’ hazards and debris still remain across all the bombing ranges (USACE 2023).[1]

The Department of Defense (DoD) is responsible for environmental restoration of properties that were formerly owned by, leased to or otherwise possessed by the United States and under the jurisdiction of the Secretary of Defense. Environmental cleanup at FUDS properties would be conducted in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

[1] Final Draft Class III Survey of Double Eagle II Mesa Studios, Albuquerque, Bernalillo County, New Mexico August 2025, Southeastern Archaeological Research, LLC

3.5.9 Land Use Planning

Any new development at the Airport will need to be in compliance with the Albuquerque Integrated Development Ordinance (IDO) and must comply with the Airport's Air Space Protection Sub-area, Runway Protection Sub-area, and Noise Contour Sub-area.

Airport property is currently made up of ±4,188 acres of land; however, over 60 percent of the property is unused, vacant land, and is not reserved for future aeronautical purposes. The City of Albuquerque is working on determining what types of future aeronautical uses and non-aeronautical uses could utilize this space. Options identifying future land uses are explored in Chapter 4. Included in this section is a summary of the most recent project proposals that have established a need to establish policy direction for development on and around the Airport from both a regional development and airport development perspective.

3.5.9.1 Mesa Film Studios

The implementation of Mesa Film Studios is intended to be located on Airport property, north of the existing airfield, and accessed via Atrisco Vista Boulevard. The film studio is planning on leasing three areas (with the eastern-most lease area broken out into two tracts) in the northern portion of Airport property (see **Figure 3-14**) that is anticipated to be made up of ±130 acres and would incorporate ±415 parking spaces. The lease areas are anticipated to provide light manufacturing, office, and other non-residential uses (i.e., Warehousing, Restaurant, Mobile Food Truck, and Mobile Food Truck Court) related to a film studio. This proposed film and television production campus will include 7 buildings totaling 291,428 SF (6.7 acres) of building area, and associated parking. An outdoor green screen and stage (25,835 SF/ 0.59 acres) is also proposed. The campus will be secured by a perimeter wall, and access will be restricted to a single-entry gate monitored by a security guard.

As discussed, a portion of the Atrisco Vista Boulevard expansion and reconstruction project will be located near the access point into the Mesa Film Studios campus. The corridor improvement project is anticipated to bring more jobs to the area and improve economic activity.

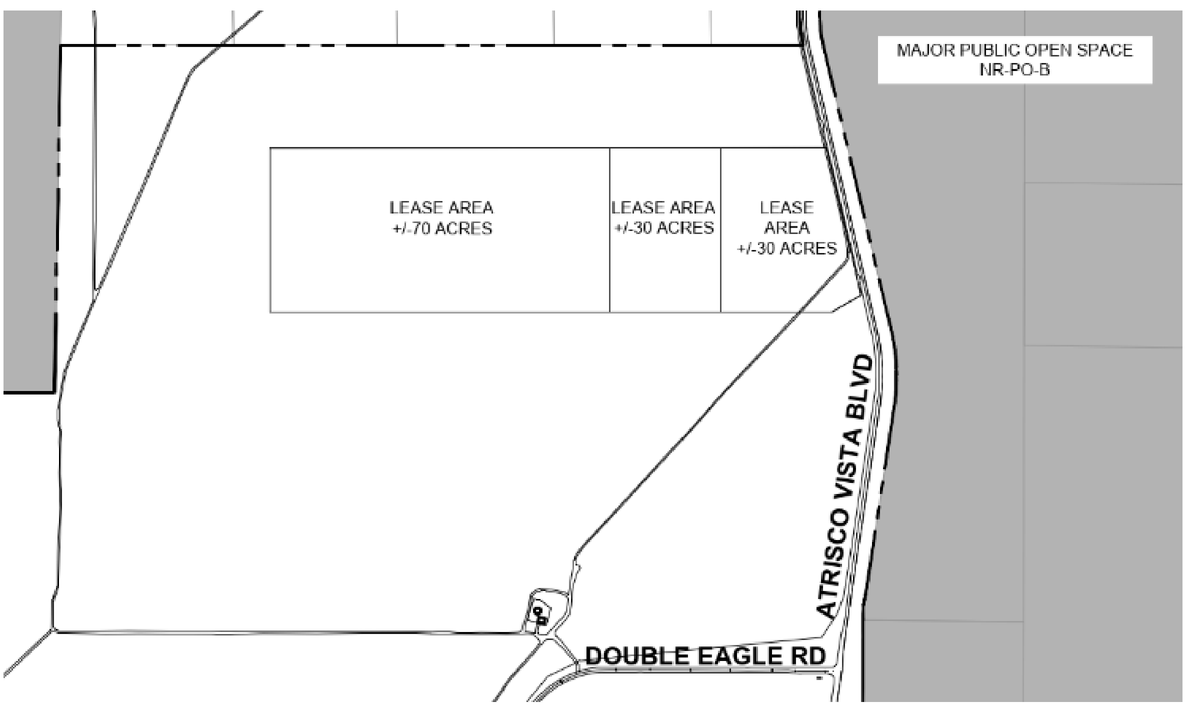


Figure 3-14. Mesa Film Studios – Lease Area

Source: City of Albuquerque

3.5.9.2 Paseo del Volcán (NM 347) Road Extension Study

The NMDOT, in cooperation with the Federal Highway Administration, is conducting a corridor study for the proposed extension of NM Highway 347, also known as Paseo del Volcán (PDV). The proposed 30.6-mile extension of PDV aims to improve access to the growing communities, enhance connections to key east-west roads, and link I-40 and I-25 on the west side of the City. Currently, only two main east-west roads, Southern Boulevard and Northern Boulevard, extend west from Rio Rancho into unincorporated parts of Sandoval County. However, there are no fully paved and improved north-south roads west of Unser Boulevard, which is more than four miles away from the developing neighborhoods.

In Sandoval County, the recommended alternative proposes two, 12-foot-wide lanes (one northbound and one southbound), along with a 10-foot multi-use trail, approximately 50 feet to the east, for bicycles and pedestrians. Future phases of the PDV extension are planned to pass through the far western portion of the Albuquerque Soils Amendment Facility, the southwestern portion of Airport property, and will pass east of Shooting Range Access Road. The Airport could benefit from a west access road from new PDV and potential connections with Atrisco Vista Boulevard or Double Eagle Road utilizing one of the proposed PDV-designated intersections. See **Figure 3-15** for a graphic of the proposed PDV road extension that will pass through Airport property.

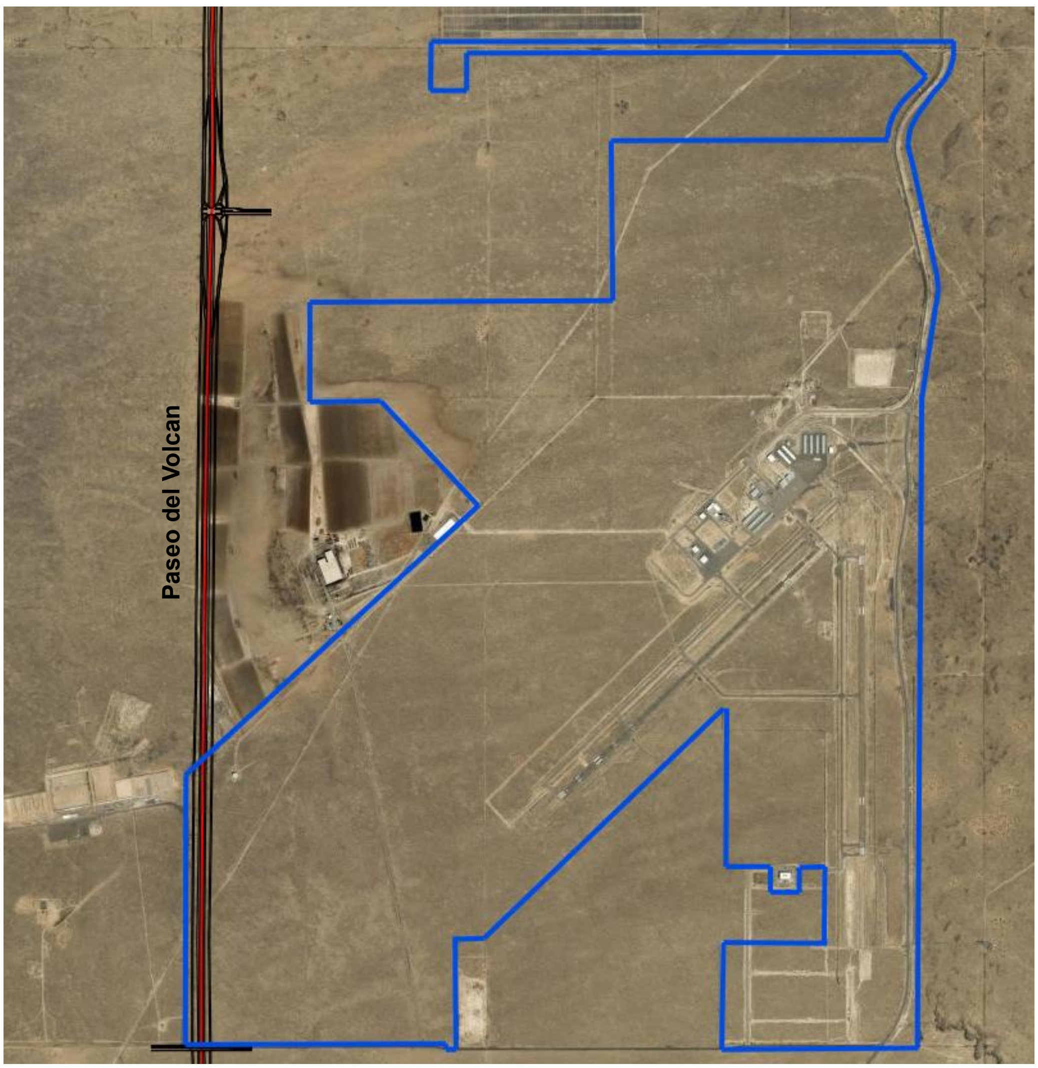


Figure 3-15. Paseo del Volcan Reference Map – Airport Property

Source: ArcGIS Mapviewer

3.5.9.3 Rio Puerco-Pajarito-Prosperity 345 kV Transmission Lines

The Rio Puerco-Pajarito-Prosperity 345kV transmission line project is a vital infrastructure initiative developed by the Public Service Company of New Mexico (PNM) that aims at addressing critical regional energy challenges while creating opportunities for growth and sustainability. The project is anticipated to consist of bulk transmission lines that would run along the east side of the proposed PDV alignment, approximately 150 feet from the east edge of the right-of-way (ROW) in which an electric easement may be obtained. These transmission lines would range from 80 to 125 feet high and may act as potential obstructions to Runway 4 approach procedures or Runway 22 departure procedures and could otherwise impact options to extend or enhance the primary runway. Coordination with the FAA by completing an FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, is recommended as soon as specific height or corridor information is available. Coordination with NMDOT and the Federal Highway Administration is recommended throughout the design and construction process and PNM would need to revise the City Site Plan to show the easement if Route B is selected and the transmission lines are proposed on Airport property. Additionally, if selected, Route B would require a Major Amendment from the City's Environmental Planning Commission (EPC). See **Figure 3-16** for a graphic of two proposed routes for the transmission line project, both of which would be located on the western portion of Airport property.

3.5.9.4 I-40 Tradeport Corridor

Another major roadway transportation project in the vicinity of the Airport is the I-40 Tradeport Corridor. Though not directly related to Airport property, Interstate-40 passes directly through Albuquerque and is approximately 7 miles south of the Airport. The I-40 Tradeport Corridor is a network of interconnected Tradeport hubs strategically situated and designed to integrate ocean/rail/road/air transport into a coordinated freight corridor. The concept includes clean-energy infrastructure such as charging stations for electric and hydrogen trucks, support for autonomous vehicles, and sustainable logistics systems and is anticipated to open up the western Albuquerque area for development and economic activity.

3.5.9.5 Future Roadway Traffic Volumes

In April 2025, the Metropolitan Transportation Board approved a Metropolitan Transportation Plan (MTP), called Transitions 2045 MTP, which was developed by the Mid-Region Council of Governments (MRCOG). Transitions 2045 MTP identifies future transportation needs and how the Albuquerque region will target transportation investment over the next 20 years. The plan modeled two future condition scenarios using a volume-to-capacity (V/C) ratio at PM peak hours. These models are a 2045 No-Build: Future Conditions Without Additional Transportation Investments scenario and a 2045 Trend: Future Conditions with Transportation Investments scenario.

The only road segment in the general vicinity of Airport property that was not considered “acceptable”, was at the intersection of Atrisco Vista Boulevard southbound and I-40 for the 2045 No-Build scenario (considered “approaching capacity”); however, this should not have an impact on vehicle traffic near Airport property. See **Figure 3-17** for a graphic of the 2045 No-Build scenario.

3.5.9.6 Jetport

One area of Airport growth that the City of Albuquerque has considered is the implementation of a jetport. While jetport facilities may vary, a jetport normally consists of an FBO facility, a designated aircraft parking apron, and a customer/employee parking lot.

3.5.9.7 Air Cargo

The City of Albuquerque has also looked into the possibility of the Airport transforming into an air cargo hub, which would also align with the Airport’s existing land use and future aeronautical use. The growth of air cargo has been most recently fueled by on-demand, online shopping combined with the continued growth of global supply chain networks. Additionally, socio-economic growth has continued for the greater Albuquerque region. The Airport and its surroundings are experiencing a variety of competing development and preservation interests, such as the recent opening of the nearby Amazon Fulfillment Center (ABQ1).

The existing airfield footprint is not up to standards to accommodate air cargo aircraft such as the Boeing 747-400F, 747-800F, 757-200F, and 767-300F aircraft. The Airport's primary runway length would need to be extended to at least 14,000 feet based on the Airport serving the heaviest aircraft, the industry trend toward a larger cargo fleet size, and an anticipated benefit-cost benefit for longer length deriving more benefit per dollar spent.

Other airside improvements the Airport would need include a runway widening, parallel taxiway extension and widening, an additional precision approach, and a fee-simple acquisition of approximately 90 acres. Landside requirements would also include a cargo processing center, a concrete aircraft parking apron, a truck maneuvering and docking court, employee parking, and roadway improvements or realignments.

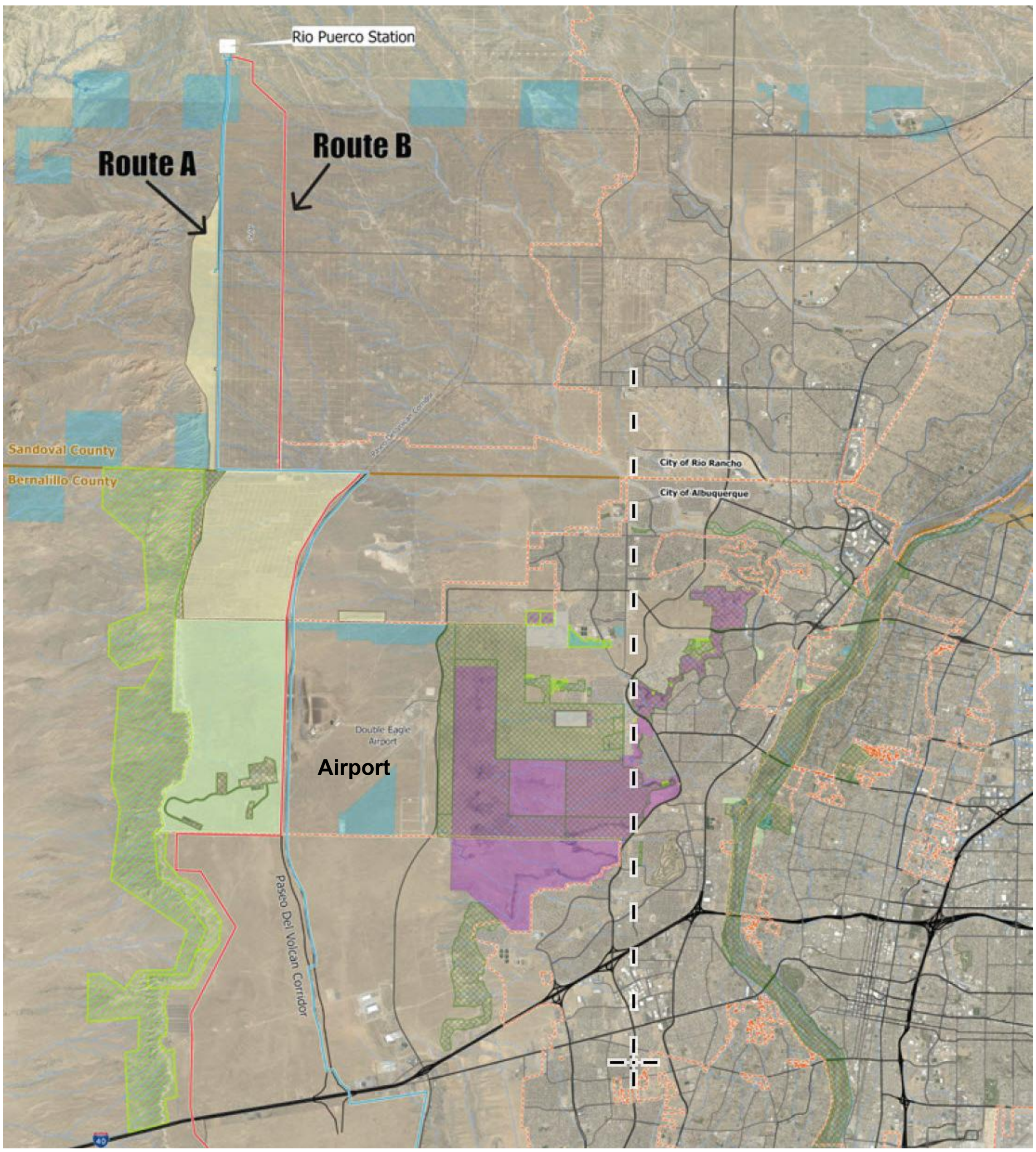


Figure 3-16. Proposed Rio Puerco-Pajarito-Prosperity 345kV Transmission Line Project Routes

Source: Powering New Mexico

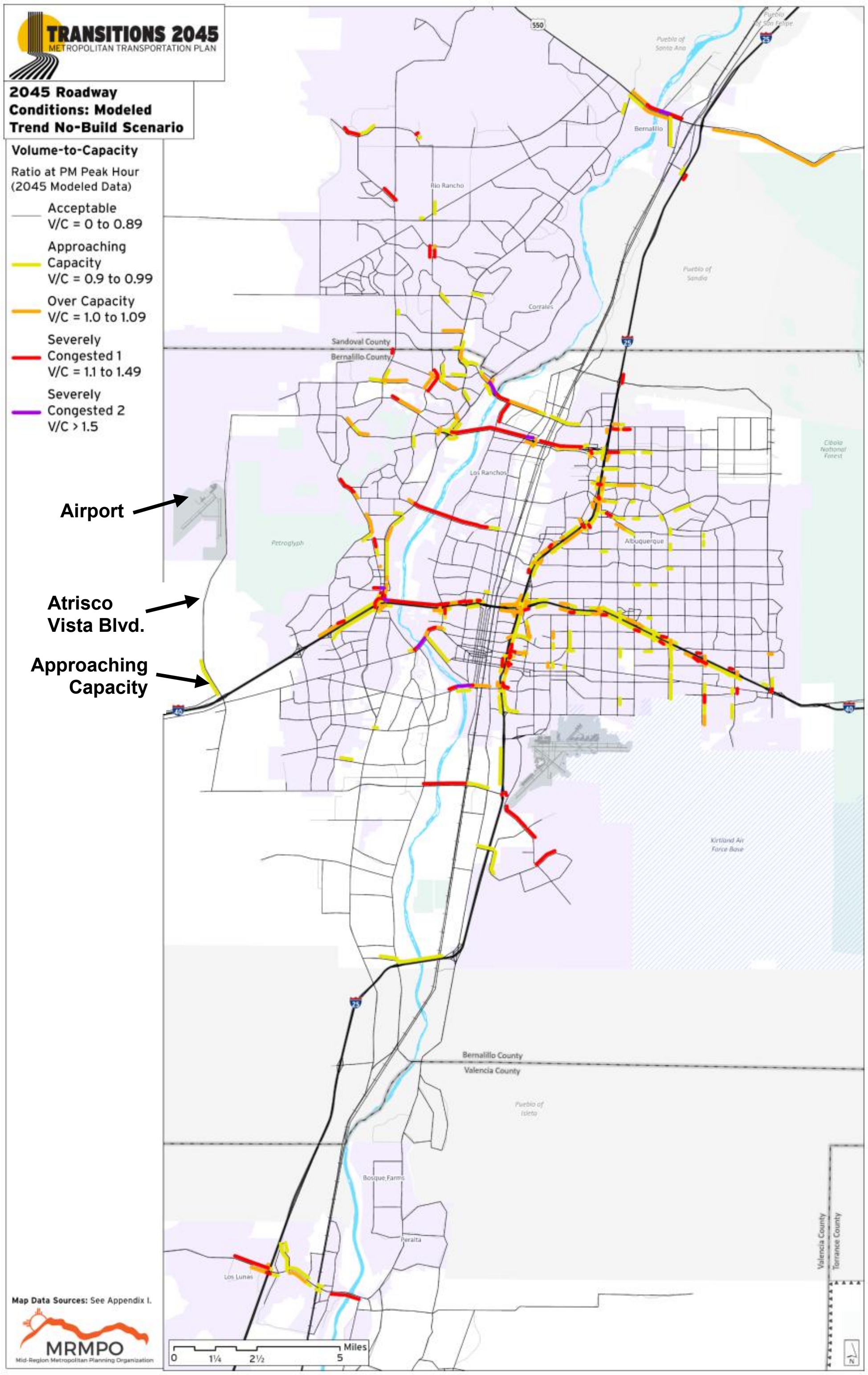


Figure 3-17. 2045 Roadway Conditions – Modeled Trend No-Build Scenario

Source: Transitions 2045 MTP – April 2025

aecom.com

DRAFT

Double Eagle II Airport

Airport Master Plan Update
Basis for the Proposed Development Working Paper
Facility Requirements
Appendix A - Apron Area Facility Requirements

City of Albuquerque Aviation Department

Project Number: 7540.003

July 2026

City of Albuquerque Aviation Department
Administration Office, 3rd Level
2200 Sunport Blvd. SE
Albuquerque, NM 87106

Delivering a better world

Apron Areas

Aircraft aprons should be provided for based aircraft that are not stored in hangars and for transient aircraft visiting the Airport. There are approximately 57 tie-down spaces for the combined based and transient general aviation (GA) aircraft with approximately 76,000 square yards (SY) of apron across both aprons. Approximately 20,880 SY is currently designated as existing aircraft parking across both aprons. See **Figure A-1** for the existing aircraft tie-down positions and **Figure A-2** for the other aircraft parking areas.

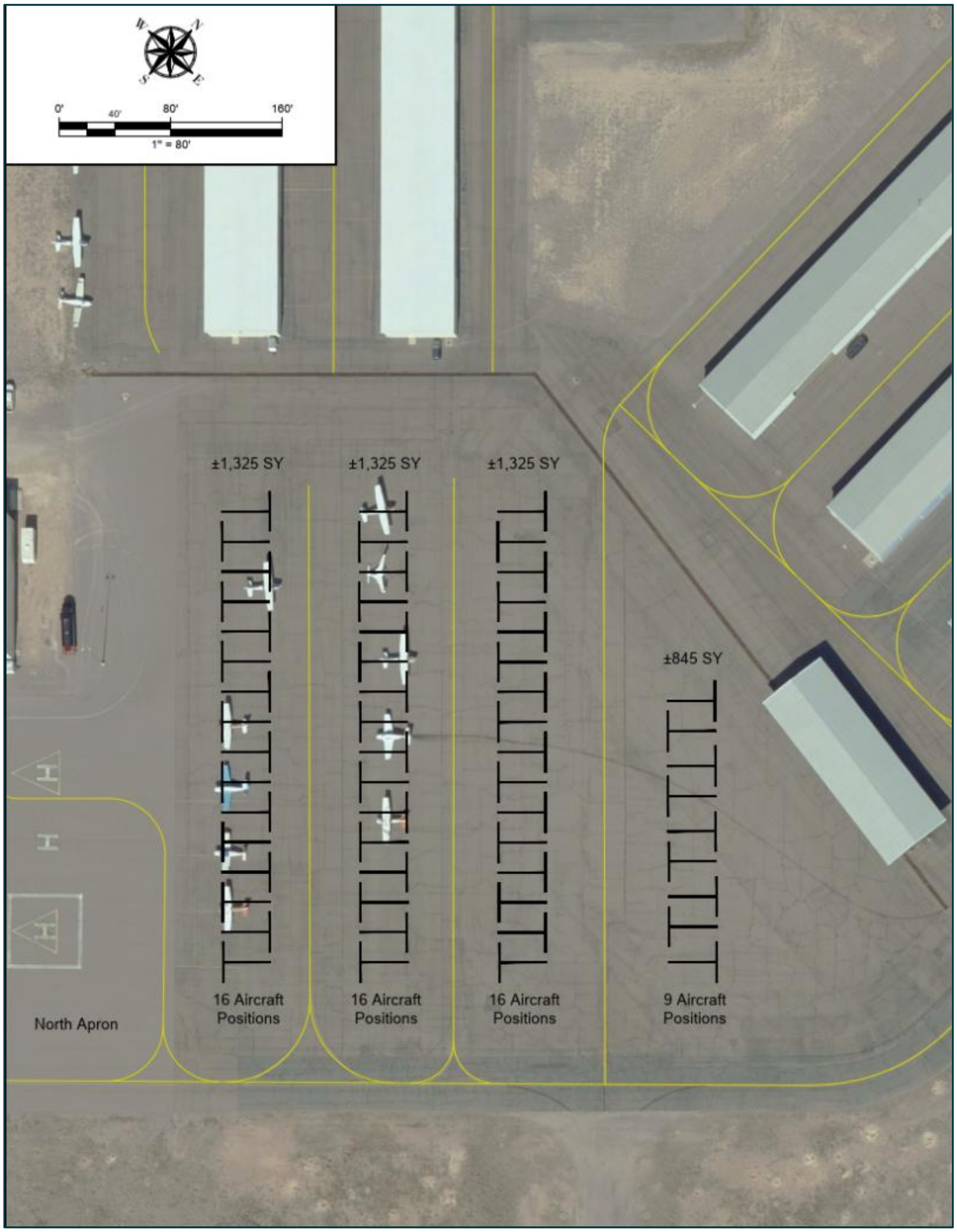


Figure A-1. Aircraft Tie-Downs

Source: AECOM

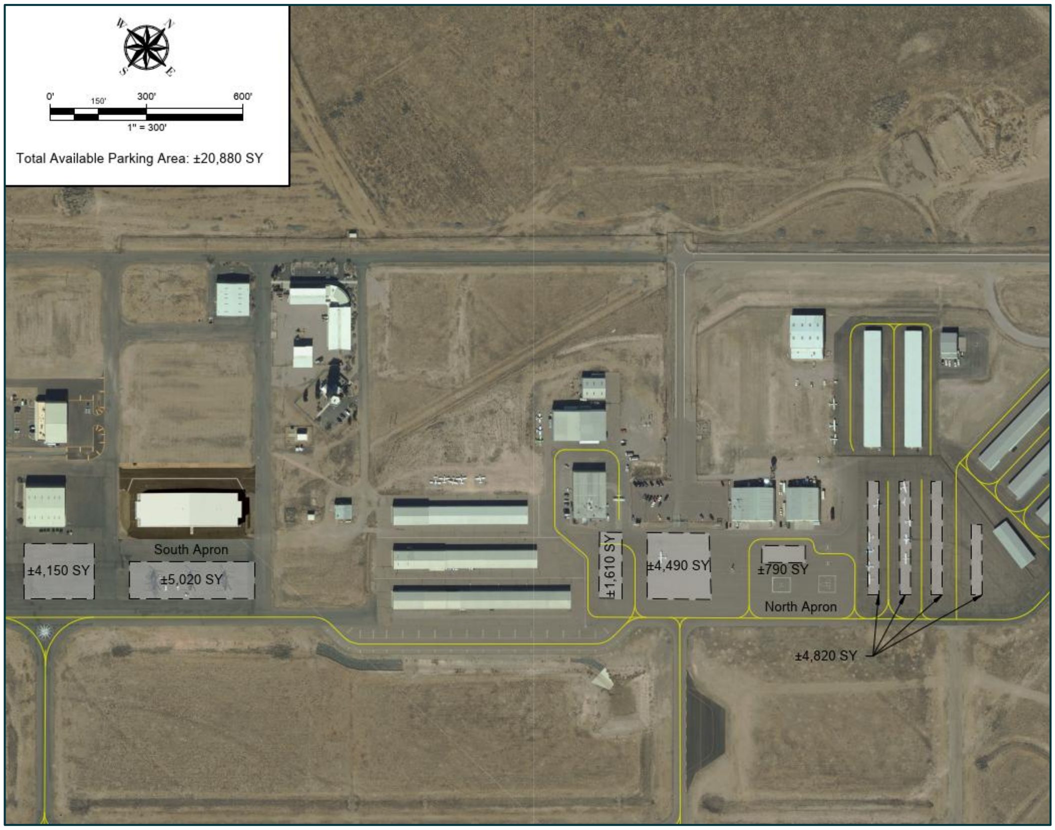


Figure A-2. Aircraft Parking

Source: AECOM

Future demand for aprons to accommodate based aircraft and transient aircraft operations can be calculated using standard planning formulas but should be confirmed based upon site specific factors. The following tables and paragraphs present an estimate of future apron requirements based upon the forecast of transient aircraft operations and the use of planning factors.

The November 2017 New Mexico Department of Transportation (NMDOT) New Mexico Airport System Plan (NMASP) Update recommends that Regional General Aviation airports, such as AEG, should provide apron tie downs for 50 percent of transient aircraft and 40 percent of based aircraft.

Apron Parking – Transient Aircraft

The number of aircraft parking positions required for transient aircraft is determined using the methods provided in Appendix C of Airport Cooperative Research Program (ACRP) Report 113: Guidebook on General Aviation Facility Planning. The ACRP method uses annual transient operations to quantify the required parking positions as shown below:

(X/2*T)/365*P = Number of Transient Parking Positions

Where:

X = Number of Itinerant GA operations

T = Percent of operations that are transient

P = Percentage of transient aircraft parked on the apron at any one time

According to Airport staff, it is assumed that single-engine aircraft parked on the apron make up approximately 50 percent of transient aircraft operations at the Airport, multi-engine aircraft make up 20 percent, helicopters make up 20 percent, jets makes up 5 percent, and other aircraft make up 5 percent. Additionally, according to conversations with Airport staff, on a busy day, approximately 40 percent of aircraft parked on the apron at once are transient; therefore, that number will represent “P” in the equation throughout the planning period. See **Table A-1**.

Table A-1. General Aviation Itinerant Apron Demand

	Itinerant Operations	Total Operations	Percentage of Transient Operations (T)	Aircraft Type + Percentage on Apron	Approximate Operations by Aircraft Type (X)[1]	Percentage of Transient Aircraft Parked on Apron (P)[2]	Required Transient Positions[3]	Nested Tie-Down Positions[4]	Total Required Apron (SY)[5]
PAL 0 – 2024 (Base Year)	22,435	57,288	39	SEP MEP Rotorcraft Jet Other	11,218 4,487 4,487 1,122 1,122	40	2 = 2 1 = 2.5 1 = 2 0 = 0 0 = 0	6.5 → 7	2,800
PAL 1 – 2029 (Base Year + 5)	25,037	62,035	40	SEP MEP Rotorcraft Jet Other	12,519 5,007 5,007 1,252 1,252	40	3 = 3 1 = 2.5 1 = 2 0 = 0 0 = 0	7.5 → 8	3,200
PAL 2 – 2034 (Base Year + 10)	27,998	67,276	41	SEP MEP Rotorcraft Jet Other	13,999 5,600 5,600 1,400 1,400	40	3 = 3 1 = 2.5 1 = 2 0 = 0 0 = 0	7.5 → 8	3,200
PAL 3 – 2029 (Base Year + 15)	28,683	69,424	41	SEP MEP Rotorcraft Jet Other	14,342 5,737 5,737 1,434 1,434	40	3 = 3 1 = 2.5 1 = 2 0 = 0 0 = 0	7.5 → 8	3,200
PAL 4 – 2044 (Base Year + 20)	29,388	71,648	41	SEP MEP Rotorcraft Jet Other	14,694 5,878 5,878 1,469 1,469	40	3 = 3 1 = 2.5 1 = 2 0 = 0 0 = 0	7.5 → 8	3,200

Notes:

1. *Single-engine aircraft parked on the apron make up approximately 50 percent of transient aircraft operations at the Airport, multi-engine aircraft make up 20 percent, helicopters make up 20 percent, jets makes up 5 percent, and other aircraft make up 5 percent.*
2. *Percentage of transient aircraft parked on the apron number determined by the November 2017 NMDOT NMASP Update.*
3. *See formulas below. Numbers are rounded up if they are 0.5 or higher.*
4. *See paragraph below referencing aircraft type to equivalent tie-down positions.*
5. *Assumes 400 SY per aircraft parking position.*

Abbreviations:
SEP: Single-Engine Piston
MEP: Multi-Engine Piston

Sources:

1. *ACRP Report 113: Guidebook on General Aviation Facility Planning – Appendix C*
2. *AECOM Analysis*

An example of the formula for the 2024 Base Year is shown below:

Single-Engine Piston: [(11,218/2 ∗ 39%) / 365 ∗ 40%] = 2.40 (use 2)

Multi-Engine Piston: [(4,487/2 ∗ 39%) / 365 ∗ 40%] = 0.96 (use 1)

Rotorcraft: [(4,487/2 ∗ 39%) / 365 ∗ 40%] = 0.96 (use 1)

Jet: [(1,122/2 ∗ 39%) / 365 ∗ 40%] = 0.24 (use 0)

Other: [(1,122/2 ∗ 39%) / 365 ∗ 40%] = 0.24 (use 0)

Total: 4 Transient Positions

However, the ACRP Report states that for every one aircraft parking position per aircraft type, that does not equate to one tie-down position. For one single-engine piston aircraft, one tie-down position should be assumed. For one multi-engine piston aircraft, 2.5 tie-down positions should be assumed. For one rotorcraft, two tie-down positions should be assumed. And for one jet aircraft, three tie-down positions should be assumed. Thus, for Base Year 2024, 6.5 (2*1 [SEP] + 1*2.5 [MEP] + 1*2 [Rotorcraft]), which is rounded to 7, transient aircraft parking positions are required at the Airport. As seen in **Table A-1**, for 2044, 7.5, which is rounded to 8, transient aircraft parking positions are required at the Airport.

Apron Parking – Based Aircraft

Appendix C of ACRP Report 113 states that a planning guideline for number of based aircraft parking positions should be between 10 percent and 25 percent of based aircraft. A summary of the existing and projected based aircraft can be found in **Table A-2**.

Table A-2. Based Aircraft at the Airport

	Single Engine (Non-Jet)	Multi-Engine (Non-Jet)	Jet	Helicopter	Other	Military	Total	25 Percent of Total Based Aircraft	Total Required Apron (SY) [1]
PAL 0 – 2024 (Base Year)	96	15	1	7	6	N/A	125	32	12,800
PAL 1 – 2029 (Base Year + 5)	97	15	1	8	6	N/A	127	32	12,800
PAL 2 – 2034 (Base Year + 10)	105	16	1	8	7	N/A	137	35	14,000
PAL 3 – 2029 (Base Year + 15)	115	18	1	9	7	N/A	150	38	15,200
PAL 4 – 2044 (Base Year + 20)	122	19	1	9	8	N/A	159	40	16,000

Note:

1. *Assumes 400 SY per aircraft parking position.*

Sources:

1. *The FAA TAF – Issued January 2025*

AECOM Analysis

Using the conservative number of 25 percent based aircraft required to be parked on the apron, 40 based aircraft parking positions will be required by 2044. Using this number, plus the 8 total transient aircraft parking positions required at the Airport, the Airport will need 48 total aircraft parking positions by 2044. With 57 existing tie-down positions, plus an additional ±16,060 SY of designated aircraft parking areas, the existing aprons will have adequate aircraft parking throughout the Master Plan planning period.

DRAFT

Double Eagle II Airport

Airport Master Plan Update
Basis for the Proposed Development Working Paper
Facility Requirements
Appendix B - IPaC Resource List

City of Albuquerque Aviation Department

Project Number: 7540.003

July 2026

City of Albuquerque Aviation Department
Administration Office, 3rd Level
2200 Sunport Blvd. SE
Albuquerque, NM 87106

Delivering a better world

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

Double Eagle II Master Plan Update Environmental Overview

LOCATION

Bernalillo County, New Mexico

DESCRIPTION

None

Local office

New Mexico Ecological Services Field Office

(505) 346-2525
(505) 346-2542

2105 Osuna Road Ne
Albuquerque, NM 87113-1001

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Mexican Wolf Canis lupus baileyi No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/3916	Endangered
New Mexico Meadow Jumping Mouse Zapus hudsonius luteus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7965	Endangered

Birds

NAME	STATUS
Yellow-billed Cuckoo Coccyzus americanus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Suckley's Cuckoo Bumble Bee Bombus suckleyi No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10885	Proposed Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs
The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

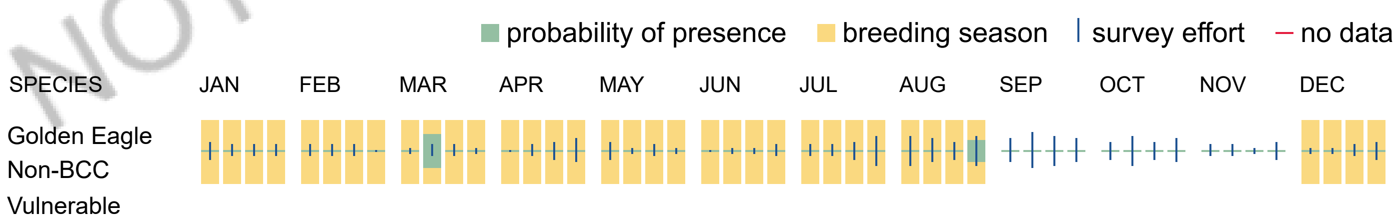
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network (AKN)]. The AKN data is based on a growing collection of [survey, banding, and citizen science datasets] and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle ([Bald and Golden Eagle Protection Act] requirements may apply).

Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases birds of concern, including Birds of Conservation Concern (BCC), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the Nationwide avoidance and minimization measures for birds document, and any other project-specific avoidance and minimization measures suggested at the link Measures for avoiding and minimizing impacts to birds for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles document, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Bendire's Thrasher Toxostoma bendirei This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9435	Breeds Mar 15 to Jul 31
Black-chinned Sparrow Spizella atrogularis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9447	Breeds Apr 15 to Jul 31
Broad-tailed Hummingbird Selasphorus platycercus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 25 to Aug 21
Cassin's Finch Haemorhous cassinii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Pectoral Sandpiper Calidris melanotos This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Virginia's Warbler Leiothlypis virginiae This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9441	Breeds May 1 to Jul 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

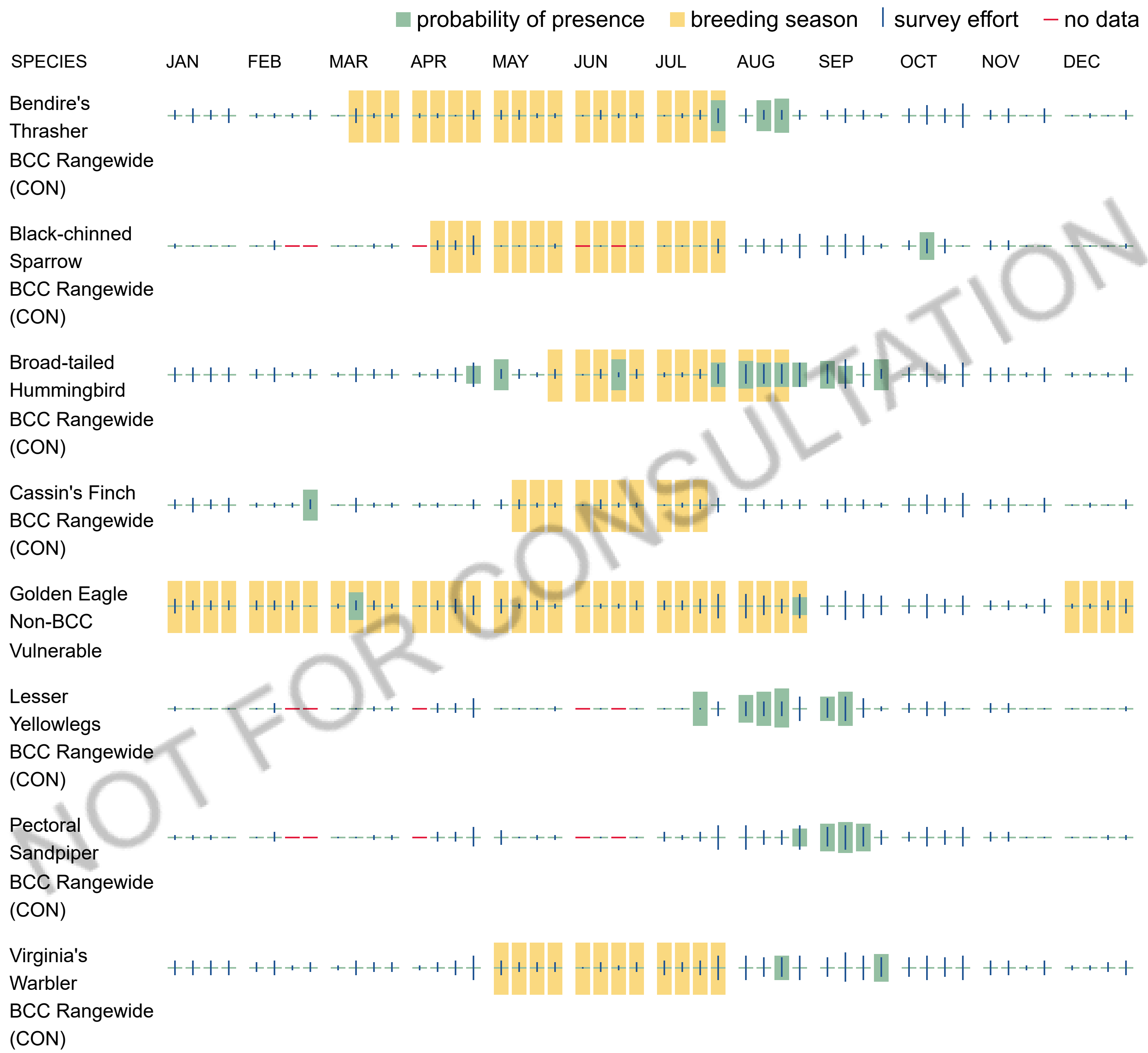
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as “Vulnerable”. See the FAQ “What are the levels of concern for migratory birds?” for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle (Bald and Golden Eagle Protection Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Bald and Golden Eagle Protection Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ “Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds”.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:

The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE
R4SB3Jx

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

DRAFT

Double Eagle II Airport

Airport Master Plan Update
Basis for the Proposed Development Working Paper
Facility Requirements
Appendix C - Species of Greatest Conservation Need

City of Albuquerque Aviation Department

Project Number: 7540.003

July 2026

City of Albuquerque Aviation Department
Administration Office, 3rd Level
2200 Sunport Blvd. SE
Albuquerque, NM 87106

Delivering a better world

Species of Greatest Conservation Need
Bernalillo

Taxonomic Group	# Species	Taxonomic Group	# Species
Amphibians	2	Mammals	4
Birds	51	Reptiles	3
Fish	2		

TOTAL SPECIES: 62

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Pale Townsend's Big-eared Bat	Corynorhinus townsendii				Y	View
Spotted Bat	Euderma maculatum	T			Y	View
New Mexico Jumping Mouse	Zapus hudsonius luteus	E	E	Y	Y	View
Gunnison's prairie dog	Cynomys gunnisoni				Y	View
Eared Grebe	Podiceps nigricollis				Y	View
Clark's Grebe	Aechmophorus clarkii				Y	View
Yellow-billed Cuckoo (western pop)	Coccyzus americanus occidentalis		T	Y	Y	View
Common Nighthawk	Chordeiles minor				Y	View
Mexican Whip-poor-will	Antrostomus arizonae				Y	View
Black Swift	Cypseloides niger				Y	View
Broad-billed Hummingbird	Cynanthus latirostris	T			Y	View
Mountain Plover	Charadrius montanus				Y	View
Snowy Plover	Charadrius nivosus				Y	View
Long-billed Curlew	Numenius americanus				Y	View
Least Tern	Sternula antillarum	E			Y	View
Neotropic Cormorant	Phalacrocorax brasilianus	T			Y	View
American Bittern	Botaurus lentiginosus				Y	View
Bald Eagle	Haliaeetus leucocephalus	T			Y	View
Common Black Hawk	Buteogallus anthracinus	T			Y	View
Flammulated Owl	Psiloscops flammeolus				Y	View
Burrowing Owl	Athene cunicularia				Y	View
Mexican Spotted Owl	Strix occidentalis lucida		T	Y	Y	View
Lewis's Woodpecker	Melanerpes lewis				Y	View
Red-headed Woodpecker	Melanerpes erythrocephalus				Y	View

Species of Greatest Conservation Need
Bernalillo

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Williamson's Sapsucker	Sphyrapicus thyroideus				Y	View
Aplomado Falcon	Falco femoralis	E	E		Y	View
Peregrine Falcon	Falco peregrinus	T			Y	View
Olive-sided Flycatcher	Contopus cooperi				Y	View
Southwestern Willow Flycatcher	Empidonax traillii extimus	E	E	Y	Y	View
Loggerhead Shrike	Lanius ludovicianus				Y	View
Bell's Vireo	Vireo bellii	T			Y	View
Gray Vireo	Vireo vicinior	T			Y	View
Pinyon Jay	Gymnorhinus cyanocephalus				Y	View
Clark's Nutcracker	Nucifraga columbiana				Y	View
Bank Swallow	Riparia riparia				Y	View
Juniper Titmouse	Baeolophus ridgwayi				Y	View
Pygmy Nuthatch	Sitta pygmaea				Y	View
Western Bluebird	Sialia mexicana				Y	View
Mountain Bluebird	Sialia currucoides				Y	View
Bendire's Thrasher	Toxostoma bendirei				Y	View
Sprague's Pipit	Anthus spragueii				Y	View
Evening Grosbeak	Coccothraustes vespertinus				Y	View
Brown-capped Rosy-Finch	Leucosticte australis				Y	View
Cassin's Finch	Haemorhous cassinii				Y	View
Cassin's Sparrow	Peucaea cassinii				Y	View
Black-chinned Sparrow	Spizella atrogularis				Y	View
Sagebrush Sparrow	Artemisiospiza nevadensis				Y	View
Vesper Sparrow	Pooecetes gramineus				Y	View
Baird's Sparrow	Centronyx bairdii	T			Y	View
Lucy's Warbler	Leiothlypis luciae				Y	View
Virginia's Warbler	Leiothlypis virginiae				Y	View
Grace's Warbler	Setophaga graciae				Y	View
Black-throated Gray Warbler	Setophaga nigrescens				Y	View
Red-faced Warbler	Cardellina rubrifrons				Y	View
Painted Redstart	Myioborus pictus				Y	View

Species of Greatest Conservation Need
Bernalillo

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Big Bend Slider	Trachemys gaigeae				Y	View
Sonoran Mud Turtle	Kinosternon sonoriense sonoriense				Y	View
Western Massasauga	Sistrurus tergeminus				Y	View
Boreal Chorus Frog	Pseudacris maculata				Y	View
Northern Leopard Frog	Lithobates pipiens				Y	View
Rio Grande Chub	Gila pandora				Y	View
Rio Grande Silvery Minnow	Hybognathus amarus	E	E	Y	Y	View

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AECOM

Double Eagle II Airport

Airport Master Plan Update
Working Paper #2 – Basis for the Proposed Development
Airport Improvement Concepts

City of Albuquerque Aviation Department

Project Number: 7540.003

July 2026

City of Albuquerque Aviation Department
Administration Office, 3rd Level
2200 Sunport Blvd. SE
Albuquerque, NM 87106

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Quality Information

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Revision History

Revision	Revision Date	Details	Authorized	Name	Position
1	3/30/2026	Revision includes response to City of Albuquerque comments received on February 19, 2026, and March 17, 2026.	Tezla, Anthony	Mayer, Gregory	Senior Airport Planner
2	7/2026	Revision includes response to stakeholder comments received between March 31, 2026, and April 17, 2026.	Tezla, Anthony	Mayer, Gregory	Senior Airport Planner

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List of Acronyms

A

AAM	Advanced Air Mobility
ABCWUA	Albuquerque Bernalillo County Water Utility Authority
AC	Advisory Circular
AEG/Airport	Double Eagle II Airport
ALP	Airport Layout Plan
AMPU	Airport Master Plan Update
APD	Albuquerque Police Department
APO	Airport Protection Overlay
ARPZ	Approach Runway Protection Zone
ASDA	Accelerate-Stop Distance Available
ATCT	Airport Traffic Control Tower

C

CFR	Code of Federal Regulations
City	City of Albuquerque

D

DNL	Day-Night Noise Level
DRPZ	Departure Runway Protection Zone

E

eVTOL	Electric Vertical Takeoff and Landing

F

FAA	Federal Aviation Administration

G

GA	General Aviation
GPS	Global Positioning System
GS	Glide Slope

H

HIRL	High Intensity Runway Lights

I

IDO	Integrated Development Ordinance
ILS	Instrument Landing System
INM	Integrated Noise Model

L

LDA	Landing Distance Available
LOC	Localizer

M

MALSR	Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
MIRL	Medium Intensity Runway Lights
MPOS	Major Public Open Space
MRO	Maintenance-Repair-Overhaul
MTB	Metropolitan Transportation Board

N

NAVAID	Navigational Aid
NPA	Non-Precision Approach
NR-PO-B	Major Public Open Space
NR-PO-C	Non-City Park and Open Space
NR-SU	Non-Residential Sensitive Use

O

OFZ	Obstacle Free Zone

P

PA	Precision Approach
PAPI	Precision Approach Path Indicator
PDN	Paseo del Norte
PDV	Paseo del Volcan

R

RAC	Roadway Access Control
ROFA	Runway Object Free Area
ROFZ	Runway Obstacle Free Zone
RPZ	Runway Protection Zone
RSA	Runway Safety Area

S

SAMM	State Access Management Manual
SAMS	Southwest Aeronautics, Mathematics, and Science

T

TODA	Takeoff Distance Available
TORA	Takeoff Run Available

V

V	Visual Approach
VA	Department of Veteran's Affairs
VSR	Vehicle Service Road

4. Airport Improvement Concepts

The Airport Improvement Concepts chapter identifies feasible alternative concepts for improvements to the Double Eagle II Airport (AEG, Airport) based on the findings and recommendations in **Chapter 3**: *Facility Requirements*. This chapter analyzes and evaluates potential improvement concepts for the airside, building area, and landside facilities. Additionally, given the recent development interest in the Airport and surrounding environs, this chapter also establishes initial coordination for adapting local land use and development policy for addressing the area's combined aviation, economic, and infrastructure needs within the culturally and historically significant setting. Following a collaborative stakeholder and public vetting process, the City of Albuquerque (City) will select a preferred concept or concepts that will be further refined and incorporated into **Chapter 5**, describing the phased implementation process.

4.1 Runway Protection Zone Clearance

Chapter 3: *Facility Requirements*, referenced the Federal Aviation Administration (FAA) design standards applicable to Runway Protection Zones (RPZs). These design standards are intended to clear RPZs of incompatible uses and to maintain sufficient control of the areas within them to prevent new or worsening incompatibilities from occurring. Airport control of the RPZ areas is ideally accomplished through direct ownership such as fee-simple acquisition or via an airport avigation easement that limits the height and use of the property not directly owned by the Airport.

As shown in **Figure 4-1**, the northeast end of Runway 4-22 has two RPZs that were identified as not meeting the FAA clearance standards due to the intervening presence of Atrisco Vista Boulevard. Approximately 1,635 linear feet of Atrisco Vista Boulevard is located within the Runway 22 Approach RPZ (ARPZ), and the road also clips a small part of the Runway 4 Departure RPZ (DRPZ). Additionally, approximately ±8.9 acres of off-Airport, City-owned property is located within the Runway 22 ARPZ, but the City ownership-control of that property may meet RPZ compliance standards. The evolution of the FAA's RPZ standards and the developmental history of Atrisco Vista Boulevard have both played a role in how the roadway has become a non-compatible use.

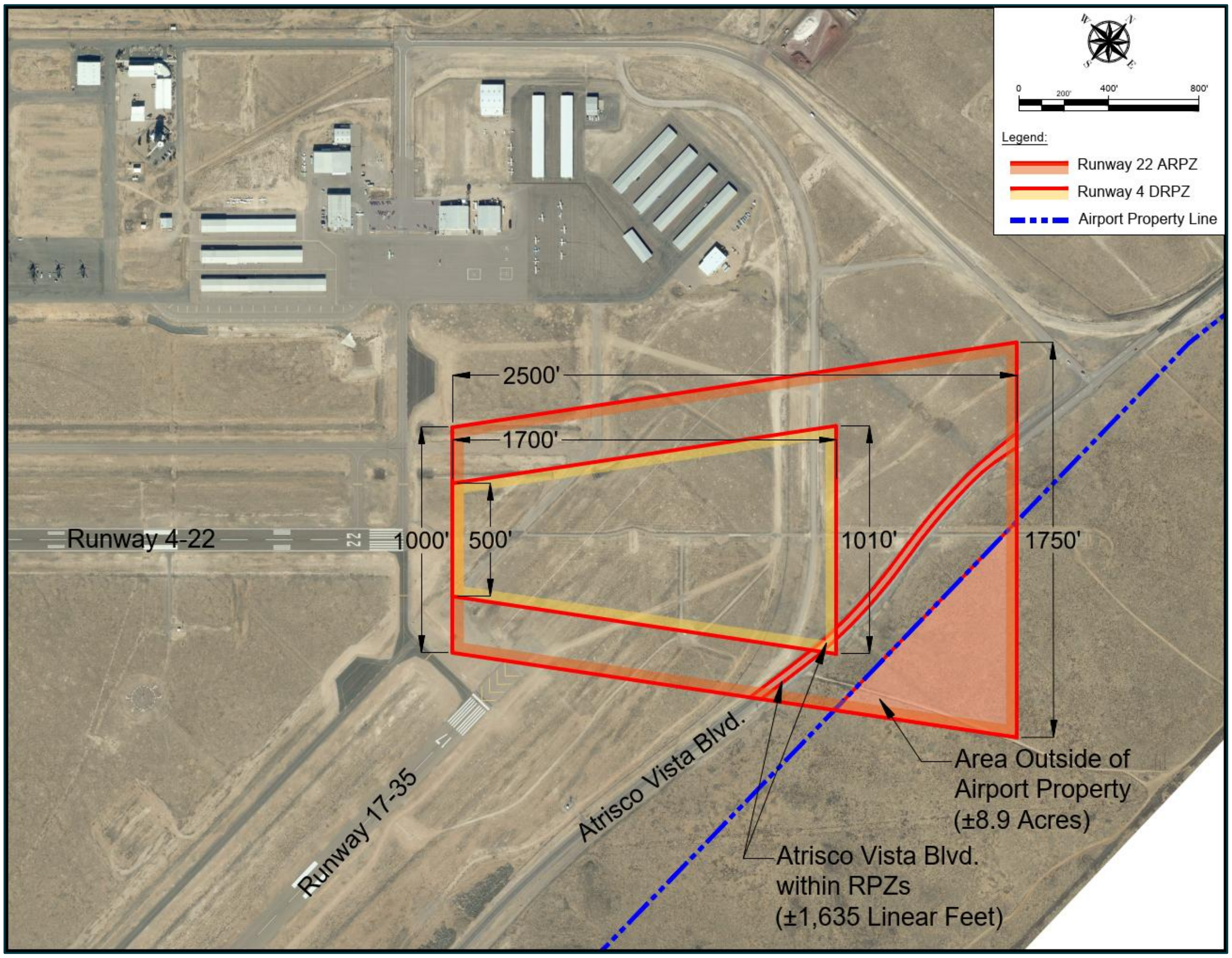


Figure 4-1. Runway 22 ARPZ/Runway 4 DRPZ Clearance Issues

Source: AECOM

4.1.1 Historic Context of Existing RPZ Non-Standard Conditions

For purpose of context, it should be noted that two independent evolutionary paths unintentionally converged into today's non-standard land use - a public-use roadway within the northeast RPZs for Runway 4-22. The first concerns the incremental changes in the role and importance of the RPZ as an FAA airport design standard and the second concerns the changing role and use of Atrisco Vista Boulevard.

Evolution of RPZ Clearance Standards – The RPZ purpose is to enhance the safety of people and property on the ground by controlling the types of development and activities that occur beneath the flight paths of arriving and departing aircraft. The RPZ is a safety surface intended to mitigate risk and does so most effectively in conjunction with other safety surfaces such as the Runway Safety Area (RSA) and Runway Obstacle Free Zone (ROFZ). The RPZ evolved from earlier design concepts called "Clear Zones" and later "Runway Protection Zones" which initially allowed open, at-grade uses, but discouraged congregations of people and tall structures. Certain uses were implicitly or explicitly tolerated, such as agricultural land, pasture, roads, railroads, vehicle parking, golf courses, and parks with minimum facilities through the 1980s and 1990s when these uses were not expressly considered to be incompatible. By the late 1990s and early 2000s, the FAA began reframing RPZ policy around ground-risk exposure informed by: accident data concentrated on the extended runway centerline, development pressure around airports, and liability concerns related to public exposure. From this, the modern standard now places emphasis on airport control, recognition that even low density uses still expose people to risk, and differentiation between central outer areas within the RPZ. Beginning in 2012, FAA policy states that new roads and railroads should not be located within an RPZ and existing roads and railroads are strongly discouraged and should be relocated when feasible.

Role and Function of Atrisco Vista Boulevard – During the Airport's construction in the early 1980s, the West Mesa was largely undeveloped desert. A reliable road was essential for hauling earthmoving equipment, transporting construction materials, and providing access to the site for construction workers. The designation of Atrisco Vista Boulevard as an "Airport Access Road" on construction plans underscores its core role in connecting the Airport construction site to established highways. Once the Airport was opened, the road became the main ground connection between the Airport and the rest of the region, which was an essential prerequisite for making the Airport operationally viable. By the early 2000s, the functional role of the road began to be incorporated into regional efforts to expand westward traffic capacity across the West Mesa to connect northern commuter corridors with I-40 and other major highways. Over the 2010s and 2020s, local and state transportation planning increasingly emphasized Atrisco Vista Boulevard as a key arterial route for growth in the West Mesa region including plans for wider lanes, bike paths, pedestrian amenities, and other multi-modal goals. A Federal Highway Administration (FHWA) grant was recently secured by Bernalillo County to reconstruct and improve rapidly developing stretches of the road between Double Eagle Road and Paseo del Norte. The roadway is currently considered to be an essential element to supporting jobs and economic growth in the region with long range planning including further widening and continued northward extension. Although the role of the road has shifted dramatically from a limited-use airport access roadway to an increasingly critical arterial corridor, major portions of the current alignment fall within Airport property and are maintained by City Aviation staff.

Both trends have resulted in increased human activity within the RPZ. An ideal solution would prevent the existing risk of increased activity within the RPZ from worsening, mitigating the risk by complying with the RPZ clearance standards, maintaining the operating utility of the Airport infrastructure, and permitting the roadway to expand and support needed transportation and economic functions. There are three primary alternatives available to clearing the northeast RPZs and meeting these objectives:

1. Realignment of Atrisco Vista Boulevard outside of the RPZs
2. Implementation of "declared distances" and configuring a displaced threshold at the Runway 22 end
3. Runway 4-22 relocation to the southwest

Another option, runway length reduction, was not explored in detail since this Master Plan and prior ones, have identified a need for additional runway length. Additional reductions would worsen the condition at additional cost, construction impact, and reduced airport utility.

4.1.2 Option 1: Realignment of Atrisco Vista Boulevard

The least impactful alternative from an airfield impact perspective is a realignment of Atrisco Vista Boulevard. There is already a project to improve aspects of Atrisco Vista Boulevard between Double Eagle II Road (the Airport's entrance road) and Paseo del Norte, and then a second phase to improve Atrisco Vista Boulevard between Double Eagle II Road and Interstate 40. This alternative could require either an amendment to the Comprehensive Plan to remove the Major Public Open Space (MPOS) boundary and designation, and a zone change from NR-PO-B to NR-SU. Alternatively, it could remain MPOS with approval from the Environmental Planning Commission (EPC) for the roadway as an extraordinary facility in MPOS.

An approximately two-mile realignment beginning east of Runway 17-35 could potentially tie into or be a part of the roadway improvement project as the potential roadway realignment. This portion of the realignment would travel around the Runway 22 ARPZ and Runway 4 DRPZ, be located off Airport property, and pass through up to four City of Albuquerque-owned, Open Space parcels situated between the Airport and the Petroglyph National Monument. An extension of Double Eagle Road would also be needed and minor security fence adjustments near the southern portion of the roadway realignment may be warranted. See **Figure 4-2** for a graphic proposing the potential realignment of Atrisco Vista Boulevard and **Table 4-1** for a pros and cons list of a realignment of Atrisco Vista Boulevard option to obtain RPZ clearance compliance.

Table 4-1. Realignment of Atrisco Vista Boulevard (Option 1) – Pros and Cons

Pros	Cons
• Provides required clearances to meet FAA standards for Runway 22 Approach and Runway 4 Departure RPZs • Retains existing Airport infrastructure in its current location • Can be incorporated into road widening and expansion plans • Anticipated lower cost than a runway relocation	• Reduced proximity to Petroglyph National Monument • Will impede upon parcels currently zoned as Open Space, requiring an amendment to the Comprehensive Plan and zone change, or approval from the Environmental Planning Commission • Will require redesign of the proposed roadway widening project • Expands the road widening project to include relocating a side path

Source: AECOM

Another potential road realignment alternative is the implementation of a tunnel underneath the existing RPZs, maintaining a similar alignment/staying out of the Open Space parcels to the east. However, this alternative had been deemed unfeasible due to the potential cost of earthwork removal involved since the area is already relatively flat. Therefore, the implementation of a tunnel was not moved forward in the evaluation process.

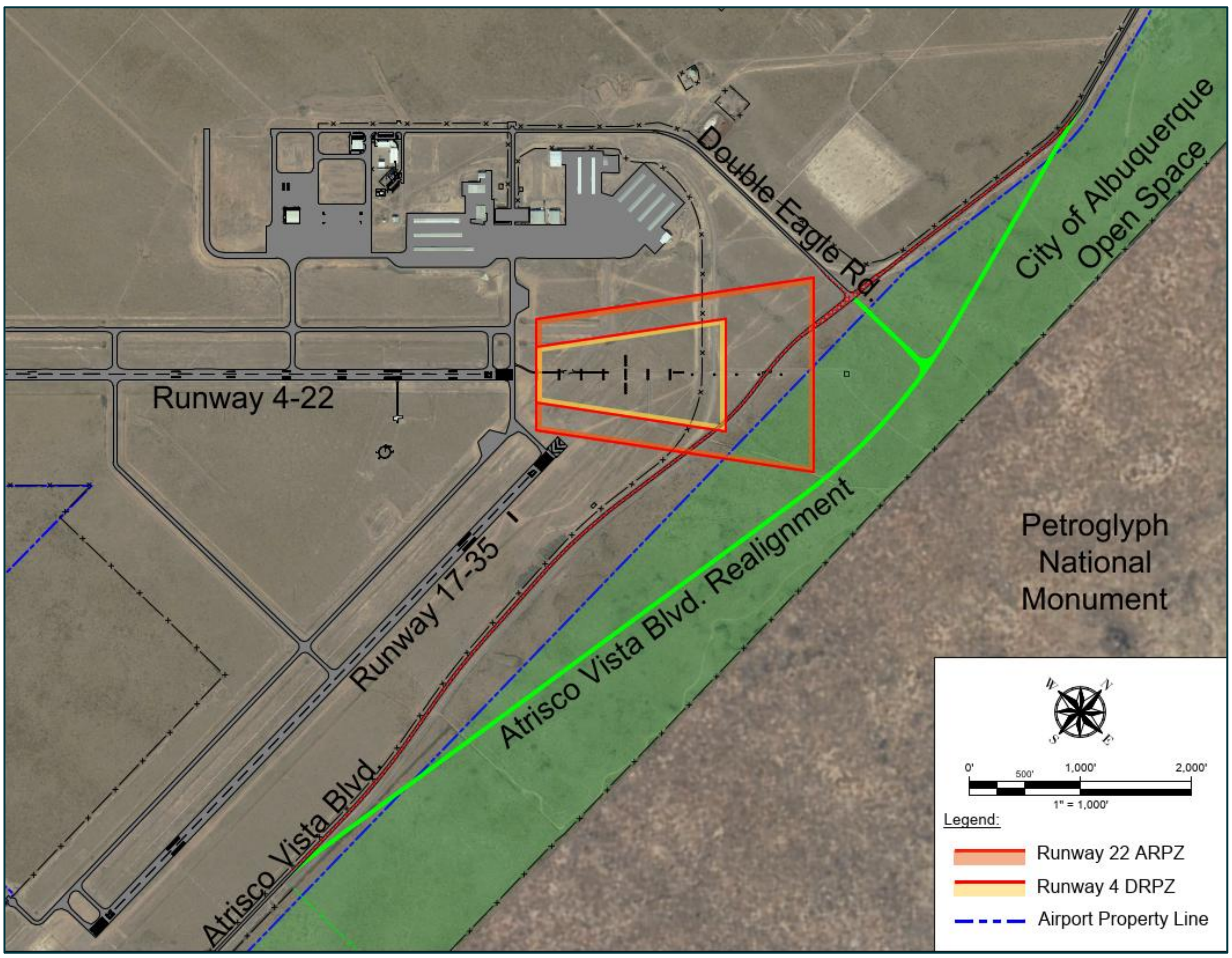


Figure 4-2. Option 1 – Atrisco Vista Boulevard Realignment

Source: AECOM

4.1.3 Option 2: Declared Distances

This alternative effectively reduces the published runway lengths available to aircraft according to the type of operation (e.g., takeoff, landing, and accelerate-stop) and direction (i.e., northeast or southwest). This alternative requires aircraft operators to determine the specific aircraft performance requirements and compare them to the published lengths that are declared to be available. This application, referenced as "declared distances" by the FAA, can be used for bringing critical safety standards, such as RPZ clearance, into conformity by modifying runway and taxiway marking, lighting, and instrument approach infrastructure systems and amending published instrument approach procedures established by the FAA. Declared distances degrade some of the utility and investment in the runway infrastructure by reducing runway length available and requiring pilots to determine aircraft performance capability for each operation. **Table 4-2** defines the four declared distances identified in Appendix H of FAA Advisory Circular (AC) 150/5300-13B, *Airport Design,* Change 1.

Table 4-2. Declared Distances

	Definition
Takeoff Run Available (TORA)	The distance to accelerate from brake release to lift-off, plus safety factors.
Takeoff Distance Available (TODA)	The distance to accelerate from brake release past lift-off and climb to 50 feet, plus safety factors.
Accelerate-Stop Distance Available (ASDA)	The distance to accelerate from brake release to takeoff speed and then decelerate to a stop, plus safety factors.
Landing Distance Available (LDA)	The distance from the landing threshold to touchdown and then decelerate to a stop, plus safety factors.

Source: FAA AC 150/5300-13B, Airport Design, Change 1

As shown in **Figure 4-3** and **Figure** 4-4, the existing physical end of Runway 22 would remain in its current location, but a displaced landing threshold of 1,506 feet would be needed to shift the Runway 22 ARPZ outside of the existing Atrisco Vista Boulevard corridor. This option (Option 2) would reduce the Runway 22 Landing Distance Available (LDA) from 7,398 feet to 5,892 feet. Since Runway 22 is served by a published precision instrument approach (PA) procedure for use during inclement weather, such as low cloud ceilings and/or visibility, displacing the threshold would necessitate the physical relocation of the instrument approach system components and publication of a new instrument approach procedure. The physical components required to displace the landing threshold and instrument approach components include:

- FAA Glide Slope (GS) antenna which provides vertical guidance to aircraft on approach and its associated critical area associated with this type of vertical radio guidance.
- Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR) which would be relocated to the southwest to coincide with the displaced threshold and require a portion of the system to be constructed in-pavement and flush with the runway pavement. The Navigational Aid's (NAVAID's) associated equipment shelter would be similarly relocated to the new antenna location.
- Runway edge light modifications.
- Runway marking modifications for the new landing threshold displacement.
- Additional Instrument Landing System (ILS) hold markings on the parallel taxiway and runup apron to restrict aircraft movement from these areas during instrument weather conditions.

In order to remove Atrisco Vista Boulevard from the smaller Runway 4 DRPZ, the Runway 4 length available for departures would be reduced by approximately 160 feet southwest, although this change would be procedural only and would not require threshold displacements or physical changes to the airport's infrastructure. The procedural change would reduce the declared Runway 4 Takeoff Run Available (TORA) by 160 feet - from 7,398 to 7,238 feet.

See **Table 4-3** for a comparison between the existing declared distances compared to the declared distances proposed in Option 2, and **Table 4-3.** Declared Distances – Existing Conditions vs. Option 2

	Runway 4		Runway 22	
	Existing	**Option 2**	**Existing**	**Option 2**
Takeoff Run Available (TORA)	7,398’	7,238’	7,398’	7,398’
Takeoff Distance Available (TODA)	7,398’	7,398’	7,398’	7,398’
Accelerate-Stop Distance Available (ASDA)	7,398’	7,398’	7,398’	7,398’
Landing Distance Available (LDA)	7,398’	7,398’	7,398’	5,892’

Source: AECOM analysis

Table 4-4 for a pros and cons list of implementing declared distances to obtain RPZ clearance compliance.

Table 4-3. Declared Distances – Existing Conditions vs. Option 2

	Runway 4		Runway 22	
	Existing	Option 2	Existing	Option 2
Takeoff Run Available (TORA)	7,398'	7,238'	7,398'	7,398'
Takeoff Distance Available (TODA)	7,398'	7,398'	7,398'	7,398'
Accelerate-Stop Distance Available (ASDA)	7,398'	7,398'	7,398'	7,398'
Landing Distance Available (LDA)	7,398'	7,398'	7,398'	5,892'

Source: AECOM analysis

Table 4-4. Declared Distances – Pros and Cons

Pros	Cons
• Avoids Atrisco Vista Boulevard realignment and related cultural sensitivities of the Petroglyph National Monument and Open Space parcels	• Applies declared distance methodology • Reduction of runway utility for some operations • Requires relocation of FAA navigational aid equipment and procedures • Requires airfield marking and lighting modifications

Abbreviations:

FAA: Federal Aviation Administration

Source: AECOM

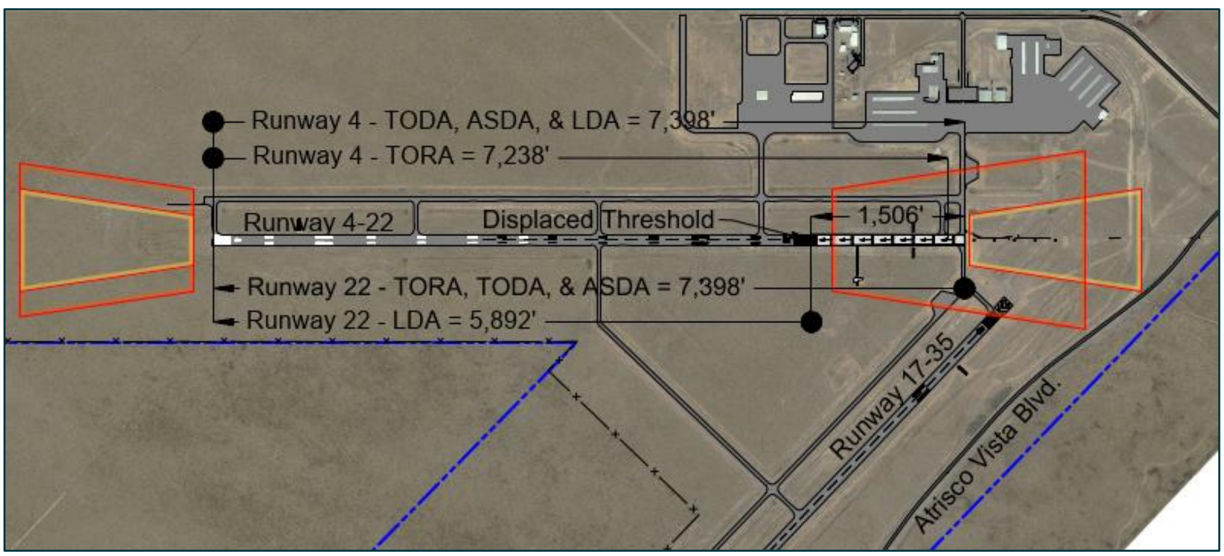


Figure 4-3. Option 2 – Declared Distances

Source: AECOM

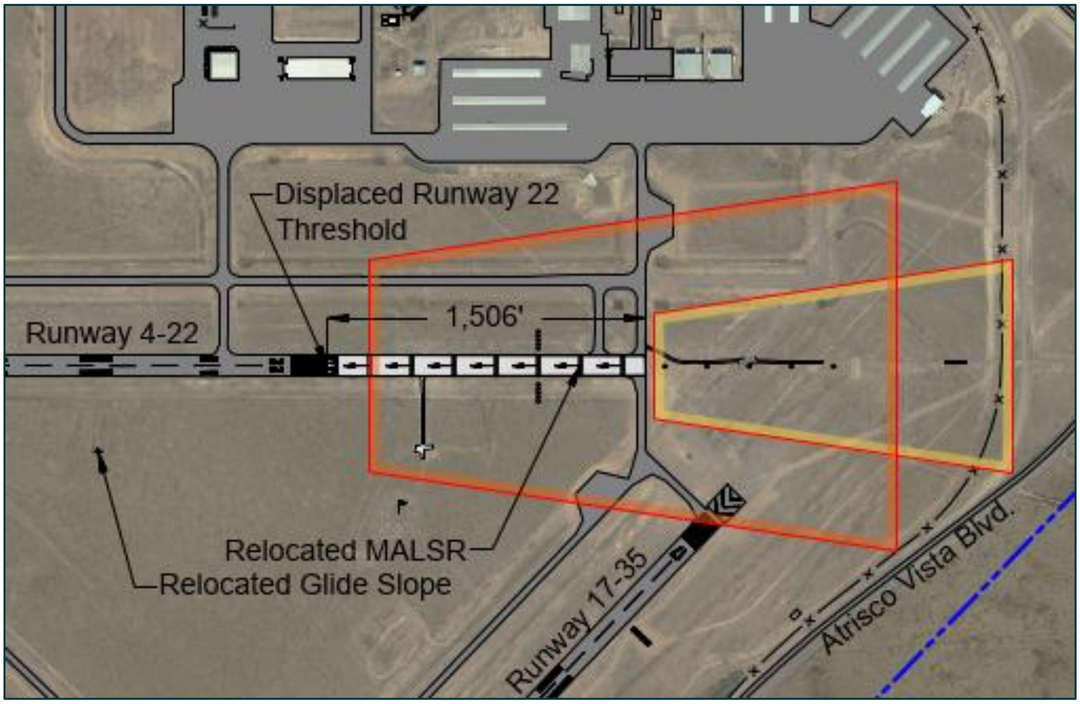


Figure 4-4. Option 2 – Declared Distances – Runway 22 End

Source: AECOM

4.1.4 Option 3: Relocate Runway 4-22

As depicted in **Figure 4-5**, this option relocates the northeast physical end of Runway 22 by 1,506 feet to the southwest, thereby also shifting the Runway 22 ARPZ enough to clear the existing Atrisco Vista Boulevard corridor. This would be accomplished by removing the physical runway pavement and associated taxiway connections at the northeast end of the runway, relocating all FAA NAVAIDs and Airport facilities that were described in Option 2, and completing a corresponding extension of the runway, parallel taxiway, and NAVAID relocations towards the southwest end. In doing so, Option 3 retains the existing published runway length at 7,398 feet for all operations in both directions, avoids the need to relocate Atrisco Vista Boulevard from its current alignment adjacent to the Petroglyph National Monument, and shifts operations further southwest, away from the cultural sensitive areas of the Open Space parcels adjacent to the Petroglyph National Monument.

The physical modifications that would need to be made to the Airport infrastructure are the most significant of the three alternatives identified in this section. The modifications include both pavement removal and pavement extension, physical modifications to the taxiway system that the other alternatives do not require, additional FAA and airfield system relocations such as the FAA localizer (LOC) antenna at the southwest end of the runway and all runway sensors, visual aids, equipment shelters, lighting, electrical infrastructure, and stormwater management features. New FAA instrument approach procedures would be required for both runway ends. In addition, and particularly when combined with a future extension at the southwest end (see **Section 4.2**), it would be expected to affect planned infrastructure, roadway, and economic development such as a planned catenary-type power lines and the new Paseo del Volcan regional connector corridor and associated interchanges. Lastly, this option will likely have the least FAA grant funding support since federal investment has already been expended within the existing Airport infrastructure that are not being further advanced through the implementation of this option. See **Table 4-5** for a pros and cons list of a runway shift to the southwest to obtain RPZ clearance compliance.

Table 4-5. Relocate Runway 4-22 – Pros and Cons

Pros	Cons
• Resolution of RPZ clearances for the existing Atrisco Vista Boulevard alignment • Avoids and potentially enhances cultural sensitivities associated with the Petroglyph National Monument • Maintains existing runway length for aircraft operations	• Highest cost option • Longest implementation timeline • Requires relocation of FAA navigational facilities and airport systems • Shifts runway closer to the anticipated transmission line project

Abbreviations:

FAA: Federal Aviation Administration

RPZ: Runway Protection Zone

Source: AECOM

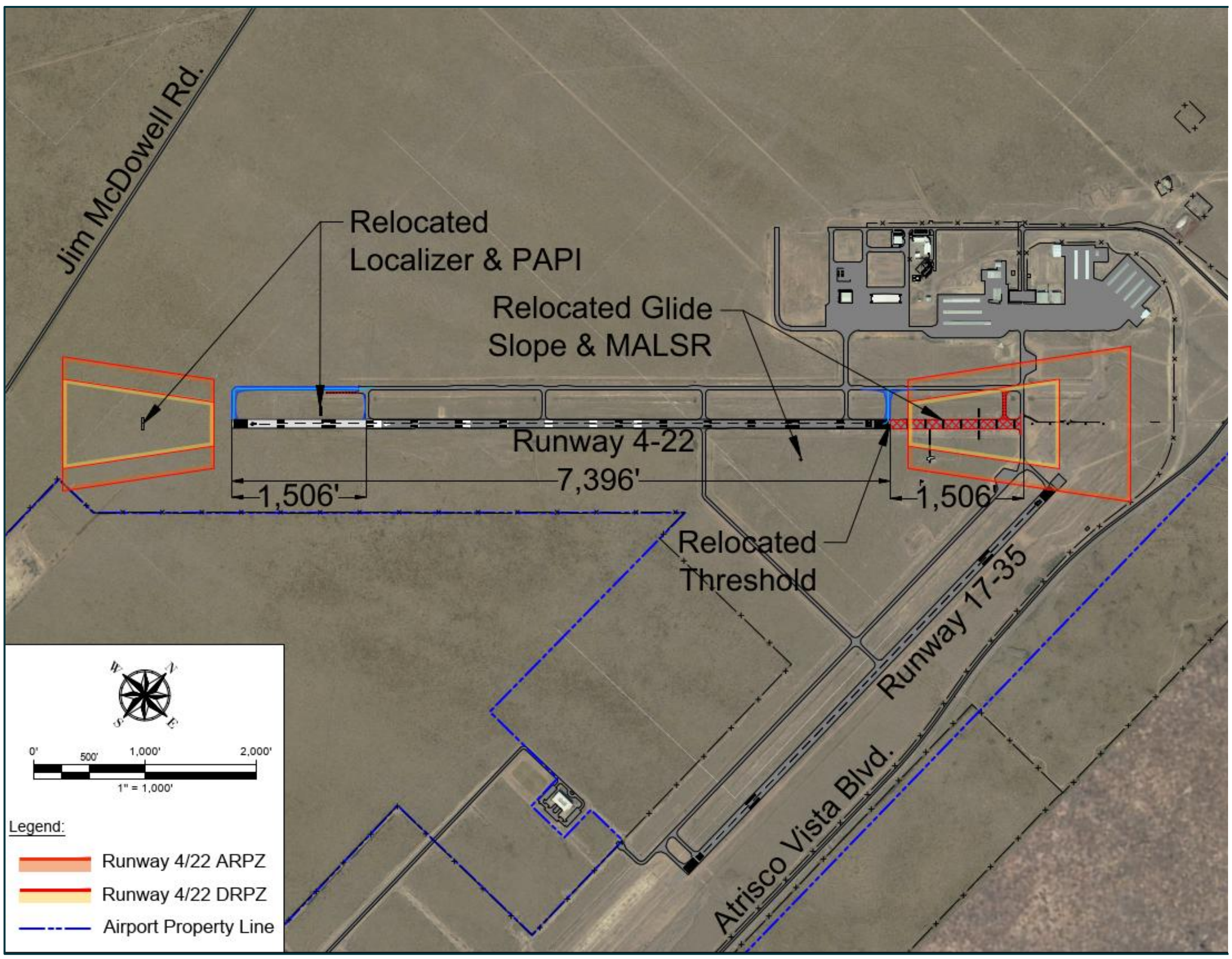


Figure 4-5. Option 3 – Relocate Runway 4-22

Source: AECOM

4.1.5 Comparison of RPZ Clearance Options

When identifying a preferred option, it is important to evaluate specific elements that include, but are not limited to maximizing aircraft operating utility and clearing the RPZs. **Table 4-6** provides a high-level summary comparison of the three options explored for clearing Atrisco Vista from the Runway 22 ARPZ/Runway 4 DRPZ using traffic light symbology where green implies a positive result, yellow implies a moderate result, and red implies a negative result.

Based on this review, Option 1 provides the best overall, long-term outcome and is identified as the preferred option, particularly given an overall focus on establishing an airport planning footprint to be used in local land use and zoning coordination and policy-making discussions. These technical findings will be further vetted and explored amongst various committees and through public engagement before being refined and finalized in subsequent chapters of this Master Plan.

Table 4-6. Runway Protection Zone Clearance – Alternatives Evaluation Matrix

Item	1. Realignment of Atrisco Vista Boulevard	2. Declared Distances	3. Shift Runway 4-22 Southwest
Maximizes Aircraft Operating Utility	Green	Yellow	Green
Clears Runway Protection Zone	Green	Green	Green
Avoids Declared Distances	Green	Red	Green
FAA NAVAID Relocation	Green	Yellow	Red
Cultural Sensitivity (Petroglyphs & Open Space)	Red	Green	Green
Implementation Timeline	Yellow	Yellow	Red
Implementation Cost	Yellow	Yellow	Red

Abbreviations:

FAA: Federal Aviation Administration

NAVAID: Navigational Aid

Notes:

1. *Individual weighting factors for each item were not developed.*
2. *Cost comparisons are based on anecdotal experience with similar types of projects. Detailed cost estimates for the preferred alternative will be developed in **Chapter 5:** Implementation Plan and Financial Analysis.*

Source: AECOM

4.2 Runway 4-22 Phased Extension Options

The Facility Requirements chapter identified a need to extend primary Runway 4-22. It also established a two-phased approach for extending the runway to yield and improve the year-round operating utility for aircraft commonly used for business that are forecast to increase over time. The first phase increases the total runway length to 9,200 feet which can accommodate these aircraft types at about 60 percent useful load half of the year. This means that at the interim extended length, aircraft operating utility will remain limited for most operations. Therefore, a second phase extension has also been identified that accomplishes maximum utility, which occurs at a length of 11,000 feet.

It is the second phase extension that is particularly important as a benchmark for establishing local land use and zoning policies and developing patterns so that indefinite constraints on AEG's aeronautical and associated economic contribution to the region can be avoided and the Airport can, in turn, contribute to the area's economic potential. This is vital for this Master Plan which is being completed during the foundational years that will establish the development patterns of the West Mesa for the next several decades.

Options for extending the runway along its existing alignment are significantly limited to the northeast by Atrisco Vista Boulevard, the close proximity of the culturally significant Petroglyph National Monument, and the planned urban expansion; however, an extension to the southwest could also be limited by the transmission line project proposed by the Public Service Company of New Mexico (PNM). Nonetheless, this section identifies a single, two-phased, southwest extension concept for Runway 4-22. It also assesses the implications of the northeast RPZ options detailed in **Section 4.1** in the event they are reinvestigated following the completion of this Master Plan.

4.2.1 Southwest Extension Concept

As described in the previous subsection and depicted in **Figure 4-6**, the concept calls for a two-phased extension of Primary Runway 4-22 and parallel Taxiway A to the southwest to a total length of 11,000 feet with an initial extension to 9,200 feet. This recommended concept assumes that Atrisco Vista Boulevard will be realigned at the northeast end of runway to clear the Runway 22 ARPZ and Runway 4 DRPZ.

Phase 1 would extend the runway 1,804 feet to the southwest for a total of 9,200 feet for all operations in both directions. Other elements include grading and extension of the RSA and Runway Object Free Area (ROFA), a new access taxiway to the extended southwest end (nominally Taxiway A7), a standard right-angled taxiway end (A7) to access the runway, and extension of the runway edge lights, relocation of the Precision Approach Path Indicator (PAPI) lights to the new touchdown/aim point, and taxiway marking and signage updates.

In addition, the first phase runway extension to 9,200 feet includes an upgrade of the Runway 4 instrument approach procedure (IAP) capabilities from a Non-Precision Approach (NPA) to a Precision Approach (PA) which would provide greater airport utility during all weather conditions by offering both lateral (horizontal) and vertical (glide path) guidance. The PA results in aircraft being able to land in lower visibility and cloud ceiling conditions with more precise approach obstacle clearance and increased flight coordination with air traffic control. It would be anticipated that a PA for future Runway 4 could improve the minimums from its current ¾-mile visibility to ½-mile. Similar to what is already installed at the Airport for PA capabilities for Runway 22, this would require the installation of an Instrument Landing System (ILS) for Runway 4, which would include the installation of a MALSR, GS antenna, and LOC antenna. This would also result in a larger Runway 4 ARPZ, and the operation of a Precision Obstacle Free Zone (POFZ), both of which emphasize the importance of safety and clearance on the ground.

The FAA-maintained LOC antenna for Runway 22 approaches would also be relocated, calibrated, and flight tested in the Phase 1 extension, which would then result in an update of FAA-established instrument flight procedures. Additionally, the LOC service road would be modified to coincide with the relocated equipment and an upgrade of the runway edge lights from medium (MIRL) to high intensity (HIRL) would also be recommended during the first construction phase.

Also noted, both the Runway 4 ARPZ and Runway 22 DRPZ shift closer to Jim McDowell Road, and it is recommended that the road be relocated in Phase 1 to an alignment that accommodates the ultimate 11,000-foot runway length to avoid RPZ conflicts and the need to relocate the road again in Phase 2. A small area of the Phase 1 Runway 4 ARPZ associated with the 9,200-foot runway length would cross into an adjacent City-owned parcel.

The second phase extends the runway to the southwest an additional 1,800 feet, resulting in a final length of 11,000 feet. Similar to Phase I, the other elements of the project include extension of parallel Taxiway A, a new taxiway end connector (A8) to access the new Runway 4 end, corresponding extensions to the RSA, ROFA, POFZ, runway and taxiway edge lighting, a relocation of the PAPI, FAA LOC antenna, and service road, and taxiway marking and signage updates.

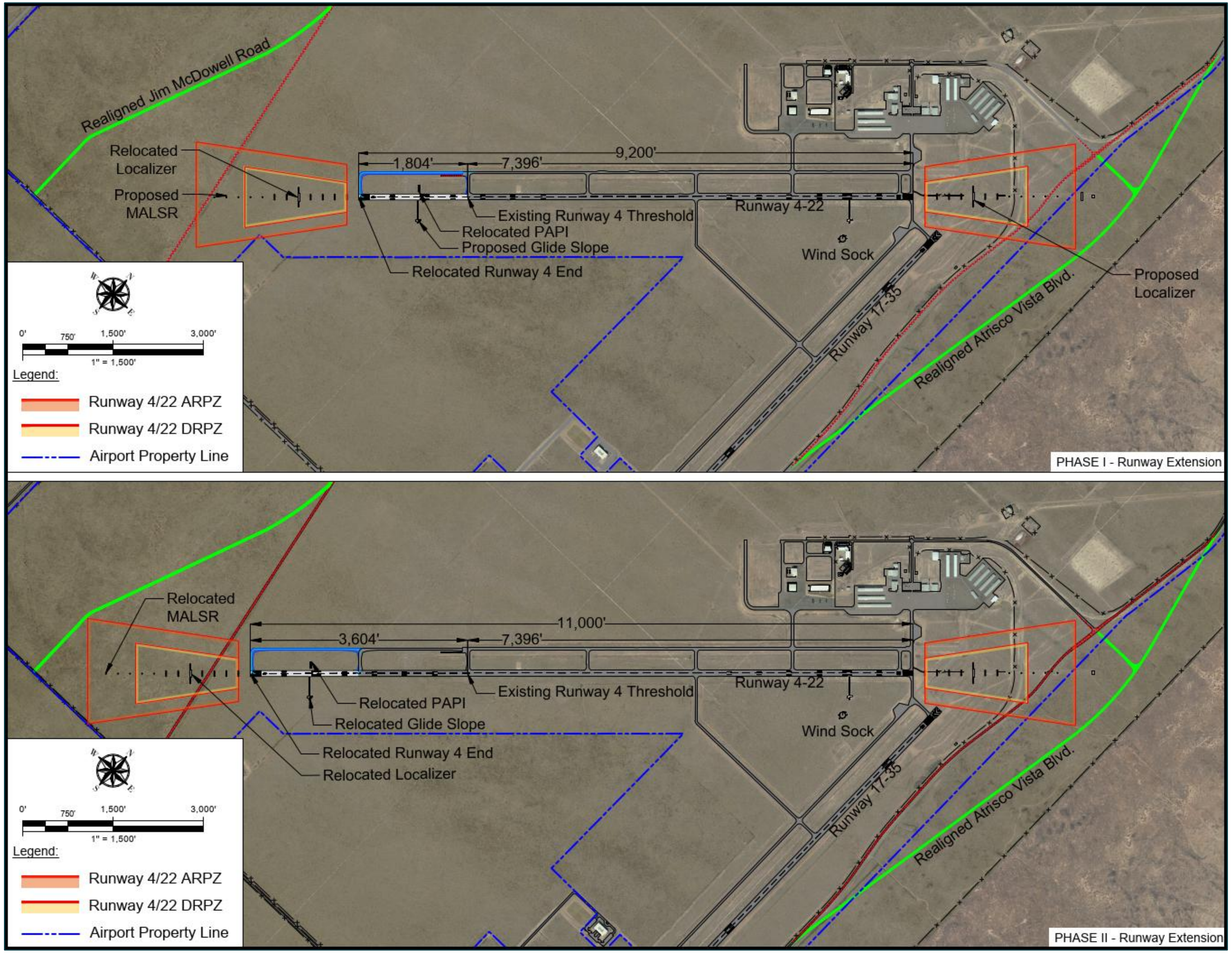


Figure 4-6. Runway 4-22 – Two-Phased Runway Extension

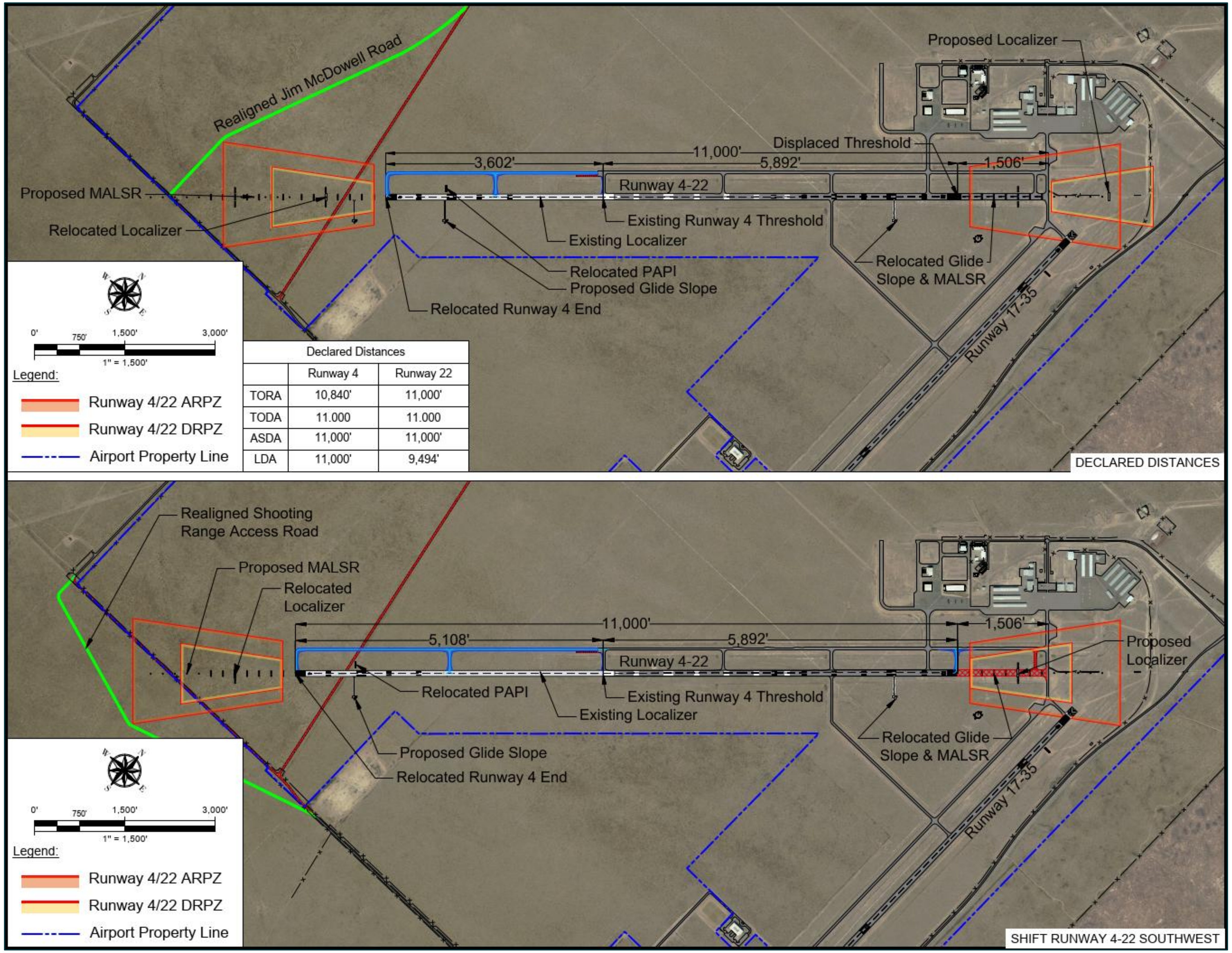
Source: AECOM

4.2.2 Alternate Southwest Runway Extension Concepts

Two additional Runway 4-22 extension concepts stem from the RPZ clearing options identified in **Section 4.1** that identified roadway realignment as the most practical means for meeting the RPZ clearance requirement. Should the Atrisco Vista Boulevard relocation option not proceed as recommended, this section identifies extension options that would result from the other two RPZ clearance options (Declared Distances [Option 2] and Relocating the Runway 22 End [Option 3])(see **Figure 4-4**) and **Figure 4-5**).

The first alternate concept explores RPZ Clearance Option 2, Declared Distances (see **Figure 4-4)** and combines it with the recommended southwest extension concept of **Figure 4-6**. At the northeast end of runway, Atrisco Vista Boulevard remains in its current alignment, the runway threshold is displaced 1,506 feet to clear the Runway 22 ARPZ, ILS hold markings are added to parallel Taxiway A and the runup apron, and the approach lighting system is shifted southwest 1,506’ to include in-pavement lights up to the displaced Runway 22 landing threshold. At the southwest end, the extension is identical to the recommended Phase I southwest extension (9,200 feet) and includes a realignment of Jim McDowell Road. The main difference to aircraft operations is that the primary Runway 22 landing distance would be less than full length (7,694 feet instead of 9,200 feet for Phase I, and 9,494 feet instead of 11,000 feet for Phase II).

The second alternate concept combines the 1,506-foot southwest runway shift of RPZ Option 3 (relocating the Runway 22 threshold – see **Figure 4-5**) with the two phased extensions described in **Section 4.1** which would result in a future Phase II extended southwest end of runway located 5,108 feet further to the southwest from its present location. As shown in **Figure 4-7**, the ultimate shifted and extended 11,000-foot runway would require a closure of Jim McDowell Road and would require a realignment of Shooting Range Access Road.



Declared Distances

	Runway 4	Runway 22
TORA	10,840'	11,000'
TODA	11.000	11.000
ASDA	11,000'	11,000'
LDA	11,000'	9,494'

Figure 4-7. Runway 4-22 – 11,000-Foot Runway with Declared Distances or a Southwest Runway Shift

Source: AECOM

4.2.3 Runway Length Implications to Future 345 kV Transmission Line

As discussed, PNM is proposing a 100-foot-tall catenary-type 345kV transmission line (**Figure 4-7**) that would be located within or near the planned Paseo del Volcan (PDV) roadway corridor along AEG's western boundary. At least one alternative power line alignment is identified on the eastern side of the road corridor within existing AEG property (**see Figure 4-8**). Chapter 3 also identified that AEG's high elevation and temperature currently limit its aircraft operational utility. The restrictions can be avoided if Runway 4-22 is extended to an ultimate length of 11,000 feet. However, the added imposition of tall structures in the initial climb or final departure area to the southwest can impose additional performance penalties that can offset the performance benefit gained through runway extension. Therefore, an airspace analyses was undertaken to determine the potential impact that the PNM line might have on future runway operations and considers power line alignments that provide adequate airspace protection with primary Runway 4-22 extended to an ultimate length of 11,000 feet.

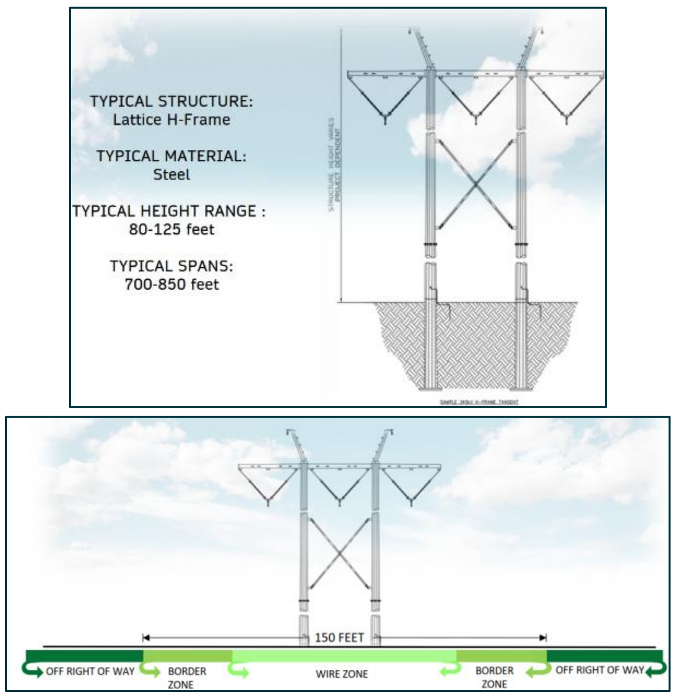


Figure 4-8. Rio Puerco-Pajarito-Prosperity 345 kV Transmission Line Structure and Right-of-Way Information

Source: Public Service Company of New Mexico (PNM)

The analysis included an assessment of instrument departures to the southwest from Runway 22 and instrument arrivals from the southwest to Runway 4. The various RPZ clearance and runway extension options identified in the prior sections of this chapter resulted in two potential positions of the southwest runway end: one located 3,602 feet and the other 5,124 feet southwest of the existing runway end.

In both runway extension cases, PNM's structures would penetrate both the Code of Federal Regulations (CFR) Part 77 civil airport imaginary surfaces and the FAA AC 150/5300-13B Instrument Departure Surface (see **Figure 4-10**). Depending on the transmission line alignment, they also are likely to impose utility restrictions to the existing runway end location. Options to remove or reduce the airspace penalty restrictions include selecting alignments that are placed further west as shown in **Figure 4-9**, reducing the height of the lines, and/or undergrounding airspace-critical portions of the line. Given the potential significant airspace implications that the power lines could have on the Airport, this Master Plan recommends continued dialogue and close coordination to identify an option that best achieves the power infrastructure and avoids operational impacts and limitations to the use of the Airport, Airport user operating needs, and economic growth objectives through the long term. Therefore, this Master Plan recommends a transmission line route that does not penetrate the CFR Part 77 civil airport imaginary surfaces based on a 3,602-foot extension of Runway 4-22 towards the southwest.

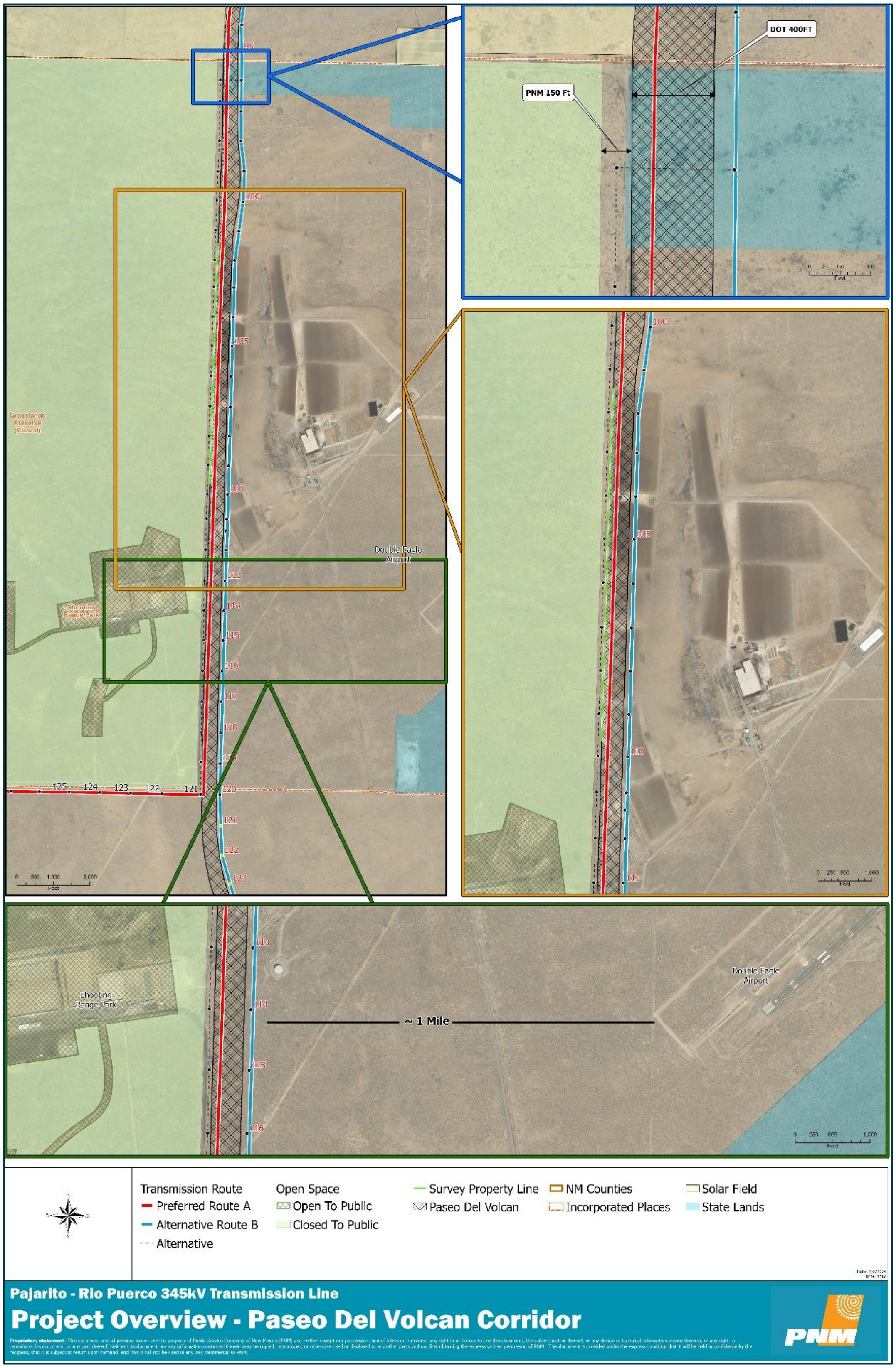


Figure 4-9. Rio Puerco-Pajarito-Prosperity 345 kV Transmission Line Potential Alignments

Source: Public Service Company of New Mexico (PNM)

Southwest End at 3,602 Feet | **Southwest End at 5,108 Feet**

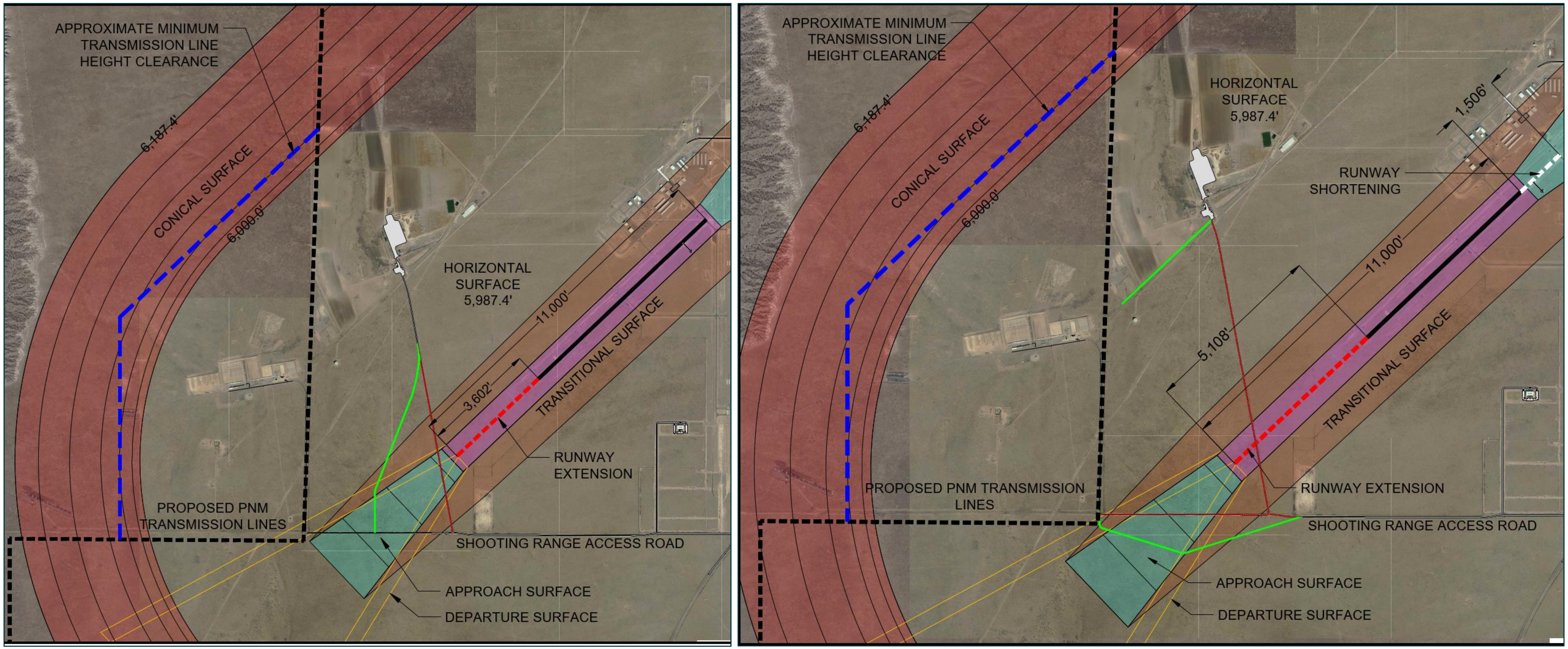


Figure 4-10. Operational and Airspace Implications of Rio Puerco-Pajarito-Prosperity 345 kV Transmission Lines with a 3,602-Foot Runway Displacement (Left) or a 5,108-Foot Runway Displacement (Right)

Source: AECOM

4.3 Secondary Runway 17-35 Improvements

The Facility Requirements chapter also recommended a secondary runway length of 7,250 feet capable of accommodating 75 percent of the fleet at 60 percent useful load and a second-phase extension, up to 8,600 feet, which would accommodate about 75 percent of the fleet at 90 percent useful load. Also recommended was improvement to instrument approach procedures to both runway ends. In addition to providing improved operating utility and safety margin for the lighter range of aircraft regularly using AEG and that are more influenced by wind conditions than heavier aircraft, the improvements to the secondary runway also provide additional service reliability and redundancy for aircraft operators and businesses considering AEG as a location of choice. In this sense, secondary runway improvements also factor into the regional efforts to improve the economic vitality of the West Mesa. The phased extension is depicted in **Figure 4-11** and further described in this section.

The first extension phase includes a 1,269-foot south extension to a total length of 7,250 feet. Along with the runway extension, the concept includes an extension of parallel Taxiway B, a new south-end taxiway connector, extension of the runway and taxiway edge lights, PAPI installation, a relocation of the Runway End Identifier Lights (REILs), and associated modifications to the airfield signage and pavement markings. Existing Taxiway B3 or B4, which provides departure bypass capability at the existing south end would most likely be demolished and a new runup apron provided on the west side of Taxiway B near the new Phase I end of runway would be implemented.

For the second phase, the runway would be extended south an additional 1,286 feet, for a new total length of 8,536 feet. This south extension phase utilizes Shooting Range Access Road as a physical limitation since the ultimate runway length achievable is very close to meeting the 8,600 feet recommended in Chapter 3, while significantly improving the feasibility for constructing the concept. The Phase 2 extension also includes a corresponding extension of parallel Taxiway B, a new taxiway end connector (B5), an extension of the runway and taxiway edge lights, and signage and marking modifications. However, the landing threshold established during the first extension phase is retained so that the Runway 35 APRZ can remain clear of Atrisco Vista Boulevard. The Phase II displacement of the new Runway 35 threshold results in an effective Runway 35 LDA of 7,250 feet while increasing the length available to the 8,536 feet for all other operations.

Both phases depicted in **Figure 4-11** assume an upgrade to the approach procedures in both directions, which may be implemented independently by the FAA due to the widespread availability and capability of Global Positioning System (GPS)-based navigation. While the assumed upgrade does not require the placement of new NAVAID equipment, the corresponding size of the ARPZs at both runway ends would increase from 500 feet (inner width) x 700 feet (outer width) x 1,000 feet (length) to 1,000 feet (inner width) x 1,510 feet (outer width) x 1,700 feet (length). The expanded-sized ARPZs would remain completely on Airport property for both extension phases.

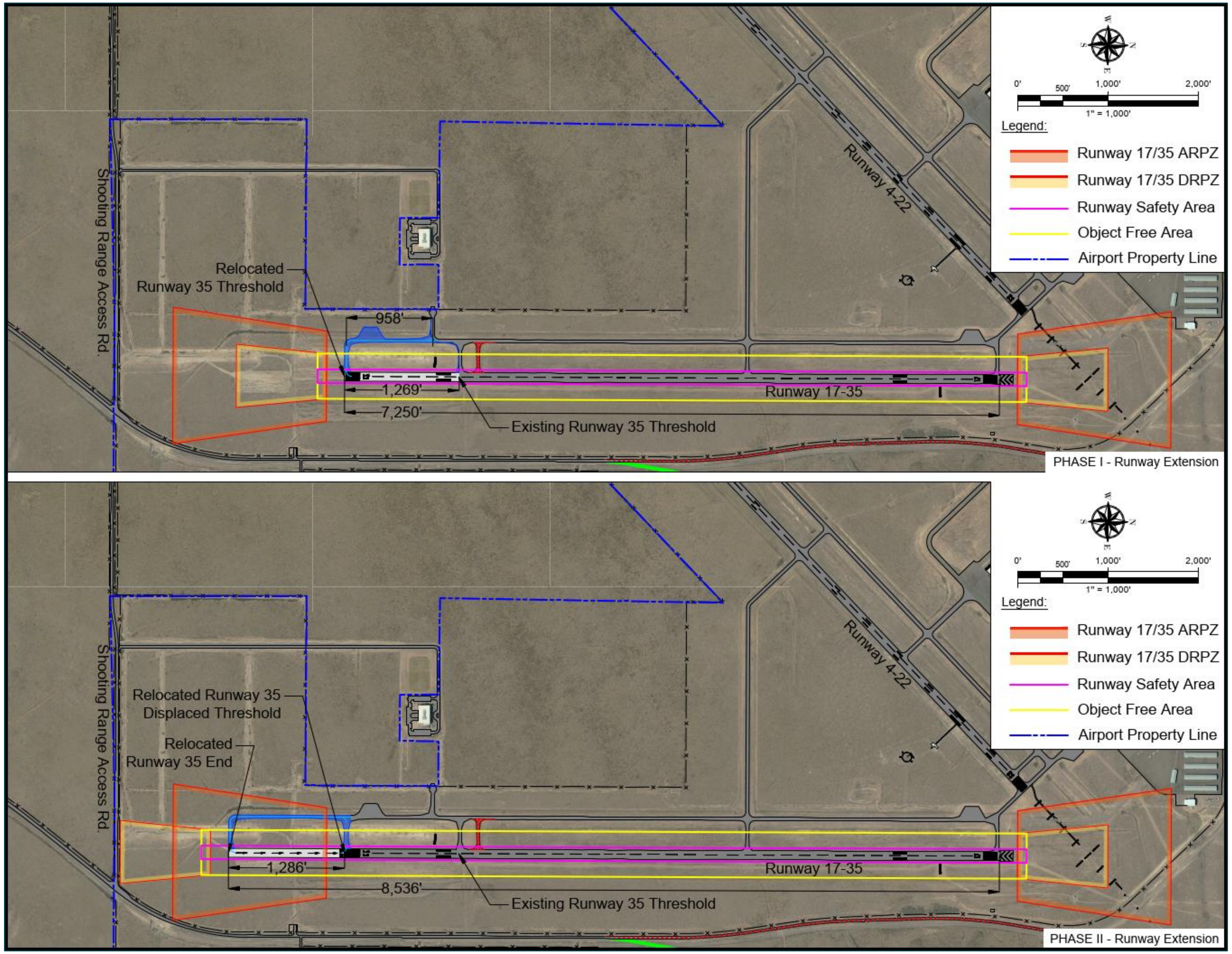


Figure 4-11. Runway 17-35 – Two-Phased Runway Extension

Source: AECOM

4.4 Building Area Improvements

The existing building area is located to the northwest of the existing airfield and encompasses elements such as the North and South Aprons, hangars, the vehicle parking lot, Airport Traffic Control Tower (ATCT), fuel facilities, and other support facilities. Altogether, the existing building area encompasses about 120 acres of land.

As discussed in the Facility Requirements chapter, 36 aircraft hangars associated with High Flying Hangars and ±36 aircraft hangars associated with KAEG Hangars are anticipated to be constructed within the Master Plan planning period. Additionally, the planned GA terminal and expanded vehicle parking lot are also supposed to be constructed within the planning period. Together, existing and planned building facilities are anticipated to provide for the forecast aviation demand over the 20-year planning period.

For future land use planning and City development process purposes , it is recommended that the Airport establishes a development pattern for use in its long range planning. In this regard, preserving an extension of facilities adjacent to the existing building area for logical northwesterly and southwesterly expansion running beyond the length of the existing primary runway is most appropriate. As shown in **Figure 4-12**, this amounts to nearly a doubling of the available area for aeronautical facilities development. Prioritization of subsequent facilities can include new aeronautical business trends such as regional cargo, maintenance-repair-overhaul, jet-sized hangars and build-to-suit corporate aeronautical facilities, increased rotorcraft development, and/or Advanced Air Mobility (AAM) opportunities. It is anticipated that new facilities would be developed in phases. The City can begin developing this area prior to the construction of the runway extensions or concurrently. This area can be expanded to the west behind the existing or expanded building areas (as shown by the yellow arrows in **Figure 4-12**). To accommodate the expanded improvements and potential new uses such as AAM, the capacity and location of utility mains may require more a detailed analysis. Additionally, establishment of a long-term land use plan would provide for potentially shorter future development review processes, including City approvals of minor amendments, rather than creating a need for future land use/zoning plan amendments.

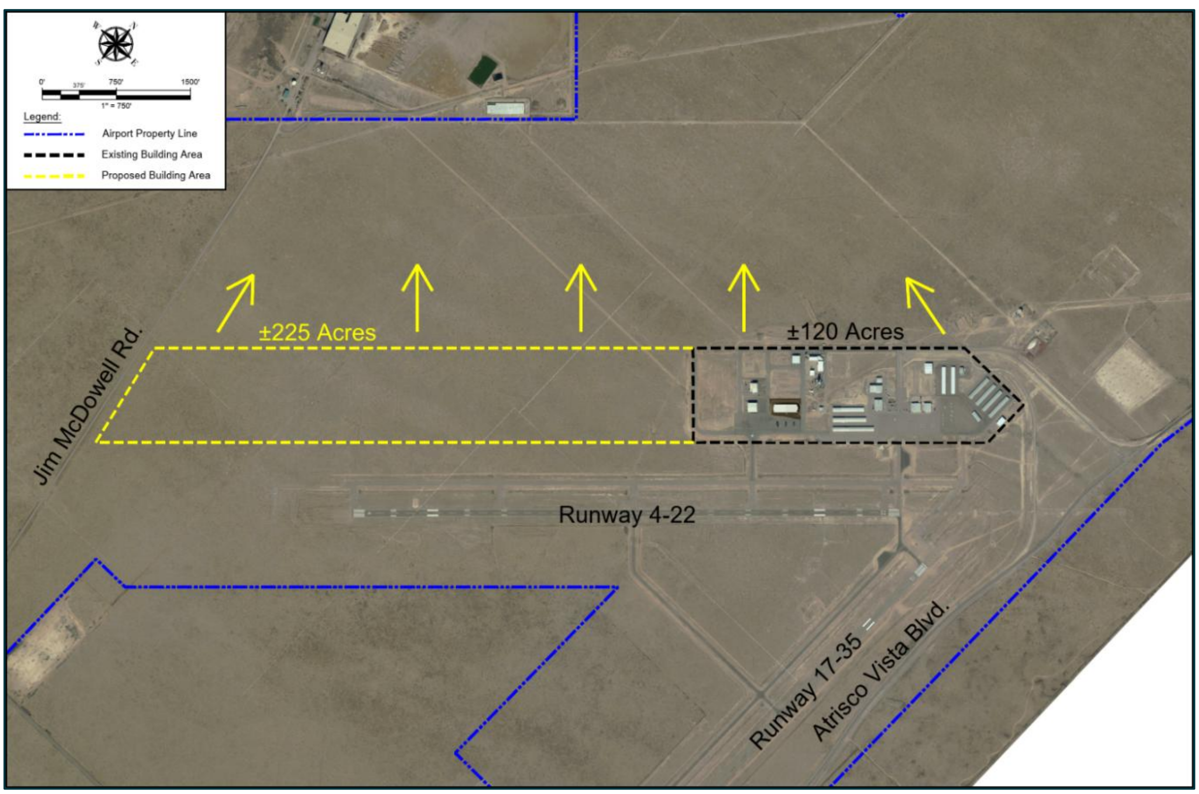


Figure 4-12. Expanded Building Area

Source: AECOM

4.5 Heliport Campus

The City of Albuquerque has finalized a helicopter siting study, separate from the Master Plan Update. This study was driven by adjacency conflicts between helicopter and fixed wing operations at the Airport.

Three heliport campus options were developed as part of the Double Eagle II Airport – Heliport Siting Study. Each option includes:

- At least one helipad aligned to the primary runway to maximize wind coverage
- One 15,000 square feet (SF) hangar space per operator
- Taxi-through helicopter parking positions to accommodate six CH-47 Chinooks
- Taxilanes to accommodate a Cessna 208
- A fuel farm
- Vehicle access and parking

The study recommended a midfield location to consolidate helicopter activity. It is anticipated that the campus will be utilized by the public safety organizations currently located at the Airport: Albuquerque Police Department (APD), the Bernalillo County Sherrif's Office, and the New Mexico State Police. These frequent users can start to utilize the campus in phases, moving from the existing building area one by one. Due to the surplus of land available surrounding the three options, each campus has the opportunity to expand if needed if new tenants become interested.

The three options are displayed in **Figure 4-13** and a copy of the study can be found in **Appendix A**.

4.5.1 Preferred Heliport Campus Concept

The Heliport Siting Study identified Option 1 as the preferred heliport campus concept due to its centralized airfield location providing the desired separation between the busy building area dominated by fixed wing activity and intensive helicopter operations. The midfield location also reduces potential helicopter overflights of an expanded building area and potential non-aviation development along the Airport's west and north sides. However, the location would introduce new helicopter flight patterns that would need to be adapted to the existing airfield operational flows and coordinated with ATCT. The development, publication, and dissemination amongst the flying community would be helpful for maintaining a safe and efficient flow of air traffic.

The campus would be located on the south side of Taxiway C, between the two runways. This centralized location could open up potential utilization of the southern portion of Airport property between the campus and the Double Eagle II Aerospace Hub (Formerly Southwest Aeronautics, Mathematics, and Science [SAMS] Academy). The construction of the heliport campus could also open up opportunities to utilize the Double Eagle II Aerospace Hub, which could be used by potential tenants associated with the campus. Other potential connected activities could include AAM or electric Vertical Takeoff and Landing (eVTOL) uses, or different land use opportunities, such as a flight school, aerospace manufacturing, or non-aeronautical related activities.

In addition to the aeronautical-related elements associated with the campus, the Airport will also need to extend Aerospace Parkway NW to the north, realign the Airport perimeter fence around the campus, construct a vehicle service road (VSR) to the existing building area, extend utility lines, and acquire all or portions of the triangle-shaped parcel located south of the airfield that is currently owned by the State of New Mexico Commissioner of Public Lands.

Two other helicopter campus options were assessed: Option 2 was located directly north of the Double Eagle II Aerospace Hub and Option 3 was located to the northwest of the existing building area. While both considered viable options, Option 1 was selected as the preferred heliport campus concept based on the aforementioned reasons. However, it is recommended that all three options be depicted on the Airport's Airport Layout Plan (ALP) to preserve these areas in case the City of Albuquerque decides to move forward with a different option.

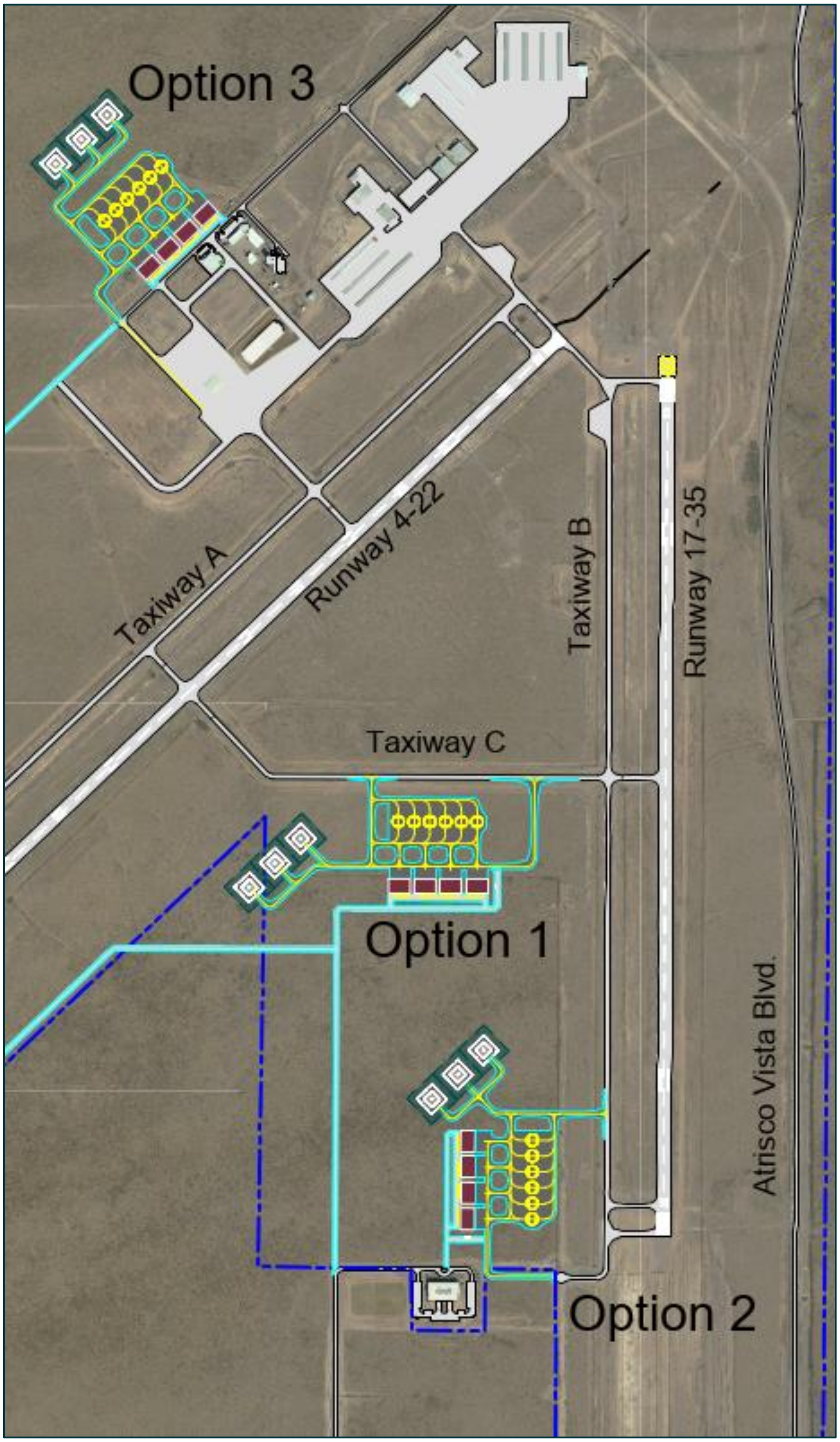


Figure 4-13. Heliport Campus Options

Source: Heliport Siting Study – Double Eagle II Airport – Garver

4.5.2 Advanced Air Mobility

AAM is an emerging segment of aviation with a high degree of automation and internetworked communications that uses either electric or hybrid-electric power. Two primary aircraft types include Uncrewed Aerial Vehicles, commonly known as drones and eVTOL and are shown in **Figure 4-14**. Other types of vehicles which can be identified within the AAM umbrella term can include traditional airplanes and rotorcraft that are electric or hybrid-electric powered and commercial space vehicles. The new aircraft types can require separate takeoff and landing areas such as a heliport or vertiport, placement of new aerospace ecosystem infrastructure, and a variety of facilities that support research and development (R&D), maintenance-repair-overhaul (MRO), ecosystem data and control centers, manufacturing and/or assembly, shipping and logistics, training/workforce development, and specific use case applications such as emergency services, package delivery, passenger/cargo transport, and more. The potential opportunities are potentially significant and can reasonably be expected to alter legacy airspace and air traffic management concepts as the vehicles begin entering service within the next decade. Initial opportunities for the Airport may include R&D-testing-demonstration, ecosystem data center deployments, regional cargo, and MRO. Depending on the application, it may be possible to collocate early use cases with the new heliport campuses, utilize the former SAMS facilities, and/or be wholly tenant owned. In this regard, AEG has available land and may have more opportunity to engage the new models while also being conservative in considering capital outlays and business risk of the new ventures.

New challenges are also emerging along with technological advancements. The need for public outreach and communications to prepare for near-term interactions and exposure, airport policy requiring notification of new takeoff and landing areas that can be located adjacent to airports or in areas that do not currently experience low altitude air traffic, requests to adjust or modify established traffic management procedures, and new methods of detecting and potentially countering wayward operations and bad actors are examples of factors to be considered.


Figure 4-14. Examples of Automated Air Mobility Aircraft – Drone (Left) and eVTOL (Right)

Sources:

1. *City of Boulder (Left)*
2. *Avionics International (Right)*

4.6 Airport Property Concept

This section summarizes the recommendations related to real property that either stem from the proposed development of Airport facilities or from policies supporting the Airport Master Plan Update (AMPU) recommendations. AMPU-related policies include:

- Protect the investments in airport infrastructure; support safety of operations; meet minimum FAA-required design standards; preserve maximum runway length potential; and manage uses and activities within the takeoff, landing, and overflight areas.
- Support development patterns that can maximize the economic reach of the airport area in consideration of the unique blend of aviation, transportation, historic, and cultural significance.

Changes to the property concept may include acquisition of real property by the City; disposal of real property by the City; transfer or trading of parcels between government agencies; acquisition of easements and rights-of-way (ROWs); and potential elimination of existing easements and ROWs.

4.6.1 Possible Property Acquisitions

Two projects that directly impact property that is not owned or operated by the City of Albuquerque Aviation Department include the recommended realignment of Atrisco Vista Boulevard and the establishment of a mid-field helicopter campus. The Atrisco Vista Boulevard realignment would avoid Runway 22 ARPZ and Runway 4 DRPZ standards compliance concerns and would impact four parcels of land owned by City of Albuquerque Open Space. The establishment of a helicopter campus (including development of a VSR) would impact portions of one parcel owned by the State of New Mexico Commissioner of Public Lands and another parcel owned by a separate department within the City of Albuquerque.

With regards to Atrisco Vista Boulevard, the road is located within the eastern edge of Airport property and acts as the boundary between City of Albuquerque Aviation and City of Albuquerque Open Space. The City of Albuquerque currently maintains the road from the Airport to Atrisco Vista's intersection with Interstate-40. The City will need to decide whether it would like to transfer the Open Space parcels associated with the road realignment to City Aviation or possibly release the portion of land associated with the road and ROW to an entity such as the NMDOT or Bernalillo County.

Between Shooting Range Access Road and the airfield area, the City of Albuquerque Aviation Department does not own or control 19 parcels of land. Three are owned by a separate department within the City of Albuquerque, one is owned by the State of New Mexico Commissioner of Public Lands, and the other 15 are owned by Albuquerque 50 LLC. It is recommended that the Aviation Department acquire ownership of this area in order to develop what is needed for the helicopter campus, mitigate any potential through-the-fence operations, and to open up this area for any potential revenue opportunities.

Figure 4-15 maps the current ownership and management of parcels in and around the Airport property while **Figure 4-16** depicts a map of the future ownership and management of parcels in and around Airport property based on the projects recommended in this AMPU. These updates to ownership and management could be facilitated by land swaps between different departments in the City of Albuquerque, or between the City and other public agencies.

4.6.2 Land Release/Land Swap Opportunities

Another potential project that could provide revenue opportunities for the City is a possible release of land or land swapping opportunity with the sliver of land along the northern portion of Airport property abutting Quail Ranch. The City does not have any future plans for this area and it has not been identified as an area for future aeronautical use. A possible use for this area could be an expansion of the current renewable energy/solar panel project located at Quail Ranch or could be exchanged with City Open Space for the land needed for the Atrisco Vista Boulevard realignment.

4.6.3 Airport Access Opportunities

Another potential project within the northern portion of Airport property is a connecting roadway/airport access road between the future PDV expansion and Double Eagle Road. This would allow for easier access to and from the Airport from PDV. The current plan for PDV conceptually shows an intersection that would adversely impact City Open Space land, which could be shifted south to minimize this conflict. The MRCOG access policy for PDV allows for modification per the AMPU. Shifting the location on the plan for an intersection north of the Albuquerque Bernalillo County Water Utility Authority (ABCWUA) Soil Amendment facility will avoid the conflict with Open Space and provide for a future roadway connection. This roadway will likely become public right-of-way. The City should ensure that this roadway is not a direct/through street to avoid high speed cut-through traffic between PDV and Atrisco Vista Boulevard.

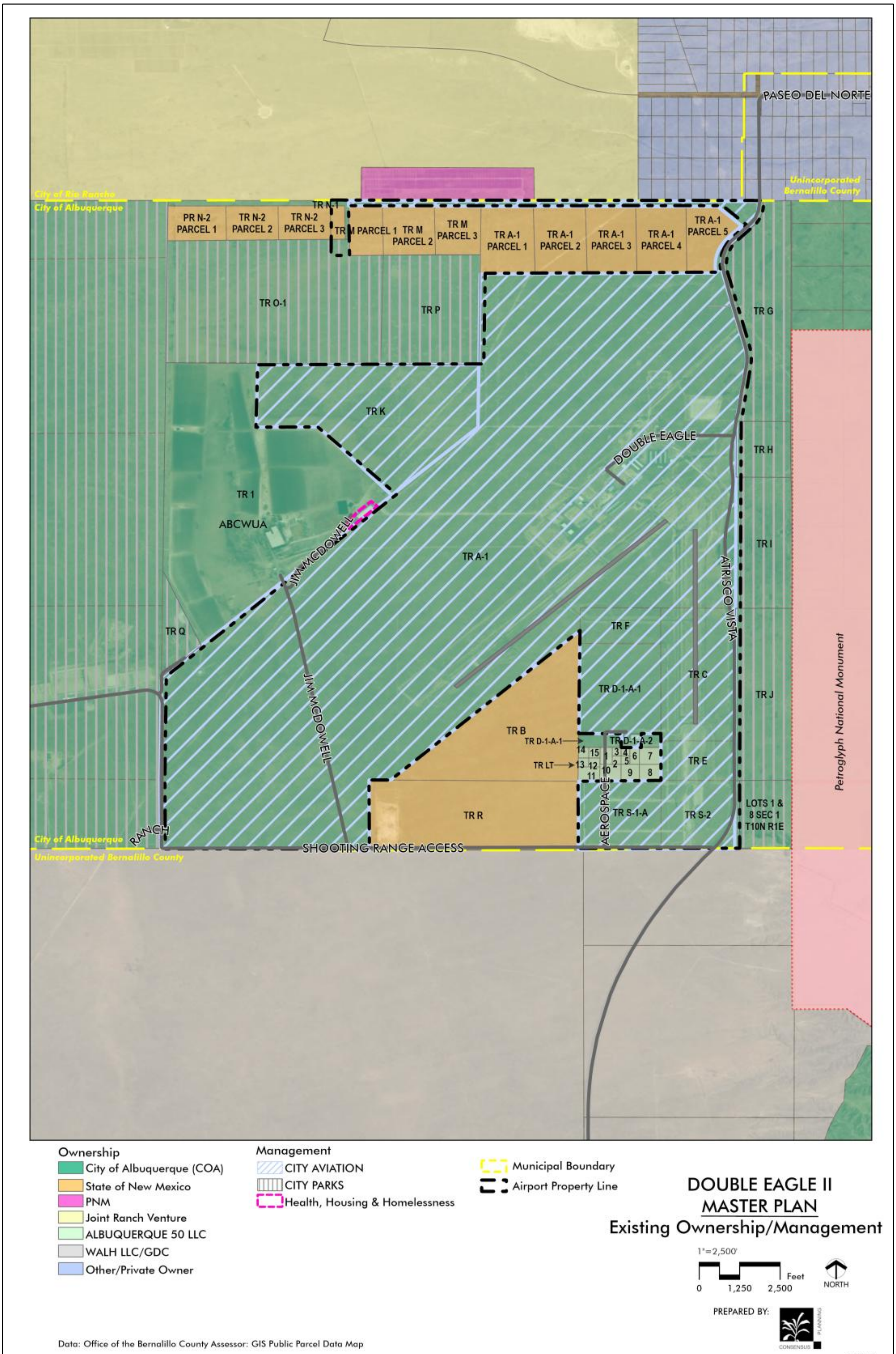


Figure 4-15. Existing Ownership and Management

Source: Consensus Planning

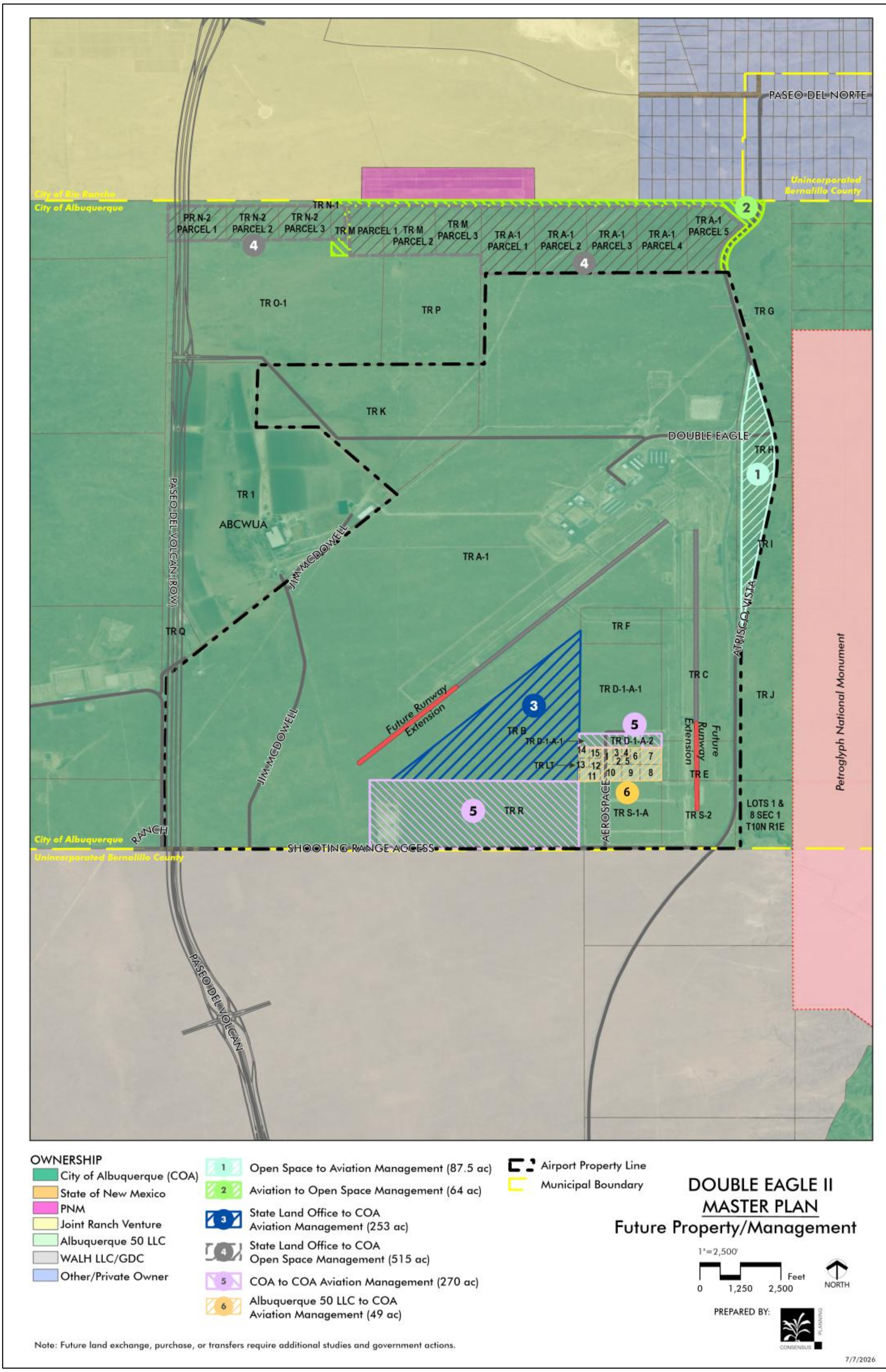


Figure 4-16. Future Ownership and Management

Source: Consensus Planning

4.7 Airport Protection Overlay Zones

As discussed in **Chapter 1**: *Inventory*, the Airport is located within a city-designated Airport Protection Overlay (APO) Zone as documented in the City of Albuquerque Integrated Development Ordinance (IDO). The existing APO Zone is divided into three sub-areas:

- Air Space Protection Sub-area – Underlies the Horizontal Surface established at a height of 150 feet above the highest point of the usable landing area at the Airport.
- Runway Protection Sub-area – Includes runways, adjacent Approach Surfaces, and trapezoidal flares at the end of each runway.
- Noise Contour Sub-area – Is an irregularly shaped sub-area that reflects the intermittent noise levels that are expected in the airport area, based on averaged ambient conditions and existing and projected aircraft operations (landings and takeoffs). The sub-area is bounded by the 65 Day-Night Noise Level (DNL) contour and includes the 75 DNL contour calculated by the FAA's former Integrated Noise Model (INM).

It is assumed that these sub-areas were developed based on the existing conditions and the projects developed in the previous AMPU. Therefore, these three sub-areas are recommended to change based on the projects in this AMPU.

The Air Space Protection Sub-area is anticipated to have a similar shape as the existing sub-area with the only significant changes being enlargement beyond the Runway 4 and 35 ends, which can be associated with the two runway extensions.

Similarly, for the Runway Protection Sub-area, the updated areas would extend slightly off of the Runway 4 and 35 ends because of the runway extensions. The main difference would be the areas beyond the Runway 17 and 22 ends. In the previous AMPU, the plan included an approach procedure upgrade for Runway 17 approaches from a Visual Approach (V) to a Precision Approach (PA), while downgrading the Runway 22 end from a PA to a Non-Precision Approach (NPA). This AMPU is proposing retaining the Runway 22 end PA and upgrading the Runway 17 approach from a V to an NPA.

With these changes the Runway Protection Sub-area for the area beyond the Runway 17 end would decrease while the area beyond the Runway 22 end would increase. These changes are recommended for the sub-area so that there can be additional protection over the Petroglyph National Monument area beyond the Runway 22 end and the decrease in protection beyond the Runway 17 end would allow the implementation of Mesa Film Studios, as the location of the film studio is located within the existing sub-area.

The Noise Contour Sub-area is also anticipated to increase along the extensions to Runway 4 and 35 and beyond the runway ends. Additionally, with the forecasts projecting additional jet traffic, the Noise Contour Sub-area is anticipated to extended slightly beyond the runway ends, specifically for the Runway 4 end and the existing Runway 22 end, since this is the Airport's primary and longer runway. However, since the Runway 17 and 22 end noise contours blend together, the 65 and 75 DNL contours are not anticipated to extend beyond Airport property or over Atrisco Vista Boulevard.

The only other area of a potential modification to the existing Noise Contour Sub-area would be around the location of the heliport campus. As stated, the current preferred option is located between the two runways, south of Taxiway C. Whichever option moves forward in the implementation process, the Airport should anticipate a slight increase in the Noise Contour Sub-area in that location. This also may remove some of the noise near the existing helipads on the North Apron. See **Figure 4-17** below for a comparison between the existing and updated APO. This graphic depicts the runway extensions developed in this AMPU.

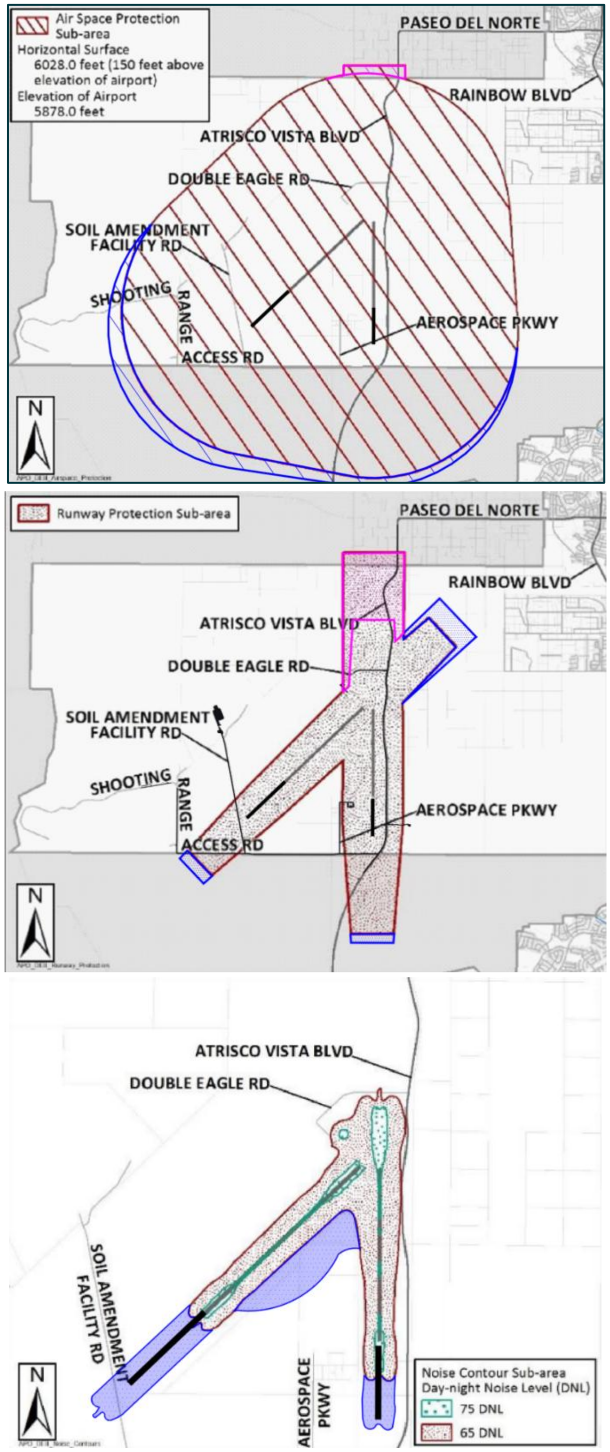


Figure 4-17. Approximate Airport Protection Overlay Zone Sub-Area Changes

Notes:

1. *The Airport and Horizontal Surface elevations are subject to change depending on the runway end elevations of the runway extensions which would impact the outer limits of the Air Space and Runway Protection Sub-areas.*
2. *Blue = Approximate area of sub-area expansion.*
3. *Magenta = Approximate area of sub-area reduction.*

Source: AECOM Edits to the Albuquerque Integrated Development Ordinance – April 21, 2025

4.8 Planned Non-Aeronautical Projects

In addition to the previously discussed Atrisco Vista Boulevard widening, PDV extension, and PNM Rio Puerco-Pajarito-Prosperity 345kV transmission line projects, two additional projects are planned within the Airport vicinity in which the City of Albuquerque should plan on preserving as future non-aeronautical development. These projects are the implementation of Mesa Film Studios and the construction of a Department of Veteran's Affairs (VA) National Cemetery.

North of the existing airfield, the City of Albuquerque is planning to lease four tracts made up of ±130 acres to Mesa Film Studios. The lease areas are anticipated to provide light manufacturing, office, and other non-residential uses related to a film studio. The location of the lease area can be found in the Facility Requirements chapter (**Figure 3-14**).

The cemetery is planned to encompass ±230 acres of land located at the southwest corner of Shooting Range Access Road and Atrisco Vista Boulevard. The existing site consists of undeveloped, generally level, pasture land, while the National Cemetery would include the development of the necessary infrastructure associated with a cemetery (e.g., roads, water supply, grave sites, committal structure, support structures, and fencing). A graphic of the anticipated location of the cemetery can be found in **Figure 4-18**.

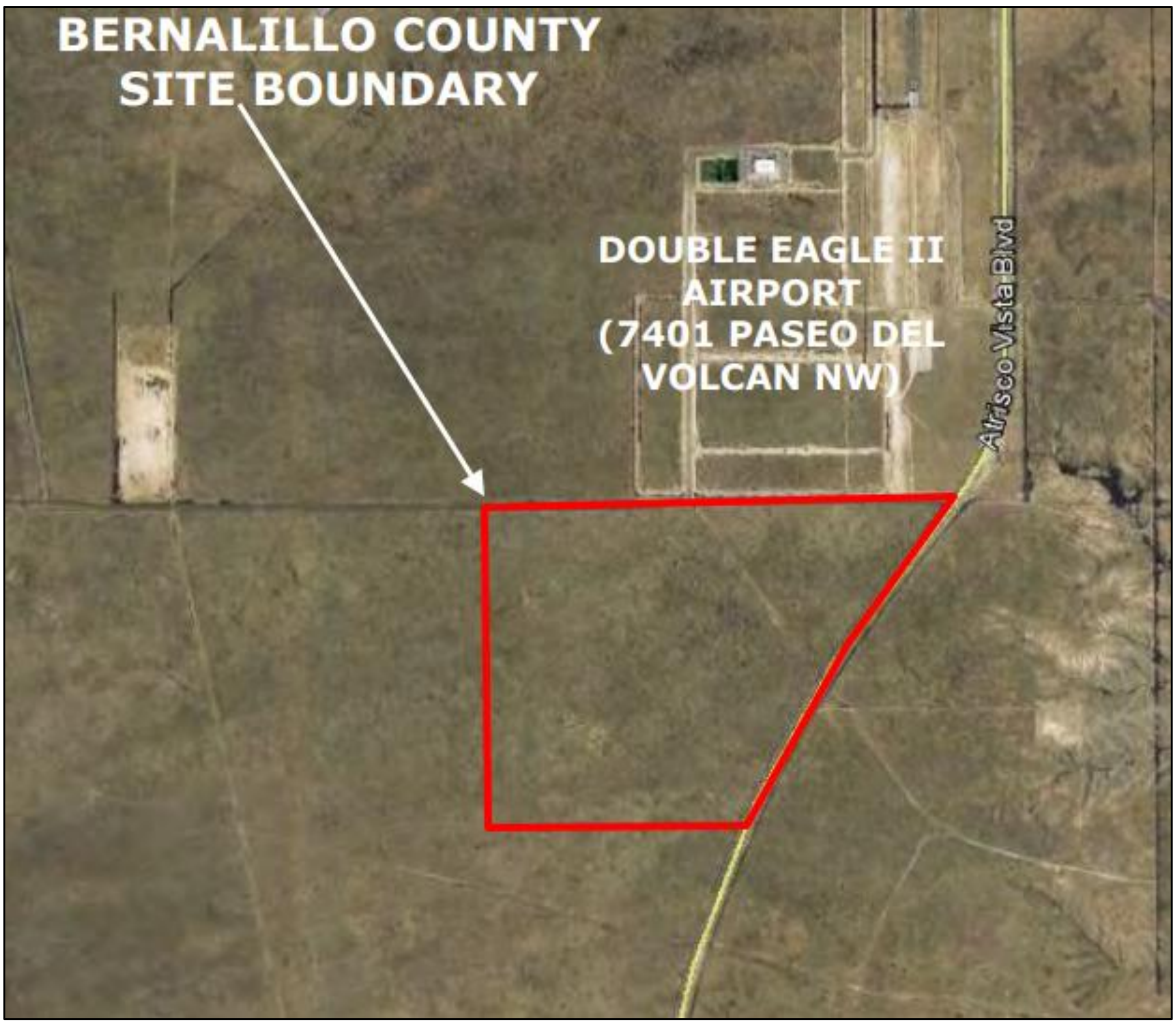


Figure 4-18. Albuquerque National Cemetery Bernalillo County Site

Source: U.S. Department of Veterans Affairs – Final Environmental Assessment: Albuquerque National Cemetery – February 2023

4.9 Conceptual Development Summary

The recommended alternatives are summarized below:

- A realignment of Atrisco Vista Boulevard outside of the Runway 22 ARPZ and Runway 4 DRPZ.
- A two-phased, 3,604-foot extension of Runway 4 to an ultimate length of 11,000 feet.
- A two-phased, 2,553-foot extension of Runway 35 to an ultimate length of 8,536 feet.
- Three reserved areas for a heliport campus consisting of helipads, hangars, and apron space.
- An expanded building area of ±225 acres southwest of the existing building area.
- The development of a GA terminal and vehicle parking lot.
- ±72 new hangar units associated with High Flying Hangars and KAEG Hangars.
- The PDV and Atrisco Vista Boulevard expansion projects.
- The implementation of the Rio Puerco-Pajarito-Prosperity 345 kV transmission lines.
- Designated areas for Mesa Film Studios and a VA cemetery.
- Designated areas for existing and future aeronautical and non-aeronautical land uses.
- Airport property acquisition, transfer, and release.
- A connector road between PDV and Double Eagle Road.

See **Figure 4-19** for the recommended alternatives. Once the recommended alternatives are adopted by the City, future development alternatives should be added to the City Site Plan as future phase development so that a major amendment from the Environmental Planning Commission (EPC) is not necessary in the future. As future planned development occurs, City staff can review and approve minor amendments if they are shown on the site plan. **Chapter 5** will focus on implementation of the preferred development concept and area development coordination.

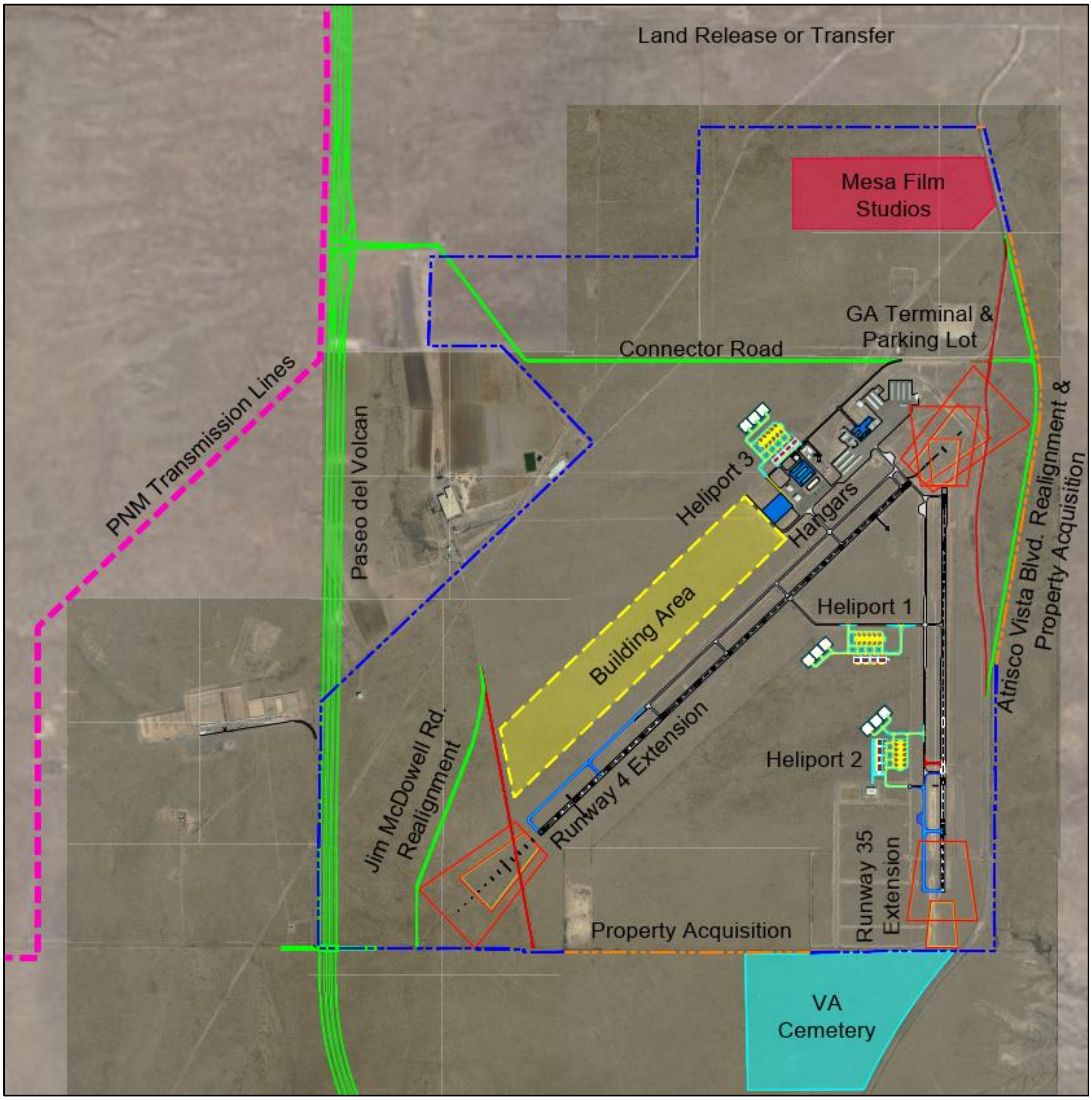


Figure 4-19. Conceptual Development Projects

Source: AECOM

4.10 Land Use Development Coordination

It is important for the City of Albuquerque to plan for long-term land use development in and around the Airport. Land use should prioritize aeronautical infrastructure and business. The total acreage of land owned by the City can also support a significant amount of non-aeronautical use, without conflicting with aeronautical priorities. Development should emphasize environmental protection, economic needs, and the needs of existing and potential tenants.

For the purposes of this analysis, the majority of these land-use concepts will be based on the development of the previously discussed preferred airfield, heliport, building area, and roadway improvement concepts, as well as the planned non-aeronautical related projects.

Land use related to aeronautical development can be broken into sub-categories. These include aeronautical infrastructure and protection, aeronautical business, and broader economic development.

4.10.1 Aeronautical Infrastructure Protection

Aeronautical infrastructure and protection includes the existing physical components associated with the airfield such as the runways, taxiways, and NAVAIDs, as well as the FAA critical safety design standards associated with protecting the existing airfield and its operations. Since the Master Plan is proposing extensions to runway ends 4 and 35, the airfield components and associated FAA design standard protections would also fall within this land use type. The heliport campus concept and AAM opportunities would also be considered aeronautical infrastructure land use type.

4.10.2 Aeronautical Business

Aeronautical business would be comprised of the majority of uses associated with the existing and expanded building areas such as aprons, hangars, and support facilities, as well as the future GA terminal building. The areas to the south of heliport campus Option 1 and north of the Double Eagle II Aerospace Hub, as well as the Airport owned area between Shooting Range Access Road and the Double Eagle II Aerospace Hub should also be considered aeronautical business as well, as this area is strategically located near the airfield, and already neighboring the former SAMS building, which could also play in an important role in aeronautical revenue at the Airport.

4.10.3 Aeronautical Transportation Related

An example of aeronautical transportation related development is the Rio Puerco-Pajarito-Prosperity 345kV transmission line project that is anticipated to be located along the east side of the PDV alignment, approximately 150 feet from the east edge of the ROW. This project is considered aeronautical transportation related land use as it has direct impacts on Airport property and is located in and around airfield safety areas and airspace sensitive areas, preventing further aeronautical development.

4.10.4 Roadway Corridors

The major roadway corridor projects include the Master Plan recommended realignment of Atrisco Vista Boulevard, the Master Plan recommended realignment of Jim McDowell Road, the planned Atrisco Vista Boulevard expansion between Double Eagle Road and Paseo del Norte (PDN), and the PDV extension project between U.S. Highway 550 and Interstate-40.

Atrisco Vista Boulevard has been identified as a limited access roadway in the Albuquerque Metropolitan Planning Area's *Roadway Access Control (RAC) Policy*. It is identified specifically as a high-speed, high-capacity, limited access principal arterial from the southern terminus at Senator Dennis Chavez Boulevard to the northern terminus at Southern Boulevard and future NM 347 in Rio Rancho. The purpose of Atrisco Vista Boulevard is to provide a relatively high-speed regional roadway connecting PDN with I-40, reasonable direct access to the Airport from both PDN and I-40 and limited but viable access to commercial and residential properties adjacent to the roadway.

PDV is intended to serve as a major north-south corridor on the west side of the Airport, connecting Interstate 40 with U.S. Route 550 in Sandoval County. PDV is developed in Sandoval County from US 550 to Unser Boulevard, ending more than 11 miles northeast of the Airport. Once fully developed, PDV could provide an alternate access route to and around the Airport, potentially from Shooting Range Access Road to the south and a road north of the Airport that has yet to be designed, based on the current schematic design for PDV. The northern access should be sited to avoid conflicts with City Open Space and provide access to economic development lands between PDV and Atrisco Vista Boulevard. The design of this roadway should avoid a direct connection between these two roadways to discourage cut through traffic while providing improved access to new businesses.

Earlier regional planning designated PDV as a major roadway, more akin to an interstate, with limited interconnections, while Atrisco Vista Boulevard was intended to be a local road. With growth in western Albuquerque and south along Interstate 40, Atrisco Vista Boulevard has become a more prominent road, and the design of PDV is expected to be scaled back as more traffic uses Atrisco Vista Boulevard. This could facilitate more frequent interchanges along PDV, potentially providing additional roadway access to support economic development.

Access onto Atrisco Vista Boulevard and PDV adjacent to the Airport are governed by the RAC policy document, which is managed by the Mid-Region Metropolitan Planning Organization. The RAC, last revised on November 4, 2022, recognizes the AMPU as the access control document for Atrisco Vista Boulevard between the southern to northern Airport boundaries, and lists six permitted access points:

1. Shooting Range Access Road (T-intersection to the west)
2. Petroglyph National Monument Parking (T-intersection to the east)
3. Double Eagle II Airport Road (T-intersection to the west)
4. Open Space Trailhead (T-intersection to the east)
5. An immediate location is reserved to record future granted access
6. PDN

The RAC also defines PDV as a high-speed, high-capacity, limited access principal arterial. It is the desire of the Metropolitan Transportation Board (MTB) that PDV, north of I-40, shall ultimately be developed to freeway standards and that ultimate access shall be provided via interchanges at approximately one-mile intervals. Prior to ultimate development, at-grade intersections with median openings at other than one-mile intervals may be permitted. When ultimate access control PDV is implemented, reasonable access will be provided to adjacent properties from parallel frontage roads. An access control plan for adjacent and intersecting streets shall be developed through subsequent location corridor studies.

Future PDV, between I-40 and Unser Boulevard, may initially be a facility under City of Albuquerque, City of Rio Rancho, Bernalillo County, or Sandoval County jurisdiction with future jurisdictional transfer to NMDOT. Until the jurisdictional transfer occurs, RAC policies will guide development and access management based on the State Access Management Manual (SAMM). After the jurisdictional transfer occurs, NMDOT will use the SAMM (as may be revised) and other pertinent documents to guide the granting of access with pre-transfer access considered allowable under then-current conditions.

Since adjacent property will be accessed from parallel frontage roads, all or portions of the frontage roads may be constructed at any time to provide access to adjacent properties. Frontage roads may be constructed by any public lead agency or private developers in advance of the "mainline" in order to provide access to adjacent land for development. Frontage road property access locations shall be determined on a case-by-case basis and may include temporary higher level access. Frontage roads shall be constructed on alignments preapproved by NMDOT which will allow for future construction of the "mainline" travel lands.

As of the current RAC, future proposed PDV interchanges from I-40 to PDN are anticipated:

1. I-40 northside frontage road and interchange access
2. Approximately 1.4 miles north of I-40
3. Approximately 2.5 miles north of I-40
4. Approximately 3.6 miles north of I-40
5. Approximately 4.6 miles north of I-40, on the north boundary line of the Town of Atrisco Grant
6. Approximately 7.8 miles north of I-40, on the south boundary line of the Town of Alameda Grant
7. Approximately 9.6 miles north of I-40, at proposed extension of PDN

Additionally, the future expansion of Runway 4-22 would extend the RPZs to conflict with the current alignment of Jim McDowell Road. Runway 4-22, which also depicts how this road could be reconfigured to avoid conflict with the RPZs. South of the Airport, Aerospace Parkway runs north-south, connecting to Shooting Range Access Road to the south. A graphic of the existing, planned, and potential aeronautical development land uses are depicted in **Figure 4-20**.

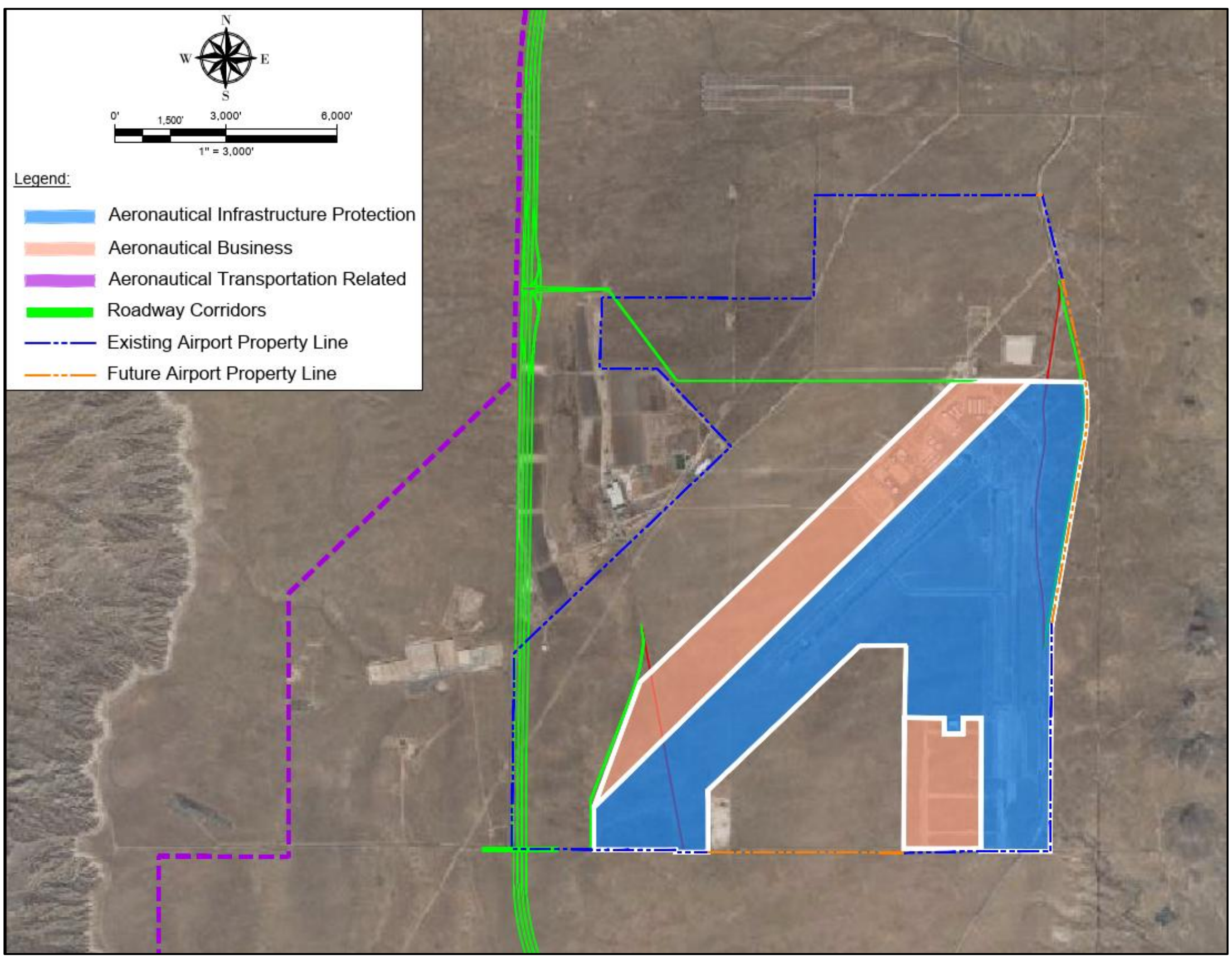


Figure 4-20. Aeronautical Development Land Uses

Source: AECOM

4.10.5 Other Economic Development

Examples of other economic development include aeronautical related land uses, including elements such as, but not limited to, hotels, convenient stores, rental car facilities, and gas stations, as well as broader economic development, potentially in the form of light industrial development. The City owns approximately 4,257 acres of land at AEG, and currently, approximately 773 acres are developed, located in airfield safety areas, or identified for future development by the Airport and associated uses, based on existing conditions, growth opportunities, and forecasted growth of Airport infrastructure and uses. The remaining 3,484 acres of City-owned land are available for broader economic development. Airport property is owned by the City of Albuquerque, and this land is zoned as Non-Residential, Sensitive Use (NR-SU). Site development is also regulated by the APO Zone covering the horizontal surface, which restricts development and land uses to ensure adjacent land uses don't interfere with normal aircraft operations.

Given the total available acreage, the economic development options could be split into two zones: Airport-Adjacent and Airport-Proximate. Airport-Adjacent aeronautical-related land uses such as hotels, convenience stores, rental car facilities, and gas stations. These uses could be located along the Double Eagle II Airport entrance to support on-site and the adjacent community. Airport-Proximate uses, such as light industrial manufacturing of high-value, lower-weight products, including technical and medical tools and supplies, could capitalize on the high-speed transportation access the Airport provides and the area's proximity to Interstate 40. Direct access to air travel also supports other industries. One notable development opportunity is Mesa Film Studios, as described in Chapter 3. Rather than define the scale of Airport-Adjacent and Airport-Proximate, these non-aviation uses are both included in the Commercial Park future land use category (see **Figure 4-21**).

4.10.6 Adjacent and Future Land Uses

In the regional context, the Airport is in the westernmost portion of the City of Albuquerque, with the City of Rio Rancho to the north and unincorporated Bernalillo County to the south. In the City of Albuquerque, residential development is progressing west towards the Petroglyph National Monument and the Airport. To the south in Bernalillo County, the Upper Petroglyph Sector Plan outlines the phased development of 5,279 acres to occur over the next few decades (see **Figure 4-22**). In Bernalillo County, industrial, commercial, and residential development has begun on the north side of Interstate 40 and continues along Atrisco Vista Boulevard, a primary arterial through this region. Development in Rio Rancho, north of the Airport, is taking place in the Quail Ranch subdivision. The initial development phase focuses on utility-scale solar arrays. Ultimately, commercial and residential development phases are planned, but will not occur until the solar leases are terminated and decommissioned (30+ years).

Additionally, Gateway West, the City's largest homeless shelter, which can serve 600 to 700 people per night, and the BCWUA Soil Amendment Facility are located west of the Airport off of Jim McDowell Road. The City should coordinate with the City's Health, Housing, and Homelessness Department on any changes that might impact operations at Gateway West, and similarly, ABCWUA on any changes that may impact the Soil Amendment Facility. These facilities are located in the NR-SU zone, so the City's Aviation Department could be involved in future proposed changes on these properties.

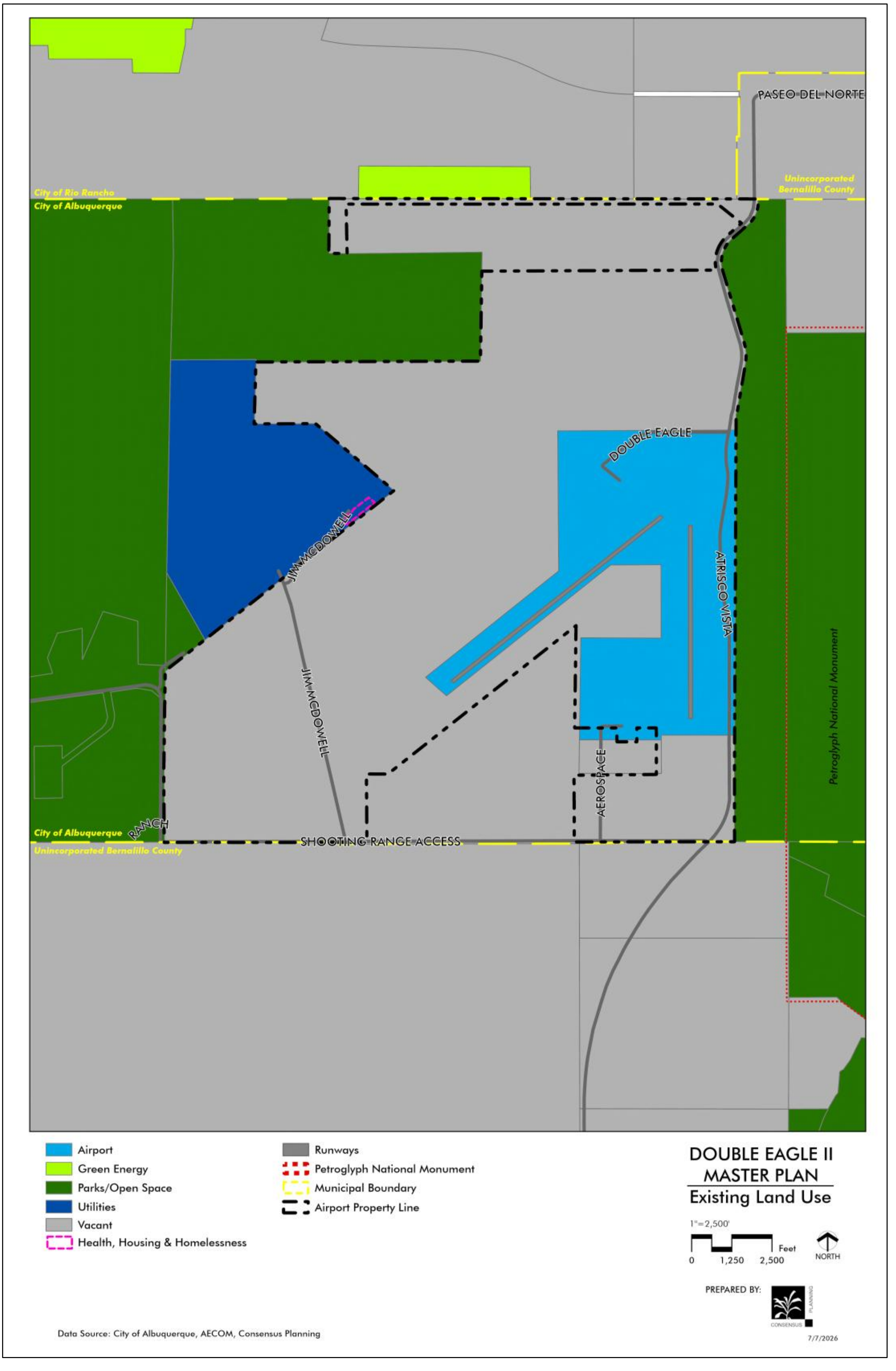


Figure 4-21. Existing Land Uses

Source: Consensus Planning

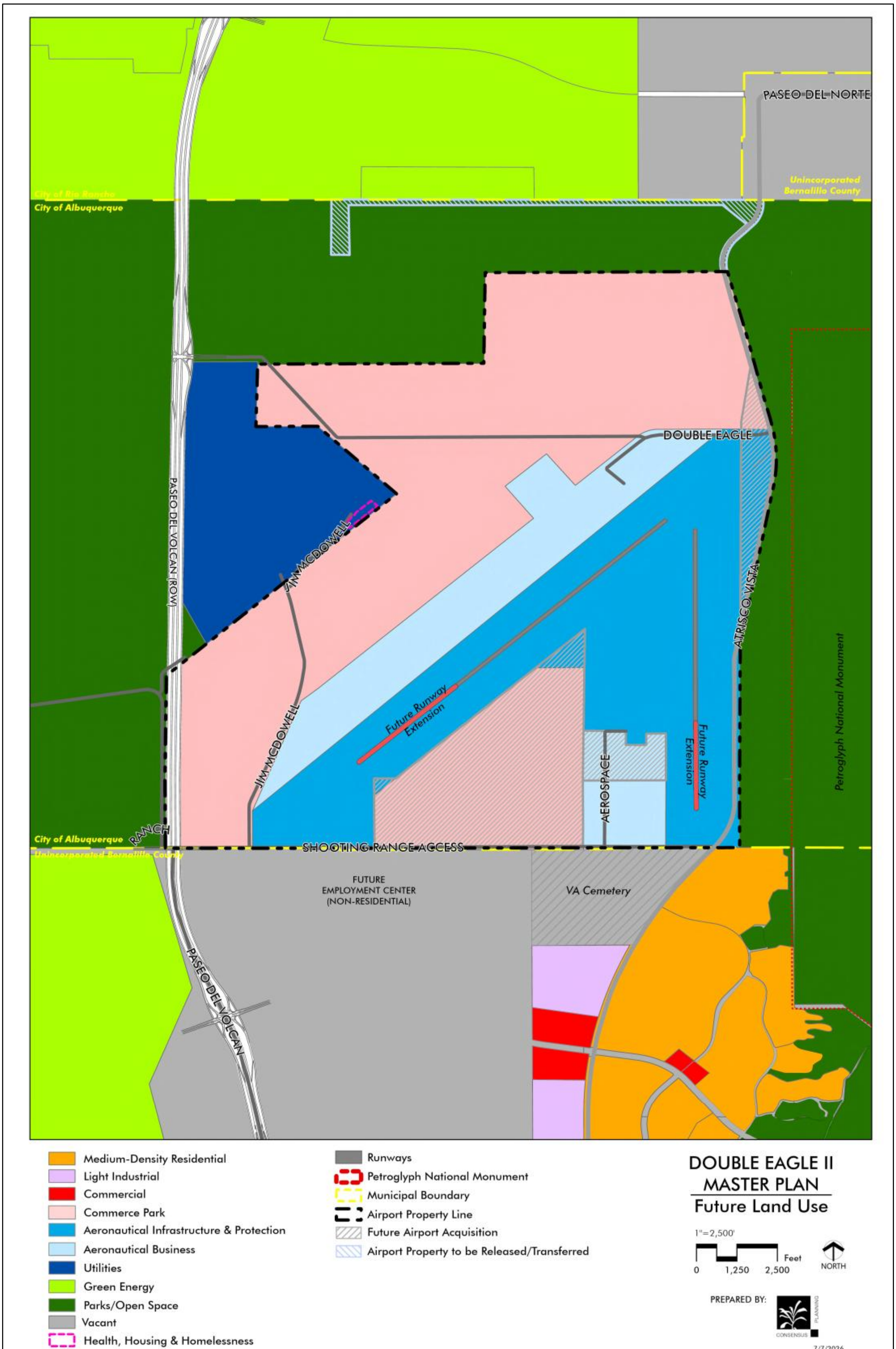


Figure 4-22. Future Land Uses

Source: Consensus Planning

4.10.7 Zoning

Development is supported by zoning designations (see **Figure 4-23**). The NR-SU zoning focuses on a short list of special uses, including airports, cemeteries, correctional facilities, and stadiums or racetracks. Accessory uses had to be compatible with or complementary to the primary use, until the 2026 Albuquerque IDO update, which revised NR-SU zoning to allow more flexibility for the land uses permitted within the NR-SU zone. It also simplifies and broadens the development potential of NR-SU-zoned properties and allows additional economic development uses in areas not required for aviation development. The specific potential for the Airport property is further described below. The surrounding area also includes two Non-Residential Parks and Open Space zones: NR-PO-B (Major Public Open Space) and NR-PO-C (Non-City Park and Open Space). The NR-PO-C lands are owned by the State Land Office and are located along the northern portion of the Airport.

If completed, the realignment of Atrisco Vista Boulevard would warrant a minor zoning update to match the new roadway alignment (see **Figure 4-24**). No additional zoning revisions are expected due to the increased flexibility provided by the 2026 IDO update.

4.10.8 Open Space

Albuquerque Open Space extends along the western side of the Airport. To the east, a narrow portion of Open Space is situated between the Airport and the Petroglyph National Monument. This is a 7,236-acre area that protects a variety of cultural and natural resources, with walking trails providing public access to the Monument.

The City Open Space east of the Double Eagle II Airport is the Grasslands Preserve. The strip of City Open Space land directly east of the Airport serves as a buffer between the Airport and the Petroglyph National Monument. In addition to the adjacent Open Space land to the east and west of the Airport, there is a portion of the Airport's northern border that the City of Albuquerque owns a long strip of land running north along Atrisco Vista Boulevard and then east-west, south of Rio Rancho.

4.10.9 Modal Airport Access Options

While ground access to Double Eagle II Airport is by private cars and trucks, the airport supports bicycle use and ridesharing. Atrisco Vista Boulevard is striped with bicycle lanes on both sides of the two-lane road, and bike racks and showering facilities are available at the terminal, supporting people who opt to travel by bicycle. The Airport has a parking/staging location for rideshare users traveling via services like Uber and Lyft, with directions to the rideshare drop-off and pick-up location provided with signage at the main gate.

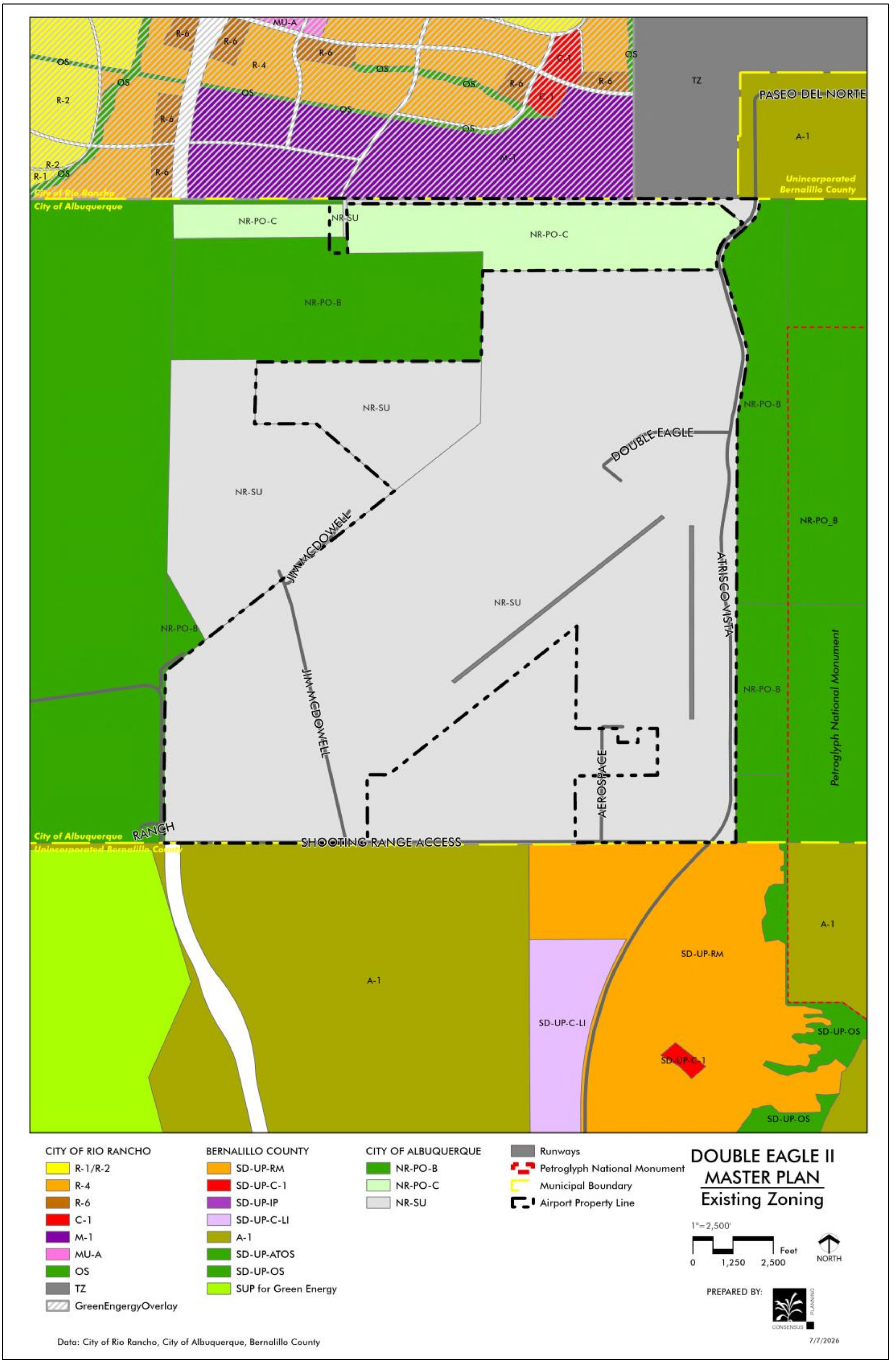


Figure 4-23. Existing Zoning

Source: Consensus Planning

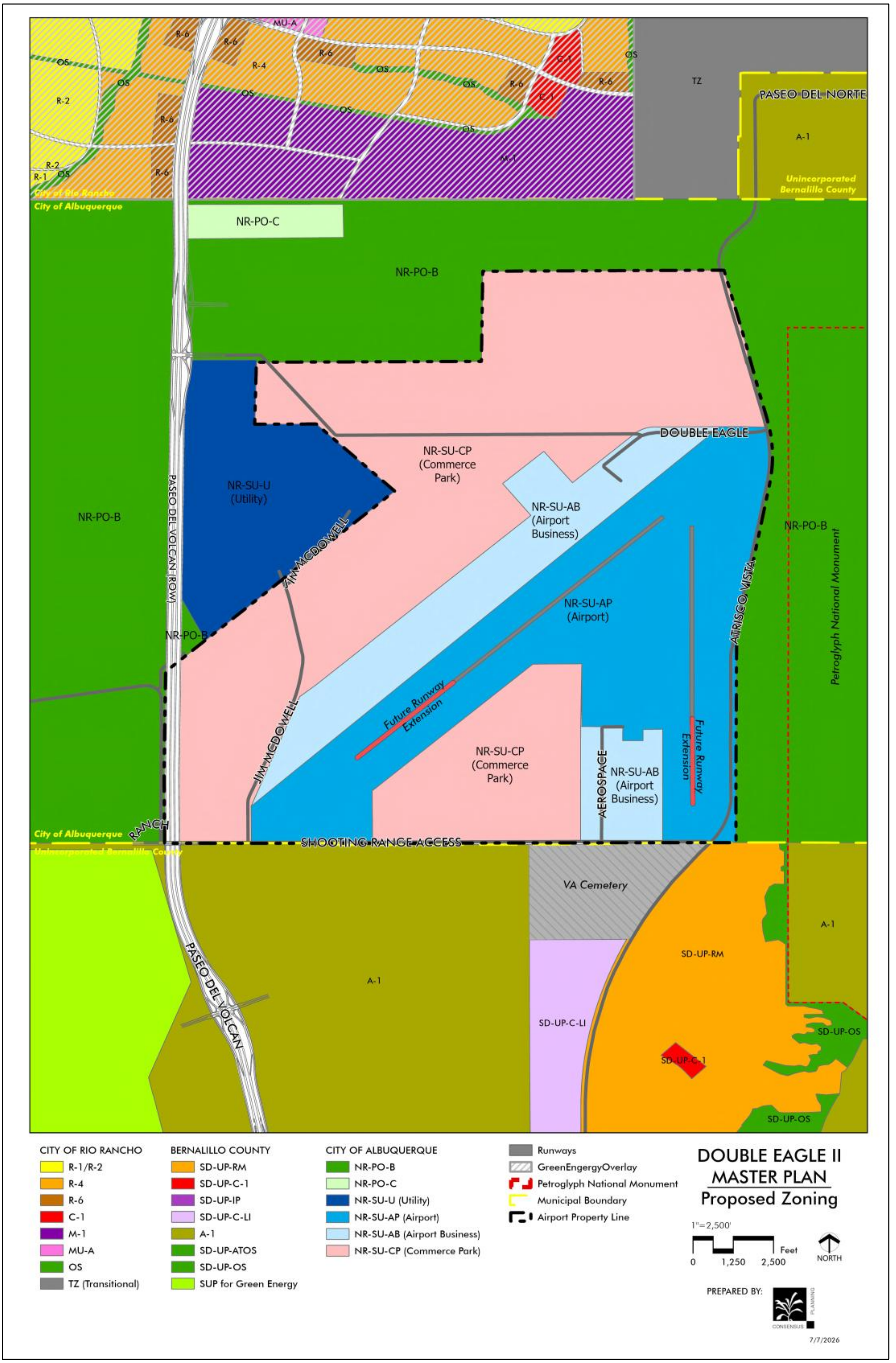


Figure 4-24. Proposed Zoning

Source: Consensus Planning

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