Airport Business Development Plan

April 2020

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CHAPTER 1: INTRODUCTION

INTRODUCTION AND PURPOSE

An Airport Business Development Plan (ABDP) provides a detailed analysis of an airport's existing infrastructure and policies, a forecast of future aeronautical activity, a preferred plan for the Airport's future development, and a Capital Improvement Plan (CIP). Once completed, the ABDP serves as a tool that sets the strategic direction of the Airport from both a policy and infrastructure perspective.

The fundamental steps in the ABDP process are similar to those used to develop an Airport Master Plan or Airport Layout Plan with a Narrative Report. The difference is that the ABDP process also focuses on identifying what the Airport needs to do from a policy and marketing perspective to be successful.

An overview of the ABDP process is provided in **Figure 1-1**.

This document, referred to as the ABDP narrative or technical report, provides a detailed overview of every element of the ABDP for Fabens Airport (E35) located in Fabens, TX.

FIGURE 1-1
AIRPORT BUSINESS DEVELOPMENT PLAN PROCESS
FABENS AIRPORT

In addition to this ABDP narrative report, an Airport Layout Drawing (ALD) was developed. The ALD is a drawing that details the Airport's current infrastructure and proposed development plans created through the ABDP process. The ALD is reviewed and conditionally approved by the FAA and TxDOT Aviation. The ALD, created as part of this project, complies with FAA Standard Operating Procedures (SOP) 2.00 – *Standard Operating Procedure for FAA Review and Approval of Airport Layout Plans*.

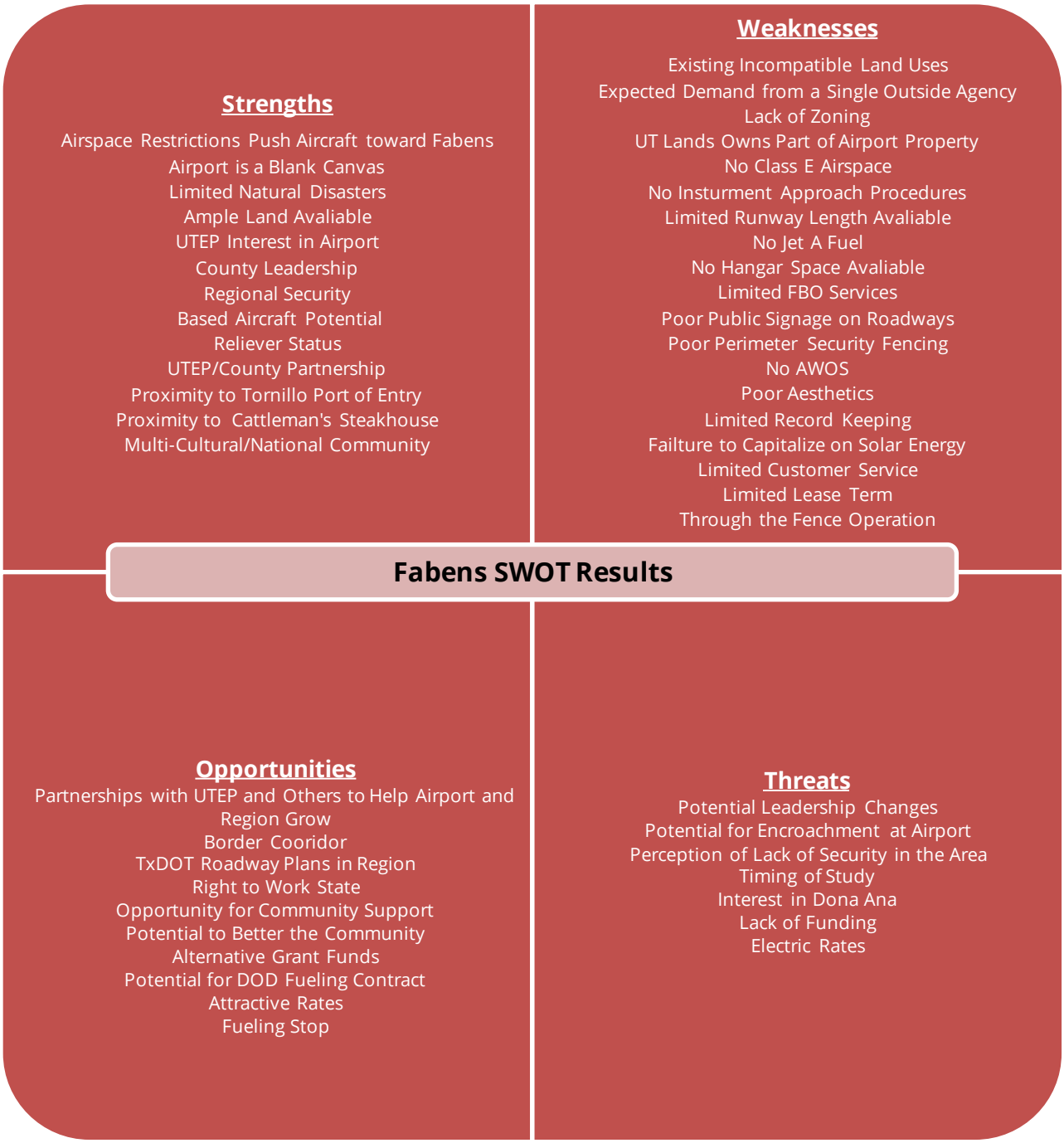
SWOT ANALYSIS

At the beginning of the ABDP process a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis was completed to identify key items that needed to be considered during the ABDP process. The SWOT analysis was completed with input from numerous stakeholders including:

- El Paso County
- UTEP
- TxDOT Aviation
- Fabens Flyers
- Olivias Aviation

Figure 1-2 below provides an overview of the items identified during the SWOT Analysis.

FIGURE 1-2
SWOT ANALYSIS
FABENS AIRPORT



CHAPTER 2: INVENTORY

INVENTORY ACTIVITIES

As the initial step in the Airport Business Development Planning (ABDP) process, the inventory phase is a systematic data collection effort that provides a thorough understanding of past and present aviation factors associated with the Fabens Airport (E35) that should be considered as part of the development of the ABDP. Consequently, a comprehensive inventory, including the following major inventory tasks, was completed to ensure a thorough understanding of E35's existing facilities and the surrounding area:

- An on-site inspection of existing facilities was conducted on October 25-26, 2018 to ensure an accurate inventory of airport facilities, equipment, and services.
- Discussions and interviews with Airport personnel, local officials, and airport tenants regarding recent airport trends, operations, and services.
- The collection of airport activity data and aeronautical background information from the FAA and TxDOT including a review of historical airport information, previous airport layout plans, maps, charts, and photographs of airport facilities.
- Review of current and planned on and off-airport land use development and property information, including surrounding land use patterns, existing and proposed transportation, infrastructure, and utility developments.
- The review of existing airport policy documents such as leases, through-the-fence agreements, zoning, and airport rules and regulations.
- Review of existing land ownership, easements, and land leases for the airport and the area surrounding the airport.
- The collection of environmental information related to the airport.

AIRPORT ROLE

The E35's role is well documented in the FAA's National Plan of Integrated Airport Systems (NPIAS), and FAA's General Aviation Airports: A National Asset, and the Texas Airport System Plan (TASP). E35 is classified as follows in each of the aforementioned documents:

- Designated as a "Basic Service" airport under the Texas Aviation System Plan (2010).
- Designated as one of 243 "unclassified" airports in the NPIAS (2019-2023).
- Identified by the FAA's Asset study as a "basic" general aviation airport (2012).

Each of these roles are discussed in more detail below.

NPIAS OVERVIEW AND FAA ASSET STUDY

It should be noted that E35 was previously considered a "Basic" airport under the previous NPIAS report (2017-2021). However, E35 has fallen out of the "Basic" NPIAS category into the "unclassified" category because the airport currently has less than 10 based aircraft (the minimum needed for inclusion in the NPIAS). According to the FAA's 2019-2023 NPIAS report, an "unclassified" airport is an airport "with limited activity." Additionally, the FAA's NPIAS report states that "if the next review of an unclassified airport's activity shows levels that meet the criteria for one of the classifications (e.g. basic, local, regional, national), the Airport will be reclassified in the next published NPIAS." Remaining in the NPIAS is critical as being part of the NPIAS is a prerequisite for requesting federal grant funds through TxDOT as part of the FAA's Airport Improvement Program (AIP). Consequently, it is vitally important that E35 regain its status as a basic or local airport within the NPIAS. The NPIAS is updated every two years. The next update will be in late 2020 in preparation for 2021. **Therefore, one of E35's primary goals should be to obtain at least 10 based aircraft by the end of 2020.** It should be noted that the FAA does not count aircraft operating at the Airport via a through-the-fence arrangement to count toward an airport's based aircraft total.

The FAA Asset study categorizes E35 has a "basic" general aviation airport. A basic airport is defined as an airport that often serves a critical aeronautical function within local and regional markets. They typically have moderate to low levels of

activity and average 10 propeller-driven based aircraft. It should be noted that the FAA Asset study was completed in 2012 while E35 had more based aircraft. If the FAA Asset study was updated based on E35's current number of based aircraft, E35 would fall into the "unclassified" airport category within the study.

TEXAS AIRPORT SYSTEM PLAN (TASP)

The TASP describes a "Basic" Service airport as an airport that provides air access for a community(s) less than a 30 minute drive from a Commercial Service, Reliever, Business/Corporate, and Community Service airports; and/or that support essential but low activity. Basic airports typically have low usage and provide additional convenience for clear weather flying and training operations. The TASP goes on to state that, in general, many Basic Service airports cannot expand to meet the size and instrument approach standards to support business access and may represent the only public landing site for many miles. E35 falls into this TASP category due to the limited number of operations currently taking place at the airport, the size of the existing runways, its lack of instrument approaches, and its proximity to El Paso International.

The TASP has also established the following minimum designed standards for Basic Service airports:

- Airport Design
  - ARC AI, B-I minimum design standard
- Design Aircraft
  - Light twin and single piston
- Minimum Land Requirements
  - Runway Safety Area – 36 acres
  - Runway Protection Zone – 25 acres
  - Landside Development – 12 acres
- Runways Minimums
  - Runway Length – 3,200 feet
  - Runway Width – 60 feet
  - Runway Strength – 12,500 pounds, single-wheel landing gear
  - Runway Lighting - Medium Intensity Runway Lights (MIRL) provided

- Taxiways Minimums
  - Stub taxiway to apron, Runway turnarounds
- Approach Minimums
  - Type – visual
  - Visibility Minimums – Not Applicable (N/A)
- Services Minimums
  - Telephone

E35 meets the vast majority of the benchmarks established for a Basic Service airport under the TASP with the exception of the following:

- Instrument Approach Procedure
  - E35 currently does not have IAPs with vertical guidance
- Airfield Fencing
  - E35 currently only has a partial perimeter fence. E35 is planning a full perimeter fence in the near future.

CURRENT FAA AIRPORT DESIGN STANDARDS

Beyond the TASP, NPIAS, and FAA Asset study designations, the FAA identifies design standards for airports and their operating pavements based on FAA Advisory Circular (AC) 150/5300-13 (current edition), *Airport Design*. Pavement categorization is provided for runways through the Runway Design Code (RDC) classification system while taxiway pavements are designated separately through the Taxiway Design Group (TDG) classification system.

A runway's RDC is defined by two variables related to the designated critical design aircraft for the runway and the lowest approach visibility minimums for the runway. The critical design aircraft is the largest single aircraft or classification of aircraft the runway is expected to serve on a regular basis (500 operations per year or more). An aircraft operation is considered the takeoff or landing of an aircraft. Thus, if an aircraft lands at the airport and then later departs, that counts as two aircraft operations. The critical design aircraft variables used to establish a runway's RDC include: the Aircraft Approach Category (AAC) and Airplane Design Group (ADG).

Table 2-1 defines the AAC categories. **Table 2-2** documents the ADG categories. **Table 2-3** describes the various visibility minimum categories.

TABLE 2-1
AIRCRAFT APPROACH CATEGORY (AAC)

AAC	V_{REF}/Approach Speed [1]
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*
E	*Approach speed 166 knots or more*

Source: FAA Advisory Circular 150/5300-13 (current edition), *Airport Design*
[1] V_{REF} = Landing Reference Speed or Threshold Crossing Speed

TABLE 2-2
AIRPLANE DESIGN GROUP (ADG)

Group #	Tail Height (ft. [m])	Wingspan (ft. [m])
I	< 20' (< 6 m)	< 49' (< 15 m)
II	20' - < 30' (6 m - < 9 m)	49' - < 79' (15 m - < 24 m)
III	30' - < 45' (9 m - < 13.5 m)	79' - < 118' (24 m - < 36 m)
IV	45' - < 60' (13.5 m - < 18.5 m)	118' - < 171' (36 m - < 52 m)
V	60' - < 66' (18.5 m - < 20 m)	171' - < 214' (52 m - < 65 m)
VI	66' - < 80' (20 m - < 24.5 m)	214' - < 262' (65 m - < 80 m)

Source: FAA Advisory Circular 150/5300-13 (current edition), *Airport Design*

TABLE 2-3
VISIBILITY MINIMUMS

RVR (ft.) *	Instrument Flight Visibility Category (statute mile)
5000	*Not lower than 1 mile*
4000	*Lower than 1 mile but not lower than ¾ mile*
2400	*Lower than 3/4 mile but not lower than 1/2 mile*
1600	*Lower than 1/2 mile but not lower than 1/4 mile*
1200	*Lower than 1/4 mile*

Source: FAA Advisory Circular 150/5300-13 (current edition), *Airport Design*
* RVR values are not exact equivalents

Based on the application of FAA airport design criteria, the TASP, a review of the existing facilities, and a review of E35's current Airport Layout Drawing (ALD), E35 is a General Aviation Airport with a runway design code (RDC) of B-I(small)-5000. This designation is consistent with the types of aircraft using the airfield and the fact

that the airport currently does not have any established instrument approach procedures.

AIRFIELD FACILITIES AND CHARACTERISTICS

E35 was originally developed in the 1940's by a group of farmers in the Fabens area to support the need for crop dusting operations for local farms. The group of farmers, called the Fabens Flyers, still own a parcel of property adjacent to the airport and conduct operations at the airport in a through-the-fence arrangement. Today, as shown in **Figure 2-1**, *General Airport Layout*, E35 currently has two runways. Runway 8/26 is the primary runway and it intersects with the secondary runway, Runway 16/34, approximately 1,400 feet from the approach end of Runway 8. Runway 8/26 is accompanied by a full-length parallel taxiway system and Runway 16/34 has a partial-parallel taxiway system south of Runway 8/26.

Table 2-4 provides a summary of the airfield components and data. The airside facilities consist of the runway, taxiways, airfield lighting, weather reporting systems, and other various components.

Runway 16/34 – Publication Note:

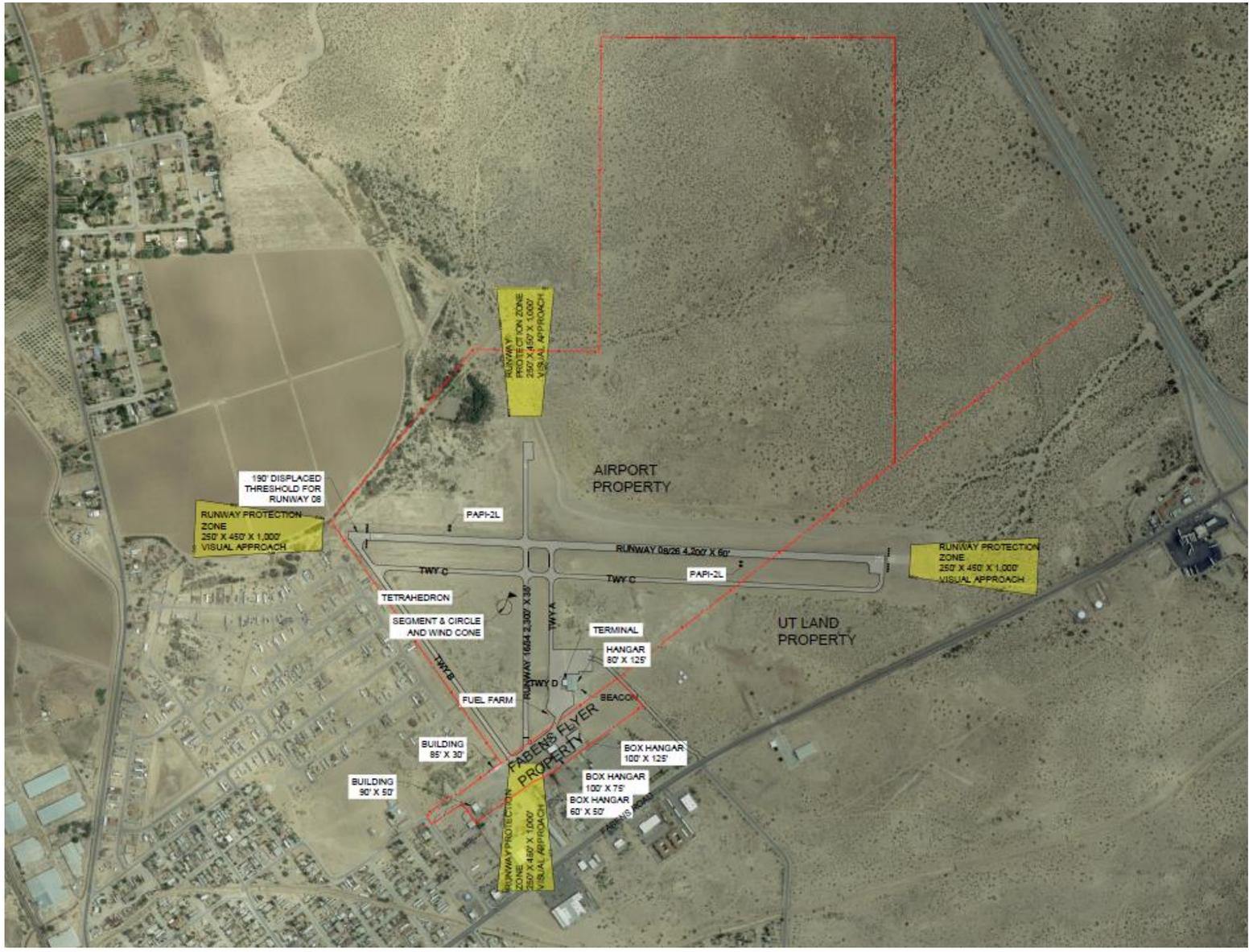
During the course of the development of this ABDP, it was determined that Runway 16/34 should be decommissioned due to the runway's length, limited use, and incompatible surrounding development. As a result, Runway 16/34 is identified as an active runway in the Inventory Chapter but is considered to be decommissioned in the remained of the ABDP study. The runway will be converted to a taxiway.

TABLE 2-4
AIRFIELD FACILITIES
FABENS AIRPORT

	Runway 8/26	Runway 16/34
Length (feet)	4,200	2,300
Width (feet)	60	35
Surface Material/Treatment	Asphalt	Asphalt
Weight Bearing Capacity (pounds) **Single Wheel Gear (SWG)** **Dual Wheel Gear (DWG)**	25,000 N/A	N/A N/A
Markings	Basic	Basic/Non-Standard
Runway Lighting	MIRL	None
Approach/Lighting Aids **Vertical Guidance Slope Indicators**	2- Light PAPI (P2L) to both runway ends	None
Visual Aids	None	None
Runway Design Code (RDC)	B-I(small)-5,000	A-I(small)-5,000
Runway RSA	120 ft. x 240 ft.	120 ft. x 240 ft.
Runway OFA	250 ft. x 240 ft.	250 ft. x 240 ft.
Runway OFZ	250 ft. x 200 ft.	250 ft. x 200 ft.
Instrument Approach Aids	None on Airport (Ciudad Juarez VORTAC 16 nautical miles off field)	
Weather Reporting Aids	Small On-Field Weather Station (Not Reported Via Broadcast to Pilots)	

Source: FAA Airport Facility Directory and FAA 5010 Data.

FIGURE 2-1
GENERAL AIRPORT LAYOUT
FABENS AIRPORT



RUNWAY 8/26

Runway 8/26 is 4,200 feet in length and 60 feet in width. The runway is constructed of asphalt, in fair condition, and has a published gross weight bearing capacity of 25,000 pounds single wheel according to the airport's current FAA Master Record Report (Form 5010). However, there is limited historic documentation pertaining to the runway's weight bearing capacity. The approach end of Runway 8 has a 190 feet displaced threshold due to the close proximity of the airport perimeter fence (approximately 200 feet from runway and 36 feet south of the runway centerline). The runway is equipped with Medium Intensity Runway Lights (MIRLs), as well as a two light PAPI system for each runway end. These lighting systems appear to be in good condition.

Additionally, during the airfield inspection, an incorrect lighting configuration was identified related to the runway threshold lights associated with the displaced threshold for Runway 8. The issue was reported to the airport and corrected. Both runway ends have basic markings that are in fair condition. Runway 8/26 is considered a B-I(small)-5,000 runway under current FAA runway design standards. According to airport tenants, Runway 26 is the runway that is predominately used for takeoffs and landings.

RUNWAY 16/34

Runway 16/34 is 2,300 feet in length and 35 feet in width. The runway is constructed of asphalt, is in fair condition, and does not have a published gross weight bearing capacity. The runway is not equipped with a runway lighting system. The Runway 16 end has basic markings and the Runway 34 end has non-standard markings because there is not a painted threshold bar separating the runway pavement from the ramp area at the approach end of the runway. Both runway end markings and the runway centerline are in poor condition. Runway 16/34 is

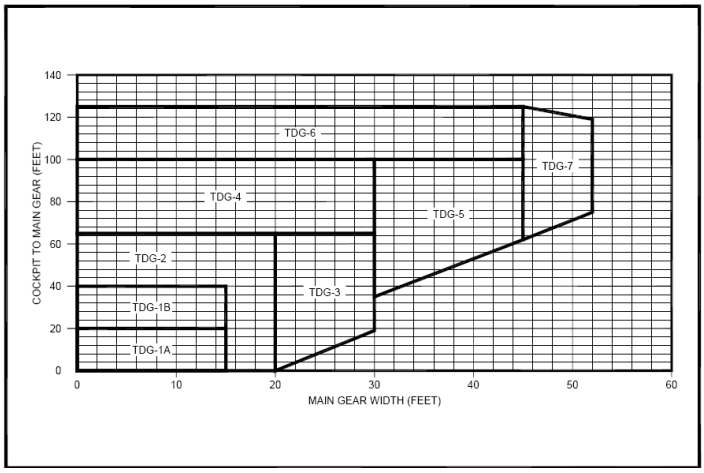
considered an A-I(small)-5000 runway under current FAA runway design standards. Due to its length, Runway 16/34 is rarely used except by pilots conducting short-field flight training operations.

It should be noted that there is rising terrain northeast of Runway 16/34 and east of Runway 8/26.

TAXIWAYS/TAXILANES

Aircraft move from the runway to the businesses/hangars on the airfield via taxiways and taxilanes. Each taxiway and taxilane is designated with a unique name and designed to accommodate anticipated aircraft operations based on an established Taxiway Design Group (TDG). The TDG is a classification system for taxiways/taxilanes based on an airplane's landing gear dimensions. Specifically, the outer to outer main gear width and the cockpit to main gear distance. The wider the distance between the main gear struts and/or the greater the distance between the nose wheel and main gear, the higher the TDG. The TDG for a given aircraft is identified by the use of **Figure 2-2,** and the application of the specific safety parameters outlined in AC 150/5300-13 (current edition).

FIGURE 2-2
TAXIWAY DESIGN GROUPS



Source: FAA AC 150/5300-13 (current edition), Airport Design

As previously mentioned, E35 is equipped with a full-length parallel taxiway system for Runway 8/26 and a partial parallel taxiway system for Runway 16/34. The parallel taxiway (Taxiway Charlie) for Runway 8/26 is spaced 240 feet from the centerline of Runway 8/26. The partial parallel taxiway (Taxiway Alpha) for Runway 16/34 is spaced 200 feet from the centerline of Runway 16/34. All taxiways at E35 are 30 feet wide (with the exception of Taxiway Delta which is 40 feet wide), are constructed of asphalt, and are generally in fair condition. In general, the taxiways at E35 do not conform to a current TDG based taxiway pavement design standard. The existing width of most of the taxiways (30 feet) is in between TDG 1B (25 feet wide) and TDG 2 (35 feet wide) standards. Additionally, none of the existing taxiway fillets at E35 align to the taxiway fillet layouts established in current FAA taxiway pavement design standards.

Another aspect of taxiway layout and design are the establishment and protection of Taxiway Safety Areas (TSA) and Taxiway Object Free Areas (TOFA). The TSA is a defined surface alongside the taxiway that is prepared or suitable for reducing the risk of damage to an aircraft deviating from the taxiway. The purpose of the TSA is to protect an aircraft from damage if the aircraft leaves the taxiway for any reason. The TOFA is an area centered on a taxiway or taxilane centerline that must be kept clear of objects except those objects that need to be located in the TOFA for air navigation or aircraft ground maneuvering purposes. The size of both of the TSA and TOFA are based on the ADG (described in Table 2-2) of the critical design aircraft expected to use each taxiway. Currently, the Taxiway Safety Area (TSA) is 49 feet wide and the Taxiway Object Free Area (TOFA) is 89 feet wide for all the taxiways at E35 which is in compliance with ADG I design standards.

Several taxiways at E35 are missing their taxiway centerline markings or have taxiway centerline markings that are faded and difficult to see. Currently, Taxiways Alpha and Bravo are missing a taxiway centerline marking or have incomplete centerline markings. Taxiway Delta has a taxiway centerline marking that is extremely faded and difficult to see. Taxiway Charlie has a taxiway centerline marking that is in fair condition.

The placement of runway hold position markings is another critical airfield marking element that should be considered as part of the business development planning process. Runway hold position markings are located on taxiways that intersect a runway. These markings communicate to pilots where they should stop prior to entering the runway to look for other aircraft that could potentially be using the runway. The placement of runway hold positions markings protect the runway's Runway Safety Area (RSA), Runway Object Free Area (ROFA), and Runway Obstacle Free Zone (ROFZ). During the airfield inspection, several runway hold position marking deficiencies were noted including:

- The Taxiway Alpha intersection with Runway 8/26 is missing its required runway hold position marking.
- A runway hold position marking is painted on Taxiway Charlie, east of its intersection with Taxiway Alpha. Since this is a taxiway/taxiway intersection, a runway hold position marking should not be painted in this location.
- Taxiway Bravo, where it intersects the approach end of Runway 8, is also missing a runway hold position marking.
- There is a runway hold position marking on Taxiway Charlie at the approach end of Runway 8 but the runway hold position marking is placed on a portion of Taxiway Charlie that is parallel to Runway 8/26 and is too far from the runway centerline.
- No runway hold position marking is present on Taxiway Alpha at the approach end of Runway 34.
- No runway hold position marketing on Taxiway Bravo at the approach end of Runway 34.

All the runway hold position markings for Runway 8/26 are located 130 feet from the runway centerline. The runway hold position markings on the east side of Runway 16/34 are located 100 feet from the Runway 16/34 centerline. The runway

hold position markings on the west side of Runway 16/34 (at Taxiway Charlie) is 135 feet from the Runway 16/34 centerline.

The installation of the missing taxiway centerline markings and the correction of the improper runway hold position markings will be included in a pavement restoration and marking project the airport has planned for 2019.

All taxiways at E35 are unlit. Taxiway Charlie has green taxiway centerline reflectors.

AIRFIELD LIGHTING AND SIGNAGE

Sufficient airfield lighting is an important part of maintaining an airfield's operational status during night and inclement weather conditions. As previously discussed, E35 has MIRLs for Runway 8/26 and MITLs for Taxiway Charlie. Runway 16/34 and Taxiways Alpha, Bravo, and Delta are all unlit.

At night or in poor conditions, pilots identify an airport by locating the rotating beacon, a lighting feature designed to provide alternating white and green lights that can be seen for up to 10 miles from the airfield. E35's beacon is located 425 feet east of Runway 16/34's centerline, 1,000 feet south of Runway 8/26's centerline, and directly behind the existing hanger near the entrance road. The beacon is generally in good condition.

Another important aspect of airfield operational safety is airfield signage. Airfield signage is located along the edges of taxiways and runways and provides pilots with an understanding of their location on the airfield and the location of various airfield facilities (e.g. runways, taxiways, ramps, hangars, etc.). During the airfield inspection, it was observed that many signs at E35 were broken or incorrect. A few signs were observed to be unilluminated during the nighttime inspection. Several

signs were also observed to have cracked or broken sign panels that were being held together by rope or bungee cords.

NAVIGATIONAL AIDS (NAVAID)

NAVAIDs, located on the field or at other locations in the region, are specialized equipment that provide pilots with electronic guidance and visual references in an effort to execute instrument approaches and point-to-point navigation. E35 has a two light PAPI system on each end of Runway 8/26. These systems provide pilots with a visual indication of whether they are above or below the established 3-degree glide path for Runway 8 and the 4-degree glide path for Runway 26. It should be noted that the typical glide path angle for PAPI systems is 3 degrees. However, due to the 102-foot antenna at the approach end of Runway 26 a steeper glide path angle was required for the PAPI systems at E35. The PAPI's at E35 are owned by El Paso County and generally appear to be in good condition. Runway 16/34 is not equipped with PAPIs.

Additionally, a VORTAC (Ciudad Juarez VORTAC) is located 16 nautical miles northwest of E35. A VORTAC is a VHF Omnidirectional Range Radio Beacon that emits a signal to aid aircraft in determining the location of the VOR station from the aircraft with respect to magnetic north. The co-located Tactical Air Navigation (TACAN) facility provides TACAN azimuth and Distance Measuring Equipment (DME) functionality that allows aircraft to measure the slant range distance from the VORTAC to the aircraft in nautical miles.

Currently, there are no existing Instrument Approach Procedures (IAP) at E35.

Weather Reporting

E35 has a small on-field weather station that provides weather information to a computer that is located inside the FBO. The Airport does not have an AWOS or ASOS system that records historic weather information and broadcasts current weather information to pilots.

Landside / Terminal Area Facilities

The landside/terminal area facilities are those central to the business operations of an airfield. They support the transition from the airfield to landside businesses and then into community infrastructure. Landside facilities typically include a terminal building, aircraft storage facilities of various types (e.g. t-hangars and box hangars), aircraft parking aprons and other support facilities like fuel storage and delivery.

General Aviation Terminal

E35 has a GA terminal building located on western side of the existing hangar. Access to the terminal building is via Fabens Road. The GA Terminal was renovated in 2018, is in good condition, and is operated by Olivas Aviation. The terminal is used as the primary FBO facility on the Airport. Airport customers are served by Olivas Aviation between the hours of 8:00am – 5:00pm, Monday through Friday and are available for call-in after hours. The GA terminal building houses a lounge/waiting area, flight planning room, public restrooms, and showers. The existing facility sufficiently meets the needs of E35's current users. Additionally, no courtesy car is available for use.

AIRCRAFT STORAGE/HANGAR FACILITIES

Aircraft remaining at an airport for an extended period of time are typically parked on the ramp or are stored in a hangar. There are two primary types of hangars typically seen at airports: box hangars and T-hangars. Box hangars are stand-alone box like structures used for aircraft storage. Depending on the size and utilization of the facility, box hangars can store one or more aircraft. T-hangars are individual T-shaped aircraft hangars that are typically part of a large T-hangar complex that includes multiple T-hangars arranged in a linear fashion. Currently, E35 does not have any T-hangars. The airport has one large box hangar located at the entrance to the Airport that is leased by UTEP's Center for Space Exploration and Technology Research (cSETR) program. Currently, no aircraft are stored in the hangar. The hangar is in good condition.

In addition to the hangar leased by UTEP, there are four other hangars and a building that are used to support aircraft storage and operations. All of these facilities are located outside of the airport's current property line. However, the occupants of these facilities are provided direct access to the Airport. Consequently, these facilities are considered "through-the-fence" facilities and are located on property owned by an entity called "Fabens Flyers," the original group that founded the Airport in the 1940s.

Figure 2-3 and **Table 2-6** provides the breakdown of hangar facilities at E35. Currently, all existing facilities, both on airport property and on Fabens Flyer property, are being utilized. No facilities are vacant.

FIGURE 2-3
AIRPORT HANGAR LAYOUT
FABENS AIRPORT

Source: Garver, 2018.

TABLE 2-6
AIRCRAFT STORAGE HANGARS
FABENS AIRPORT

Building Number	Hangar Type	Area (sq. ft.)	Hangar Condition	Ownership/Lease Holder
1	Box Hangar	10,200	Good	El Paso County
2	Box Hangar	12,400	Good	Fabens Flyers
3	Box Hangar	3,000	Good	Fabens Flyers
4	Box Hangar	4,500	Good	Fabens Flyers
5	Box Hangar	3,000	Fair	Fabens Flyers
6	Box Hangar	3,700	Fair	Fabens Flyers

Source: Garver, 2018.

THROUGH-THE-FENCE FACILITY AGREEMENTS

When an airport has a through-the-fence operation it is imperative that the Airport establish a through-the-fence agreement with the operator(s) to ensure that both the Airport and the through-the-fence operator have a detailed understanding regarding roles and responsibilities of each entity. As a general practice, the FAA "discourages" through-the-fence operations. However, they are permitted and can work provided that the proper agreements are in place. Guidance regarding residential through-the-fence operations is contained in the FAA Modernization and Reform Act of 2012. Specifically, section 136 of the Act. Additionally, the Airport Cooperative Research Program (ACRP) has published a guidebook for managing airport through-the-fence operations entitle "ACRP Report 114: Guidebook for Through-the-Fence Operations."

Currently, El Paso County does not have a through the fence agreement with the operators on the Fabens Flyer property. The establishment and regular updating of a through-the-fence agreement should be a high priority for the Airport in the near term.

AIRCRAFT PARKING APRON

The airport has approximately 105,000 square feet of apron space used for parking and maneuvering of aircraft. The ramp is constructed of asphalt and is in poor condition.

Within the apron space, there are sixteen designated aircraft tie-down spaces. Only two aircraft are utilizing the tie-down spaces. The amount of space is currently sufficient to meet the needs of the existing airport users. However, the ramp pavement has deteriorated in some areas and needs to be considered for rehabilitation in the future. The ramp is expected to be rehabilitated under the Airport's upcoming pavement rehabilitation project in 2019.

AIRCRAFT CIRCULATION

Since Runway 16/34 is seldom used, aircraft traffic flow at the Airport primarily centers around the utilization of Runway 8/26 with Runway 26 being the predominate runway end in use. Since Runway 8/26 has a full-length parallel taxiway system, aircraft circulation associated with the use of Runway 8/26 is efficient. Additionally, since there are multiple taxiways (Taxiway Alpha and Taxiway Bravo) that access the primary general aviation ramp and the Fabens Flyer area there are no circulation issues associated with aircraft moving from these aircraft parking/storage locations to Runway 8/26 and visa-versa.

TERMINAL PARKING AND ROADWAY ACCESS

The terminal facility has a small stripped parking lot south of the existing terminal/UTEP hangar. This lot has 9 standard parking spots and one ADA accessible parking spot. There is another small parking lot immediately west of the hangar with 6 standard parking spots and one ADA accessible parking spot. The parking lot is constructed of asphalt and is in fair condition.

Roadway access to the Airport is provided via an unnamed access road which connects to Fabens Road for access into the community. The road is part asphalt and part gravel and is generally in poor condition. The road is actually on UT Lands property and El Paso County has an easement agreement with UT Lands to allow access to the Airport via the road. The easement is in the process of being renewed for an additional 10 years. Due to the access road being unnamed, there are frequently issues when someone unfamiliar with the Airport's location is trying to

find the Airport using a GPS. El Paso County is currently working with UT Lands to have the roadway named. Additional signage for the Airport along Fabens Road is currently under consideration as well.

Fuel Storage Facility

The fuel storage facility at E35 is located along the western edge of the general aviation ramp close to the terminal building. The facility consists of a single 2,000 gallon Above Ground Storage Tank (AST) for 100LL fuel. Jet A fuel is not provided. Self-service fueling is not provided. E35 currently does not have a fuel truck to provide fuel service to parked aircraft. Consequently, all aircraft requiring fuel serving must be taxied to the fuel farm. The facility is generally in poor condition and does not have a true secondary containment system. The facility also does not have an emergency shutoff system and is not clearly labeled that it provides 100LL fuel.

Existing Environmental Overview

This section provides an overview of the known environmental factors that should be considered as part of the master planning process.

Previous Environmental Studies

Based on the research completed as part of this study, no historic/previous environmental studies (e.g. Environmental Assessments, Environmental Impacts Statements, or other environmental studies) could be found.

HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

The National Historic Preservation Act of 1966 requires that an initial review be made to determine if any properties in or eligible for inclusion in the National Register of Historic Places are within the area of a proposed action's potential environmental impact. The Archaeological and Historic Preservation Act of 1974 provides for the survey, recovery, and preservation of significant scientific, pre-historic, historical, archaeological, or paleontological data when such data may be destroyed or irreparably lost due to a federal, federally funded, or federally licensed project.

An online query through the Texas Historic Commission (THC) revealed that there are not any historic site locations in the immediate airport vicinity. The closest historical site that the query identified is 33.5 miles northwest of the Airport in El Paso, Texas.

FISH, WILDLIFE, AND PLANTS

The Endangered Species Act requires each federal agency to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat of such species. Research was completed using the Texas Parks and Wildlife Department (TPWD) Rare, Threatened, and Endangered Species of Texas online query system and the U.S. Fish and Wildlife Service (USFWS) database. **Table 2-7** lists the potential threatened and endangered species identified through the online query for the area. Future coordination with USFWS and TPWD may be necessary prior to commencing a major construction project at E35 to confirm that no hazard to an endangered or threatened species is being created.

TABLE 2-7
EL PASO COUNTY THREATENED AND ENDANGERED SPECIES

Common Name	Genus/Species	Federal Status	State Status
Birds			
American peregrine falcon	*Falco peregrinus anatum*	DL	T
Arctic peregrine falcon	*Falco peregrinus tundrius*	DL	
Interior least tern	*Sternula antillarum athalassos*	LE	E
Mexican spotted owl	*Strix occidentalis lucida*	LT	T
Northern aplomado falcon	*Fal femoralis septentrionalis*	LE	E
Peregrine falcon	*Falco peregrinus*	DL	T
Southwestern willow flycatcher	*Empidonax traillii extimus*	LE	E
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	LT	
Fishes			
Bluntnose shiner	*Notropis simus*		T
Rio Grande silvery minnow	*Hybognathus amarus*	LE	E
Mammals			
Black bear	*Ursus americanus*		T
Black-footed ferret	*Mustela nigripes*	LE	
Gray wolf	*Canis lupus*	LE	E

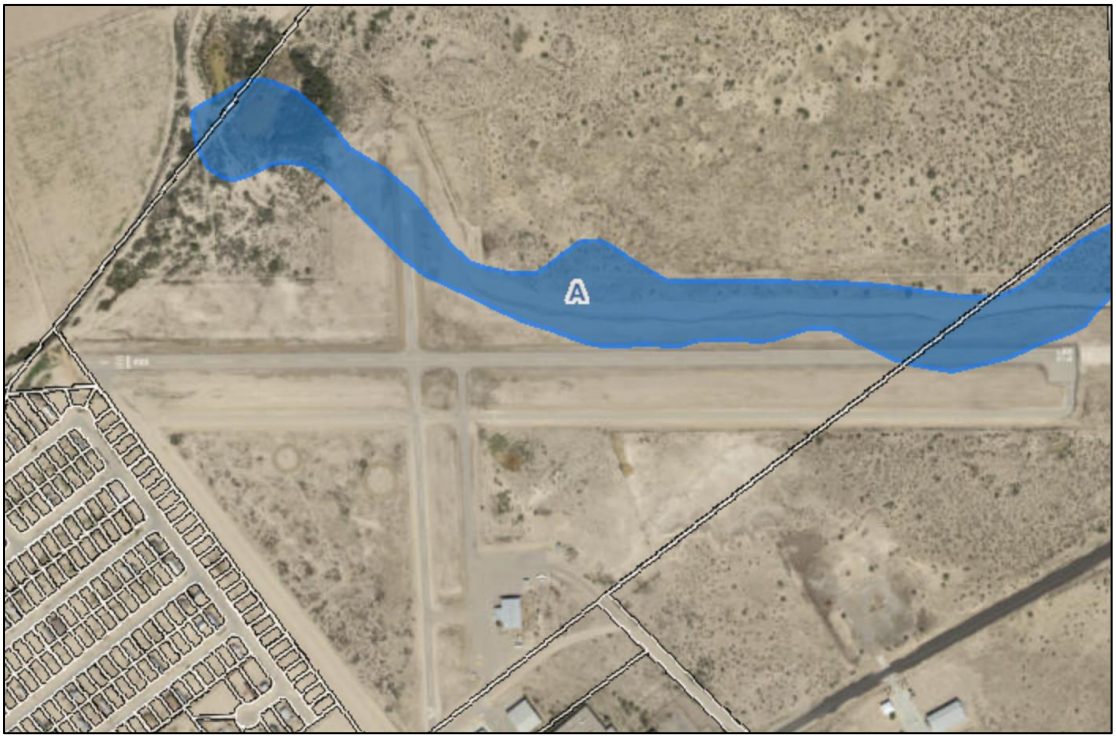
Reptiles			
Chihuahuan Desert lyre snake	*Trimorphodon vilkinsonii*		T
Mountain short-horned lizard	*Phrynosoma hernandesi*		T
Texas horned lizard	*Phrynosoma cornutum*		T
Plants			
Sneed's pincushion cactus	*Escobaria sneedii var sneedii*	LE	E

Source: U.S. Fish and Wildlife Service and the Texas Parks and Wildlife Department; T = State Listed Threatened; E = State Listed Endangered; DL = Federally Delisted; LE = Federally Listed Endangered; LT = Federally Listed Threatened.

FLOODPLAIN

Flooding can hamper the safe operation of an airport and make it difficult to develop property on or around an airport. As part of this study, an online inquiry was completed through the City of El Paso GIS website. The results of the inquiry show a floodplain along the northern edge of Runway 8/26 as shown in **Figure 2-4**.

FIGURE 2-4
FLOODPLAIN
FABENS AIRPORT



Source: City of El Paso Flood Plain GIS Map

FARMLANDS

The Farmland Protection Policy Act (FPPA) regulates federal actions with the potential to convert farmlands to non-agricultural uses. The FPPA is intended to minimize the impact that federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural uses. According to the United States Department of Agriculture (USDA) Web Soil Survey System, the areas on and around E35 are not considered prime farmland.

HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION

Based on research completed as part of this project and discussions with airport stakeholders, there are no known hazardous materials, solid waste, or pollution hazards on or immediately adjacent to the Airport.

NOISE

Based on research completed as part of this project and discussions with airport stakeholders, there are no known noise related issues related to the airport. However, there are several residences in close proximity to the approach end of Runway 8.

AIRSPACE

E35 is currently surrounded by Class G airspace as defined by the FAA's Airspace Classification System. Class G airspace is considered "uncontrolled" airspace as it is not regulated by Air Traffic Control (ATC). The airspace surrounding E35 is currently classified as Class G airspace because E35 does not have any established Instrument Approach Procedures (IAPs).

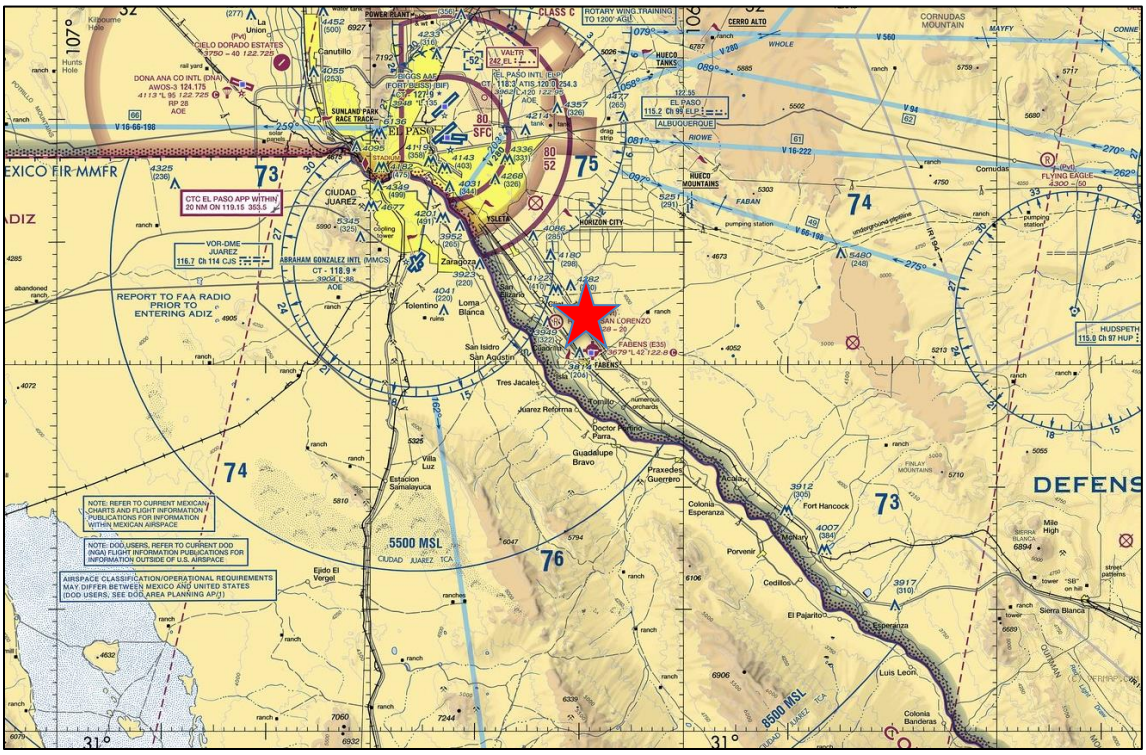
The airspace surrounding E35 is relatively uncongested as there are no other public use airports within 20 NM. The closest public use airport to E35 is El Paso International Airport (ELP) which is 21 NM northwest of the Airport. There is a small private airport called Rancho San Lorenzo approximately 4 miles northwest of E35.

There is no special-use airspace in the immediate vicinity of E35, but there is a large volume of "restricted" airspace directly north of E35. Civil aircraft operations are typically prohibited in restricted airspace unless special approvals are received. This volume of restricted airspace extends from immediately north of the El Paso area to approximately 40 NM south of Albuquerque, NM. Since civil aircraft are typically required to fly around restricted airspace, many east-west aircraft operations are required to fly over the El Paso/Fabens area. This presents a potential opportunity for E35 to attract aircraft flying cross-country that may need to make a fueling stop.

An additional airspace consideration at E35 is the location of the U.S./Mexico border which is approximately 4 NM west of the Airport. Domestic aircraft are typically not permitted to fly into Mexican airspace without proper approvals. Consequently, the proximity of the border will be a consideration in the development of future Instrument Approach Procedures (IAPs) at E35.

The airspace surrounding E35 is shown in **Figure 2-5**.

FIGURE 2-5
AIRSPACE
FABENS AIRPORT



Source: FAA Sectional Chart

REGIONAL DEVELOPMENT, SURROUNDING LAND-USE, AND LAND USE CONTROLS

A very important aspect of airport development is the regional development, land-use, and land holdings of an airport.

LAND HOLDINGS

The existing land holdings situation at E35 is complex and will be a key consideration in future development at the airport. Currently, the Airport sponsor (e.g. El Paso County) does not own all of the land where the existing runways, taxiways, and other airport infrastructure (e.g. ramps, facilities,

roadways, etc.) are located. **Figure 2-6** graphically depicts the land that is owned by the airport (e.g. El Paso County) and other property holders.

FIGURE 2-6
LAND HOLDINGS
FABENS AIRPORT

Source: El Paso County Land Holding Data

As shown in **Figure 2-6**, a portion of Runway 8/26 is located on UT Lands property and the approach end of Runway 34 abuts the Fabens Flyer property. Additionally, the entrance road into the airport is also on UT Lands. Currently, El Paso County has an easement with UT Lands to allow vehicle access to the Airport and to allow for the use of the Runway 8/26 area for aeronautical development purposes. As previously mentioned, the easement is being renewed for an additional 10 years. Land holdings are expected to be a key consideration in future airport development plans.

REGIONAL DEVELOPMENT

Based on interviews with officials from TxDOT, El Paso County Economic Development, and UTEP, there are a number of regional developments that are planned for the future that must be considered in the future development of E35.

The regional roadway developments include:

- Re-Development of IH-10 – Interstate Highway 10 is located approximately one mile from the entrance to E35. Currently, TxDOT has plans to improve the highway significantly by adding an additional lane in both directions, a wider shoulder, and a frontage road system through the Fabens area. These improvements are expected to be made to IH-10 over a 20-year period. Additionally, it should be noted that TxDOT is estimating vehicle traffic on Fabens Road (in front of the airport) is expected to increase by 200% over the next 20 years due to population increases.
- Loop 375 Border Highway East – Planning is underway for a border highway that would connect the Zaragoza Port of Entry (POE) with the Tornillo POE, south of Fabens.
- SH20 Alameda Ave – Planning is also underway to establish a corridor from SH20 (Mesa Street) in El Paso to Shaffer Road in the Town of Tornillo.

All three roadway projects would pass through the greater Fabens area. The catalyst for these projects has been the current and projected population, international trade, and traffic growth in the region.

In addition to the roadway projects, UTEP has current and future developments planned at both Fabens Airport and other locations around the Fabens area. While the details of this future development has yet to be established, it is clear that UTEP views the Fabens area as a prime location for growth and development of future UTEP facilities. The area immediately

surrounding Fabens Airport is expected to be the primary location for the future growth of UTEP's cSETR program.

El Paso County also views the Fabens area, specifically Fabens Airport, as a prime location for future development. Consequently, the El Paso County, through the County's Economic Development Department, is encouraging future development in the area through economic development incentives. Incentives are currently in place for new businesses or businesses willing to relocate to the airport area. It is expected these incentives will continue to be offered in the near future and should be a key selling point for businesses (both aeronautical and non-aeronautical) interested in locating at Fabens Airport.

SURROUNDING LAND-USE

An important aspect of an airport's development is the land-use surrounding the Airport and the impact it can have on the Airport and the impact the future development of the Airport could have on those land-uses.

Currently, there are a number of non-desirable land-uses in the area immediately surrounding the Airport.

- Housing Development West of the Airport – As previously discussed, there is a housing development west of the Airport and some of the homes are very close to Taxiway Bravo and the approach end of Runway 8. The housing development is shown in red. As traffic at the Airport increases there will be the potential for noise

complaints and concerns from residents in the area.

- ✈ El Paso County Public Works Yard – El Paso County has a Public Works yard located immediatley south of Runway 16/34 (shown in red). This maintenance yard, as well as the Fabens Flyer property, are located immediately off the end of the runway. Both of these properties are located within the Runway Protection Zone (RPZ) for Runway 16/34 and will be further analyzed and discussed in the Facility Requirements Chapter.

Surrounding land-use will be a consideration as part of the future development planning at E35.

ZONING/LAND-USE CONTROLS

A key to preventing incompatible land-use development around an airport is the establishment of zoning regulations to institute height restrictions and land-use controls. **Currently, there are no established zoning or land-use control regulations in place to protect the Airport from the establishment of incompatible land developments.**

AIRPORT MINIMUM STANDARDS, RULES AND REGULATIONS, LEASES, AND RATES AND CHARGES

Another important aspect of airport business planning is airport policy review and development. The following section provides an overview of the existing airport policies in place at E35.

MINIMUM STANDARDS AND RULES AND REGULATIONS

The two primary airport policy documents are airport rules and regulations and airport minimum standards. Airport rules and regulations specify the operational, safety, security and other regulations that apply to all users at the airport. These regulations frequently include fueling safety standards, open flame regulations, notification requirements for emergencies, environmental restrictions, and behavioral standards/prohibitions (e.g. intoxication on airport property, etc.). Minimum standards are different from airport rules and regulations as minimum standards set forth the minimum requirements for a commercial aeronautical business to be established and operated at the Airport. Minimum standards do not apply to individuals operating at the Airport unless they are doing so as part of a commercial business established on the field. Both of these policy documents are important for ensuring the safe and efficient operation of an airport and ensuring compliance with FAA standards and grant assurances.

Currently, E35 does not have airport rules and regulations or airport minimum standards in place. The development of these documents should be a key consideration for future policy development at E35. However, in developing these documents, care should be taken to ensure that the rules and regulations and minimum standards that are established don't become unduly burdensome to the development of the Airport.

LEASES

Leasing documents and standards are another important aspect of airport policy development. Leases are the primary document that dictate the roles,

responsibilities, and privileges granted to a tenant by the airport operator and specify what the tenant will provide to the airport operator in return (e.g. compensation, in-kind services, etc.). Leases are also a key document for ensuring tenants are aware of and will comply with other airport policies such as airport rules and regulations and airport minimum standards.

Currently, E35 has two lease agreements. The first agreement is with the FBO operator, Olivias Aviation. The second is an interlocal agreement and lease with UTEP for the existing hangar facility and a portion of airport property.

The development of standard leasing policies for future leases will be a consideration as part of the Airport Business Development Planning process.

RATES AND CHARGES

A key charge that airports have under FAA grant assurances is to make efforts to become self-sufficient financially. A major element to effectively pursue that goal is to establish proper rates and charges for leases, aircraft storage, and other services that may be provided by the airport.

Currently, E35 has some basic rates and charges that are set forth as an appendix to the County's lease agreement with Olivias Aviation. The existing rates and charges include:

- FBO Hangar Aircraft Storage Fee:
  - For aircraft with a wingspan or rotor length of less than 60 feet a $20 per day fee is charged for aircraft storage or a monthly rate of $110.
- Aircraft Parking Fees:
  - For aircraft with a wingspan or rotor length of less than 60 feet:
    - Daily (more than 6 hours) - $10
    - Monthly - $35
    - Annually - $400
  - For aircraft with a wingspan or rotor length of more than 60 feet:

- Daily (more than 12 hours) - $12
- Monthly - $40

✈ Landing Fees:
  - No charge for takeoffs and landings
  - Commercial aircraft landing for emergency reasons will be charged $100.

✈ Fuel Flowage Fee:
  - $0.05 per gallon

The existing rates and charges will be further analyzed as part of the strategic facility and policy improvements section of this document.

CHAPTER 3: AERONAUTICAL ACTIVITY FORECASTS

INTRODUCTION

Forecasting aeronautical activity helps the Airport sponsor determine future airport facility and equipment needs. The preferred demand forecasts are used to identify the type, extent, and timing of aviation development. In addition, the forecasts are instrumental in identifying airport-related infrastructure and capacity needs and guiding the timing and financial feasibility of airport development alternatives.

Airport activity is often influenced by the types of aviation services offered to transient and based aircraft and by the general business environment at an airport and in the local community. In addition, factors such as vigorous local airport marketing, gains in sales and services, increased industrialization, changes in transportation preferences, and fluctuations in the national and local economy all influence aviation demand. As a result, aviation activity forecasts are developed in accordance with national trends, regional/local influences, and in context with the inventory findings.

Aviation activity forecasts serve as a guide for future planning with the expectation that the facilities needed to support additional demand will be available as demands dictate. Therefore, this aeronautical activity forecast chapter:

- Examines aviation trends and the numerous factors that have influenced those trends in the United States, Texas, and the El Paso region of west Texas;
- Provides an overview of various potential aviation forecasts for E35; and,
- Describes the preferred aviation activity forecasts for E35.

SUMMARY OF AIRPORT HISTORIC OPERATIONS AND BASED AIRCRAFT

This section summarizes the historic aircraft operations and based aircraft data available for E35.

HISTORIC AIRCRAFT OPERATIONS

E35 is a non-towered airport and, as such, accurately tracking aircraft operations data is challenging. Without an accurate method of counting operations, estimates from on-site staff, reported operational figures on the Airport's FAA Form 5010, and the FAA's Terminal Area Forecasts (TAF) can be used to estimate historic aeronautical activity.

An "aircraft operation" is defined as one takeoff and/or landing of an aircraft. Aircraft operations can further be subcategorized as either "local" or "itinerant." Local operations consist of those that stay within a 20-mile radius of the Airport, while itinerant operations include all operations other than local, having a terminus of flight or origination of flight at another airport at least 20 miles away.

The latest FAA Form 5010, updated in May 2018, shows an estimated 2,400 total annual operations (1,600 GA local operations and 800 GA itinerant operations). Based on discussions with the FBO operator this estimate is believed to be slightly conservative. The FBO operator estimates that total annual operations are closer to 3,000. Both of these estimates differ from the data shown in the current FAA TAF (last updated February 2019). The current FAA TAF estimates 10,500 annual operations (6,400 GA local operations and 4,100 GA itinerant operations) from 2018 through 2045. The previous version of the airport's FAA Form 5010 showed aircraft operational numbers that align with the TAF estimates.

HISTORIC BASED AIRCRAFT

A based aircraft is defined as an actively registered airplane stationed at a specific airport that regularly uses the airport as the primary "home base" for filing flight plans, frequently uses available airport amenities, and/or maintains a formal commitment for long-term aircraft parking/storage. Aircraft operating at an airport via a through-the-fence agreement are not considered based aircraft under FAA standards. Additionally, Unmanned Aerial Vehicles (UAVs) do not count toward an airport's based aircraft count.

Table 3-1, *Historic Aviation Activity*, summarizes the available historic based aircraft and annual aircraft operations data at E35 since 1992 as recorded through the FAA TAF program. It should be noted that all operations recorded in the TAF since 1992

have been categorized as "general aviation" operations. No air taxi, military, or air carrier operations are shown in the TAF.

TABLE 3-1
HISTORIC AVIATION ACTIVITY
FABENS AIRPORT

Year	Itinerant GA	Local GA OPS	Total	Based
1992	5,000	8,000	13,000	30
1993	5,000	8,000	13,000	30
1994	5,000	8,000	13,000	30
1995	5,000	8,000	13,000	29
1996	5,000	8,000	13,000	19
1997	5,100	8,000	13,100	20
1998	5,100	8,000	13,100	20
1999	4,100	6,400	10,500	16
2000	4,100	6,400	10,500	16
2001	4,100	6,400	10,500	16
2002	4,100	6,400	10,500	16
2003	4,100	6,400	10,500	16
2004	4,100	6,400	10,500	16
2005	4,100	6,400	10,500	16
2006	4,100	6,400	10,500	16
2007	4,100	6,400	10,500	16
2008	4,100	6,400	10,500	13
2009	4,100	6,400	10,500	13
2010	4,100	6,400	10,500	13
2011	4,100	6,400	10,500	11
2012	4,100	6,400	10,500	12
2013	4,100	6,400	10,500	12
2014	4,100	6,400	10,500	12
2015	4,100	6,400	10,500	11
2016	4,100	6,400	10,500	11
2017	4,100	6,400	10,500	8
2018	4,100	6,400	10,500	8

Source: 2019 FAA Terminal Area Forecasts

SUMMARY OF HISTORIC OPERATIONS AND BASED AIRCRAFT

The following observations were identified at E35 as part of the inventory of historic and current airport activity levels:

- Based Aircraft Summary – Based aircraft at E35 have declined since 1992. In 2000, the TAF shows that there were 16 aircraft based at E35. The number of based aircraft declined to 13 in 2010 and fell to 8 in 2017. However, this number has decreased further since that time. As part of this study, a count of based aircraft was completed. As of January 2019, the Airport has two based aircraft. It should be noted that other aircraft are based at the Airport, but they utilize the airfield via a through-the-fence arrangement and consequently do not count toward the Airport's based aircraft count.
- Operational Summary – The TAF shows that aircraft operations have been fairly steady at E35 since 1999, averaging approximately 10,500 operations per year. Based on discussions held with the Airport's FBO as part of this study, the total number of annual operations was accurate prior to the recent decline in based aircraft. Since the decline in based aircraft, it is estimated that actual annualized operations are slightly higher than the 2,400 annual operations shown on the Airport's current 5010 report.

NATIONAL GENERAL AVIATION TRENDS

An understanding of recent and anticipated trends within the general aviation (GA) industry is important when assessing aviation demand at the Fabens Airport. Some may affect aviation demand in the study area while others will have little or no appreciable impact on local/regional aviation demands.

Various data sources were examined and used to support the analysis of national GA trends. Those sources include:

- Federal Aviation Administration, FAA Aerospace Forecasts, Fiscal Years 2018 – 2038;
- National Business Aircraft Association (NBAA), NBAA Business Aviation Fact Book (current edition); and,

- General Aviation Manufacturers Association (GAMA), 2016 General Aviation Statistical Databook and 2017 Annual Report.

GENERAL AVIATION OVERVIEW

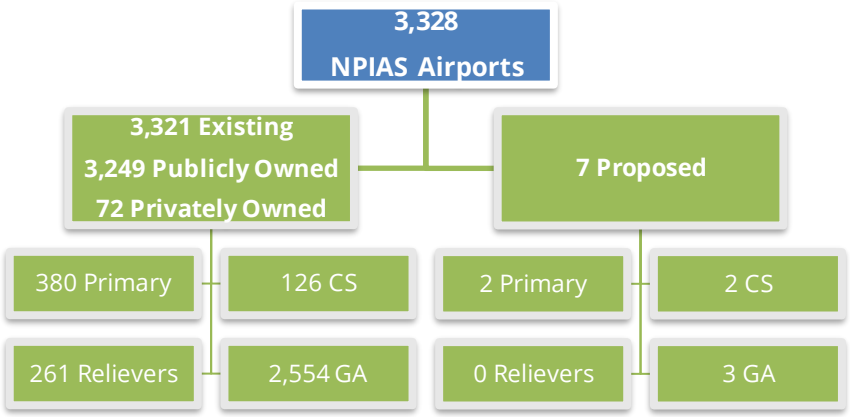
GA aircraft are defined as all aircraft not flown by commercial airlines or the military. In the FAA's General Aviation Airports: *A National Asset Report* dated May 2012 the FAA stated that general aviation serves five primary functions:

- Emergency Preparedness and Response;
- Critical Community Access;
- Commercial, Industrial, and Economic Activities;
- Destination and Special Events; and
- Other Aviation Specific Function (e.g. self-piloted business flights, corporate, flight instruction, personal flying, etc.).

Personal use, air taxi, and FAR Part 135 use of GA aircraft are the largest components of GA activity and occur primarily at GA airports across the nation.

At the date of this plan, there are 19,627 public and private airports located throughout the United States, and 5,099 of these are open to public use. **Figure 3-1** displays the breakdown of airports as described in the FAA's *2019 -2023 National Plan of Integrated Airport System* (NPIAS). The number and distribution of public-use airports available to GA users provides a valuable transportation and economic resource to local communities, businesses, and individuals throughout the region, state, and nation.

FIGURE 3-1
NPIAS AIRPORT BREAKDOWN



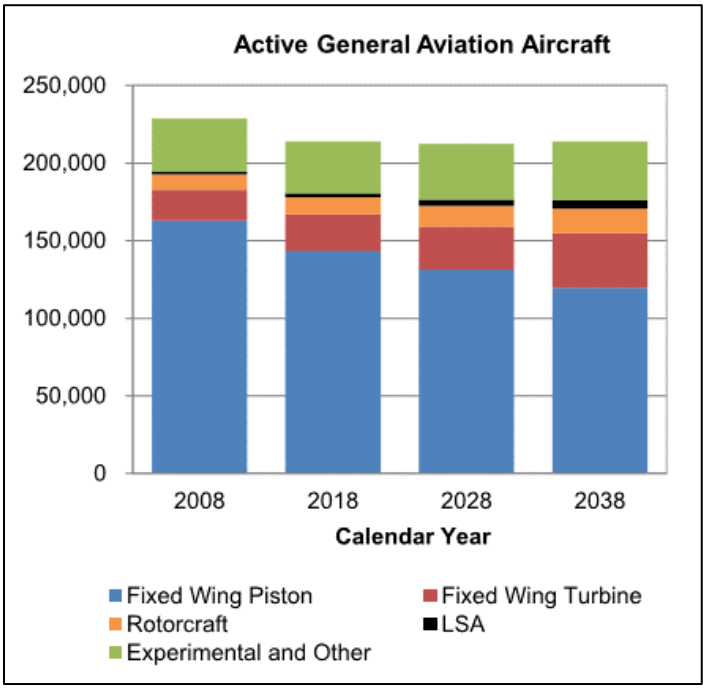
Primary – Commercial Service airports enplaning more than 10,000 passengers per year.
CS – Non-Primary Commercial Service airports having more than 2,500 enplaned passengers per year but less than 10,000 passengers per year.

SUMMARY OF NATIONAL GENERAL AVIATION TRENDS

According to the FAA's 2018 – 2038 Aerospace Forecast, the number of active GA aircraft is forecasted to decline at a rate of -0.1 percent annually between 2018 and 2028 and the number of hours flown is forecasted to grow at a rate of 0.5 percent annually during that same period. The slight decline in based aircraft is expected to primarily come from declines in the number of active single-engine piston and multi-engine piston aircraft. The slight growth in hours flown is expected to primarily come from the growth in the production and utilization of Light Sport Aircraft (LSA), rotorcraft, jet, turboprop, and experimental aircraft.

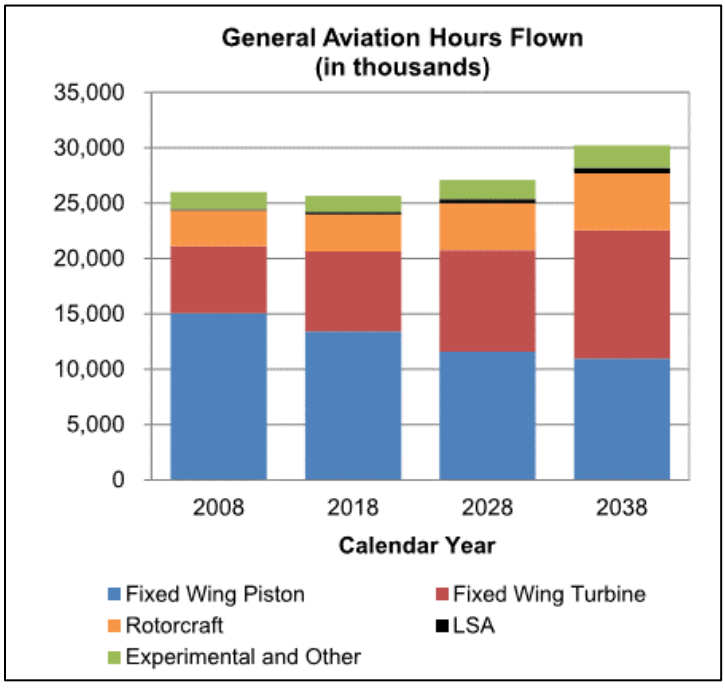
Figure 3-2 and **Figure 3-3** depict these forecasted trends. Additionally, the total number of pilots (excluding student pilots) is expected to decrease over the forecast period by approximately 0.1% annually. Most of this decline is expected to be seen in the recreational, private, and commercial pilot categories. Increases are expected in the sport pilot and Airline Transport Pilot (ATP) categories.

FIGURE 3-2
ACTIVE GA AIRCRAFT



Source: FAA Aerospace Forecast, 2018 – 2038

FIGURE 3-3
GENERAL AVIATION HOURS FLOWN



Source: FAA Aerospace Forecast, 2018 - 2038

SOCIOECONOMIC TRENDS

In addition to national trends, local, regional, and state level socioeconomic trends can also have an impact on the growth and development of an airport. Two of the primary socioeconomic factors that can influence the growth of an airport are population and employment. This section analyzes the socioeconomic trends surrounding Fabens Airport.

POPULATION DATA

Population growth can be directly tied to the success and growth of an airport supporting a given population set. Consequently, population trends, and their expected rate of change, provide insight into an area's economic potential and the potential for growth at an airport.

Table 3-2 depicts the historic population estimates for the State of Texas, the El Paso Metropolitan Statistical Area (MSA), and El Paso County since the 2010 U.S. Census.

TABLE 3-2
STATE OF TEXAS, EL PASO MSA, AND EL PASO COUNTY POPULATION ESTIMATES

Year	Texas	El Paso MSA	El Paso County
2010	25,145,565	804,123	800,647
2011	25,674,681	825,025	821,525
2012	26,059,203	838,384	834,869
2013	26,448,193	833,173	829,726
2014	26,956,959	833,908	830,562
2015	27,469,114	840,735	837,353
2016	27,862,596	845,243	841,570
2017	28,304,596	857,876	845,954
CAGR	**1.70%**	**0.93%**	**0.79%**

Source: Texas Demographic Center Data, 2019

As the data demonstrates, the population for both the El Paso MSA and El Paso County have increased since 2010 even though the population growth is slower than the growth rate shown for the State of Texas. However, the population growth rate for the El Paso MSA and El Paso County has been higher than the nationwide population growth rate of 0.76% since 2010. Consequently, the El Paso MSA and El

Paso County population bases have been growing at a rate above the national average since 2010.

Table 3-3 depicts the population projections for the State of Texas, the El Paso MSA, and El Paso County starting in 2018 through 2050.

TABLE 3-3
STATE OF TEXAS, EL PASO MSA, AND EL PASO COUNTY POPULATION PROJECTIONS

Year	Texas	El Paso MSA	El Paso County
2018	28,716,213	865,199	861,801
2019	29,193,378	872,432	869,031
2021	30,168,991	886,541	883,138
2024	31,685,217	906,487	903,091
2029	34,345,084	934,997	931,694
2034	37,142,136	958,365	955,246
2039	40,078,100	981,367	978,495
2044	43,209,927	1,007,626	1,005,010
2049	46,619,895	1,039,245	1,036,817
2050	47,342,417	1,046,374	1,043,982
CAGR (2018-2050)	**1.57%**	**0.60%**	**0.60%**
CAGR (2018-2029)	**1.64%**	**0.71%**	**0.71%**

Source: Texas Demographic Center Data, 2019

As the data demonstrates, the population for both the El Paso MSA and El Paso County are expected to increase at a steady rate though 2050. The nationwide population growth rate forecasted through 2050 is approximately 0.70%. Consequently, the El Paso MSA and El Paso County population bases are expected to grow in alignment with national averages.

EMPLOYMENT DATA

Another key socioeconomic factor that is vitally important to evaluating the aeronautical activity of an airport is the employment data for the state and region. A region's employment characteristics typically serve as the primary basis for the health of the regional economy and the health of the regional economy is closely linked to aeronautical activity.

The Texas Workforce Commission (TWC) tracks historic employment data in the State of Texas based on Metropolitan Statistical Areas (MSA) and develops

employment projections for multi-county Workforce Development Board Areas (WDA). El Paso County is part of the Borderplex WDA, which is composed of El Paso, Hudspeth, Culberson, Jeff Davis, Presidio, and Brewster counties.

Table 3-4 depicts the historic employment data for the State of Texas and the El Paso MSA from 2010 through 2017.

TABLE 3-4
STATE OF TEXAS AND EL PASO MSA EMPLOYMENT ESTIMATES

Year	Texas	El Paso MSA
2010	10,375,600	280,800
2011	10,605,600	283,400
2012	10,914,900	287,600
2013	11,241,200	291,700
2014	11,593,700	295,400
2015	11,866,100	301,400
2016	12,013,500	308,600
2017	12,227,700	312,700
CAGR	**2.37%**	**1.55%**

Source: Texas Workforce Commission, 2019

Since 2010, the employment growth for the El Paso MSA has lagged slightly behind the State of Texas. However, employment in the El Paso MSA as grown significantly faster than the national average of 0.82% during that same period. It should also be noted that the aggregate employment figures for the El Paso MSA are significantly higher than the aggregate population numbers for the same area. This demonstrates that people are commuting from areas outside the El Paso MSA to work within the area.

Table 3-5 shows the employment growth projections for the United States, Texas, and Borderplex Area WDA between 2016 to 2026.

TABLE 3-5
EMPLOYMENT ESTIMATES

Employment Growth 2016-2026	Total	AAGR
United States	7.40%	0.74%
Texas	16.60%	1.66%
Borderplex Area	15.31%	1.53%

Source: Texas Workforce Commission, 2019

As the data demonstrates, the Borderplex WDA is expected to grow at a rate more than two times higher than the United States and just slightly behind the growth projection for the State of Texas.

SOCIOECONOMIC SUMMARY

The socioeconomic information presented indicates that the El Paso area is expected to grow significantly over the next 10 years, which should support the potential for aeronautical activity growth at Fabens Airport.

FAA TERMINAL AREA FORECAST

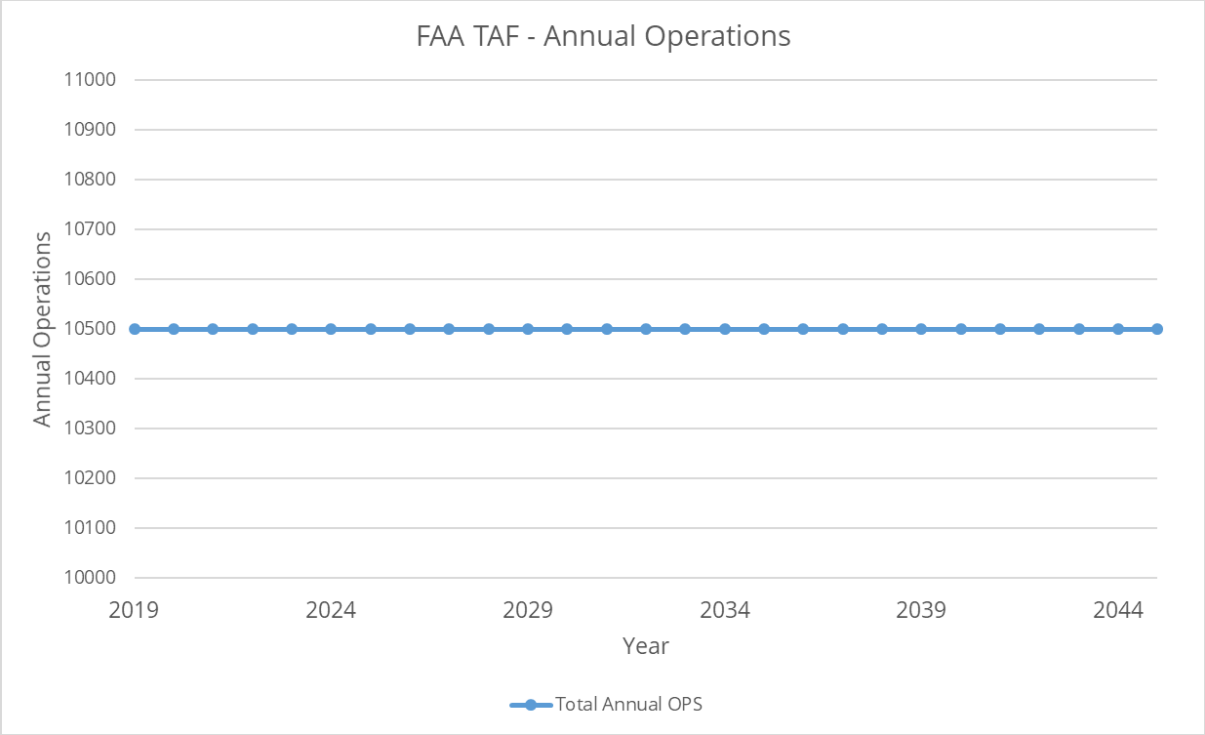
The Terminal Area Forecast (TAF) is a detailed FAA forecast-planning database produced each year covering airports in the NPIAS. The TAF is prepared to assist the FAA in meeting its planning, budgeting, and staffing requirements. The TAF forecasts are made at the individual airport level and are based in part on the national FAA Aerospace Forecast. The TAF contains historic and forecast data for enplanements, airport operations, instrument operations, and based aircraft. TAF data is developed for 264 FAA towered airport, 253 contract-towered airports, 31 terminal radar approach control facilities, and 2,814 non-towered airports as of 2017. Data in the TAF are presented on a U.S. Governmental fiscal year basis, which runs from October through September.

As its primary input, the TAF uses the *FAA Aerospace Forecasts* from the specific year. Aviation activity forecasts for FAA-towered and federal contract-towered airports are developed using historical relationships between airport passenger demand and/or activity measures and local and national factors that influence aviation activity. At airports similar to E35, the TAF data is generated from historic data reported by the airport or airport sponsor. The TAF generally reflects a slight or zero-percent growth rate in the absence of a control tower.

TAF – ANNUAL OPERATIONS

The current FAA TAF for E35 (shown in **Figure 3-4**) shows a zero percent growth rate and shows the same number of annual operations (10,500) through 2045.

FIGURE 3-4
(E35) TERMINAL AREA FORECAST – HISTORICAL AND FORECASTED ANNUAL OPERATIONS

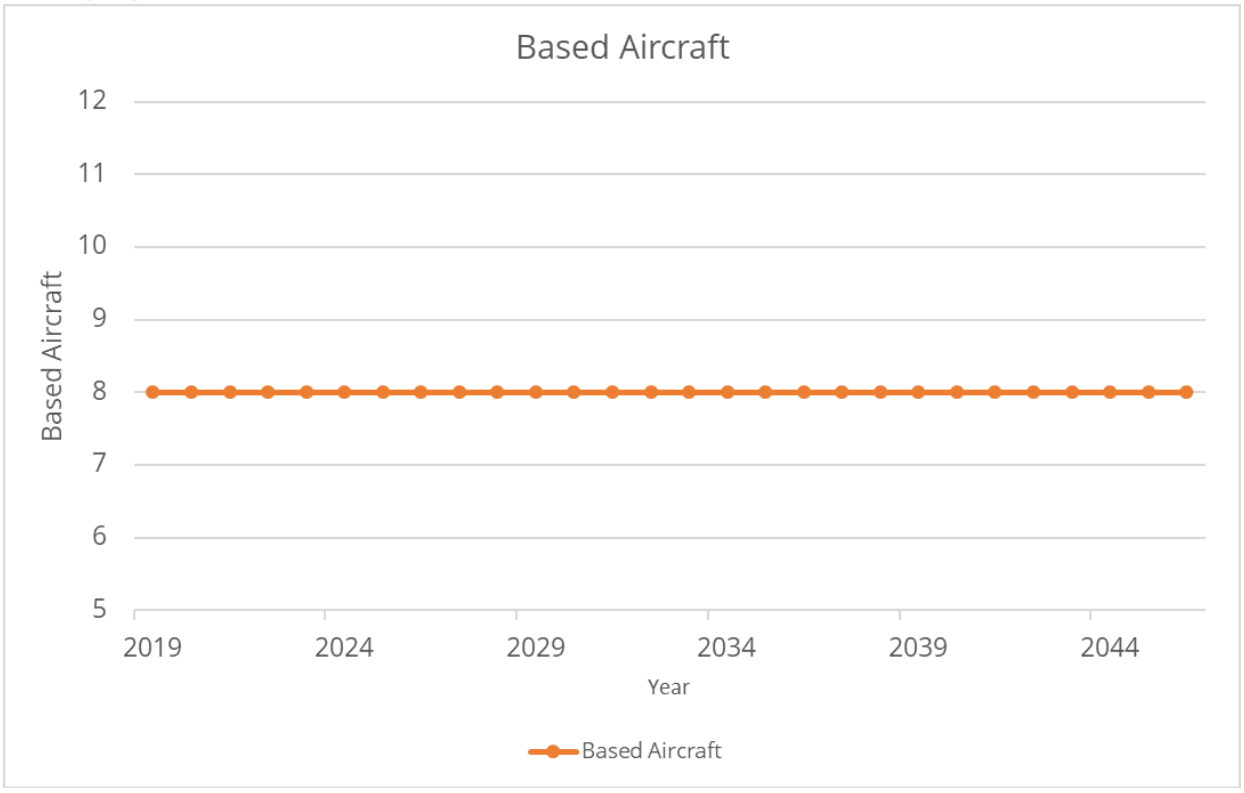


Source: FAA TAF 2019, Fiscal Years 1990-2045.

TAF – BASED AIRCRAFT

The current FAA TAF for E35 (shown in **Figure 3-5**) shows a zero percent growth rate and shows the same number of based aircraft (8) through 2045.

FIGURE 3-5
(E35) TERMINAL AREA FORECAST – HISTORICAL AND FORECASTED BASED AIRCRAFT



Source: FAA TAF 2019, Fiscal Years 1990-2045.

BASELINE AERONAUTICAL ACTIVITY FORECASTS

This section describes the forecasting process and the baseline demand forecasts (e.g. annual operations and based aircraft) established for E35 as part of this Airport Business Development Plan (ABDP) project.

FORECAST ASSUMPTIONS

Based on information obtained in the inventory analysis, the following factors and assumptions have been incorporated into the GA forecasts of based aircraft and annual operations for E35:

- Future operational and based aircraft levels will likely be highly correlated to the continued growth of the El Paso and Fabens area population and economic basis.

- The continued development of the UTEP MIRO Center for Space Exploration and Technology Research will have a significant impact on the growth of aeronautical activity and based aircraft at the Airport. UTEP has considered starting a manned flight-training program at Fabens Airport. If this occurs, the impact to the Airport will be significant as based aircraft and operations could sharply increase.
- Future airport facilities will continue to accommodate a broad array of GA aircraft.
- An "unconstrained" forecast of aviation demand assumes facility improvements will occur based on demonstrated demand.
- Greater aircraft utilization resulting from airfield and terminal area improvements can be both directly and indirectly linked to economic development activity.

FORECASTING METHODOLOGIES

The development of aviation forecasts involves analytical and judgmental assumptions to realize the highest level of confidence. The GA demand forecasts are developed in accordance with national and regional trends, and in context with the inventory findings and socioeconomic trends. The forecasts developed here begin with baseline information from 2018 with 2019 as the first forecast year. National GA trends and forecasts are provided by the *FAA Aerospace Forecasts, Fiscal Years 2018-2038*.

Various forecast techniques can be used to develop GA forecasts including:

- Trend Analysis – Trend analysis is the simplest and most familiar form of forecasting and is also one of the most widely used. This forecasting technique uses historic data as a basis to develop a forecast for the future. An assumption of this forecast method is that historic levels of aviation demands will continue and influence similar linear progressions in the future. Though this assumption seems broad in its application, it can serve as a reliable benchmark against other forecast methods.
- Regression Analysis – In a regression model the forecasts of aviation demand (the dependent variable) are projected on the basis of one or more external

indicators (the independent variables). Historical values for both the dependent and independent variables are analyzed to determine their relationships. Once defined, this relationship is used to project the dependent variable with a forecast or projection of the independent variable(s). In aviation forecasting, an example of the dependent variable is based aircraft. Population or median household income levels are commonly used independent variables that aid in the projection of aviation growth.

- Forecast Utilizing National or Regional Projections – The FAA produces an annual aerospace forecast that includes its projections regarding the growth of aviation throughout the United States. The FAA utilizes a variety of data sources to help formulate its forecast including aircraft sales/delivery data, the number of activity pilots, economic growth protections, etc. The annual growth rates provided by the FAA may be utilized to formulate growth forecast for an airport.
- Market Analysis – These aviation demand forecasts are developed based on a causal model technique in which independent variables statistically relate the relationship(s) between historical events and aviation demands. This forecast method typically uses an easily identifiable independent variable such as population, which has a high correlation or an indirect cause-and-effect relationship within certain segments of the GA industry. The market analysis technique often employs a static and dynamic variable relationship between community factors and GA trends that aids in predicting aviation growth based on forecast community indicators such as population.

FORECAST OF FUTURE BASED AIRCRAFT

Determining the number and type of aircraft anticipated to be based at an airport is a vital component in developing future infrastructure and policy plans.

BASED AIRCRAFT FORECAST ASSUMPTIONS AND CONSIDERATIONS

The number of GA aircraft that can be expected to base at an airport facility is dependent on several factors, such as available facilities, airport operator services, and airport proximity and access to potential users. GA aircraft operators are

particularly sensitive to both the quality and location of their basing facilities, with proximity of home and work often identified as the primary consideration in the selection of an aircraft-basing location.

To develop a relevant based aircraft forecast for an airport, numerous factors related to national trends and the local community must be considered. While the consideration of national trends is important, typically local community characteristics play a greater role in influencing airport activity. Based on community research completed as part of this project, the following local factors are expected to have a strong influence on the based aircraft forecast at the Airport:

- Hangar Availability – At this time, E35 does not have any available hangar space for aircraft parking as the only hangar on airport property is leased to UTEP as part of the UTEP MIRO Center. The two based aircraft currently on airport property are tied down on the ramp. However, it is expected that additional aircraft will move to the Airport immediately when additional hangar space is developed. El Paso County has budgeted for and plans to build two new hangars at the Airport in 2020/2021. Both hangars will be approximately 80 feet x 125 feet. One of the hangars will be utilized as part of the UTEP MIRO Center and the other will be leased to the FBO for aircraft storage. Based on this information, all forecast models developed as part of this Airport Business Development Plan (ABDP) effort utilize a baseline figure of 10-based aircraft, as multiple aircraft are expected to move back to the airport as soon as the new hangars are built.
- UTEP Development – As previously discussed, UTEP has placed a significant interest on the development of the MIRO Center at the Airport. This interest is expected to result in the development of additional aircraft hangars/facilities and the potential development of a manned flight school program. In particular, the establishment of a manned flight school could have a significant impact at the Airport in terms of increasing the number of based aircraft.
- Other Economic Drivers – Government stakeholders and business partners in the El Paso area are placing a strong emphasis on cross border trade and

the development of the Fabens and Tornillo areas to support that purpose. As a result, it is expected that general commerce in the Fabens and Tornillo areas will greatly increase during the next 10 years. This growth in development and commerce has the potential to affect the number of based aircraft and aeronautical activity at E35.

These three factors are expected to play a significant role in the future of the Airport, and consequently should be highly influential in the development of based aircraft forecasting models.

BASED AIRCRAFT FORECAST MODELS

Based on the above-mentioned factors, several different forecast methods were used to predict based aircraft growth at E35 during the 10-year planning period (2019 – 2029). Six are presented here:

- Baseline Forecasts
  - FAA Southwest Region Terminal Area Forecast Based Aircraft Growth Rate
  - Texas State Population Growth Rate
  - Borderplex Area Employment Growth Rate
- Based Forecasts Considering UTEP Manned Flight Program
  - FAA Southwest Region Terminal Area Forecast Based Aircraft Growth Rate *(with UTEP Manned Flight Multiplier)*
  - Texas State Population Growth Rate *(with UTEP Manned Flight Multiplier)*
  - Borderplex Area Employment Growth Rate *(with UTEP Manned Flight Multiplier)*

All these forecasts provide possible future scenarios for total based aircraft growth at the airport. Since the impact of UTEP starting a manned flight program at the Airport would be so significant, variations of each baseline forecast were created to consider that potential future. However, even if the UTEP manned flight program never materializes, other factors such as the development of cross border trade in the Fabens and Tornillo area may drive similar growth projections.

Trend analysis and regression analysis techniques were not used for based aircraft forecasting because they resulted in negative based aircraft figures (below 0) and were therefore deemed unreliable. Consequently, market analysis techniques (using population and employment data) and the FAA Southwest Region TAF forecast were primarily used for forecasting based aircraft.

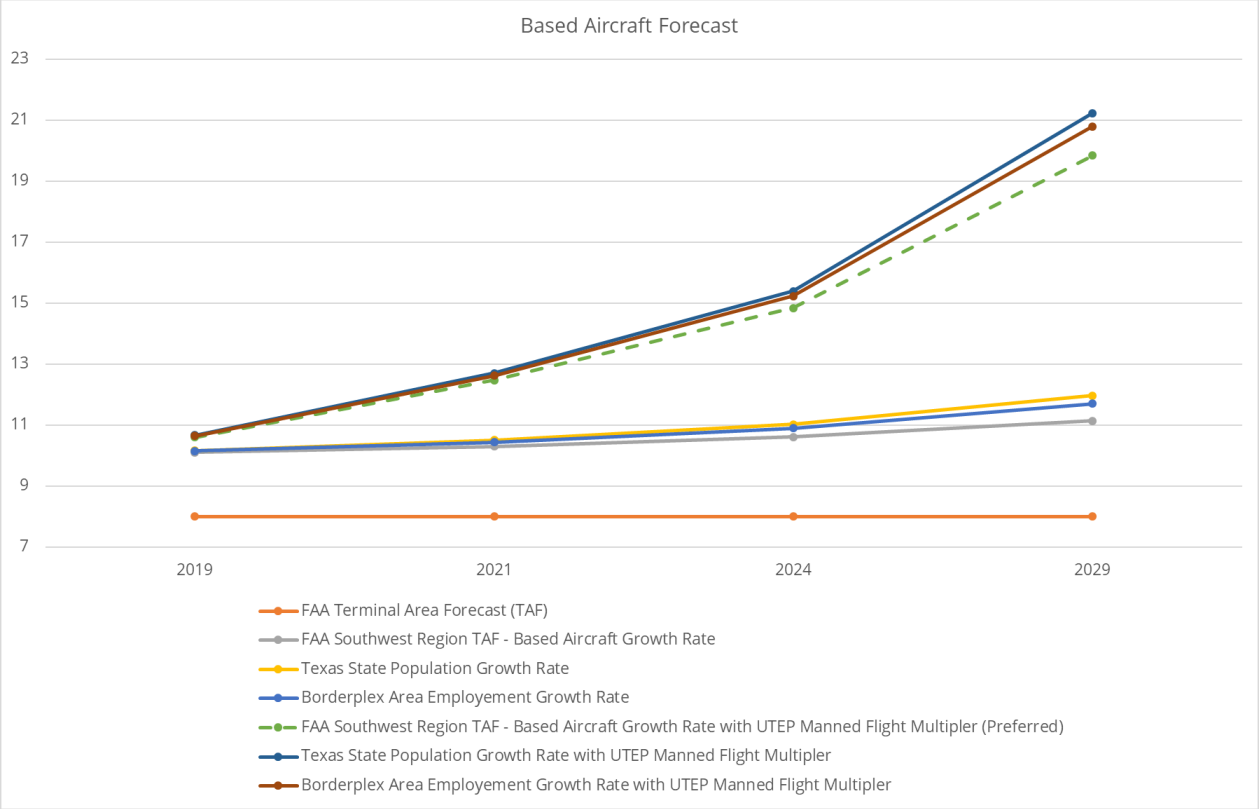
Table 3-6 and **Figure 3-6** provide a summary of the various forecast models for based aircraft at E35 over the 10-year planning period.

TABLE 3-6
SUMMARY OF BASED AIRCRAFT FORECASTS, 2019-2029

Year	FAA Terminal Area Forecast (TAF)	Southwest Region TAF - Based Aircraft Growth Rate	Texas State Population Growth Rate	Borderplex Area Employement Growth Rate	FAA Southwest Region TAF - Based Aircraft Growth Rate with UTEP Manned Flight Multipler (Preferred)	Texas State Population Growth Rate with UTEP Manned Flight Multipler	Borderplex Area Employement Growth Rate with UTEP Manned Flight Multipler
2019	8	10	10	10	11	11	11
2021	8	10	11	10	12	13	13
2024	8	11	11	11	15	15	15
2029	8	11	12	12	20	21	21

Source: Garver Forecast Data for E35, 2019, FAA TAF, Texas Demographic Center Population Projects Data, Texas Workforce Commission Data

FIGURE 3-6
BASED AIRCRAFT FORECASTS, 2019-2029



Source: Garver Forecast Data for E35, 2019, FAA TAF, Texas Demographic Center Population Projects Data, Texas Workforce Commission Data

All the baseline forecast models rendered very similar results, showing very slow growth in the number of based aircraft. These forecasts are closely aligned with forecasts provided in the FAA Aerospace Forecast 2018 – 2038, which predicts slow growth in the active aircraft fleet nationwide. All the forecast scenarios that considered the implementation of the UTEP manned flight program showed similar results but higher annual growth rates.

PREFERRED BASED AIRCRAFT FORECAST

In an effort to be forward thinking regarding the potential future growth scenarios the airport should plan for, the FAA Southwest Region TAF – Based Aircraft Growth Rate with UTEP Manned Flight Multiplier was selected as the preferred forecast. This forecast is aggressive but realistic and, consequently, will facilitate sensible planning in the remainder of this ABDP.

FORECAST OF FLEET MIX FOR BASED AIRCRAFT

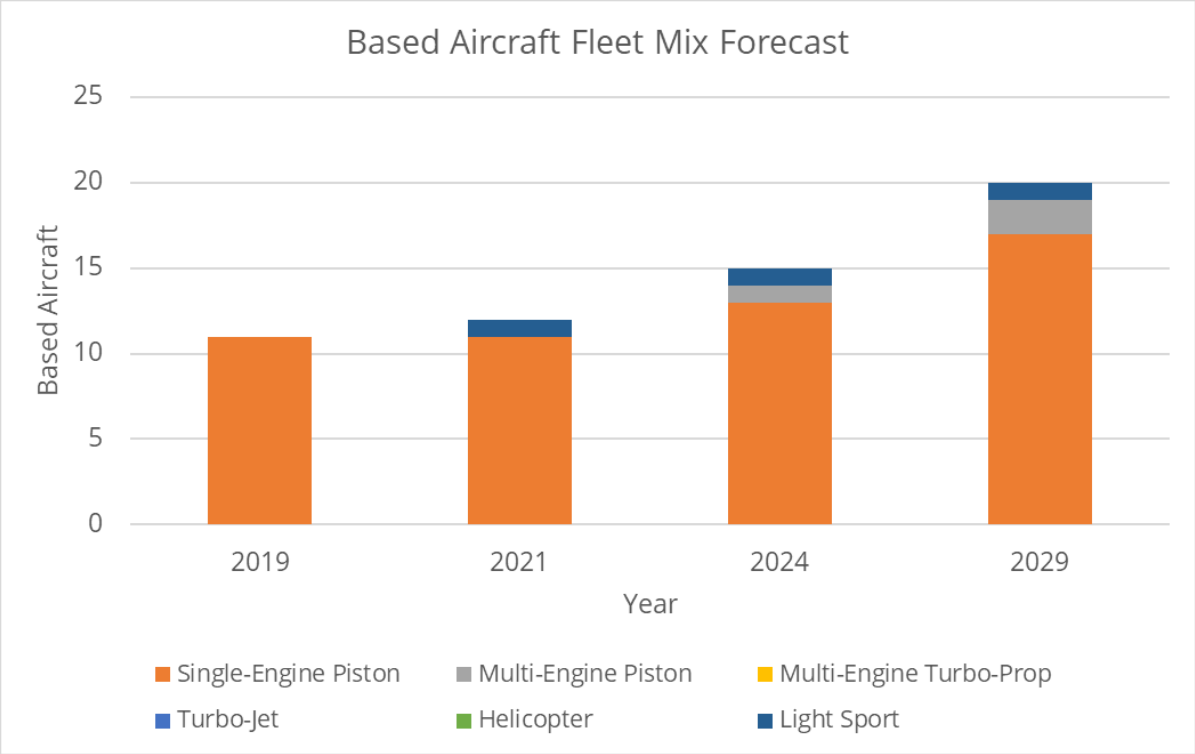
The mix of based aircraft for each increment of the forecast period is illustrated in **Table 3-7** and **Figure 3-7**. The majority of the based aircraft growth at the Airport is expected to be seen in the single-engine piston aircraft and multi-engine piston aircraft categories as these aircraft categories are commonly utilized by flight schools.

TABLE 3-7
BASED AIRCRAFT FLEET MIX, 2019-2029

Aircraft Type	2019	2021	2024	2029
Single-Engine Piston	11	11	13	17
Multi-Engine Piston	0	0	1	2
Multi-Engine Turbo-Prop	0	0	0	0
Turbo-Jet	0	0	0	0
Helicopter	0	0	0	0
Light Sport	0	1	1	1
Total	**11**	**12**	**15**	**20**

Source: Garver Forecast Data for E35, 2019

FIGURE 3-7
BASED AIRCRAFT FLEET MIX, 2019-2029



Source: Garver Forecast Data for E35, 2019

FORECAST OF FUTURE AIRCRAFT OPERATIONS

Determining the projected number and mix of future aircraft operations at an airport is a vital component in developing future infrastructure and policy plans.

AIRCRAFT OPERATIONS FORECAST ASSUMPTIONS AND CONSIDERATIONS

Aeronautical activity at an airport is typically closely linked to the number of aircraft based at the Airport and the aeronautical needs of businesses, organizations, and individuals within the surrounding area. Consequently, the following considerations and assumptions have been made related specifically to forecasting future operations at Fabens Airport:

- Increases in Based Aircraft – As previously stated, once additional hangars are built at the Airport it is expected that multiple based aircraft will return to the Airport, which will lead to increases in the number of aircraft operations the Airport experiences.

- UTEP Development – As previously discussed, UTEP is considering the potential development of a manned flight school program. Flight schools typically have a high operational tempo as aircraft utilization is critical for flight schools to be profitable. If the manned flight school program is initiated, it will greatly increase the number of aircraft operations at the Airport.
- Other Economic Drivers – As previously discussed, government stakeholders and business partners in the El Paso area are placing a strong emphasis on cross border trade and the development of the Fabens and Tornillo areas to support that purpose. As a result, it is expected that general commerce in the Fabens and Tornillo areas will greatly increase in the next 10 years. This growth in development and commerce has the potential to drive increases in aircraft operations at the Airport over the next 10 years.

These three factors are expected to play a significant role in the future of the Airport, and consequently should be a key consideration in the development of forecast models for aircraft operations.

AIRCRAFT OPERATIONS FORECAST MODELS

Based on the above-mentioned factors, several different forecast methods were used to predict aircraft operations growth at E35 during the 10 year planning period (2019 – 2029). Eight are presented here:

- Baseline Forecasts
  - FAA Southwest Region Terminal Area Forecast Aircraft Operations Growth Rate
  - Texas State Population Growth Rate
  - Borderplex Area Employment Growth Rate
  - FAA Aerospace Forecast - Aircraft Fuel Consumption Growth Rate
- Baseline Forecasts Considering UTEP Manned Flight Program
  - FAA Southwest Region Terminal Area Forecast Based Aircraft Growth Rate *(with UTEP Manned Flight Multiplier)*
  - Texas State Population Growth Rate *(with UTEP Manned Flight Multiplier)*

- Borderplex Area Employment Growth Rate *(with UTEP Manned Flight Multiplier)*
- FAA Aerospace Forecast – Aircraft Fuel Consumption Growth Rate *(with UTEP Manned Flight Multiplier)*

All forecasts provide possible future scenarios for annual aircraft operations growth at the Airport. Since the impact of UTEP starting a manned flight program at the Airport would be so significant, variations of each baseline forecast were created to consider that potential future. However, even if the UTEP manned flight program never materializes, other factors such as the development of cross border trade in the Fabens and Tornillo area may drive similar growth projections.

Trend analysis and regression analysis techniques were not used for annual aircraft operations forecasting because they resulted in negative aircraft operations figures (below 0) and were therefore deemed unreliable. Consequently, market analysis techniques (using population and employment data), the FAA Southwest Region TAF forecast, and the FAA Aerospace Forecast were primarily used for forecasting future aircraft operations.

Table 3-8 and **Figure 3-8** provide a summary of the various forecast models for aircraft operations at the Fabens Airport over the 10-year planning period.

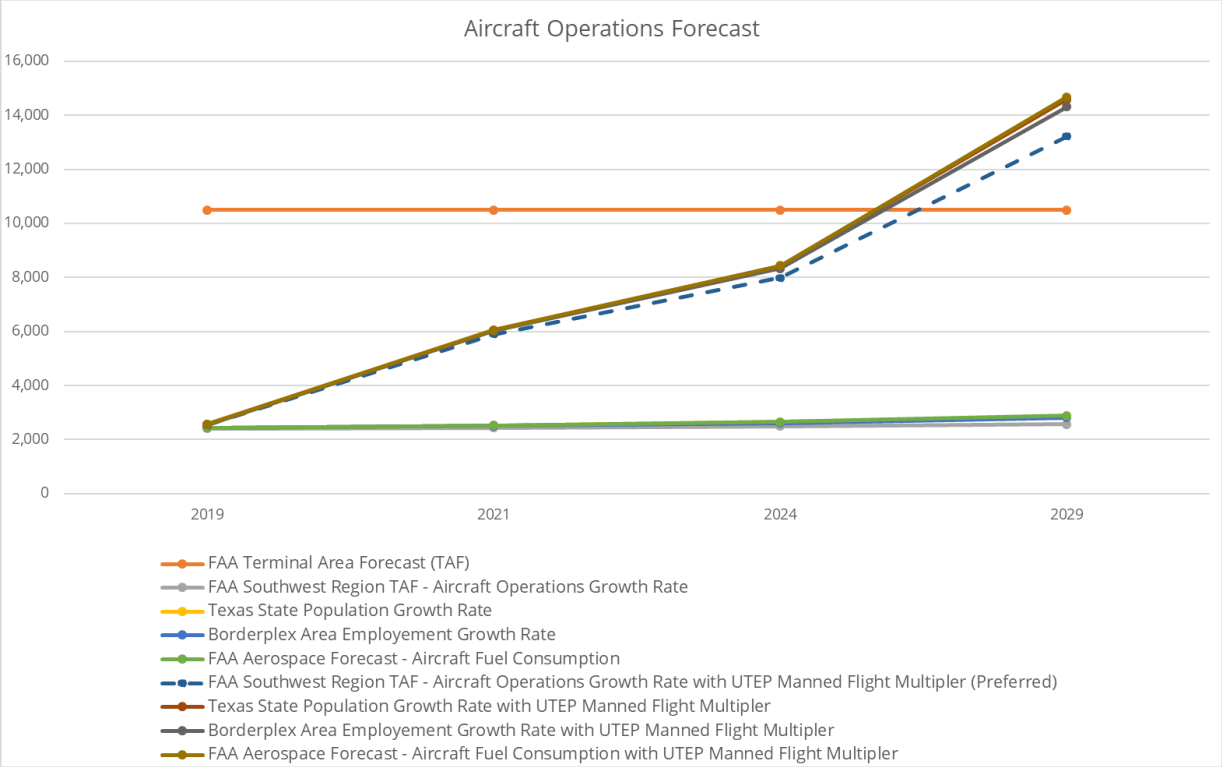
TABLE 3-8
AIRCRAFT OPERATIONS FORECASTS, 2019-2029

Year	FAA Terminal Area Forecast (TAF)	FAA Southwest Region TAF - Aircraft Operations Growth Rate	Texas State Population Growth Rate	Borderplex Area Employement Growth Rate	FAA Aerospace Forecast - Aircraft Fuel Consumption
2019	10,500	2,414	2,439	2,435	2,441
2021	10,500	2,443	2,520	2,505	2,524
2024	10,500	2,488	2,646	2,615	2,655
2029	10,500	2,563	2,870	2,809	2,889

Year	FAA Southwest Region TAF - Aircraft Operations Growth Rate with UTEP Manned Flight Multipler (Preferred)	Texas State Population Growth Rate with UTEP Manned Flight Multipler	Borderplex Area Employement Growth Rate with UTEP Manned Flight Multipler	FAA Aerospace Forecast - Aircraft Fuel Consumption with UTEP Manned Flight Multipler
2019	2,534	2,559	2,555	2,561
2021	5,903	6,047	6,019	6,055
2024	7,986	8,414	8,330	8,439
2029	13,217	14,592	14,318	14,675

Source: Garver Forecast Data for E35, 2019, FAA TAF, Texas Demographic Center Population Projects Data, Texas Workforce Commission Data

FIGURE 3-8
AIRCRAFT OPERATIONS FORECASTS, 2019-2029



Source: Garver Forecast Data for E35, 2019, FAA TAF, Texas Demographic Center Population Projects Data, Texas Workforce Commission Data

All the baseline forecast models rendered very similar results, showing very slow growth in the number of aircraft operations. These forecasts are closely aligned with forecasts provided in the FAA Aerospace Forecast 2018 – 2038, which predicts slow growth in the total number of hours flown, by general aviation and air taxi aircraft. All forecast scenarios that considered the implementation of the UTEP manned flight program showed similar results but higher annual growth rates.

PREFERRED BASED AIRCRAFT FORECAST

In an effort to be forward thinking regarding the potential future growth scenarios the Airport should plan for, the FAA Southwest Region TAF – Aircraft Operations Growth Rate with UTEP Manned Flight Multiplier was selected as the preferred forecast. This forecast is aggressive but realistic and, consequently, will facilitate sensible planning in the remainder of this Airport Business Development Plan (ABDP).

AIRCRAFT OPERATIONS FLEET MIX FORECAST

In addition to forecasting the total number of annual operations projected to occur at an airport during the forecast period, it is also critical to project the types of aircraft that will likely be operating at the Airport.

To establish this forecast, an examination of historic IFR operations at E35 was completed. However, since E35 does not have an established Instrument Approach Procedure (IAP), the number of IFR operations conducted at the Airport on an annual basis is very low. According to the FAA's IFR operations database, only 184 IFR operations were conducted at E35 between 2013 and 2018. Consequently, IFR flight records account for only a fraction of the total operations that occur at the Airport. However, this IFR flight data can be used to provide a basic indication of the mix of aircraft using the Airport. It can also be assumed that most aircraft not operating under IFR flight rules are smaller single engine and light-twin engine aircraft that typically fall in the A-I and B-I aircraft classifications.

Based on the FAA's IFR flight data it appears that a Beechcraft King Air 90 (B-II), a Cessna 441 Conquest (B-II), and a Lear 35/36 (D-I) have operated from the Airport on a fairly regular basis over the past five years. These aircraft collectively represent the most demanding aircraft operating at the Airport based on the IFR flight data.

Table 3-9 displays the aircraft operations fleet mix forecast for E35 for each interval of the 10-year planning period.

TABLE 3-9
AIRCRAFT OPERATIONS FLEET MIX, 2019-2029

Aircraft Approach Category	2018	2019	2021	2024	2029
Category A (Less Than 91 Knots)	1,885	1,991	4,641	6,278	10,394
Category B (92 – 120 Knots)	500	528	1,230	1,664	2,754
Category C and D (121 – 160	6	6	10	15	20
Helicopter	9	10	22	30	50
Airplane Design Group					
Group I (Less Than 49 Feet)	2,361	2,493	5,807	7,857	13,002
Group II (49 Feet To 78 Feet)	30	32	74	100	165
Group III (79 Feet To 118 Feet)	0	0	0	0	0
Helicopter	9	10	22	30	50
Total	**2,400**	**2,534**	**5,903**	**7,986**	**13,217**

Source: Garver Forecast Data for E35, 2019
Aircraft Approach Category is based on 1.3 times the stall speed of the aircraft at the maximum certified landing weight in the landing configuration. Representative of the anticipated operations for each aircraft approach category and airplane design group. Totals may not equal due to rounding.

The future aircraft operations fleet mix at E35 is expected to remain relatively consistent during the 10-year forecast period. Most of the growth is expected to come from the A-I and B-I aircraft categories, which is consistent with a flight school's operation and the aircraft currently using the Airport.

CRITICAL AIRCRAFT

The "critical" aircraft at an airport is the largest and most demanding aircraft or group of aircraft conducting at least 500 operations per year. Determining the critical aircraft is important for assessing airport design, layout, and equipment needs for both the airfield and terminal area.

The aircraft currently operating at E35 vary from small piston aircraft to small business jets. As a result, the existing and future critical aircraft at E35 cannot be defined by a single aircraft type. Instead a group approach is needed to define the critical aircraft. **Table 3-10**, *Critical Aircraft Operations*, shows the most common aircraft operating at E35 that define its current critical aircraft category.

TABLE 3-10
CRITICAL AIRCRAFT OPERATIONS

Aircraft Type and ARC	Wingspan	Height	Max Gross Takeoff Weight	Approach Speed	# of Operations in 2018
King Air 90 ARC B-II	50.25 ft.	14.25 ft.	10,100 lbs.	100 kts	21
Cessna 441 Conquest ARC B-II	49.33 ft.	13.17 ft.	9,850 lbs.	98 kts	2
Lear 35/36 ARC D-I	39.50 ft.	12.25 ft.	18,300 lbs.	143 kts	5
Beechcraft Baron Turbo ARC B-I	37.83 ft.	9.58 ft.	5,990 lbs.	91 kts	5
Beechcraft Baron 58 ARC B-I	37.83 ft.	9.75 ft.	5,500 lbs.	143 kts	5

Source: FAA TFMSC Database, 2018

Based on the types of aircraft utilizing the Airport, the existing "critical" aircraft at E35 is in the Runway Design Code (RDC) B-I-5,000 (small) category. The preferred forecasts confirm this to be the critical aircraft during the short-term and maintain it as such throughout the 10-year planning period. However, depending on how operations at the Airport change and grow over the next five years there is the potential for the Airport's critical aircraft to move into the B-I-5,000 category or the B-II-5,000 category.

FORECAST SUMMARY

The preferred forecasts, combined with the inventory data, will be used to identify and develop the facility requirements and future development plans for the Airport. The next chapter, Facility Requirements, identifies the types and extent of facilities needed to adequately accommodate the demand levels identified in this chapter.

CHAPTER 4: STRATEGIC FACILITY AND POLICY IMPROVEMENTS

INTRODUCTION

This chapter evaluates the existing airport facilities and policies in light of the forecast of future aeronautical activity at the airport (e.g. aircraft operations based aircraft) and identifies the improvements necessary to facilitate the growth and development of Fabens Airport (E35) in a manner that complies with FAA standards and industry best practices. The facility and policy improvements described in this chapter will be used to establish future policies, revise existing policies, and guide the creation of the airport's Strategic Development Plan (SDP) in Chapter 5 – Alternatives.

The policy improvements identified in this chapter should be considered for near-term implementation as the establishment of these policies will be critical to supporting future development at the Airport.

The infrastructure improvements identified in this chapter and in the remainder of this document should be enacted based on market demand. The operational and based aircraft forecasts detailed in the Forecast Chapter should be used as a guide for identifying when market demand has reached a point where various infrastructure improvements should be implemented. To facilitate this analysis, each forecast year identified in the forecast chapter has been designated as a "Planning Activity Level" or "PAL" for facility requirement purposes. The forecast years and corresponding PAL levels are identified below:

- PAL #1 – Forecast Year 2019
- PAL #2 – Forecast Year 2021
- PAL #3 – Forecast Year 2024
- PAL #4 – Forecast Year 2029

Increases in aircraft operations and based aircraft should be monitored annually and compared to the established PALs. As airport activity levels begin to reach a certain PAL, capital projects necessary to accommodate the activity level should be evaluated for implementation. Additional guidance related to the timely initiation of

future capital improvement projects is provided in Chapter 6 – Capital Improvement Program.

For this strategic facility and policy improvements analysis, policy and infrastructure improvements have been identified for the following areas:

- Airside/Airspace Infrastructure – Includes runways, taxiways, airfield marking/lighting, NAVAIDs, and Instrument Approach Procedures (IAP).
- Terminal/Landside Infrastructure – Includes ramps, hangars, FBO buildings, vehicle parking, fuel storage facilities, and vehicle access.
- Policy – Includes airport policy documents such as Airport Rules and Regulations, Minimum Standards, Leases, Rates and Charges, and Zoning.

Based on the analysis described in each of these sections, a set of development objectives has been established to guide the future development of the Fabens Airport. The development objectives will be used to guide the development of the Strategic Development Plan defined in Chapter 5 – Alternatives.

AIRSIDE/AIRSPACE FACILITIES

RUNWAY LENGTH

FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*, provides guidance to help determine the most appropriate recommended runway lengths for an airport, which is predicated upon the category of aircraft using or forecasted to use the Airport. By design, the primary runway is typically the longest runway, that has the most favorable wind conditions, the highest pavement strength, and the lowest straight-in instrument approach minimums.

A significant factor to consider when analyzing the generalized runway length requirements for an airport is that the actual length necessary is a function of airport field elevation, temperature, and aircraft stage length (e.g. non-stop flight distance). As temperatures, altitude, and aircraft stage length change, the runway length requirements change accordingly. Consequently, if a runway is designed to accommodate 75% of the fleet at 60% useful load, this does not prevent larger aircraft at certain times and during specific conditions from utilizing the runway. However, the amount of time such operations can safely occur is restricted.

As **Table 4-1** indicates, Runway 8/26 has sufficient length to accommodate some small aircraft (below 12,500 pounds) but is insufficient to accommodate all small aircraft (95% or 100% of the fleet) and the vast majority of aircraft over 12,500 pounds.

TABLE 4-1
RUNWAY LENGTH REQUIREMENTS
FABENS AIRPORT

Aircraft Category	Runway Designation	Current Runway Length	Runway Length Requirement	Deficiency
Small Aircraft: 12,500 pounds or less:				
95% GA Fleet	8/26	4,200	**5,100**	-900
100 % GA Fleet	8/26	4,200	**5,500**	-1,300
100 % GA Fleet with 10 or more passenger seats	8/26	4,200	**5,500**	-1,300
Large Aircraft between 12,500 and 60,000 pounds:				
75% of fleet at 60% useful load	8/26	4,200	**6,680**	-2,480
75% of fleet at 90% useful load	8/26	4,200	**8,600**	-4,400
100% of fleet at 60% useful load	8/26	4,200	**8,880**	-4,680
100% of fleet at 90% useful load	8/26	4,200	**10,880**	-6,680

Source: AC 150/5325-4B, Runway Length Requirements for Airport Design, Figures 2-1, 3-1 and 3-2, generalized length only. Actual lengths should be calculated based on the specific aircraft's operational nomographs. Useful load refers to all usable fuel, passengers, and cargo. Calculations based on 3,769 feet airport elevation, mean maximum daily temperature of 98˚F and maximum difference in runway end elevation of 48 feet. Figures are increased 10 feet for each foot of elevation difference between high and low points of runway centerline.

The primary attributes of E35 that negatively impact aircraft takeoff performance are the high airport elevation (3,679 feet MSL), high summer temperatures (98^0F), and the steep gradient of the existing runway pavement (estimated 48 feet drop over 4,200 feet).

Due to these factors, property at the approach and departure ends of Runway 8/26 should be protected for a potential runway extension. Additionally, based on discussions with the University of Texas – El Paso (UTEP) MIRO Center, the minimum runway length necessary to accommodate the proposed UTEP flight school operation would be 5,000 feet. As a result, the alternatives analysis will evaluate potential options for the establishment of a 5,000 feet runway at the airport.

RUNWAY STRENGTH

FAA AC 150/5320-6F, *Airport Pavement Design and Evaluation*, provides guidance on the structural design of airport pavements. FAA and TxDOT require the use of the pavement design program, FAARFIELD, to determine the pavement section that will support various aircraft gear loadings. The design is based on a 20-year life cycle. FAARFIELD analyzes the damage to the pavement done by each aircraft and determines the final pavement thickness/structure based on the total cumulative damage of all aircraft.

The current published runway pavement strength for Runway 8/26 is 12,500 pounds single wheel. Based on the forecast of future aeronautical activity it is expected that the existing runway strength will be sufficient to accommodate the majority of aircraft operations that will occur at the Airport. However, if a 5,000 feet runway is established at E35, improvements to runway weight bearing capacity should be considered. Fabens Airport is the closest general aviation airport east of downtown El Paso and the area has seen significant economic growth in recent years. This economic growth is expected to continue. Consequently, there is the potential for E35 to accommodate larger aircraft in the future that may require a runway with a higher weight bearing capacity.

RUNWAY ALIGNMENT

An evaluation of runway alignment is based on crosswind coverage and velocity. FAA Advisory Circular 150/5300-13 (current series), *Airport Design*, states that the allowable crosswind component for a runway with a B-I (small) Runway Design Code (RDC) is 10.5 knots at 95% wind coverage. Runway 8/26 is a B-I (small) runway.

Table 4-2 shows the crosswind coverage percentages for Runway 8/26 at E35.

TABLE 4-2
CROSSWIND COVERAGE
FABENS AIRPORT

Runway	All Weather Wind Coverage %			IFR Wind Coverage %			VFR Wind Coverage %		
	10.5 Knots	13 Knots	16 Knots	10.5 Knots	13 Knots	16 Knots	10.5 Knots	13 Knots	16 Knots
8/26	93.95%	96.76%	99.12%	76.86%	84.59%	92.41%	94.12%	96.87%	99.17%

Source: FAA Airports – GIS Wind Analysis Tool using ELP wind data as generated by the FAAs GIS tool. E35 wind data was not available.

As shown, Runway 8/26 does not meet the 95% wind coverage threshold in the 10.5 knot category for all weather, IFR, or VFR conditions. Runway 8/26 is close (0.88% difference) to meeting the 95% threshold in the VFR category but a significant deviation from the 95% threshold is seen in IFR wind coverage category (23.14% difference). As a result, future consideration should be given to the establishment of a crosswind runway to improve accessibility to the airfield during poor weather conditions. It should be noted that E35 previously had a crosswind runway (e.g. Runway 16/34). However, this runway was closed due to its short length and multiple safety considerations related to its operation.

AIRPORT DESIGN CONSIDERATIONS

Compliance with airport design standards is vitally important because they aid an airport in maintaining a minimum level of operational safety. The major airport design elements are established by FAA AC 150/5300-13 (current series), *Airport Design*. In general, the design of an airport should conform with FAA airport design criteria without requiring a modification to standards.

However, many of the facilities at E35 were constructed before the current airport design standards were created. Consequently, the existing facilities that were developed to a historic standard are "grandfathered" and are not required to comply with current FAA design standards until the facility is improved or reconstructed. Any new facilities constructed at E35 will be required to comply with the FAA's current airport design standards.

Table 4-3 provides an overview of the current FAA Design Standards for B-I (small) runways and their application to Runway 8/26 at E35.

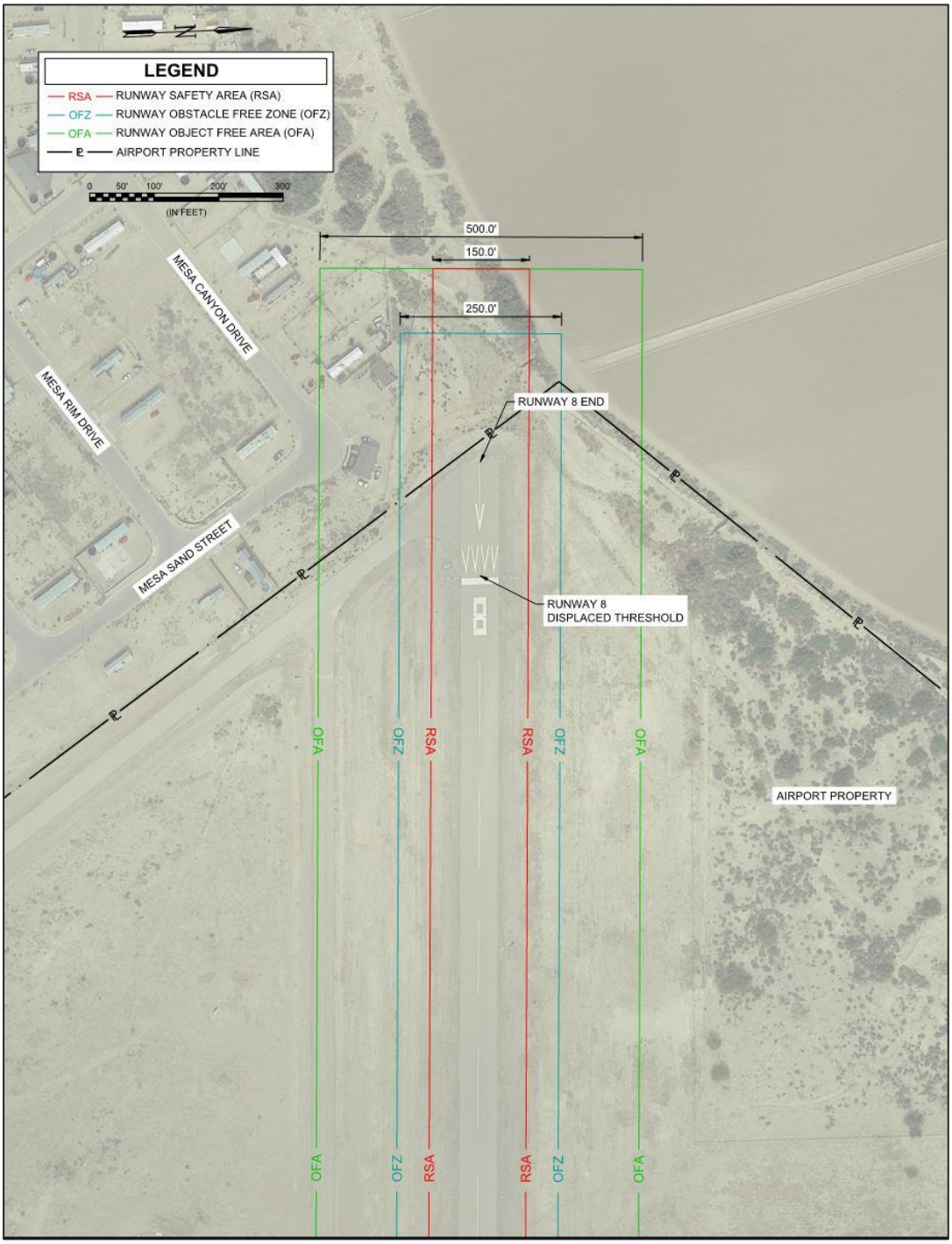
TABLE 4-3
RUNWAY DESIGN
FABENS AIRPORT

Item	FAA Design Standard (B-I Small)	Runway 8/26
Runway Design		
Width (ft.)	60	60
RSA Width (ft.)	120	120
RSA Length beyond R/W end (ft.)	240	165/240
OFA Width (ft.)	250	250
OFA Length beyond R/W end (ft.)	240	77/240
ROFZ Width (ft.)	250	250
ROFZ Length beyond R/W end (ft.)	200	77/200
Runway Setbacks -Runway Centerline		
Parallel Taxiway Centerline (ft.)	150	240
Holdline (ft.)	125	125
Aircraft Parking Area (ft.)	125	815

Source: FAA AC 150/5300-13(current edition) and Garver, 2019. Deficiencies to existing Standards are shown in red text.

Currently, E35 has no deficiencies related to its runway width and runway setbacks to runway hold position markings, parallel taxiway centerlines, and aircraft parking areas. However, non-compliant conditions are present related to the Runway Safety Area (RSA), Runway Object Free Area (ROFA), and Runway Obstacle Free Zone (ROFZ) at the approach end of Runway 8. As shown in **Figure 4-1**, portions of the RSA, ROFA, and ROFZ associated with the approach end of Runway 8 extend off airport property and the perimeter fence penetrates these surfaces as well. Each of these areas is discussed more in-depth in the subsections below. An analysis of the Runway Protection Zones (RPZs) is provided later in this chapter.

FIGURE 4-1
RUNWAY 8 – RSA/ROFA/ROFZ PENETRATIONS
FABENS AIRPORT



Source: Garver, 2019.

RUNWAY WIDTH

FAA AC 150/5300-13 (current series), *Airport Design*, delineates the requirements for runway pavement width. At present, Runway 8/26 is 60 feet wide. This width meets the minimum runway width recommended for a B-I-5,000 (small) runway of 60 feet. E35's critical aircraft is forecasted to remain in the B-I (small) category (e.g. small single engine piston aircraft, small twin-engine aircraft, etc.) throughout the forecast period. Consequently, the existing runway width should be sufficient. However, if the operation of larger aircraft increases this discussion should be revisited. If the critical aircraft for E35 shifts to the Aircraft Design Group (ADG) II category (e.g. aircraft with wingspan from 49 feet to 79 feet or tail height from 20 feet to 30 feet), the runway width should be increased to 75 feet.

RUNWAY SAFETY AREA

The Runway Safety Area (RSA) is a two-dimensional area surrounding and extending beyond the runway centerline. The purpose of the RSA is to reduce the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway pavement. In addition, the RSA should be free of objects, except those required for air navigation, and be graded to transverse and longitudinal standards to prevent water accumulation. Objects located in the RSA that are over 3 inches above grade must be constructed, to the extent practical, on frangible mounts with the frangible point no higher than 3 inches above grade. Under dry conditions, the RSA must support Aircraft Rescue and Fire Fighting (ARFF) equipment (if applicable), snow removal equipment (if applicable), and the occasional passage of aircraft without causing damage to the aircraft.

The FAA recommends that airports own the entire RSA in "fee simple" title. Based on RDC B-I-5,000 (small) design standards, the RSA should extend beyond the end of the runway for 240 feet and be 120 feet wide with a grade no steeper than three percent. This standard is met on the portion of the RSA that extends east of the threshold of Runway 26 but is not met on the portion of the RSA that extends west of the departure threshold at the approach end of Runway 8. The northwest corner of the RSA is penetrated by the airport fence line, extends off airport property, and there is a substantial grade change west of the fence. The resolution of this issue will be a key consideration in the alternatives portion of this project.

RUNWAY OBJECT FREE AREA

The Object Free Area (OFA) is a two-dimensional area surrounding runways. It must remain clear of objects except those used for air navigation or aircraft ground maneuvering purposes and requires the clearing of above-ground objects protruding higher than the elevation of the RSA at the closest adjacent point. An object is considered any terrain, structure, navigational aid, person, equipment, or parked aircraft. The FAA recommends that an airport own the entire OFA in "fee simple" title.

Currently, FAA Airport Design criteria for an RDC B-I-5,000 (small) runway requires the OFA to be 250 feet wide and extend 240 feet beyond each runway end. This standard is met on the portion of the ROFA that extends east of the threshold of Runway 26 but is not met on the portion of the ROFA that extends west of the departure threshold at the approach end of Runway 8. The northwest corner of the ROFA and the southern portion of the ROFA are penetrated by the airport fence line and extend off airport property. The resolution of this issue will be a key consideration in the alternatives portion of this project.

OBSTACLE FREE ZONE

The Obstacle Free Zone (OFZ) is a volume of airspace above and centered along the runway centerline. The OFZ precludes taxiing and parked airplanes and object penetrations except for objects required to be located in the OFZ due to their function. OFZs can have several different components including a Runway Obstacle Free Zone (ROFZ), inner-transitional OFZ, inner approach OFZ, and a Precision Obstacle Free Zone (POFZ). However, only the ROFZ is applicable at E35.

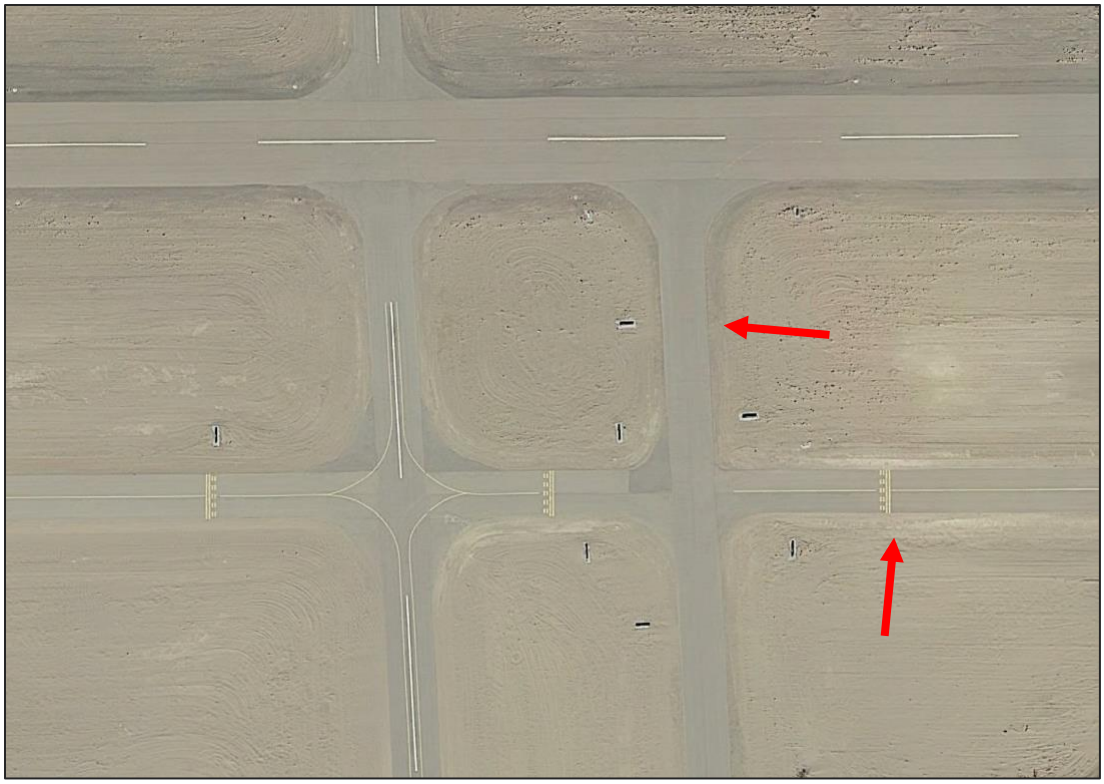
The length of the ROFZ is fixed at 200 feet beyond the associated runway end but the width is dependent upon the size of aircraft using the runway (e.g. small aircraft – less than 12,500 pounds or large aircraft – greater than 12,500 pounds) and the visibility minimums for the lowest instrument approach to the runway. The current ROFZ width at E35 is 250 feet wide and the elevation of the OFZ is equal to the closest point along the runway centerline. This standard is met on the portion of the ROFZ that extends east of the threshold of Runway 26 but is not met on the portion of the ROFZ that extends west of the departure threshold at the approach end of Runway 8. The northwest corner of the ROFZ and the southern portion of

the ROFZ are penetrated by the Airport fence line and extend off of airport property. The resolution of this issue will be a key consideration in the alternatives portion of this project.

RUNWAY HOLD POSITION MARKINGS

The runway hold position markings (or holdlines) denote the entrance to the runway from a taxiway and the location where an aircraft is supposed to stop when approaching the runway. Their location is prescribed by FAA AC 150/5300-13 (current edition), *Airport Design*. They are generally located across the centerline of a given taxiway within 10 feet of an associated runway hold position sign. According to FAA standards, the holdlines for E35 should be located at least 125 feet from the runway centerline. All the runway hold positions markings at E35 meet this standard. However, the runway hold position marking is missing where Taxiway Alpha intersects Runway 8/26. Additionally, a runway hold position marking is incorrectly located on Taxiway Charlie, west of Taxiway Alpha.

FIGURE 4-2
RUNWAY HOLD POSITION MARKINGS
FABENS AIRPORT



BUILDING RESTRICTION LINE

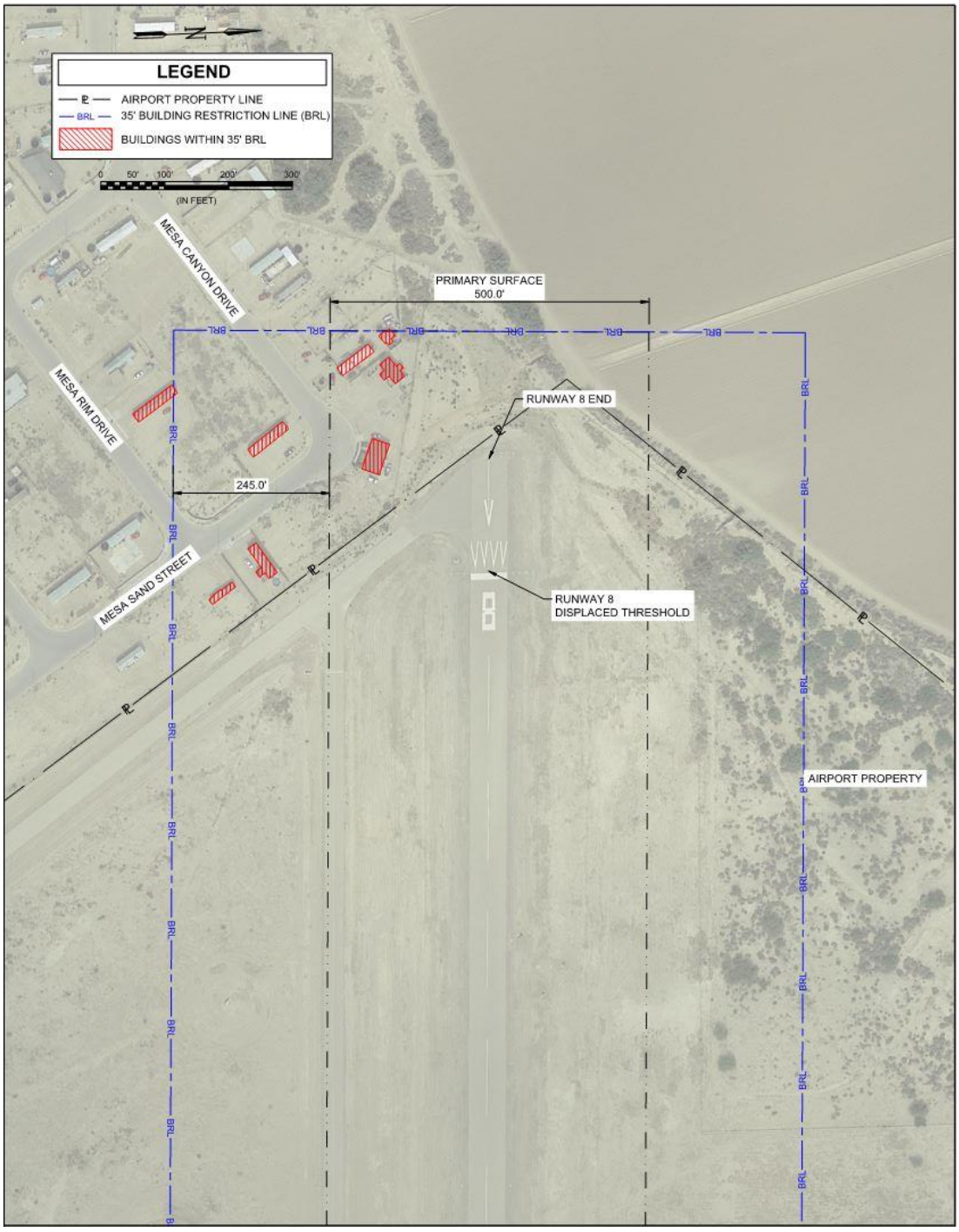
According to AC 150/5300-13 (current series), *Airport Design*, the Building Restriction Line (BRL) represents the boundary where it is suitable or unsuitable to develop buildings such as hangars, terminals, or other facilities. The BRL is established based on an airport's FAR Part 77 imaginary surfaces, Runway Protection Zones (RPZs), Obstacle Free Zones (OFZ), Object Free Areas (OFA), runway visibility zones, NAVAID critical areas, and approach surfaces.

Since E35 is a single runway airport with no ground based NAVAIDs with an established critical area, the FAR Part 77 civil imaginary surfaces can be used to establish the location of the BRL. Currently, since E35 has no existing Instrument Approach Procedures (IAP) and is designed for small aircraft, the primary surface is 250 feet in total width. However, if an IAP is added, the primary surface will become 500 feet in total width. Since an IAP is likely to be added at some point in the future, a 500 feet wide primary surface will be used to establish the location of the BRL. The transitional surface slopes up on a 7:1 slope from the edge of the primary surface to the horizontal surface which is 150 feet above airport elevation. Based on the activity at the field, instrument approach procedures, and RDC, the 35.0-foot BRL should be 495 feet from the Runway 8/26 centerline.

Currently, there are multiple residential properties within the BRL at the approach end of Runway 8 as shown in **Figure 4-3**. The implications of the location of these residencies will be further discussed in the airspace section.

Placing buildings inside the BRL is possible if the height of a building is minimized. However, locating buildings inside the BRL may hamper the options for expanding E35 airside facilities in the future.

FIGURE 4-3
RUNWAY 8/26 – BRL
FABENS AIRPORT



Source: Garver, 2019.

RUNWAY LINE-OF-SIGHT

To ensure the safety of aircraft operations at an airport it is imperative that proper lines of sight exist along a single runway and amongst intersecting runways. These lines of sight facilitate coordination amongst aircraft and vehicles operating on a runway by allowing them to identify the position of other aircraft or vehicles operating on the same runway or on an intersecting runway.

On a single runway, an acceptable runway profile permits any two points, generally each runway end, 5 feet above the runway centerline, to be mutually visible for the entire runway length. If the runway offers a full-length parallel taxiway, an unobstructed line of sight should exist from any point 5 feet above the runway centerline to any other point 5 feet above the runway centerline for one-half the runway length. There is no single runway line of sight issues along Runway 8/26. Since Runway 16/34 will be deactivated, no intersecting runway line-of-sight issues were considered.

RUNWAY PROTECTION ZONE

The purpose of a Runway Protection Zone (RPZ) is to enhance the protection of people and property on the ground and to prevent developments that are incompatible with aircraft operations. The FAA recommends that airports own the entire RPZ in "fee simple" title and that the RPZ be clear of any non-aeronautical structure or object that would interfere with the arrival and departure of aircraft. However, if “fee simple” interest is unachievable, the next option is controlling the heights of objects through an avigation easement and keeping the area clear of any facilities that would support an incompatible activity (e.g. places of public assembly, etc.).

The RPZ is a two-dimensional trapezoidal area that normally begins 200 feet beyond the paved runway end and extends along the runway centerline. When it begins somewhere other than 200 feet from a runway end, there is a need for two RPZs, an approach RPZ and a departure RPZ. The approach RPZ begins 200 feet from the runway’s landing threshold. A departure RPZ begins 200 feet beyond the end of runway pavement or 200 feet from the end of the Takeoff Runway Available (TORA), if established.

An FAA Interim Guidance Letter (IGL) published in September 2012 addressed acceptable property uses within RPZs. The IGL was released to specify and emphasize existing use standards and indicates that if any of the following parameters are met then the RPZ ownership must be reevaluated:

- An airfield project (e.g., a runway extension, runway shift);
- A change in the critical design aircraft that increases the RPZ size;
- A new or revised instrument approach procedure that increases the RPZ dimensions; and
- A local development proposal in the RPZ (either new or reconfigured).

Land uses within an RPZ that require specific and direct coordination with the FAA include:

- Buildings and structures
- Recreational land uses
- Transportation facilities
- Rail facilities
- Public road/highways
- Vehicular parking facilities
- Fuel storage facilities
- Hazardous material storage
- Wastewater treatment facilities
- Above-ground utility infrastructure

RPZ dimensions are determined by the type/size of aircraft expected to operate at an airport and the type of approach, existing or planned, for each runway end (visual, precision, or non-precision). The recommended visibility minimums for the runway ends are determined with respect to published instrument approach procedures, the ultimate runway RDC, airfield design standards, instrument meteorological conditions, wind conditions, and physical constraints (approach slope clearance) along the extended runway centerline beyond the runway end. **Table 4-4**, *Runway Protection Zone Dimensions*, delineates the RPZ requirements. The current Runway 8/26 RPZ dimensions are 1,000 feet x 450 feet x 250 feet at each runway end. Because of the displaced threshold at the approach end of Runway 8, separate approach and departure RPZs exist for Runway 8, however both have the same dimensions.

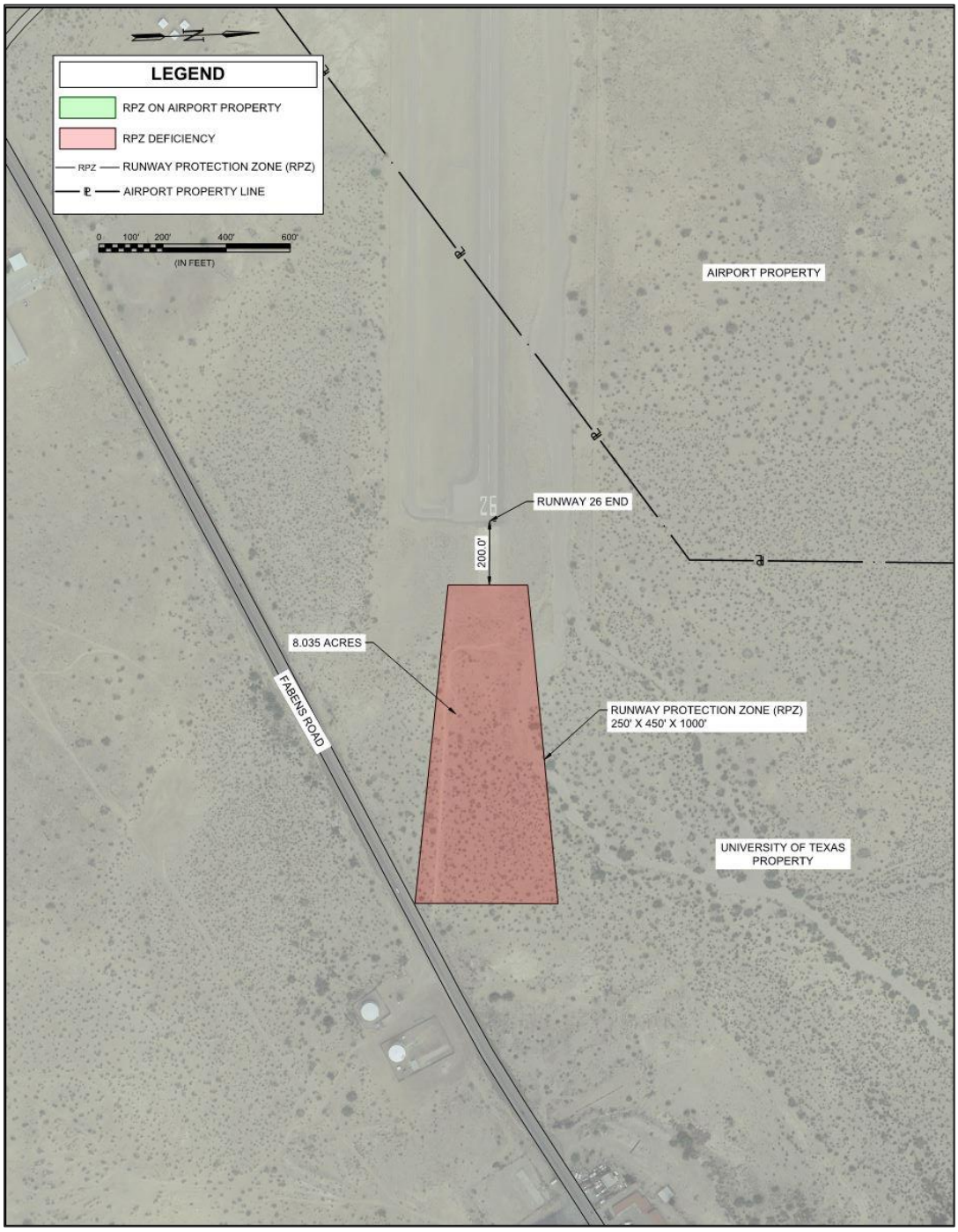
TABLE 4-4
RUNWAY PROTECTION ZONE DIMENSIONS
FABENS AIRPORT

Runway End	Approach Visibility Minimums	Facilities Expected to Serve (AAC - ADG)	Length (ft.)	Inner Width (ft.)	Outer Width (ft.)	Acres
Runway 8 Approach	Not lower than 1 mile	B-I Small	1,000	250	450	8.035
Runway 8 Departure	Not lower than 1 mile	B-I Small	1,000	250	450	8.035
Runway 26	Not lower than 1 mile	B-I Small	1,000	250	450	8.035

Source: FAA Advisory Circular 150/5300-13 (current series).

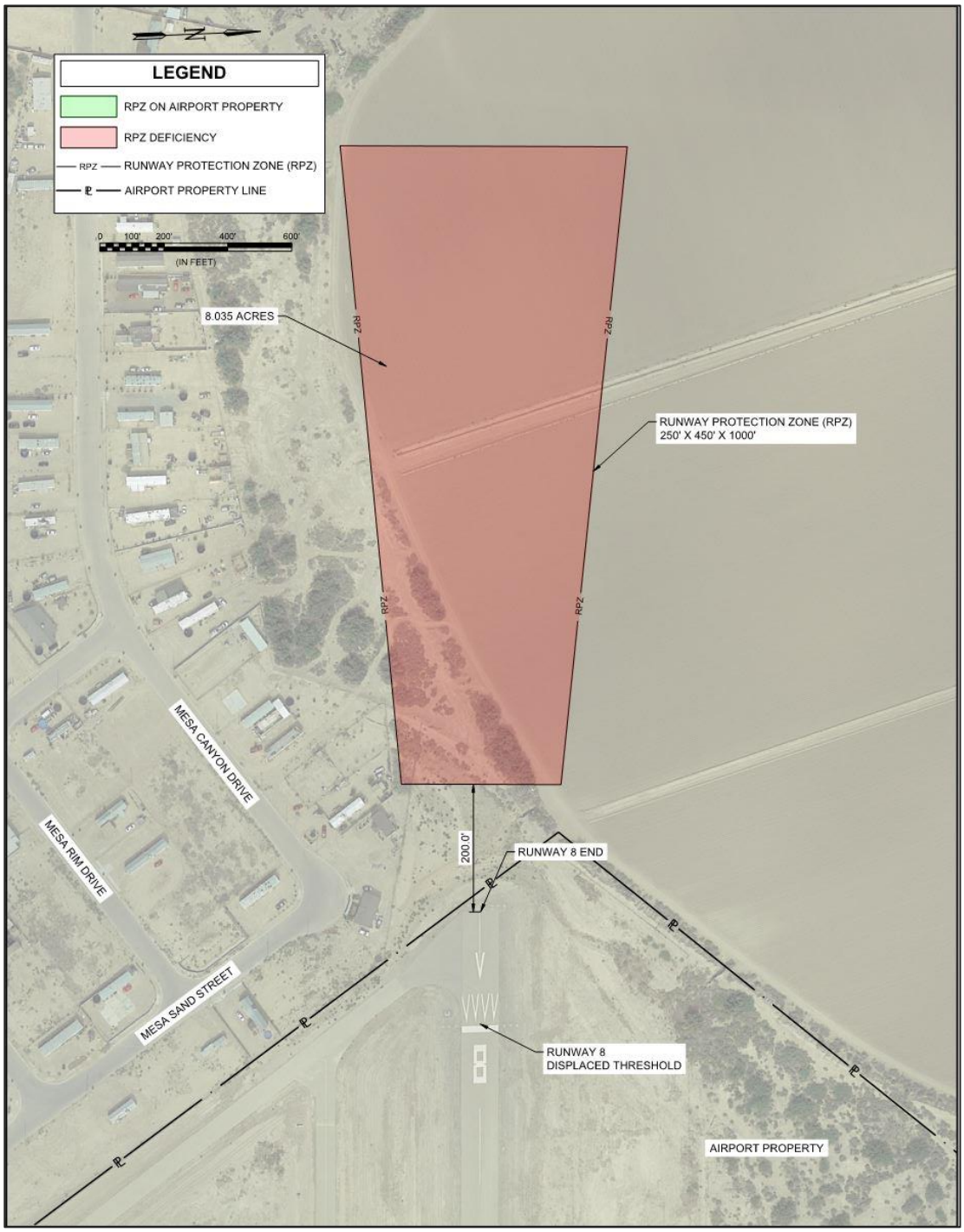
All existing RPZs at E35 extend beyond the existing boundaries of airport property. Fortunately, most of the non-airport owned property within the RPZs is undeveloped. The RPZ associated with Runway 26 is covered as part of the easement El Paso County has established with UT Lands. **Figures 4-4, 4-5, and 4-6** depict the existing RPZs.

FIGURE 4-4
RUNWAY 26 RPZ DEFICIENCY
FABENS AIRPORT



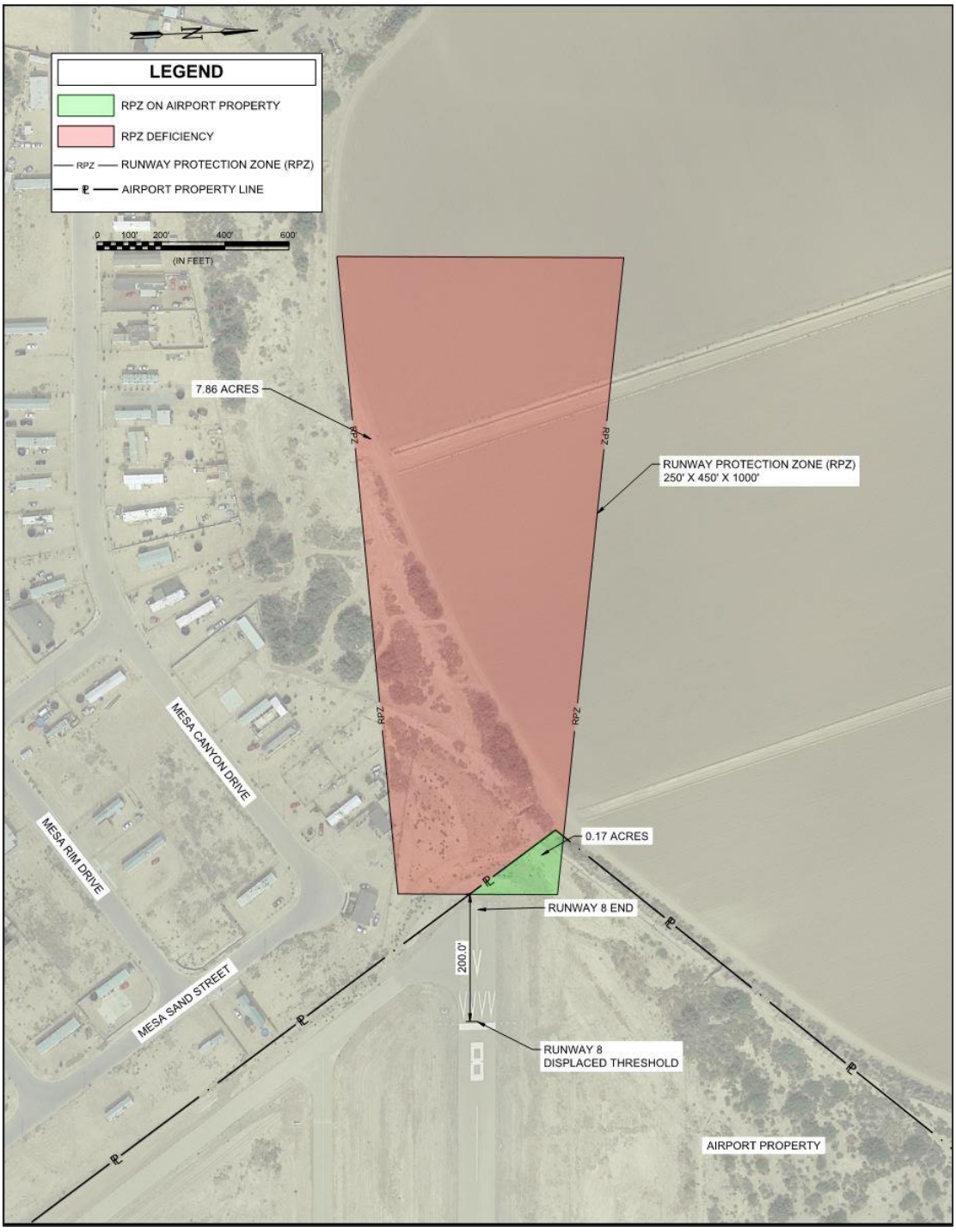
Source: Garver, 2019.

FIGURE 4-5
RUNWAY 8 DEPARTURE RPZ DEFICIENCY
FABENS AIRPORT



Source: Garver, 2019.

FIGURE 4-6
RUNWAY 8 APPROACH RPZ DEFICIENCY
FABENS AIRPORT



Source: Garver, 2019.

It should be noted that Runway 8/26 currently only has visual approaches, which require a smaller RPZ. If IAPs are ever developed for Runway 8/26 that have minimums down to ¾ of a mile the RPZ size will increase and could impact additional properties. Additionally, if E35's critical aircraft moves into the B-I or B-II categories the width of the existing RPZs will increase to a 500 feet inner width and a 700 feet outer width. Resolving the existing RPZ deficiencies will be a consideration in the alternatives chapter.

INSTRUMENT APPROACH PROCEDURES (IAP)

Instrument Approach Procedures (IAPs) are critical for enabling aircraft to operate at an airport during inclement weather conditions. With the addition of GPS-based IAPs, many airports that previously didn't have IAPs now have an opportunity to have one without the need to install any ground based NAVAIDs.

Currently, E35 has no IAPs. The prevailing winds at the Airport favor Runway 26. Consequently, an IAP should be considered for Runway 26 to improve access to the airport during all weather conditions. Based on the limited IFR weather the area receives it is expected that an IAP with 1-mile visibility minimums should be sufficient. This will be a consideration in the alternatives chapter.

TAXIWAYS

Taxiways serve a critical function as they are the primary surface that aircraft utilize to transition to/from aircraft parking facilities (ramps, hangars, etc.) to runways. Taxiways that are properly laid out can provide a high-level of safety and efficiency for aircraft moving to/from the runway. By contrast, poorly laid out taxiways can increase the risk of an unintentional pavement excursion for a taxiing aircraft as well as cause congestion on the airfield.

TAXIWAY PAVEMENT DESIGN

Taxiway design is complex because it is largely based on landing gear configurations, which vary widely between different aircraft types. The FAA has classified the numerous variations of landing gear configurations into various Taxiway Design Groups (TDG) that now guide taxiway pavement design. Based on

historic and forecasted aircraft fleet mix data at E35, it is recommended that E35 future taxiway development follow TDG-2 standards.

Currently only some taxiways at E35 meet the TDG-2 requirements for width (35 feet) and none of the turns or taxiway intersections meet current taxiway fillet dimensional standards. These improvements will be considered in the alternatives chapter. Taxiway pavement condition concerns were identified in the inventory chapter. These issues are currently being addressed as part of a pavement rehabilitation project occurring concurrently with this study.

TAXIWAY DESIGN STANDARDS BASED ON AIRCRAFT DESIGN GROUP (ADG)

While taxiway pavement design is based on TDG, Taxiway Safety Areas (TSA), Taxiway Object Free Areas (OFAs), and separation standards are based on the Aircraft Design Group (ADG) for a given taxiway. Unlike a taxiway's TDG, the ADG is based on aircraft wingspan and tail height and not landing gear configuration. All the taxiways at E35 currently fall into the ADG I category and are expected to remain in that category during the forecast period. Consequently, no major taxiway improvements are expected based on the ADG for the taxiways. **Table 4-5** below provides an overview of the ADG-based requirements applicable to E35 and the dimensions that currently exist.

TABLE 4-5
TAXIWAY STANDARDS BASED ON AIRCRAFT DESIGN GROUP
FABENS AIRPORT

Taxiway Standards (Based on ADG)	FAA Design Standard (ADG I)	Current Taxiways
Taxiway Safety Area (TSA) Width (ft.)	49	49
Taxiway Object Free Area (OFA) Width (ft.)	89	89
Taxilane OFA Width (ft.)	79	79
Taxiway Centerline To:		
Parallel TWY/Taxilane C/L (ft.)	70	200
Fixed or Moveable Object (ft.)	44.5	44.5
Taxilane Centerline To:		
Parallel Taxilane Centerline (ft.)	64	N/A
Fixed or Moveable Object (ft.)	39.5	90

Source: Garver, 2019.

The only taxiway ADG based concern noted as part of the facility requirement analysis was the proximity of the perimeter fence to the Taxiway Charlie centerline at the approach end of Runway 8. The fence is approximately 44.5 feet from the taxiway centerline and could become a wingtip clearance concern for larger aircraft.

TAXIWAY CONFIGURATION ISSUES

Based on research, the FAA has identified several taxiway layout/configuration issues that have been shown to cause pilot confusion which can lead to safety issues such as runway incursions. One of these configuration issues is a taxiway used for entering or crossing a runway that intersects the runway at an angle other than 90 degrees. Taxiway Charlie currently does not intersect Runway 8 at a 90-degree angle. This area is shown in **Figure 4-7**. The resolution of this layout will be a consideration in the alternatives process.

FIGURE 4-7
TAXIWAY C PROHIBITED CONFIGURATION
FABENS AIRPORT

Source: Garver, 2019.

AIRFIELD LIGHTING AND MARKING REQUIREMENTS

Airport lighting is used to help maximize the utility of an airport during day, night, and adverse weather conditions. Sufficient airfield marking, lighting and signage is essential to maintaining a high level of safety in an airport's daily operation. This section identifies facility requirements related to airfield markings and lighting at E35.

RUNWAY LIGHTING/PAVEMENT MARKING

Currently, Runway 8/26 is equipped with medium intensity runway edge lights (MIRL). The current MIRLs are pilot controlled through the Common Traffic Advisory Frequency (CTAF) at E35. Pilots can increase the brightness of the MIRLs through a series of microphone click transmissions on the CTAF. The lights are incandescent and are in good condition.

Runway pavement markings should follow the requirements prescribed in AC 150/5340-1 (current series), *Standards for Airport Markings*. Runway 8/26 has basic markings which are in fair condition. The markings are expected to be repainted as part of the current pavement rehabilitation project. The dimensions of all the runway markings were checked as part of this project and all markings have the correct layout, dimensions, and placement.

TAXIWAY LIGHTING/PAVEMENT MARKING

Effective taxiway lighting is imperative to maintain the safety of aircraft operations at night and during periods of poor visibility. Currently, only Taxiway Charlie is lighted. Consideration should be given to lighting other taxiways at E35 or, at minimum, the installation of FAA-approved Taxiway Edge Reflectors.

All paved taxiways should be painted with standard taxiway markings as prescribed in FAA Advisory Circular 150/5340-1 (current series), *Standards for Airport Markings*. Taxiway centerline markings exist on some taxiways at E35, but some are missing or faded. All taxiways will be restriped as part of the current pavement rehabilitation project.

APPROACH LIGHTING SYSTEM

An approach lighting system (ALS) provides the basic means to transition from instrument flight to visual flight for landing. Operational requirements dictate the sophistication and configuration of the ALS for a particular runway. Depending on the type of approach, certain ALS are required to aid pilots in the identification of the Airport environment during instrument meteorological conditions.

ALS are a configuration of signal lights starting at the landing threshold and extending into the approach area for a distance of 2400-3000 feet for precision instrument runways and 1400-1500 feet for non-precision instrument runways. Some systems include sequenced flashing lights that appear to the pilot as a ball of light traveling towards the runway at high speed blinking twice per second.

There are no approach lighting systems for Runway 8/26 at E35. Future consideration for a new ALS will be predicted on user needs, instrument approach minimum requirements, and the restrictions of surrounding property and land use. At this point, it is not expected that E35 will need an ALS.

RUNWAY END IDENTIFIER LIGHTS

Runway End Identifier Lights (REILs) provide rapid and positive identification of the runway approach end. REILs consist of a pair of synchronized (directional) flashing white strobes located laterally along the runway threshold. Runway end identifier lights (REIL) are typically installed along with threshold lights at each runway end. REILs are not commonly needed unless an airport is situated within an area of heavy light pollution or adjacent to areas that would deem them necessary at specific times such as a lighted ball field, lighted rodeo grounds, etc. REILs can also be used in undeveloped areas to help pilots find and identify the runway.

REILs may be a future consideration if El Paso County experiences growth in the airport vicinity that increases the level of light pollution around the airfield or if the location of the runway end needs to be highlighted for incoming night traffic.

AIRPORT SIGNS

Airport sign systems provide pilots with a visual indication of runway and taxiway location, direction, and mandatory instructions that are essential to the safe and

efficient operation of aircraft. Many of the signs at E35 are old, in poor condition, and are broken. A signage improvement project will be necessary in the future.

WIND CONE/SEGMENTED CIRCLE/AIRPORT BEACON

The mid-field windsock and segmented circle at E35 are in good condition. The airport beacon at E35 is in good condition and is located 1,000 feet south of Runway 8/26's centerline.

MAIN PARKING APRON LIGHTING

It is essential for safety and security that the primary apron/ramp area is provided with adequate lighting to illuminate aircraft parking, the fueling area, and hangar taxilane areas. E35 has adequate apron lighting in the area around the terminal building.

NAVAIDs

Airport Navigation Aids (NAVAIDs) are installed on or near an airport to increase the airport's reliability during night and inclement weather conditions and to provide electronic guidance and visual references for executing an approach to the Airport or runway.

FAA Order 7031.2C, *Airport Planning Standard Number One - Terminal Air Navigation Facilities and Air Traffic Control Services*, specifies minimum activity levels to qualify for instrument approach equipment and approach procedures. The following sections describe the status of existing and potential new NAVAIDs for E35.

VISUAL GUIDANCE SLOPE INDICATORS

Typical Visual Guidance Slope Indicators (VGSI) provide a system of sequenced colored light beams providing continuous visual descent guidance information along the desired final approach descent path (normally at 3 degrees for 3 nautical miles during daytime, and up to 5 nautical miles at night to the runway touchdown point). The system normally consists of two Precision Approach Path Indicator lamp housings (PAPI-2) or four (PAPI-4) lamp-housing units installed 600 to 800 feet from the runway threshold and offset 50 feet to the left of the runway edge. Runway

8/26 is equipped with a 2-light PAPI system on each runway end. The PAPIs are in good condition.

VERY HIGH FREQUENCY OMNI-DIRECTIONAL RADIO RANGE

The Very High Frequency Omni-Directional Radio Range (VOR/VORTAC) system emits a very high frequency radio signal utilized for both enroute navigation and non-precision approaches. It provides an instrument rated pilot with 360 degrees of azimuth information oriented to magnetic north. Due to the recent development of more precise navigational systems it is planned to be phased-out by the FAA. The nearest VORTAC is the Ciudad Juarez VORTAC, located 16 nautical miles northwest of E35.

GLOBAL POSITIONING SYSTEM

The Global Positioning System (GPS) is a highly accurate worldwide satellite navigational system that is unaffected by weather and provides point-to-point navigation by encoding transmissions from multiple satellites and ground-based data-link stations using an airborne receiver. GPS is presently FAA-certified for enroute and instrument approaches into numerous airports. The current program provides for GPS stand-alone and overlay approaches where GPS fixes are overlaid on top of an existing approach (typically NDB or VOR approaches). Recently, the selective availability segment of the channel was decommissioned, thereby enhancing the accuracy of the GPS signal. The Wide Area Augmentation System (WAAS) is being installed at or near airports to provide a signal correction enabling GPS precision approaches (commonly called GPS approaches with LPV minimums). There are currently no GPS approaches to E35, however, as previously discussed, future implementation of a GPS approach will be considered in the alternatives chapter.

WEATHER OBSERVING SYSTEM

Automated Weather Observation Systems (AWOS) and Automated Surface Observation Systems (ASOS) consist of various types of sensors, a processor, a computer-generated voice subsystem, and a transmitter to broadcast minute-by-minute weather data from a fixed location directly to the pilot. The information is transmitted over the voice portion of a local NAVAID (VOR or DME), or a discrete

VHF radio frequency. The transmission is broadcast in 20-30 second messages in standard format and can be received within 25-nautical miles of the automated weather site. AWOS/ASOS are significant for non-towered airports with instrument procedures to relay accurate and invaluable weather information to pilots. At airports with instrument procedures, an AWOS/ASOS weather report eliminates the remote altimeter setting penalty, thereby permitting lower minimum descent altitudes (lower approach minimums). These systems should be sited within 500 to 1,000 feet of the primary runway centerline. FAA Order 6560.20B, *Siting Criteria for Automated Weather Observing Systems*, assists in the site planning for AWOS/ASOS systems.

E35 has a small on-field weather station that provides weather information to a computer inside the FBO, however, there is no AWOS or ASOS system that records or broadcasts weather data. The addition of an AWOS needs to be a consideration in future development.

AIRSPACE

E35 is not currently served by an Air Traffic Control Tower (ATCT) and based on the established operations forecast, an ATCT is not expected to be needed during the forecast period. The current airspace surrounding E35 is classified as Class G airspace. If an Instrument Approach Procedure (IAP) is added to E35 in the future, the airspace will be transitioned to Class E airspace.

The 14 CFR Part 77 Imaginary Surfaces for the Airport are defined below:

- Runway 8/26
  - Primary Surface – 250 feet wide x 200 feet past each runway end.
  - Approach Surface – 20:1 slope for both runway ends for 5,000 feet.
- Non-Runway Specific Surfaces
  - Horizontal Surface – Flat surface established at an elevation 3,829 feet (150 foot above field elevation). Perimeter is based on 5,000 feet arcs from each end of Runway 8/26.
  - Conical Surface – Extends from the edges of the Horizontal surface for a horizontal distance of 4,000 feet at a 20:1 slope.

- Transitional Surface – Extends from the edges of the primary surface until it reaches the horizontal surfaces and from the edges of the approach surfaces until it reaches the horizontal surface or for a horizontal distance of 5,000 feet.

No aerial obstruction data was collected for this project, so the following obstruction evaluation discussion is based upon current, published obstruction data available for the Airport. There are three documented obstructions that have been identified:

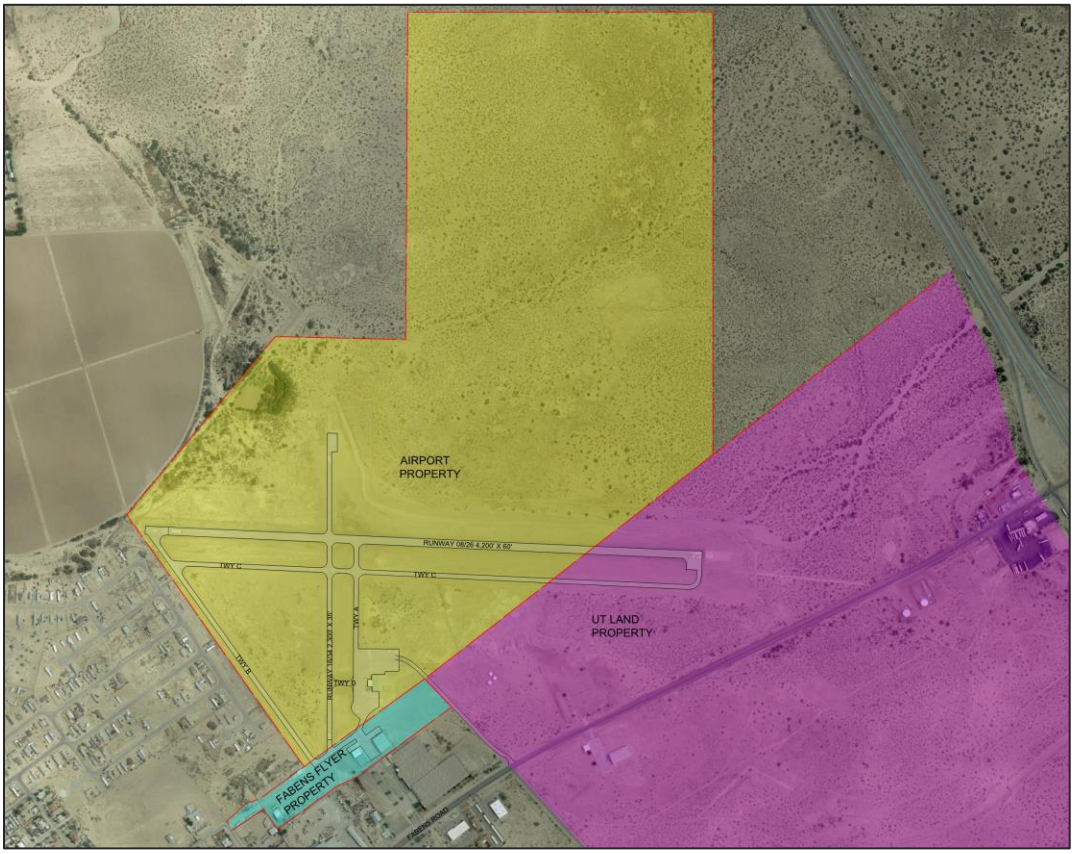
- Rising Terrain East of Runway 8/26 – Terrain rises by approximately 35 feet between the Runway 26 threshold and Farm-to-Market Road 793/Fabens Road.
- Fence at Approach End Runway 8 – A four-foot fence is located 200 feet from the runway, 36 feet left of centerline, requiring a 60:1 glidepath to the displaced threshold.
- Antenna at Approach End Runway 26 – A 102-foot antenna is located 1,950 feet from the runway, 125 feet left of centerline, requiring a 17:1 slope to clear.

All of these items will be considered in the alternatives chapter. The antenna at the approach end of Runway 26 will be a key consideration in the establishment of an IAP for Runway 26.

AIRPORT PROPERTY INTEREST

As discussed in the Inventory Chapter, El Paso County only owns a portion of the property where Fabens Airport is located. Portions of the property that the runways and taxiways at E35 are located are owned by UT Lands and Fabens Flyers. The current land holdings for the Airport are shown in **Figure 4-8**.

FIGURE 4-8
LAND HOLDINGS
FABENS AIRPORT



Source: El Paso County Land Holding Data.

With the deactivation of Runway 16/34, the impacts of the Fabens Flyer property have been greatly reduced. However, the Fabens Flyer area is expected to continue to exist as a Through-the-Fence (TTF) operation at the Airport. No TTF agreement currently exists with the Fabens Flyer tenants. A recommendation discussed later in this chapter will be the establishment of a TTF agreement to regulate the use of E35 by tenants located in the Fabens Flyer area.

The eastern portion of Taxiway Charlie and Runway 8/26 are located on UT Lands property. Currently, El Paso County has an "easement" with UT Lands to allow for the use of this property for airport purposes. The current easement is for a 10-year initial term (expires in 2027) with an automatic renewal option for two additional 10-year periods. While UT Lands has not expressed any plans to not continue granting this easement in the future, El Paso County should seek to establish a

long-term controlling interest in the property. Establishing this interest will be critical to securing future grant funding related to expanding the Airport. Additionally, the entrance road to the Airport is also located on UT Lands property.

While less important than establishing a long-term controlling interest in the property associated with the runway and taxiway, El Paso County should seek to establish a controlling interest for the UT Lands property where the Airport entrance road is located.

AIRFIELD/AIRSPACE FACILITY REQUIREMENTS SUMMARY

Based on the airfield and airspace facility requirements analysis, the following development objectives have been established for the E35's alternatives development process:

- Extension of Runway 8/26 to 5,000 feet;
- Plan for a future crosswind runway;
- Resolve non-compliant RSA, ROFA, and OFA conditions at the approach end of Runway 8;
- Relocate residential properties at the approach end of Runway 8;
- Establish an IAP for Runway 26;
- Establish an AWOS System;
- Mitigate existing and potential future airspace obstructions;
- Realign Taxiway Charlie at the approach end of Runway 8 to a 90-degree angle;
- Bring all taxiways to TDG-2 standards;
- Add taxiway edge lighting or taxiway edge or centerline reflectors to all unlighted taxiways; and
- Establish sufficient interest in the UT Land properties where Runway 8/26, Taxiway Charlie, and the Airport entrance road are located.

TERMINAL/LANDSIDE FACILITIES

Terminal area and landside area facilities play an important role in enabling the transition of pilots, passengers, and goods to and from the airside facilities at the Airport. Terminal and landside area facilities include FBO/Terminal building facilities, hangars, apron space, vehicle parking areas, and roadway access.

TERMINAL BUILDING REQUIREMENTS

The terminal building serves both a functional and social capacity central to the operation, promotion and visible identity of an airport. Key terminal area requirements are developed in consideration of the following general design concepts:

- Future terminal area development for general aviation airports serving utility and larger than utility aircraft should be centralized;
- Planned development should allow for incremental linear expansion of facilities and services in a modular fashion along an established flightline;
- Major design considerations involve minimizing earthwork/grading, avoiding flood-prone areas and integrating existing paved areas to reduce pavement (taxilane) costs;
- Future terminal expansion should allow sufficient maneuverability and accessibility for appropriate types (mix) of general aviation aircraft within secured access areas; and
- Future terminal area development should enhance safety, visibility, and be aesthetically pleasing.

The GA terminal at E35 is operated by Olivas Aviation, the FBO provider. In the current facility, space is allocated for lounge/waiting area, flight planning, and restrooms. There is also a small office area that is used by the FBO operator. It is approximately 1,600 square feet and provides adequate service for the current aircraft traffic level at E35. An estimate of building/space needs based on forecasted demand is outlined in **Table 4-6**.

TABLE 4-6
TERMINAL BUILDING SPACE/NEED
FABENS AIRPORT

Facility	2018	PAL 1 (2019)	PAL 2 (2021)	PAL 3 (2024)	PAL 4 (2029)
Formula Factors					
- Peak Hour Operations	2	2	5	7	11
- % of Aircraft Using FBO Terminal Facilities	75%	75%	75%	75%	75%
- Peak Hour Multiplier	2.5	2.5	2.5	2.5	2.5
- Sq. Ft. Per Person	150	150	150	150	150
Total Terminal Sq. Ft. Requirement	563	594	1,384	1,872	3,098
Current Terminal Sq. Ft.	1,600	1,600	1,600	1,600	1,600
Surplus/Deficiency (Sq. Ft.)	**1,038**	**1,006**	**216**	**-272**	**-1,498**

Source: Garver, 2019.
Note: Methodology for calculations is based on guidance provided in Airport Cooperative Research Program (ACRP) Guidebook on General Aviation Facility Planning. Peak Hour Operations estimates assume 25% of a peak day traffic to occur in a single hour. Peak hour multiplier estimates approximately 2.5 people per aircraft operation.

The table shows that the terminal building space is sufficient to address near-term growth, but additional space may be required if operations continue to increase as shown in the forecast chapter. Consequently, space should be reserved to support the expansion of the existing terminal building. It should be noted that the size of the terminal building could be increased while staying within the existing buildings footprint. This could be done by constructing a second story to the existing building.

AIRCRAFT STORAGE (HANGARS)

Future hangar areas should achieve a balance between maintaining an unobstructed expansion area, minimizing pavement development, and allowing convenient airside and landside access. For planning purposes, hangars should accommodate at least 95% of all based general aviation aircraft. Typically, single-engine piston aircraft demand 1,250 square feet, twin-engine propeller aircraft and turboprop aircraft require 3,000 square feet, business jet aircraft require approximately 5,000 square feet, and helicopters require approximately 1,500 square feet. General hangar design considerations include the following:

- Construction of aircraft hangars should be beyond an established Building Restriction Line (BRL) surrounding the runway and taxiway areas, the runway OFZ, runway and taxiway OFAs, and remain clear of the FAR Part 77 Surfaces and Threshold Siting Surfaces;
- Maintaining the minimum recommended clearance between T-hangars of 79 feet for one-way traffic, and 143 feet for two-way traffic. Taxilanes supporting T-hangars should be no less than 25 feet wide. Individual paved approaches to each hangar stall are typically less costly, but not preferred to paving the entire T-hangar access/ramp area;
- Construction of additional hangar space to accommodate 95% of the current based aircraft, hangar waiting list, and forecasted need;
- Interior and exterior lighting and electrical connections should be present on new hangar construction. Enclosed hangar storage with bi-fold doors is recommended;
- Adequate drainage with minimal slope differential between the hangar door and taxilane is necessary. A hard-surfaced hangar floor is recommended, with less than 1% downward slope to the taxilane/ramp; and
- Segregate hangar development based on the hangar type and function. From a planning standpoint, hangars should be centralized in terms of auto access, and located along the established flight line to minimize costs associated with access, drainage, utilities and auto parking expansion.

Today, E35 has 10,200 square feet of box hangar space. No aircraft are currently stored in the hangar as the hangar is leased to UTEP as part of the MIRO Center. E35 has no T-hangar storage. Five box hangars/storage facilities are located on the Fabens Flyers property, which is considered to be a “through-the-fence” operation. Based on the forecast for based aircraft, it is presumed that hangar space at E35 will need to grow as described in **Table 4-7** to accommodate future demand.

TABLE 4-7
AIRCRAFT HANGAR STORAGE DEMAND
FABENS AIRPORT

Facility	2018	PAL 1 (2019)	PAL 2 (2021)	PAL 3 (2024)	PAL 4 (2029)
Based Aircraft - Single Engine Piston	2	11	11	13	17
Estimated Hangar Space per Aircraft	1,250	1,250	1,250	1,250	1,250
Total Hangar Space Required (sq. ft.)	2,500	13,750	13,750	16,250	21,250
Based Aircraft - Multi-Engine/Turboprop	0	0	0	1	2
Estimated Hangar Space per Aircraft	3,000	3,000	3,000	3,000	3,000
Total Hangar Space Required (sq. ft.)	0	0	0	3,000	6,000
Based Aircraft - Helicopters	0	0	1	1	1
Estimated Hangar Space per Aircraft	1,500	1,500	1,500	1,500	1,500
Total Hangar Space Required (sq. ft.)	0	0	1,500	1,500	1,500
Transient/Maintenance Hangar Reserve	5,000	5,000	5,000	5,000	5,000
Total Based Aircraft	2	11	12	15	20
Total Hangar Space Required (sq. ft.)	7,500	18,750	20,250	25,750	33,750
Hangar Space Lost to Exclusive Use/ Office Space (estimated at 15%) (sq. ft.)	1,125	2,813	3,038	3,863	5,063
Hangar Space Required + Space Lost to Exclusive Use/Office Space (sq. ft.)	8,625	21,563	23,288	29,613	38,813
UTEP MIRO Center Hangar Needs	20,400	20,400	20,400	20,400	20,400
Current Hangar Space (sq. ft.)	10,200	10,200	10,200	10,200	10,200
Surplus/Deficiency (sq. ft.)	**-18,825**	**-31,763**	**-33,488**	**-39,813**	**-49,013**

Source: Garver, 2019.
Note: Approximately 5,000 square feet was assumed to be needed for aircraft maintenance/transient parking hangar space. UTEP MIRO Center Hangar space is assumed to include the current hangar (10,200 square feet) and one additional hangar of the same size.

The analysis indicates that additional hangar space is expected to be needed at E35. The hangar space is expected to be a blend of box hangars and T-hangars.

AUTO PARKING, CIRCULATION, AND ACCESS REQUIREMENTS

TERMINAL PARKING

Sufficient vehicle parking is important to minimizing the operation and parking of vehicles in the airside environment. For E35, consideration was given for vehicle parking related to the FBO Terminal, aircraft hangars, and UTEP's hangar facilities. Guidance for establishing the number of required parking spaces was acquired by using the best practices established in Airport Cooperative Research Program's (ACRP) *Guidebook for General Aviation Facility Planning*.

The calculation for the number of parking spaces required using this standard is shown in **Table 4-8**. As mentioned in the Inventory Chapter, there are currently two small parking lots that can accommodate a total of 16 vehicles, including one American with Disabilities Act (ADA) parking spot in each lot.

TABLE 4-8
PARKING SPACE NUMBER REQUIREMENTS
FABENS AIRPORT

Facility	2018	PAL 1 (2019)	PAL 2 (2021)	PAL 3 (2024)	PAL 4 (2029)
FBO Terminal Parking					
- Peak Hour Operations	2	2	5	7	11
- % of Aircraft Using FBO Terminal Facilities	75%	75%	75%	75%	75%
- Peak Hour Multiplier	2.5	2.5	2.5	2.5	2.5
Parking Space Need for Passenger/Pilot	4	4	9	12	21
Hangar Space Parking					
- Hangar Space Requirement	12,700	23,950	25,450	30,950	38,950
- Parking Allotment Based on Hangar Space (1 space per 1,000 sf)	13	24	25	31	39
- Reduction for Parking Inside Hangar	0.00%	0.00%	10.00%	10.00%	10.00%
Total Parking Needed for Hangar Space	13	24	23	28	35
Total # of Spaces Currently	16	16	16	16	16
Total Number of Parking Spaces Needed	**17**	**28**	**31**	**39**	**56**
Total Deficiency/Surplus	**-1**	**-12**	**-15**	**-23**	**-40**

Source: Garver, 2019.
Note: Methodology for calculations based on guidance provided in Airport Cooperative Research Program (ACRP) *Guidebook on General Aviation Facility Planning*. Peak Hour Operations estimates assumed 25% of peak day traffic to occur in a single hour. Peak hour multiple estimates approximately 2.5 people per aircraft operation. Reduction for parking inside hangar factor was initially set a 0% due to current occupation of the only existing hangar by UTEP. Percentage was increased to 10% for PALs 2-4 due to development of additional hangars and the likelihood that some will be T-hangars or private hangars where parking inside the hangar is more likely.

Based on the results of this analysis, it is expected that E35 will need to add additional vehicle parking locations as hangars are developed. A significant driver in this is expected to be the expansion of UTEPs hangar facilities and the Airport hangar facilities and how those hangars are utilized.

VEHICLE ACCESS

Roadway access to the Airport is provided via an unnamed access road which connects to Fabens Road for access into the community. The road is part asphalt and part gravel and is generally in poor condition. As previously discussed, the road is on UT Lands property and El Paso County has an easement agreement with UT Lands to allow access to the Airport via the road. It is recommended that the road

be named, added to the 911 dispatch system, and that additional airport signage be added.

AIRCRAFT APRON

COMPOSITION, LAYOUT, AND CONDITION

Aircraft apron areas are provided for aircraft maneuvering and parking. Typically, aprons utilized for aircraft parking have a blend of based aircraft utilizing the apron as a permanent parking location and itinerant aircraft that are using the apron as a temporary parking location. Currently, two aircraft are permanently parked on the ramp at E35. However, it is expected that these aircraft will relocate to a hangar facility if a facility becomes available. It should also be noted that E35's apron is being rehabilitated as part of the Airport's current pavement rehabilitation project.

APRON SPACE REQUIREMENTS

Since it is expected that very few aircraft will be permanently based on the apron at E35, the calculations regarding the need for ramp space primarily focus on the space needed to park itinerant aircraft and the space needed for aircraft movement. For the purposes of this analysis it is assumed that aircraft will primarily park in a single row configuration, wing-to-wing, with pull-through or push-back parking as is common with itinerant aircraft.

To begin the analysis, a weighted average for the number of square feet of pavement needed to park an aircraft was calculated. Additionally, for these calculations considerations were made for the fleet mix at E35, the movement of the aircraft into and out of the parking area, and the movement of other aircraft around the parked aircraft. Required clearances on all sides of the aircraft are taken into the consideration. **Table 4-9** shows the results of this analysis and provides a weighted average apron space requirement per aircraft.

TABLE 4-9
AIRCRAFT APRON SPACE – WEIGHTED AVERAGE CALCULATION
FABENS AIRPORT

ADG	Average Length (ft.)	Average Wingspan (ft.)	Additional Clearance (ft.)	TOFA Clearance (ft.)	Average Parking Area Required ($ft.^2$)	Fleet Mix	Weighted Average Parking Area ($ft.^2$)
I	26	35	7.50	79	6,000	98.00%	5,880
II	55	60	9.00	115	14,664	1.00%	147
III	100	100	11.00	162	34,648	0.00%	0
IV	155	140	13.5	225	67,969	0.00%	0
Helicopter	35	30	12.00	0	3,186	0.03%	1
					Weighted Average:		**6,028**

Source: Garver, 2019.
Note: These calculations take into account the TOFA required for another aircraft to pass by the parked aircraft. The average parking area required was calculated by multiplying the average aircraft length plus 2 times the additional clearance margin by the average aircraft wingspan plus 2 times the additional clearance margin and then adding that number to the TOFA plus the aircraft's average wingspan plus 2 times the additional clearance margin.

Based on these weighted average calculations and assumed peaking characteristics, **Table 4-10** shows the estimated amount of apron space that will be required at E35 during the forecast period.

TABLE 4-10
AIRCRAFT APRON SPACE REQUIRED CALCULATION
FABENS AIRPORT

Year	Peak Month Average Day (PMAD)	% of PMAD on Ramp at Same Time	Weighted Average Aircraft Parking Area (ft.^{2})	Estimated Parking Apron Required	Aircraft Circulation Factor	Total Apron Area Required (ft.^{2})	Current Apron Area (ft.^{2})	Surplus/ Deficiency Based on Current Apron Size (ft.^{2})
2018	8	70.00%	6,028	33,757	10,127	43,884	105,000	61,116
PAL 1 (2019)	8	70.00%	6,028	35,639	10,692	46,331	105,000	58,669
PAL 2 (2021)	20	70.00%	6,028	83,022	24,907	107,929	105,000	-2,929
PAL 3 (2024)	27	70.00%	6,028	112,318	33,695	146,014	105,000	-41,014
PAL 4 (2029)	44	70.00%	6,028	185,889	55,767	241,656	105,000	-136,656

Source: Garver, 2019.
Note: An assumption was made that no more than 70% of the total number of estimated operations during the PMAD would be on the ramp at the same time. The estimated parking apron required was calculated by multiplying the PMAD by the estimate % of aircraft on the ramp at the same time and then multiplying that result by the weighted average aircraft parking area. A factor of .3 was added to the apron space calculation to account for general aircraft circulation and movement.

While these calculations show that E35 currently has sufficient ramp space to meet its current aircraft parking and movement demands, additional apron space is expected to be needed in the future.

FUEL STORAGE REQUIREMENTS

Fuel storage requirements are based on the forecast of annual operations, aircraft utilization, average fuel consumption rates, and the forecast mix of GA aircraft anticipated at E35. On average, the typical single-engine airplane consumes 12.0 gallons of fuel per hour and flies approximately 100 nautical miles (1.0 to 1.5 hours) per flight. Turbine aircraft generally will fly greater distances averaging 300 nautical miles and approximately 1.5 – 2.0 hours. Market conditions will determine the ultimate need for fuel tanks and their size. The following guidelines should be implemented when planning future airport fuel facilities:

- Aircraft fueling facilities should remain open continually (24-hour access), remain visible and be within close proximity to the terminal building or FBO to enhance security and convenience;
- Fuel storage capacity should be sufficient for average peak-hour month activity;
- Fueling systems should permit adequate wing-tip clearance to other structures, designated aircraft parking areas (tie-downs), maneuvering areas, and OFAs associated with taxilane and taxiway centerlines;
- Locating the fuel facilities beyond the RSA and BRL;
- Equipping all fuel storage tanks with monitors to meet current state and federal environmental regulations, and be sited in accordance with local fire codes;
- Have a dedicated fuel truck for Jet-A delivery to minimize the liability associated with towing and maneuvering expensive aircraft up to and in the vicinity of fueling facilities; and
- Maintaining adequate truck transport access to the fuel storage tanks for fuel delivery.

As reported in the Inventory chapter, E35 has one 2,000 gallon Above Ground Storage Tank for 100LL fuel. The facility is in poor condition and lacks several key safety features.

Consideration will be given in the alternatives chapter to upgrading the fuel storage facility to meet industry standards, increase storage capacity, and provide Jet-A fuel service.

POTENTIAL DEVELOPMENT AREAS

Identifying potential development locations for aeronautical and non-aeronautical facilities are an important aspect of airport development and planning. Due to the deactivation of Runway 16/34 and the re-designation of the runway as a taxiway, new development opportunities are now available. **Figure 4-9** identifies the two primary development areas identified as part of this facility requirements analysis. These areas have the highest potential for future development due to their proximity to existing utilities, topography, and roadway access.

FIGURE 4-9
DEVELOPMENT AREAS
FABENS AIRPORT

Source: Garver, 2019.

AIRPORT TERMINAL AREA FACILITY REQUIREMENTS SUMMARY

Based on the terminal area requirements analysis, the following development objectives have been established for the E35 alternatives development process:

- Small expansion of the existing terminal building;
- Additional box and T-hangar space;
- Additional vehicle parking;
- Additional apron space; and
- Improved fuel farm (compliance, capacity, and fuel provided).

POLICY IMPROVEMENTS

A key aspect of airport business development planning is considering the Airport policy improvements that should be made to encourage the safe and effective development of the Airport and to protect it from encroachment of the surrounding community. This section provides an overview of the policy improvements that should be considered for E35.

AIRPORT RULES AND REGULATIONS

The purpose of Airport Rules and Regulations is to ensure the safe, secure, and efficient use of airport facilities. As a result, Airport Rules and Regulations usually establish minimum standards related to safety, security, and any types of conduct that are prohibited or regulated on airport property. Rules and regulations are also typically used to establish policies related to the utilization of airport facilities and to provide authorities to the Airport owner regarding penalties that can be leveed for non-compliance.

Currently, E35 does not have an existing set of rules and regulations. It is recommended that the Airport establish rules and regulations that comply with guidance published by the FAA and TxDOT Aviation.

AIRPORT MINIMUM STANDARDS

Airport Minimum Standards documents provide a set of criteria that must be met by individuals or companies seeking to establish a commercial business at the Airport. These criteria typically include guidance regarding the standards for facility development, insurance requirements, hours of operation, minimum services and service levels to be provided, use of non-leased facilities, advertisement, and others. The purpose of Minimum Standards is to ensure the equitable treatment of commercial business at the Airport and to ensure a minimum level of service is provided to airport patrons.

Currently, E35 does not have an existing set of airport minimum standards. It is recommended that the Airport establish airport minimum standards that comply with guidance published by the FAA and TxDOT Aviation. As a small airport, it is recommended that E35 exercise caution when developing minimum standards to

ensure the standards are not overly burdensome to potential commercial businesses. Overly burdensome minimum standards can discourage development.

LEASE AGREEMENTS

Leases are agreements between the Airport operator and an individual or company seeking to lease space on airport property. Leases are vital to the protection of the airport operator as they are the primary document that dictates the roles, responsibilities, and privileges granted to the lessee by the lessor. Currently, E35 has two lease agreements. The first agreement is with the FBO Operator, Olivias Aviation. The second is an interlocal agreement and lease with UTEP.

It is recommended that E35 develop standard lease terms and conditions for ground, box hangar, T-hangar, and aircraft tie-down leases. Consistent lease terms and conditions will ensure the equal treatment of airport tenants and protect the airport.

TxDOT has a model lease agreement posted on their website that can be used to aid in developing standard terms and conditions.

RATES AND CHARGES

Airport Rates and Charges Policies are important for ensuring the financial health of an airport as they establish the fees that will be charged by the airport for certain leases and services. Common items included in rates and charges policies are standard ground lease rates, fuel flowage fees, tie-down rates, hangar storage rates (T-hangar, box hangar, etc.), and other service fees. Establishing rates and charges that are too high can discourage development while rates and charges that are too low may fail to provide the airport operator with a sufficient return on investment to support the maintenance of airport facilities.

The rates and charges for E35, were reviewed as part of the inventory analysis. The following recommendations have been established:

- Consider the elimination of the commercial aircraft landing fee of $100 for emergency reasons as it is not a standard industry practice;

- Establish rates and charges related to the utilization of the Airport by individuals based at the Fabens Flyer Area (e.g. annual permit fee) via a Through-The-Fence (TTF) agreement; and
- Establish a ground lease rate commensurate with local property values.

Other rates and charges should be developed as new facilities are established at the Airport (e.g. T-hangars, additional box hangars, etc.)

ZONING ORDINANCES/PROTECTIONS

Height hazard zoning ordinances are critical for protecting an airport from future development that could negatively impact the Airport. These regulations typically specify a process, development standards, and height restrictions that must be followed in areas surrounding the Airport to ensure no structure or facility is built that will negatively impact air navigation. These ordinances are typically established by the authority having jurisdiction over the area the Airport is located in or through the establishment of a special joint zoning board approved by multiple political jurisdictions.

In Texas, municipalities and counties have been granted the authority to establish airport zoning regulations under the Airport Zoning Act that was originally approved in 1987. This act grants "political subdivisions" (e.g. a municipality or county) the authority to establish airport related zoning regulations to protect the Airport from incompatible land uses and encroachment. It should be noted that this authority is not based on the same regulatory authority as comprehensive community zoning.

Currently, no airport zoning ordinances are established for Fabens Airport. It is recommended that zoning ordinances be established and that they conform to the airspace standards set forth in 14 CFR Part 77 – *Safe, Efficient Use, and Preservation of the Navigable Airspace*. TxDOT Aviation has a template on their website that can be utilized to develop zoning ordinances.

THROUGH-THE-FENCE AGREEMENTS

As previously discussed, the Fabens Flyers operation is considered a Through-The-Fence (TTF) operation as it is located outside of the Airport's property limits but

access is provided directly from the Fabens Flyer property to the airfield. The establishment of TTF operations is generally discouraged by the FAA. However, TTF operations can be successful at an airport if proper agreements exist between the airport operator and the TTF operator. The agreements must specify the terms and conditions associated with the use of the Airport much like what would be found in a lease agreement.

Currently, a TTF agreement does not exist between El Paso County and the aircraft operating from the Fabens Flyer property. El Paso County should establish TTF agreements with the aircraft operators based on the Fabens' Flyer property.

AIRPORT MARKETING

While the marketing of an airport is not a policy, it is an important part of attracting additional based aircraft and aeronautical businesses to the Airport. Based on a review of the Airport, the following marketing opportunities were identified that should be considered to encourage aeronautical activity at Fabens Airport:

- ✈ Attract Additional Based Aircraft
  - Social Media – E35 should establish a social media presence that could be used to make aircraft owners and operators aware of available hangars and other news related to the Airport. There are currently multiple pilot-centric Facebook groups that the Airport should engage with (e.g. West Texas Aviators Group, Texas Pilots, etc.). Additionally, Twitter or Instagram could be used to build social media awareness.
  - Targeted Advertising with the Aircraft Owners and Pilots Association (AOPA) – AOPA is the largest aviation focused organization in the world. AOPA has the ability to provided targeted advertisements to member pilots within a specified geographic area. E35 could contract with AOPA to advertise the availability of new facilities at the Airport.
  - Events – A great way to attract new patrons to the Airport is through airport events such as fly-ins.

- Attract Aeronautical Businesses
  - Economic Development Partnerships – The best way to attract potential businesses to an airport is through local partnership with economic development agencies and professionals. Building their awareness of the capabilities of the Airport and the development opportunities that can be offered are critical to identifying potential commercial tenants.

SUMMARY OF POLICY IMPROVEMENTS

Based on the policy analysis, the following policy improvements should be made for the Fabens Airport:

- Establish Airport Rules and Regulations;
- Establish Airport Minimum Standards;
- Establish Airport Zoning Regulations;
- Establish standard lease terms and conditions;
- Improve the existing airport rates and charges;
- Establish TTF Agreements; and
- Improve Airport Marketing

FACILITY REQUIREMENTS – SUMMARY

Based on the analysis completed in this chapter, the primary drivers for the Alternatives Chapter are the items defined below:

- Airside
  - Extension of Runway 8/26 to 5,000 feet;
  - Plan for a future crosswind runway;
  - Resolve non-compliant RSA, ROFA, and OFA conditions at the approach end of Runway 8;
  - Relocate residential properties at the approach end of Runway 8;
  - Establish an IAP for Runway 26;
  - Establish an AWOS System;

- Mitigate existing and potential future airspace obstructions;
- Realign Taxiway Charlie at the approach end of Runway 8 to a 90-degree angle;
- Bring all taxiways to TDG-2 standards;
- Add taxiway edge lighting or taxiway edge or centerline reflectors to all unlighted taxiways; and
- Establish sufficient interest in the UT Land properties where Runway 8/26, Taxiway Charlie, and the Airport interest road are located.

✈ Terminal/Landside

- Small expansion of the existing terminal building;
- Additional box and t-hangar space;
- Additional vehicle parking;
- Additional apron space; and
- Improved fuel farm (compliance, capacity, and fuel provided).

✈ Airport Policy Improvements

- Establish Airport Rules and Regulations;
- Establish Airport Minimum Standards;
- Establish Airport Zoning Regulations;
- Establish standard lease terms and conditions;
- Improve the existing airport rates and charges;
- Establish TTF Agreements; and
- Improve Airport Marketing.

CHAPTER 5: STRATEGIC DEVELOPMENT PLAN

INTRODUCTION

This chapter describes the various airside and terminal/landside area development alternatives that were created based on the needs defined in the Strategic Facility and Policy Improvements Chapter. This chapter also discusses the evaluation process used to select the preferred development alternative for each area and reviews the results of the evaluation process.

ALTERNATIVES DEVELOPMENT PROCESS

The development of the various alternatives described in this chapter were created by reviewing the facility requirements defined in Chapter 4 and devising numerous development options that could potentially satisfy those requirements. Those preliminary development alternatives were then consolidated into two airside and two terminal/landside development alternatives that went through the formal evaluation process described herein to select the preferred alternative for each area.

Airside facilities are those that are used for supporting the active movement and circulation of aircraft which includes runways, taxiways, approach facilities and equipment. Terminal/landside area facilities include the terminal building, fuel storage/delivery systems, aircraft parking aprons, aircraft hangars, automobile access and parking, and utilities/infrastructure.

EVALUATION OVERVIEW

As part of the formal evaluation process, the impact each alternative had in the following areas was considered:

- Ability to Satisfy Established Facility Requirements;
- Environmental Impacts;
- Residential and/or Business Impacts;
- Road Relocation, Power Line, and Utility Impacts;
- Geographic Constraints;

- Development Cost/Ease of Implementation;
- Impacts to Airport's Ultimate Development Potential;
- Long-Range Airspace Protection (Airside Alternatives only);
- Alignment with County Economic Strategy and Vision (Airside Alternatives only); and
- Congruence with Preferred Airside Alternative (Terminal/Landside Alternatives only).

These evaluation criteria will be discussed more in-depth later in this chapter as well as their application to each alternative.

Because all airport functions relate to and revolve around the runway/taxiway system, airside development alternatives are evaluated before terminal/landside development alternatives. When terminal/landside development alternatives are evaluated, their compatibility with the preferred airside development alternative is also considered.

AIRSIDE ALTERNATIVES

The existing Runway Design Code (RDC) for E35 is B-I-VIS (Small) and the critical aircraft for E35 (B-I) is expected to remain in that same category for the duration of the planning horizon. It is possible, however, that changing operations at the Airport could cause the critical aircraft to move to the B-II-5,000 category. As a result, the alternatives developed as part of this process include consideration for the ultimate need to upgrade existing facilities to B-II-5,000 standards.

Additionally, various components of the current airside facilities fail to meet the current and long-term needs of E35's users. These deficiencies are described in the Strategic Facility and Policy Improvements Chapter and serve as the basis for the development objectives for E35 for the 10-year planning horizon. Each of these development objectives identified through the strategic facility and policy improvements analysis are discussed below:

- Extension of Runway 8/26 to 5,500 feet;
- Plan for a future crosswind runway;
- Resolve non-compliant RSA, ROFA, and OFA conditions at the approach end of Runway 8;

- Relocate residential properties at the approach end of Runway 8;
- Establish an IAP for Runway 26;
- Establish an AWOS System;
- Mitigate existing and potential future airspace obstructions;
- Realign Taxiway Charlie at the approach end of Runway 8 to a 90-degree angle;
- Improve all taxiways to TDG-2 standards;
- Add taxiway edge lighting or taxiway edge and centerline reflectors to all unlit taxiways; and
- Establish sufficient interest in the UT Land properties where Runway 8/26, Taxiway Charlie, and the Airport entrance road are located.

With these development objectives identified the following alternatives were developed.

AIRSIDE ALTERNATIVE #1 (STAY AT RDC B-I-5,000 SMALL)

Airside Alternative #1 assumes the critical aircraft for E35 will remain in the B-I-5,000 (small) category. Additionally, Airside Alternative #1 focuses on minimizing the impact of the Airport's expansion on surrounding infrastructure. The bullet points below discuss the specific improvements included in Airside Alternative #1.

- Runway
    - Extend Runway 8/26 a total of 866 feet to the west to a new total length of 5,000 feet. The threshold for Runway 26 would be moved approximately 66 feet to the west to provide separation between the RPZ and Fabens Road.
    - Acquire unowned parcels to the west within RPZ and BRL.
    - Relocate Highway 76 (North Loop Dr.) to accommodate RPZ.
    - Acquire unowned parcels to the east bordering Fabens Road and IH-10.
    - Build new 5,000-foot x 60-foot Runway (designated as Runway 15/33) parallel to I-10.
        - Separate Runway 33 RPZ from Fabens Road by 30 feet to allow for future road expansion.

- Develop Instrument Approach Procedures (IAPs) for all runways.

- Taxiway
  - Extend Taxiway C to match runway extension.
  - Remove connection at existing Runway 8 end.
  - Develop a parallel taxiway for Runway 15/33.
  - Establish dual taxiways connecting Runway 8/26 and Runway 15/33.
  - Upgrade all taxiway fillets to TDG-2 standards as taxiways are built or rehabilitated.

Airside Alternative #1 is shown in **Figure 5-1**.

AIRSIDE ALTERNATIVE #2 (MOVE TO RDC B-II-5,000)

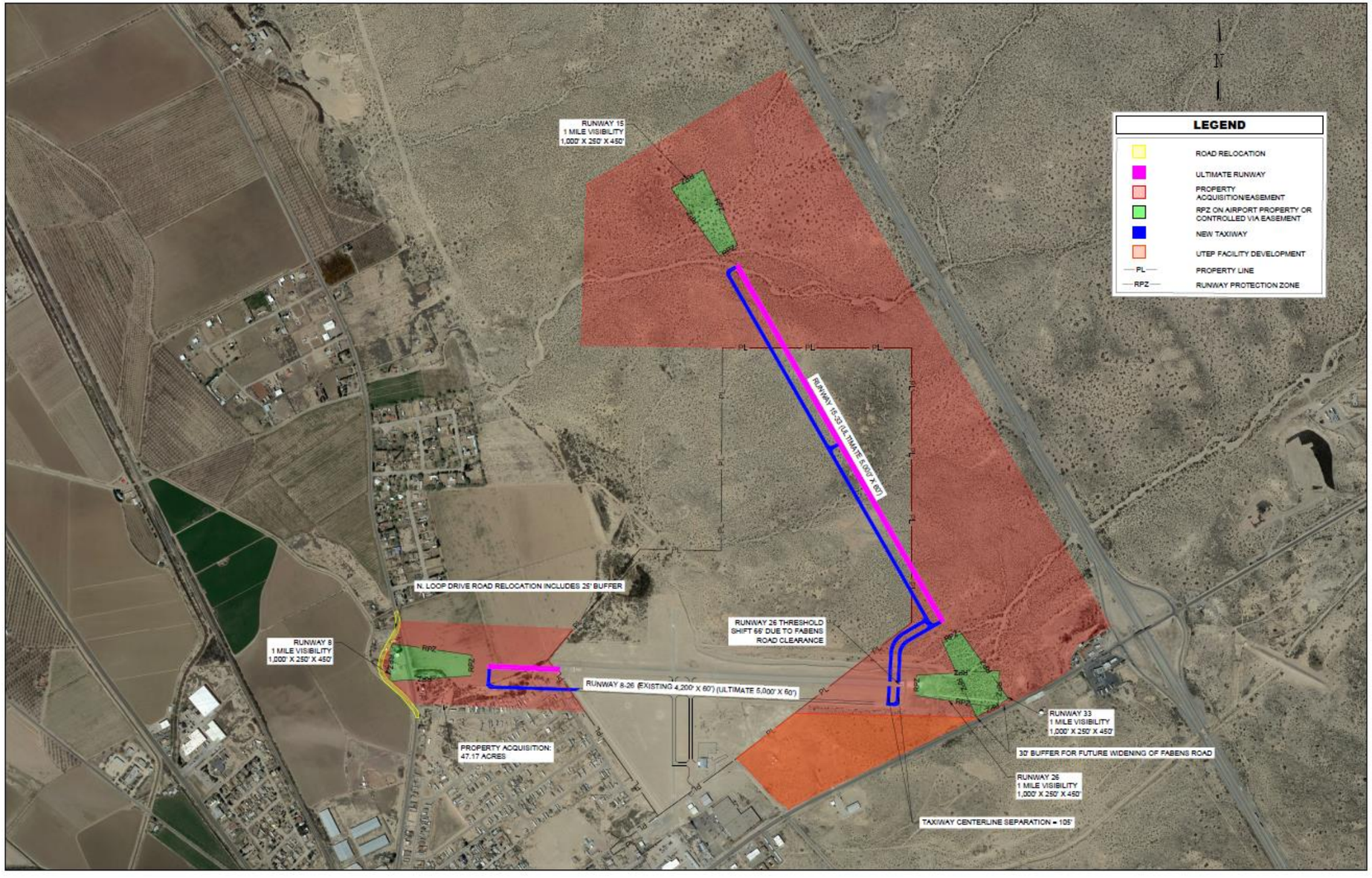
Airside Alternative #2 assumes the critical aircraft for E35 will move to the B-II-5,000 category. As such, this alternative includes additional airport expansion in order to comply with this higher standard. The bullet points below discuss the specific improvements included in Airside Alternative #2.

- Runway
  - Extend Runway 8/26 a total of 1,580 feet to the west for a new total length of 5,500 feet. The threshold for Runway 26 would be moved approximately 280 feet to the west to provide separation between the RPZ and Fabens Road.
  - Acquire unowned parcels to the west within RPZ and BRL.
  - Relocate Highway 76 (North Loop Dr.) to accommodate RPZ.
  - Acquire unowned parcels to the east bordering Fabens Road and IH-10.
  - Build new 5,000-foot x 75-foot Runway (designated as Runway 15/33) parallel to I-10.
    - Separate Runway 33 RPZ from Fabens Road by 30 feet to allow for future road expansion.
  - Develop Instrument Approach Procedures (IAPs) for all runways.
- Taxiways
  - Extend Taxiway C to match runway extension.
  - Remove connection at existing Runway 8 end.
  - Develop a parallel taxiway for Runway 15/33.
  - Establish dual taxiways connecting Runway 8/26 and Runway 15/33.

- Upgrade all taxiway fillets to TDG-2 standards as taxiways are built or rehabilitated.

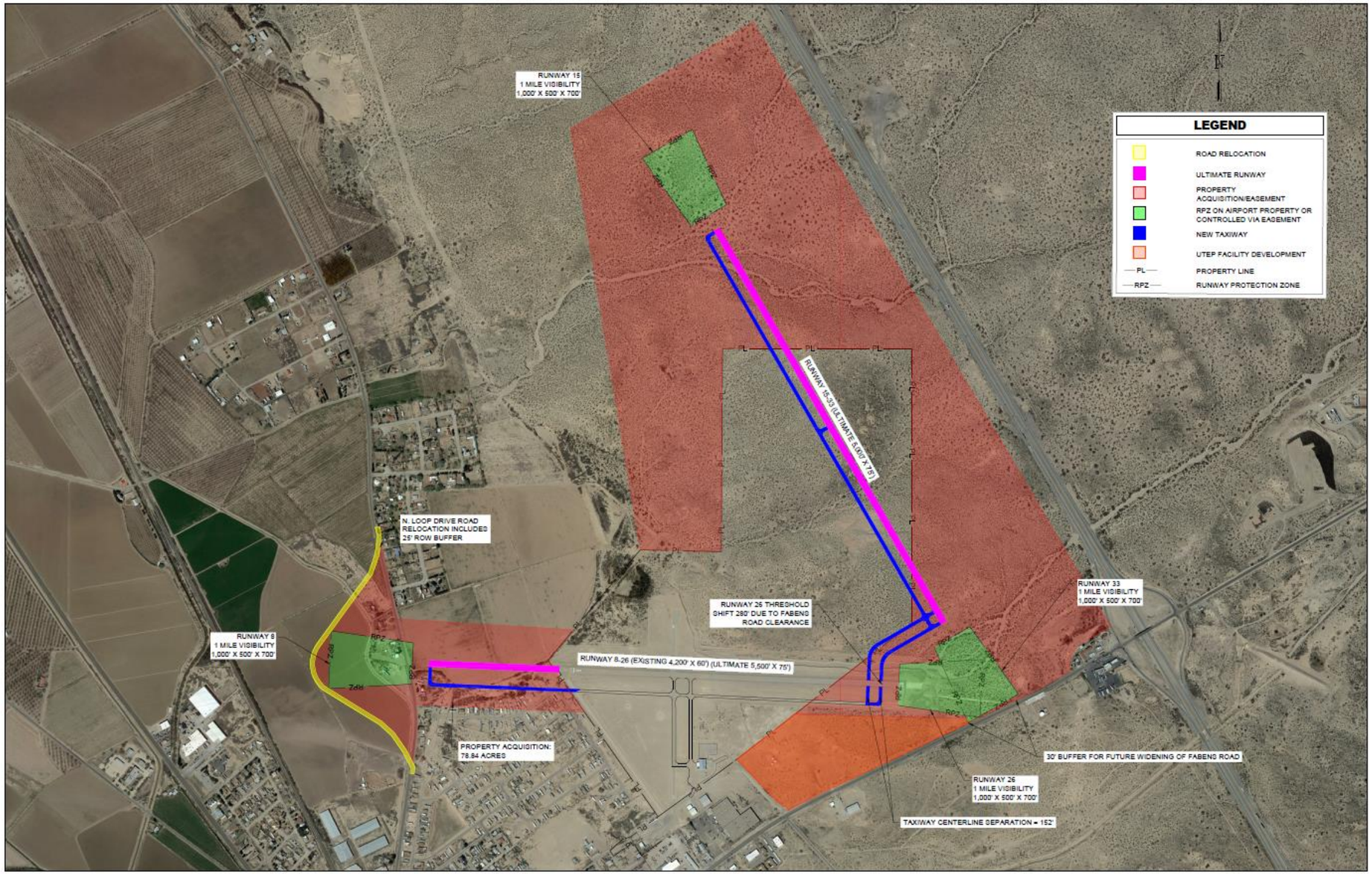
Airside Alternative #2 is shown in **Figure 5-2**.

FIGURE 5-1
AIRSIDE ALTERNATIVE #1
FABENS AIRPORT



Source: Garver, 2019

FIGURE 5-2
AIRSIDE ALTERNATIVE #2
FABENS AIRPORT



Source: Garver, 2019

AIRSIDE ALTERNATIVES EVALUATION

One of the tasks of an ABDP is to analyze the airside alternatives to determine which alternative provides a realistic and feasible plan that will allow the Airport to meet future demand in a safe and efficient manner while also protecting for future growth beyond the 10 year planning horizon. To facilitate this analysis, evaluation criteria were established, and an evaluation matrix was developed showing how each airside alternative compared based on the evaluation criteria. The evaluation criteria are discussed below.

The following criteria are rated on a high, moderate, or low level of impact scale:

- Ability to Satisfy Established Facility Requirements – Does the alternative meet the facility requirements established based on the forecast of future aeronautical activity? Ideally, the preferred alternatives should enable the Airport to meet all established facility requirements.
- Environmental Impacts – What impacts will the proposed airside alternative have on the environment and how might these impacts influence the feasibility of future development? Environmental factors that should be evaluated for impacts include farmland, wetlands, floodplains, soil, wildlife, noise, and cultural environmental factors as well as any others applicable to the Airport. Ideally, the preferred alternative should minimize environmental impacts to the greatest extent practical while still meeting the Airport's future development needs.
- Residential and/or Business Impacts – Will the proposed airside alternative have any known impacts on residential or business areas? Will it require their relocation? Ideally, the preferred alternative should minimize the impact to existing residences or businesses to the greatest extent practical while still meeting the Airport's future development needs.
- Road Relocation, Power Line, and Utility Impacts – Will any roadways, power lines, or other utilities be impacted by the development of the alternative? Ideally, the preferred alternative should minimize the impact to existing

roadways, power lines, and utilities to the greatest extent practical while still meeting the Airport's future development needs.

- ✈ Geographic Constraints – Are there property or topographical challenges that are constraints for this alternative? Property lines, topographical features and bodies of water are key considerations.
- ✈ Development Cost/Ease of Implementation – What is the significance of the development cost associated with the alternative and how challenging will it be to implement? Anticipated cost, funding eligibility and funding availability are considerations. Ideally, the preferred alternative should limit development costs to the extent practical.
- ✈ Impacts to Ultimate Development Potential – Does implementation of this alternative create barriers to future development beyond the 10-year planning horizon? Ideally, the preferred alternative should not create a condition that will limit opportunities for future development.
- ✈ Long-Range Airspace Protection – Does this alternative provide for sufficient protection of the Airport's airspace, taking into account potential future needs? Additionally, does the alternative protect for future development beyond the 10-year timeframe? Ideally, the preferred alternative should provide for long-range airspace and land-use protection that could be critical to future development.
- ✈ Alignment with County Economic Strategy and Vision – Is this alternative likely to support the attraction of new businesses to the area? El Paso County has a high level of interest in developing E35 to facilitate economic growth and the preferred alternative should support this vision.

AIRSIDE ALTERNATIVE EVALUATION RESULTS

Based on the evaluation criteria discussed above, the following matrix was developed showing the proposed rating of each alternative.

TABLE 5-1
AIRSIDE EVALUATION
FABENS AIRPORT

Evaluation Criteria	Airside Development Alternative # 1	2
Ability to Satisfy Facility Requirements	Small Aircraft Only	
Environmental Impacts		
Residential and/or Business Impacts		
Road Relocation, Power Line, and Utility Impacts		
Geographical Constraints		
Development Cost/Ease of Implementation		
Impacts to Ultimate Development Potential		
Long-Range Airspace Protection		
Alignment with County Economic Strategy and Vision		

- Low Impact **or** Meets Requirements

- Moderate Impact **or** Fails to Meet Some Requirements

- High Impact **or** Fails to Meet Most Requirements

Source: Garver, 2019

EVALUATION COMMENTARY FOR AIRSIDE ALTERNATIVE #1

Airside Alternative #1 includes an 866-foot runway extension at the approach end of Runway 8 to bring the total length of Runway 8/26 to 5,000 feet, along with a commensurate extension of the parallel Taxiway Charlie. As part of this extension, the runway is shifted 66 feet to the west to ensure that the Runway 26 RPZ does not overlap with Fabens Road to the east. This alternative also includes a new

5,000-foot x 60-foot-wide crosswind runway with a 15/33 alignment and a full-length parallel taxiway. Also included are two taxiways connecting the new runway and taxiway to the existing taxiway system south of Runway 8/26. While the crosswind runway is not expected to be needed during the 10-year planning horizon, including this crosswind runway helps ensure long-range airspace and land-use protection. The ultimate alignment for the crosswind runway might need to be revised once an AWOS is installed at E35 and localized wind and weather data are collected.

This alternative satisfies facility requirements only as they pertain to small aircraft (e.g. aircraft less than 12,500 lbs.). Additionally, by keeping E35's RDC at B-I-5,000 (small) the Airport's ultimate development potential, long-range airspace protection, and alignment with the county's economic strategy and vision are moderately impacted in this alternative.

Both the extension of Runway 8/26 and the addition of Runway 15/33 would require the use of land beyond E35's current property limits. The land required to extend Runway 8/26 and allow for full protection of its Runway Protection Zones (RPZs) includes several agricultural land tracts, a small residential area, and several other parcels. As a result, moderate residential and business impacts are anticipated.

North Loop Drive (Highway 76) would also need to be relocated at the approach end of Runway 8, resulting in a moderate impact rating for that evaluation criteria. Since residences and farmland would be acquired as part of this alternative, a moderate rating was given for environmental impacts.

Changes in the topography along the alignment of Runway 8/26 and Runway 15/33 are also a key consideration in this alternative as the terrain elevation changes significantly west of the Runway 8 threshold and north of Runway 8/26. As such, geographical constraints and development cost/ease of implementation are expected to be the most-impacted evaluation criteria.

EVALUATION COMMENTARY FOR AIRSIDE ALTERNATIVE #2

Airside Alternative #2 focuses on improving airside facilities at E35's to B-II-5,000 standards, which would allow the airport to accommodate regular operations by larger aircraft. To meet B-II-5,000 standards, this alternative includes extending

Runway 8/26 to the west by 1,580 feet for a new total runway length of 5,500 feet. The existing Runway 26 threshold would be shifted 280 feet to the west to provide proper spacing between the RPZ and Fabens Road. Runway 8/26 would also be widened from 60 feet to 75 feet. To accommodate B-II-5,000 standards, the RPZs increase in size which increases the amount of land that needs to be purchased as part of this alternative. Additionally, a more extensive realignment of North Loop Drive is required to relocate the roadway outside of the expanded RPZ. As a result, this alternative creates a moderate residential and business impact as well as a high impact in the area of road, power line, and utility impacts. Since residences and farmland would be acquired as part of this alternative, a moderate rating was given for environmental impacts.

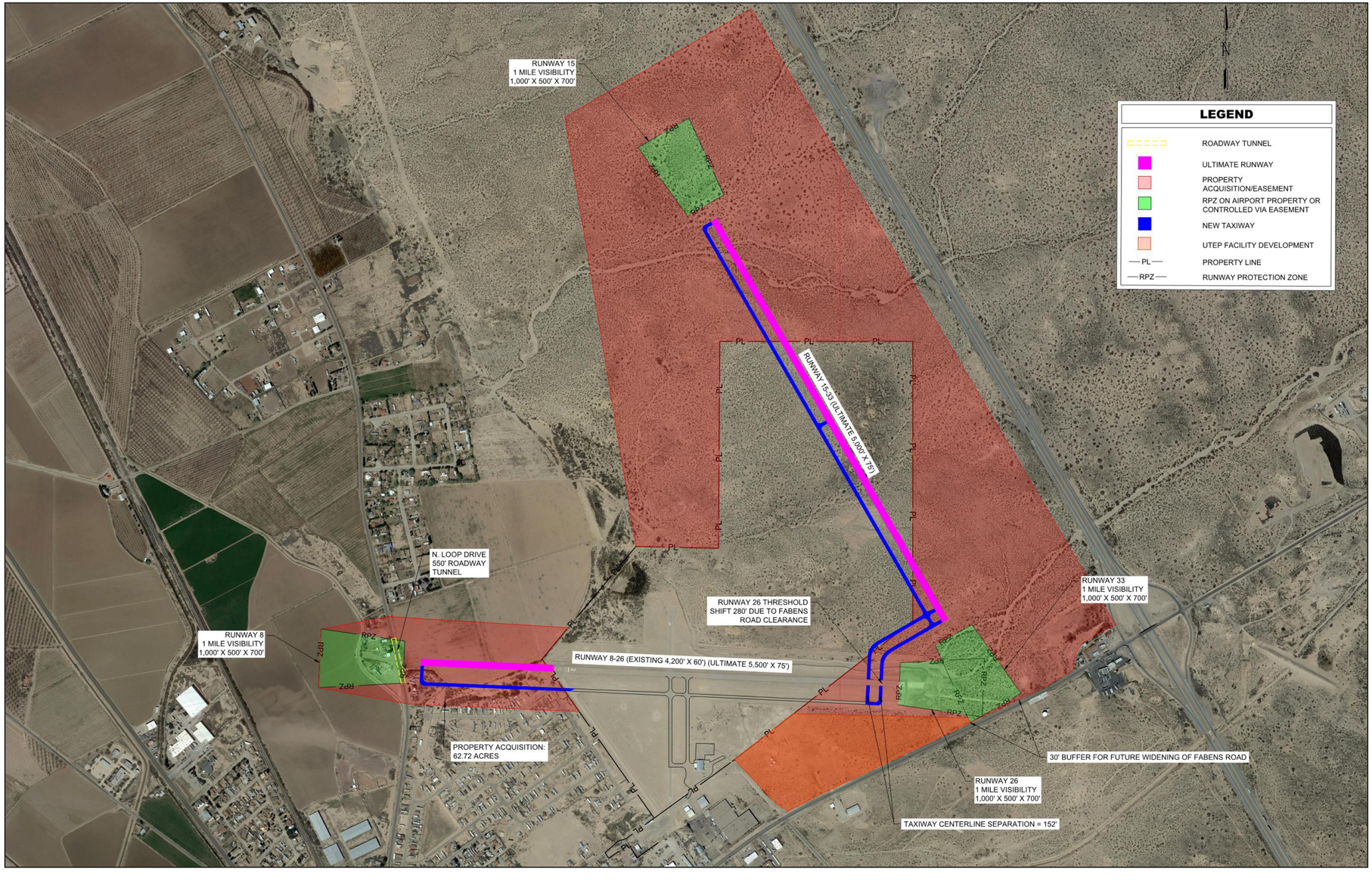
This alternative allows the Airport to accommodate larger aircraft (e.g. mid-sized business jets) on a regular basis and, consequently, received "green" ratings related to its ability to satisfy facility requirements, its alignment with the county's economic development strategy/vision, long-range airspace protection, and for not limiting the Airport's ultimate development potential.

Changes in the topography along the alignment of Runway 8/26 and Runway 15/33 are also a key consideration in this alternative as the terrain elevation changes significantly west of the Runway 8 threshold and north of Runway 8/26. As such, geographical constraints and development cost/ease of implementation are expected to be the most-impacted evaluation criteria.

PREFERRED AIRSIDE DEVELOPMENT ALTERNATIVE

Based on discussions with airport stakeholders and local officials, Airside Alternative #2 was identified as the preferred airside development alternative. However, to further mitigate the impact of the extension of Runway 8/26 on the surrounding community, it was determined that North Loop Drive should be left in place and a tunnel should be utilized to protect the RPZ. This approach has been utilized in other locations in the United States where it is difficult or infeasible to relocate a road as part of a runway extension. A recent example includes Huntingburg Airport in Indiana. The preferred airside development alternative including the tunnel is shown as **Figure 5-3**.

FIGURE 5-3
PREFERRED AIRSIDE DEVELOPMENT ALTERNATIVE
FABENS AIRPORT



Source: Garver, 2020

TERMINAL/LANDSIDE DEVELOPMENT CONCEPTS

With the framework of the Airport's ultimate airside development plan identified, concepts involving the placement of terminal/landside facilities were analyzed. The overall objective of terminal/landside development is to identify and illustrate the highest and best use of existing land holdings and surrounding land for new development or redevelopment.

The primary objectives that were considered during the development of the terminal/landside alternatives were:

- Small expansion of the existing terminal building;
- Additional box and T-hangar space;
- Additional vehicle parking;
- Additional apron space; and
- Improved fuel farm (compliance, capacity, and fuel provided).

These items were identified and discussed in-depth in the Strategic Facility and Policy Improvements Chapter. With these items identified, the following alternatives were developed.

TERMINAL/LANDSIDE ALTERNATIVE #1

Terminal/Landside Alternative #1 provides a combination of T-hangar development and box hangar development. The size of the proposed box hangars mirrors the size of the existing box hangar at the entrance to the Airport. The size of the proposed T-hangars is based on standard sizes for T-hangars seen throughout the airport industry. This alternative also leverages existing airport property made available by the closing of Taxiway Bravo and the conversion of Runway 16/34 into a taxiway.

- East Box Hangar Development
  - Eight 120-foot x 80-foot box hangars
  - Two aprons providing ADG II clearances
  - Vehicle Access Road
  - Taxilane to access hangar development

- Landside vehicle parking adjacent to hangars

- West T-Hangar Development
  - Five T-hangar buildings providing a total of 44 units
    - 40 nested T-hangars, four single-sided larger T-hangars
  - Apron providing ADG I clearances
  - Access Road
  - Landside vehicle parking adjacent to hangars

Terminal/Landside Alternative #1 is shown in **Figure 5-4**.

TERMINAL/LANDSIDE ALTERNATIVE #2

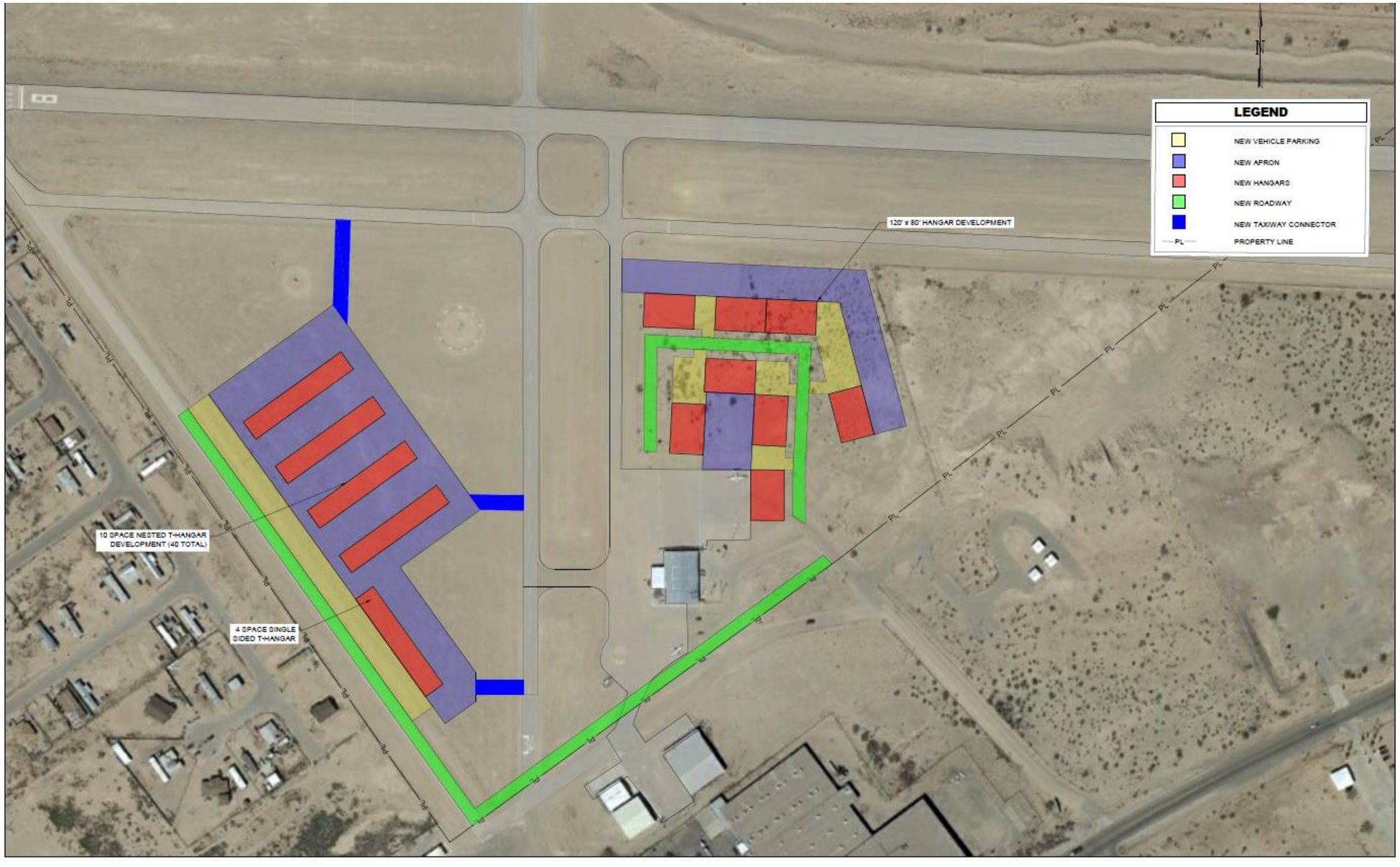
Terminal/Landside Alternative #2 provides a mix of T-Hangar facilities and box hangars. The box hangars are in two different sizes. This alternative also leverages existing airport property made available by the closing of Taxiway Bravo and the conversion of Runway 16/34 into a taxiway.

- East Mixed Hangar Development
  - Three T-Hangar buildings providing 30 nested T-Hangar units
    - Apron providing ADG I clearances
    - Taxilane to parallel taxiway
  - Two 60-foot x 60-foot box hangars adjacent the existing apron
  - Landside vehicle parking
- West Box Hangar Development
  - Three 100-foot x 100-foot box hangars
    - Apron providing ADG II clearances
    - Taxilane to parallel taxiway
  - Seven 60-foot x 60-foot box hangars
    - Apron providing ADG II clearances
    - Taxilane to parallel taxiway
  - Vehicle Access Road
  - Landside vehicle parking adjacent all hangars

Terminal/Landside Alternative #2 is shown in **Figure 5-5**.

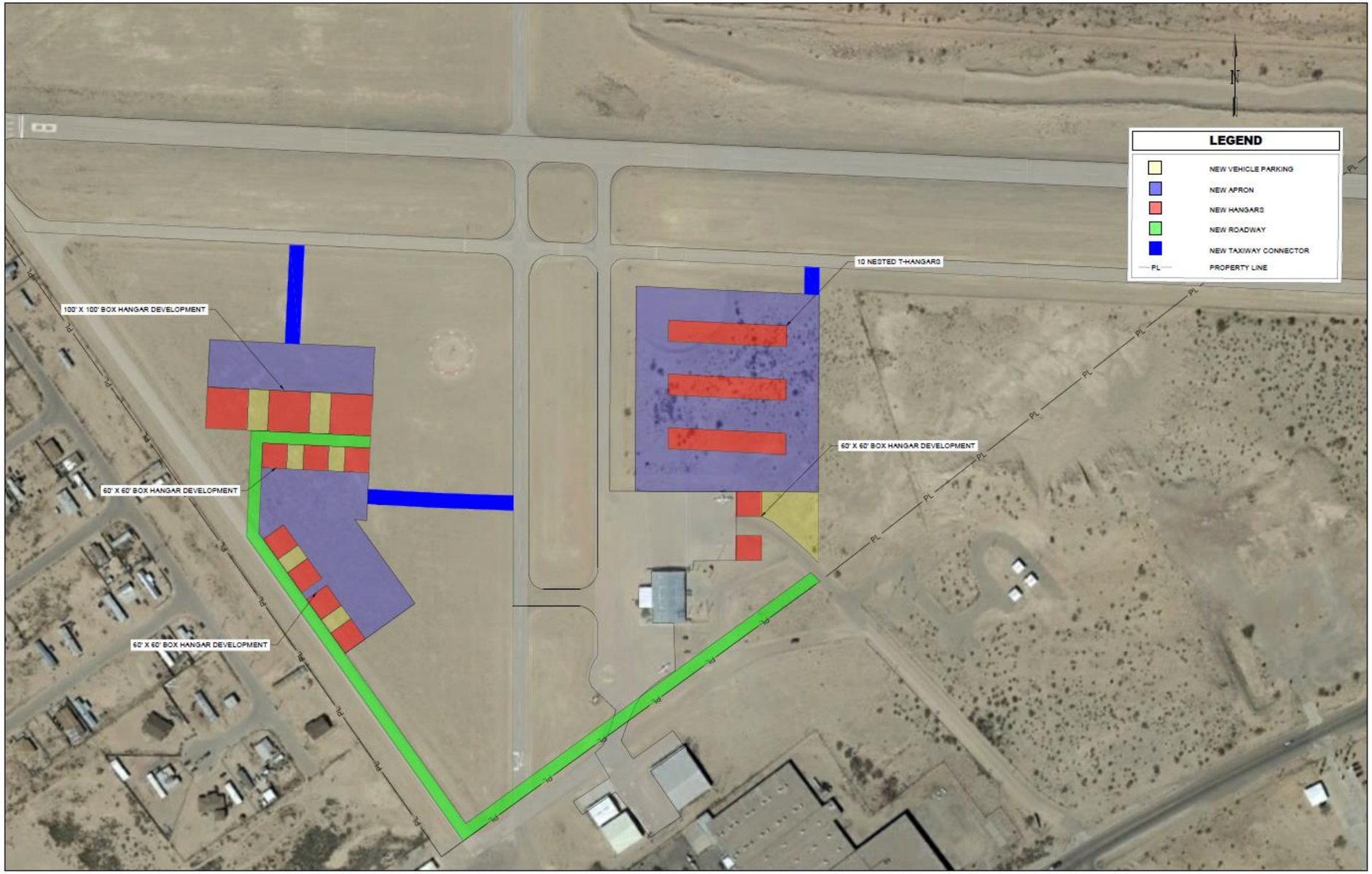
Figure 5-6 depicts an additional parcel of land on existing airport property that should be reserved for future aeronautical development beyond the planning horizon.

FIGURE 5-4
TERMINAL/LANDSIDE ALTERNATIVE #1
FABENS AIRPORT



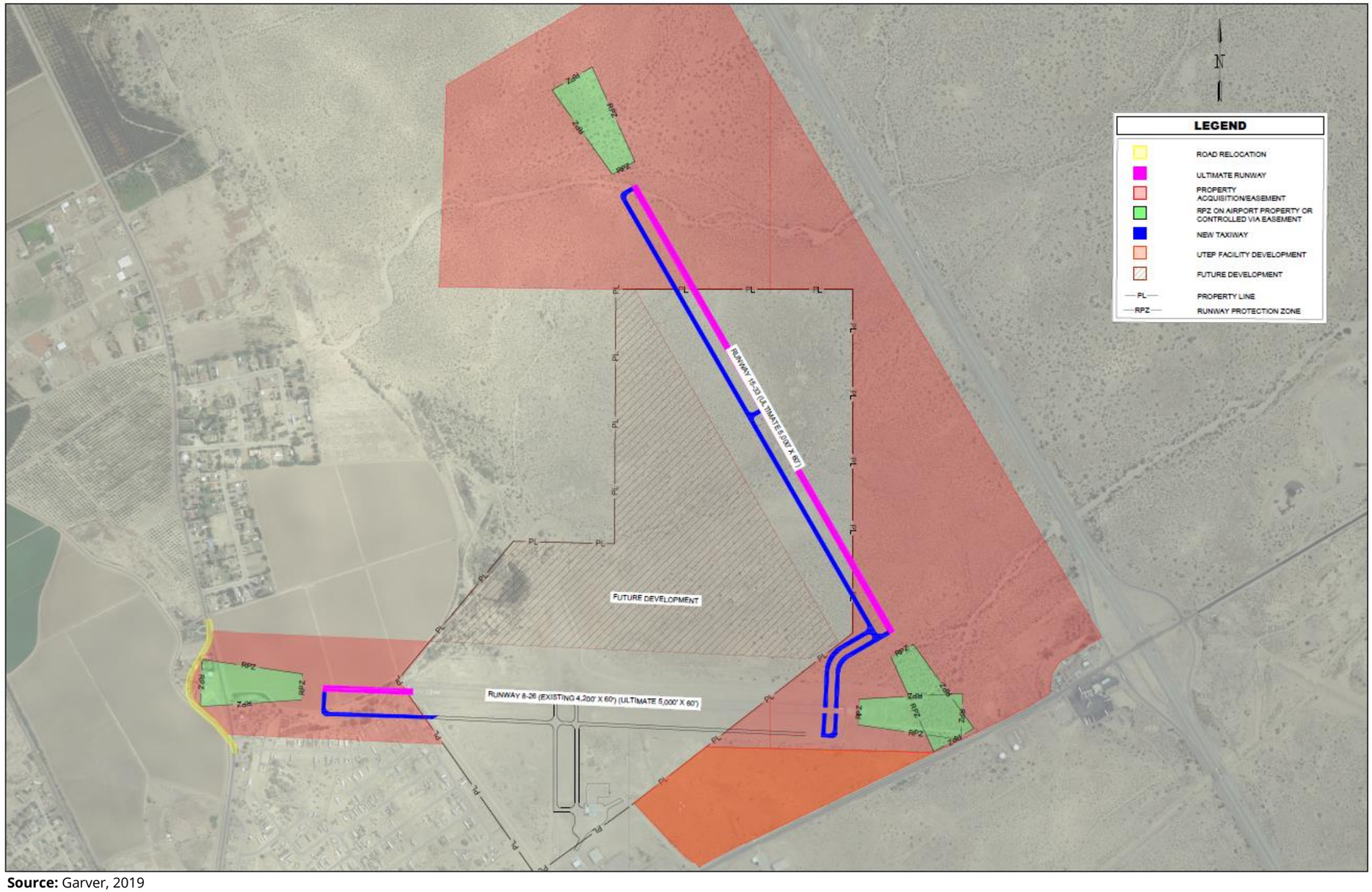
Source: Garver, 2019

FIGURE 5-5
TERMINAL/LANDSIDE ALTERNATIVE #2
FABENS AIRPORT



Source: Garver, 2019

FIGURE 5-6
AREA RESERVED FOR FUTURE AERONAUTICAL DEVELOPMENT
FABENS AIRPORT



Source: Garver, 2019

TERMINAL/LANDSIDE ALTERNATIVES EVALUATION

One of the tasks of an ABDP is to analyze the terminal/landside alternatives to determine which alternative provides a realistic and feasible plan that will allow the Airport to meet future demand in a safe and efficient manner. To facilitate this analysis, evaluation criteria were established, and an evaluation matrix was developed showing how each terminal/landside alternative compared based on the evaluation criteria. The evaluation criteria are discussed below.

The following criteria are rated on a high, moderate, or low level of impact scale:

- Ability to Satisfy Established Facility Requirements – Does the alternative meet the facility requirements established based on the forecast of future aeronautical activity? Ideally, the preferred alternatives should enable the Airport to meet all established facility requirements.
- Environmental Impacts – What impacts will the proposed terminal/landside alternative have on the environment and how might these impacts influence the feasibility of future development? Environmental factors that should be evaluated for impacts include farmland, wetlands, floodplains, soil, wildlife, noise, and cultural environmental factors as well as any others applicable to the Airport. Ideally, the preferred alternative should minimize environmental impacts to the greatest extent practical while still meeting the Airport's future development needs.
- Residential and/or Business Impacts – Will the proposed terminal/landside alternative have any known impacts on residential or business areas? Will it require their relocation? Ideally, the preferred alternative should minimize the impact to existing residences or businesses to the greatest extent practical while still meeting the Airport's future development needs.
- Road Relocation, Power Line, and Utility Impacts – Will any roadways, power lines, or other utilities be impacted by the development of the alternative? Ideally, the preferred alternative should minimize the impact to existing roadways, power lines, and utilities to the greatest extent practical while still meeting the Airport's future development needs.

- Geographic Constraints – Are there property or topographical challenges that are constraints for this alternative? Property lines, topographical features and bodies of water are key considerations.
- Development Cost/Ease of Implementation – What is the significance of the development cost associated with the alternative and how challenging will it be to implement? Anticipated cost, funding eligibility and funding availability are considerations. Ideally, the preferred alternative should limit development costs to the extent practical.
- Impacts to Ultimate Development Potential – Does implementation of this alternative create barriers to future development beyond the 10-year planning horizon? Ideally, the preferred alternative should not create a condition that will limit opportunities for future development.
- Congruence with Preferred Airside Alternatives – Does this alternative fit with the preferred airside development alternative? Ideally, the preferred terminal/landside alternative should not require substantial modifications to the preferred airside alternative or impact the ability to meet airside facility requirements.

TABLE 5-2
TERMINAL/LANDSIDE EVALUATION
FABENS AIRPORT

Evaluation Criteria	Terminal/Landside Development Alternative # 1	2
Ability to Satisfy Facility Requirements		
Environmental Impacts		
Residential and/or Business Impacts		
Road Relocation, Power Line, and Utility Impacts		
Geographical Constraints		
Development Cost/Ease of Implementation		
Limits Ultimate Development Potential		
Congruence with Preferred Airside Alternatives		

- Low Impact **or** Meets Requirements

- Moderate Impact **or** Fails to Meet Some Requirements

- High Impact **or** Fails to Meet Most Requirements

Source: Garver, 2019

EVALUATION COMMENTARY FOR TERMINAL/LANDSIDE ALTERNATIVE #1

Terminal/Landside Alternative #1 provides for the development of 5 T-Hangar buildings housing a total of 44 T-Hangars units utilizing the infield area made available by the closure of Taxiway Bravo and conversion of Runway 16/34 into a taxiway. Landside access to this development utilizes the former Taxiway Bravo and sufficient landside vehicle parking is provided, negating the need for significant vehicle operations on the apron.

This alternative also utilizes the existing apron as well as the currently undeveloped area between the existing apron and Taxiway Charlie for the development of eight

120-foot x 80-foot box hangars. Landside roadway access and vehicle parking are provided for all hangars.

This layout satisfies facility requirements with minimal anticipated environmental impacts. No residential or business impacts are anticipated, as all development would occur on existing undeveloped airport property. There are also no expected geographical constraints, and this alternative provides good development potential while aligning well with the airside alternatives. Because both areas identified for development are primarily greenfield sites, the greatest impacts are expected to be utilities and development costs.

Evaluation Commentary for Terminal/Landside Alternative #2

Terminal/Landside Alternative #2 includes the development of one T-Hangar area with a total of 30 T-Hangars and several box hangar developments. The box hangar developments consist of a total of nine 60-foot x 60-foot box hangars and three 100-foot x 100-foot box hangars. This alternative utilizes the existing apron area for two of the 60-foot x 60-foot box hangars, and then extends the apron to the north to accommodate the three T-Hangar buildings.

As in Terminal/Landside Alternative #1, the other box hangar developments utilize land made available by the closure of Taxiway Bravo and the conversion of Runway 16/34 into a taxiway. Landside access to this development also utilizes the former Taxiway Bravo.

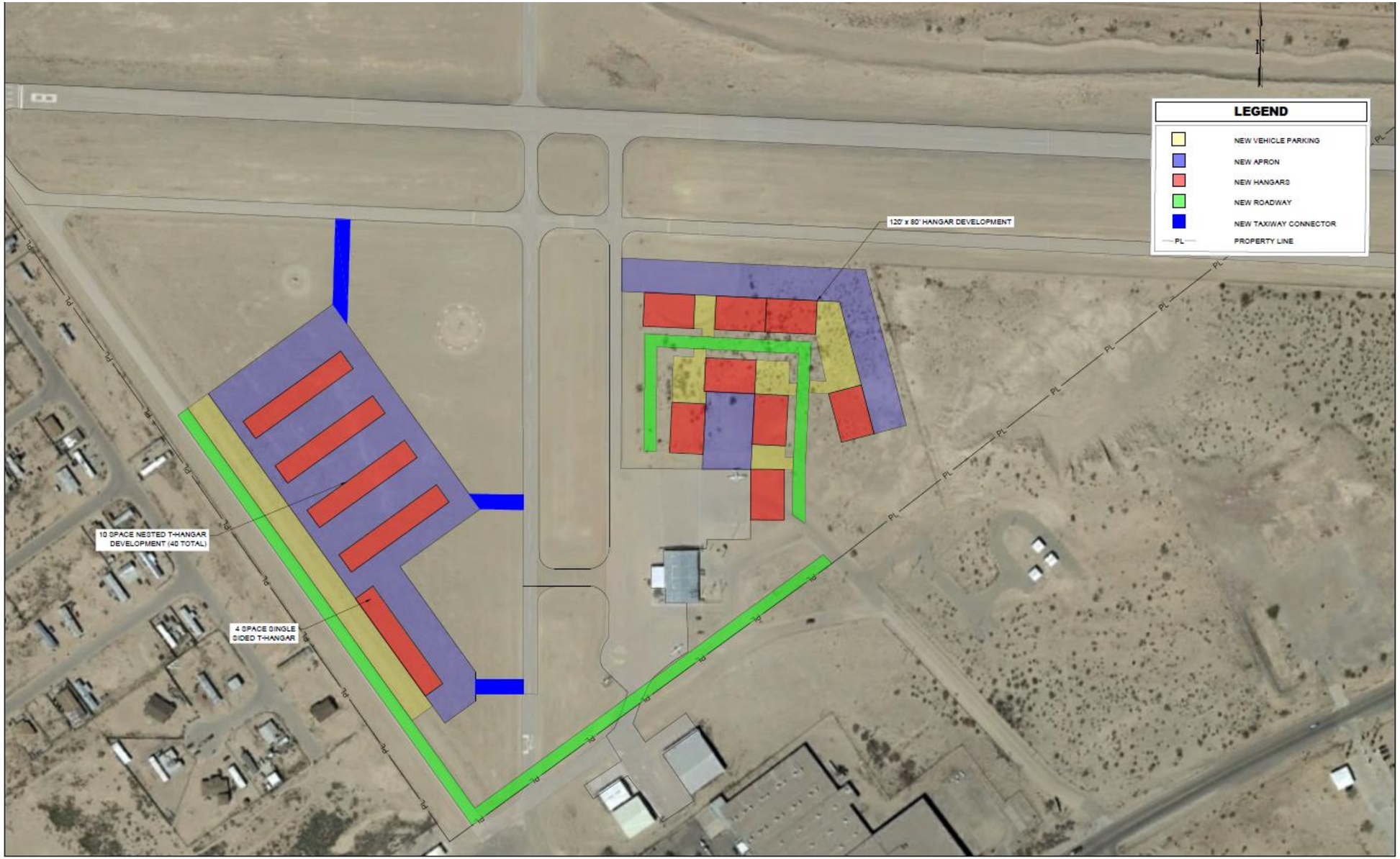
The evaluation of this alternative resulted in very similar findings to Alternative #1, as the areas identified for development are primarily greenfield sites with similar sizes and scopes. This layout satisfies facility requirements with minimal anticipated environmental impacts. No residential or business impacts are anticipated, as all development would occur on existing undeveloped airport property. There are also no expected geographical constraints and this alternative provides good development potential while aligning well with the airside alternatives. Because both areas identified for development are primarily greenfield sites, the greatest impacts are expected to be utilities and development costs.

Preferred Terminal/Landside Development Alternative

Based on discussions with airport stakeholders and local officials, Terminal/Landside Alternative #1 was selected as the preferred terminal/landside

development alternative for E35. The preferred terminal/landside development alternative is shown as **Figure 5-7**.

FIGURE 5-7
PREFERRED TERMINAL/LANDSIDE DEVELOPMENT ALTERNATIVE
FABENS AIRPORT



Source: Garver, 2019

CHAPTER 6: CAPITAL IMPROVEMENT PROGRAM

INTRODUCTION

The Capital Improvement Plan (CIP) is the formulation of an orderly series of capital improvements at Fabens Airport (E35) based on the preferred development alternatives identified in the Strategic Development Plan Chapter. The objective of this CIP is to:

- Identify the projects necessary to improve E35's existing infrastructure to meet the ultimate development plan identified in the Strategic Development Plan Chapter.
- Prioritize projects and establish clear trigger mechanisms to help identify when various projects need to be enacted.
- Establish a proposed funding plan for projects.
- Establish proposed planning level cost estimates for all projects.

Each of these items are further discussed in the remaining subsections.

CIP COSTS AND PROJECT TRIGGERS

Cost estimates for individual projects are based on unconstrained funding and are in current year dollars. Since the cost estimates are based on current year dollars (e.g. no inflation assumed), they are intended for planning purposes only and should not be used or construed as construction cost estimates. Formalized opinions of probable costs will be developed as a part of each project's scoping process during the design and engineering phase.

Projects within the CIP should be enacted based on "demonstrated demand" for a facility improvement and not based solely on the proposed timing of the project as shown in the CIP. To aid in this effort, trigger mechanisms have been established for every project within the CIP. These trigger mechanisms provide guidance regarding when E35 needs to begin implementing each project within the CIP. As a general practice, E35 stakeholders and TxDOT Aviation should review the established trigger mechanisms defined in the CIP annually to determine if the aeronautical activity at E35 is close to meeting any of the project triggers identified in the CIP. When a

trigger for a particular project is close to being met, that project should be prioritized for funding and implementation.

FUNDING PLAN

The CIP provides a proposed funding plan for all projects shown within the CIP. As a general practice, projects eligible for grant funding under the FAA's Airport Improvement Program (AIP) are shown as being grant funded at a 90/10 split with the FAA/TxDOT Aviation funding 90% of the project's estimated cost and El Paso County funding the remaining 10%. Texas is a block grant state under the FAA's AIP program. As a block grant state, TxDOT Aviation is responsible for administering AIP grants to general aviation airports within the State of Texas. As such, all coordination regarding AIP grants for the projects shown in this CIP is expected to be with TxDOT Aviation.

Many projects shown in the CIP are revenue producing projects (e.g. fuel farm, hangar facilities, etc.) that have very limited or no eligibility for grant funding through the FAA's AIP program. As a result, the CIP generally assumes that these projects will be funded by El Paso County, a third-party developer, or through non-aviation related grants (e.g. economic development grants, education grants, etc.). Within the CIP, any funding expected to be provided by El Paso County is identified as "local funding" while any funding expected to be provided by third-party developers or non-aviation grants is identified as "private funding."

It is important to note that the availability of funding (federal, state, local, etc.) for a project can play a significant role related to project implementation. Airports frequently run into instances where they have sufficient justification to execute a project, but funding is not available. In these instances, airports sometimes have to wait until funding becomes available to perform the project.

This CIP does not represent an obligation of local, state, or federal funds for any of the projects discussed in this document. The obligation and allocation of funds to support the projects included in this CIP is expected to be a function of the normal budgeting and grant administration cycles of El Paso County and TxDOT Aviation, respectively.

CIP PRIORITIES AND STRUCTURE

The guidelines below have been followed in the formulation of the E35 CIP:

- The scheduling of projects is prioritized to permit improvements in a coordinated approach. The phasing and priority of each project has been determined with respect to airport safety, demand, compatibility with other airport projects, and FAA/TxDOT Aviation programming schedules;
- Overall, the CIP has been structured to provide the flexibility to meet short and long-range goals. Therefore, individual projects should not be considered as a single improvement, but as part of a project series that arrive at the ultimate concept; and
- Projects within the CIP have been segmented based on general location (e.g. airside or terminal/landside) and based on project type (e.g. design, construction, or land acquisition).

The following pages depict the CIP for E35 to achieve the ultimate development plan identified in the Strategic Development Plan Chapter. The CIP is divided into the following phases:

- Phase I (2021 – 2025) – Short-term development projects
- Phase II (2026 – 2031) – Mid-term development projects
- Phase III (2032+) – Long-term development projects

The key priorities within each phase of the CIP are identified below:

- Phase I (2021 – 2025) – Short-Term
  - Replace existing fuel farm
  - Install AWOS System
  - Acquire land needed for extension of Runway 8/26
  - Initial box hangar development close to existing hangar
- Phase II (2026 – 2031) – Mid-Term
  - Extension of Runway 8/26 to 5,500 feet and widening of runway to 75 feet
  - Additional apron and hangar development

- Phase III (2032+) – Long-Term
  - Land acquisition for new crosswind runway
  - Development of new crosswind runway

Each phase of the CIP is shown in **Tables 6-1, 6-2, and 6-3**.

TABLE 6-1
SHORT-TERM CAPITAL IMPROVEMENT PROGRAM
FABENS AIRPORT

Term	Year	Project Reference #	Design/Construction/ Land Acquisition	Airside or Terminal/Landside	Project Name/Description	Estimated Cost	State/Federal Grant Funding	Local Funding	Trigger Mechanism	Has Trigger Already Been Reached?
Short-Term (0-5 Years)	2021	S1	DESIGN	TERMINAL/LANDSIDE	**Fuel Farm Improvement Project - DESIGN** (Decommission existing fuel farm facility and build new fuel farm with 10,000 gallon tank and room for future additional 10,000 gallon tank)	$55,000.00		$55,000.00	Current fuel farm is past its useful life.	Yes
		S3	DESIGN	AIRSIDE	**AWOS Installation - DESIGN** (Establish an Automated Weather Observation System)	$72,000.00	$64,800.00	$7,200.00	No AWOS Present	Yes
		S7	DESIGN	TERMINAL/LANDSIDE	**Hangar Development Project #1 - DESIGN** (One 120 x 80 foot hangar adjacent east edge of existing apron)	$86,000.00		$86,000.00	Demand for additional box hangar space.	Yes
	2022	S2	CONSTRUCTION	TERMINAL/LANDSIDE	**Fuel Farm Improvement Project - CONSTRUCTION** (Decommission existing fuel farm facility and build new fuel farm with 10,000 gallon tank and room for future additional 10,000 gallon tank)	$583,000.00		$583,000.00	Current fuel farm is past its useful life.	Yes
		S8	CONSTRUCTION	TERMINAL/LANDSIDE	**Hangar Development Project -#1 CONSTRUCTION** (One 120 x 80 foot hangar adjacent east edge of existing apron)	$1,061,000.00		$1,061,000.00	Demand for additional box hangar space.	Yes
		S4	CONSTRUCTION	AIRSIDE	**AWOS Installation - CONSTRUCTION** (Establish an Automated Weather Observation System)	$435,000.00	$391,500.00	$43,500.00	No AWOS Present	Yes
	2023	S9	DESIGN	TERMINAL/LANDSIDE	**Roadway Access Project - DESIGN** (30 foot wide horseshoe road to serve future east side hangar developments)	$68,000.00		$68,000.00	Demand for additional box hangar space.	No
		S11	DESIGN	TERMINAL/LANDSIDE	**Hangar Development Project #2 - DESIGN** (21,000 SF apron with three 120 x 80 hangars and associated vehicle parking lots)	$318,000.00		$318,000.00	Demand for additional box hangar space.	No
	2024-2025	S10	CONSTRUCTION	TERMINAL/LANDSIDE	**Roadway Access Project - CONSTRUCTION** (30 foot wide horseshoe road to serve future east side hangar developments)	$465,000.00		$465,000.00	Demand for additional box hangar space.	No
		S5	LAND ACQUISITION	AIRSIDE	**Runway 8 Extension (WEST) - LAND ACQUISITION** (Acquire property west of Runway 8 approach end to protect for runway extension and new RPZ - approx. 63 acres)	$10,405,000.00	$2,601,250.00	$7,803,750.00	Aeronautical traffic requires a longer runway to accommodate operations.	No
		S6	LAND ACQUISITION	AIRSIDE	**Runway 8 Extension (EAST) - LAND ACQUISITION** (Acquire property south and east of Runway 26 approach end between Fabens Road and southeast corner of existing property line extending due east to gas station property - approx. 39 acres)	$6,468,000.00	$5,821,200.00	$646,800.00	Portions of existing airport infrastructure are not located on airport property.	Yes
		S12	CONSTRUCTION	TERMINAL/LANDSIDE	**Hangar Development Project #2 - CONSTRUCTION** (21,000 SF apron with three 120 x 80 hangars and associated vehicle parking lots)	$3,829,000.00		$3,829,000.00	Demand for additional box hangar space.	No
					Totals:	**$23,845,000**	**$8,878,750**	**$14,966,250**		

Source: Garver, 2020

TABLE 6-2
MID-TERM CAPITAL IMPROVEMENT PROGRAM
FABENS AIRPORT

Term	Year	Project Reference #	Design/Construction/ Land Acquisition	Airside or Terminal/Landside	Project Name/Description	Estimated Cost	State/Federal Grant Funding	Local Funding	Private Funding	Trigger Mechanism	Has Trigger Already Been Reached?
Mid-Term (6-10 years)		**M1**	**DESIGN**	**AIRSIDE**	**Runway Improvement Project - DESIGN** (Extend Runway 8 approach end 1,300 feet to the west with commensurate Taxiway C redesign and extension and widen entire length of Runway 8/26 to 75 feet)	$635,000.00	$571,500.00	$63,500.00		Increase in operations requiring additional runway length.	No
		M2	**CONSTRUCTION**	**AIRSIDE**	**Runway Improvement Project - CONSTRUCTION** (Extend Runway 8 approach end 1,300 feet to the west with commensurate Taxiway C redesign and extension and widen entire length of Runway 8/26 to 75 feet)	$4,336,000.00	$3,902,400.00	$433,600.00		Increase in operations requiring additional runway length.	No
		M3	**DESIGN**	**AIRSIDE**	**Runway Improvement Project - DESIGN** (550 foot tunnel for N. Loop Drive within new Runway 8 RPZ)	$450,300.00		$450,300.00		Increase in operations requiring additional runway length.	No
		M4	**CONSTRUCTION**	**AIRSIDE**	**Runway Improvement Project - CONSTRUCTION** (550 foot tunnel for N. Loop Drive within new Runway 8 RPZ)	$3,002,000.00		$3,002,000.00		Increase in operations requiring additional runway length.	No
		M5	**DESIGN**	**TERMINAL/LANDSIDE**	**Roadway Access Project - DESIGN** (30 foot wide road to serve future west side hangar developments)	$138,000.00		$138,000.00		Demand for additional T-hangar space.	No
		M6	**CONSTRUCTION**	**TERMINAL/LANDSIDE**	**Roadway Access Project - CONSTRUCTION** (30 foot wide road to serve future west side hangar developments)	$1,117,000.00		$1,117,000.00		Demand for additional T-hangar space.	No
		M7 - M20	**DESIGN/ CONSTRUCTION**	**TERMINAL/LANDSIDE**	**West Side Hangar/Apron Development - DESIGN/CONSTRUCTION** (5 sets of T-hangars, associated apron, and vehicle parking)	$11,222,000.00		$6,616,000.00	$4,606,000.00	Demand for additional T-hangar space.	No
		M21 - M32	**DESIGN/ CONSTRUCTION**	**TERMINAL/LANDSIDE**	**East Side Hangar/Apron Development - DESIGN/CONSTRUCTION** (4 hangars, associated apron, and vehicle parking)	$5,672,000.00		$1,744,000.00	$3,928,000.00	Demand for additional box hangar space.	No
		M33	**DESIGN**	**AIRSIDE**	**Taxiway Rehabilitation Project - DESIGN** (Rehabilitate taxiway pavement and improve taxiway fillets to TDG-2 standards)	$57,000.00	$51,300.00	$5,700.00		Improve as taxiway pavement is rehabilitated.	No
		M34	**CONSTRUCTION**	**AIRSIDE**	**Taxiway Rehabilitation Project - CONSTRUCTION** (Rehabilitate taxiway pavement and improve taxiway fillets to TDG-2 standards)	$202,000.00	$181,800.00	$20,200.00		Improve as taxiway pavement is rehabilitated.	No
		M35	**DESIGN**	**AIRSIDE**	**Runway Lighting Rehabilitation Project - DESIGN** (Rehabilitation existing runway lighting)	$17,000.00	$15,300.00	$1,700.00		Existing runway lighting system is beyond its useful life and needs to be replaced.	No
		M36	**CONSTRUCTION**	**AIRSIDE**	**Runway Lighting Rehabilitation Project - CONSTRUCTION** (Rehabilitation of existing runway lighting)	$116,950.00	$105,255.00	$11,695.00		Existing runway lighting system is beyond its useful life and needs to be replaced.	No
					Totals:	**$26,965,250**	**$4,827,555**	**$13,603,695**	**$8,534,000**		

Source: Garver, 2020

TABLE 6-3
LONG-TERM CAPITAL IMPROVEMENT PROGRAM
FABENS AIRPORT

Term	Year	Project Reference #	Design/Construction/ Land Acquisition	Airside or Terminal/Landside	Project Name/Description	Estimated Cost	State/Federal Grant Funding	Local Funding	Trigger Mechanism	Has Trigger Already Been Reached?
Long Term (11+ years)		L1	LAND ACQUISITION	AIRSIDE	LAND ACQUISITION (Acquire "horseshoe" property bordering existing property line from northern border of Project S2)	$35,492,000.00	$31,942,800.00	$3,549,200.00	Protect land for future aeronautical development.	No
		L2	DESIGN	AIRSIDE	Runway Improvement Project - DESIGN (Build 5,000 x 75 ft Runway 15/33 and full length parallel taxiway system with dual connections to existing taxiway system)	$270,000.00	$243,000.00	$27,000.00	Need for capacity increase and local weather data supporting crosswind runway requirement.	No
		L3	CONSTRUCTION	AIRSIDE	Runway Improvement Project - CONSTRUCTION (Build 5,000 x 75 ft Runway 15/33 and full length parallel taxiway system with dual connections to existing taxiway system)	$10,955,000.00	$9,859,500.00	$1,095,500.00	Need for capacity increase and local weather data supporting crosswind runway requirement.	No
					Total:	**$46,717,000**	**$42,045,300**	**$4,671,700**		

Source: Garver, 2020

LEGEND

ITEM	EXISTING	ULTIMATE
BUILDING RESTRICTION LINE	BRL	BRL
AIRPORT PROPERTY LINE	P	P(U)
FENCE	X	XX
AIRFIELD PAVEMENT		
PAVEMENT REMOVAL		
BEACON		
FUEL STORAGE AND PUMPS		SAME
BUILDINGS / HANGARS		
LIGHTED WIND CONE & SEGMENTED CIRCLE		
AWOS		
GROUND CONTOURS	680	SAME
PRECISION APPROACH PATH INDICATOR (PAPI)		
THRESHOLD LIGHTS		
RUNWAY PROTECTION ZONE (RPZ)		
RUNWAY SAFETY AREA (RSA)		
RUNWAY OBJECT FREE AREA (OFA)		
RUNWAY OBSTACLE FREE ZONE (OFZ)		
PART 77 APPROACH SURFACE	AS	AS (U)
DEPARTURE SURFACE	DEP	DEP (U)
GLIDE SLOPE QUALIFICATION SURFACE	GQS	GQS (U)
THRESHOLD SITING SURFACE	TSS	TSS (U)
HOLDLINES & SIGNS		
AIRPORT REFERENCE POINT (ARP)		
VEGETATION		SAME
FLOWLINE		SAME
LIGHTPOLE		SAME
UTILITY POLE		SAME
ELECTRICAL UTILITY LINE	E	SAME

THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

AIRPORT SPONSOR BLOCK

CURRENT AND FUTURE DEVELOPMENT DEPICTED ON THIS ALP IS APPROVED AND SUPPORTED BY AIRPORT SPONSOR

TITLE: County Judge

SPONSOR'S REPRESENTATIVE: Ronald M. Sauncy Jr. DATE: 3-25-2021

SIGNATURE

TxDOT APPROVAL BLOCK

6/3/2021

DIR AVN

NOTES:

1. TO REDUCE CLUTTER THE LATITUDE AND LONGITUDE OF ALL RUNWAY END COORDINATES, TDZ, HIGH, AND LOW POINTS ARE ONLY SHOWN IN THE DATA TABLES ON AIRPORT DATA SHEET.
2. NO SURVEY WORK WAS COMPLETED AS PART OF THIS ALD UPDATE.
3. ELEVATION INFORMATION RELATED TO TRAVERSE WAYS HAVE BEEN ADJUSTED FOR HEIGHT OF NATURAL OBJECTS, AND 10' FOR PRIVATE ROADS, 15' FOR PUBLIC ROADS, 17' FOR INTERSTATE HIGHWAYS, AND 23' FOR RAILROADS.
4. TAXIWAY WIDTH, TESM, SHOULDER, TOFA, TSA, AND DISTANCE TO FIXED/MOVEABLE OBJECT ARE DESCRIBED IN THE RUNWAY DATA TABLE ON THE AIRPORT DATA SHEET.
5. LINEWORK FOR EXISTING RUNWAY 8/26 OFA, OFZ, AND BRL - 0' OVERLAP AS THEY ARE ALL 250' IN WIDTH. LINEWORK FOR ULTIMATE OFA AND BRL 0' OVERLAP AS THEY ARE BOTH 500' IN WIDTH.
6. EXISTING PAPI SYSTEMS FOR RUNWAY 8/26 ARE LOCATED 80' FROM THE RUNWAY CENTERLINE. ULTIMATE PAPI SYSTEMS FOR ALL RUNWAYS TO BE LOCATED 87.5' FROM THE RUNWAY CENTERLINE.
7. ALL EXISTING AND ULTIMATE BRL LINEWORK IS FOR A BRL - 0'.

TYPE 4 THRESHOLD SITING SURFACE (U) 400' X 3,400' X 10,000'
TYPE 6 GLIDESLOPE QUALIFICATION SURFACE (U) 275' X 1,520' X 10,000'
APPROACH SURFACE (U) 500' X 3,500' X 10,000'
DEPARTURE SURFACE (U) 1,000' X 6,466' X 10,200'
RUNWAY 15 RUNWAY PROTECTION ZONE (U) 500' X 700' X 1,000'
RUNWAY 15 END (U) ELEV. 3,709.9' (HIGH POINT) TDZE
RUNWAY 15-33: 5,000' X 75' (U) - TRUE BEARING: 147°
RUNWAY 33 TDZE (U) ELEV. 3,699.9'
6' FENCE (U)
AWOS CRITICAL AREA (U) WIND SENSOR - 1000' RADIUS 10' ABOVE ANY OBSTRUCTION
AWOS CRITICAL AREA (U) WIND SENSOR - 500' RADIUS 15' ABOVE ANY OBSTRUCTION
ARP (U) LAT:31° 31' 15.52" N LONG:106° 08' 48.66" W
AWOS (U)
AWOS CRITICAL AREA (U) 100' RADIUS VISIBILITY SENSOR 10' VEGETATION MAXIMUM HEIGHT
RUNWAY 33 END (U) ELEV. 3,684.9' (LOW POINT)
RUNWAY 33 RUNWAY PROTECTION ZONE (U) 500' X 700' X 1,000'
RUNWAY 26 RUNWAY PROTECTION ZONE (E) 250' X 450' X 1,000'
TYPE 4 THRESHOLD SITING SURFACE (U) 400' X 3,400' X 10,000'
TYPE 2 THRESHOLD SITING SURFACE (E) 250' X 700' X 2,250' X 2,750'
APPROACH SURFACE (U) 500' X 3,500' X 10,000'
APPROACH SURFACE (E) 250' X 1,250' X 5,000'
RUNWAY 8 DEPARTURE RUNWAY PROTECTION ZONE (E) 250' X 450' X 1,000'
RUNWAY 8 DISPLACED THRESHOLD (E) 31°31'01.77" N 106°09'11.46 W
RUNWAY 8 DISPLACED THRESHOLD (E) ELEV. 3,633.13'
SEGMENTED CIRCLE LIGHTED WIND CONE (U)
RUNWAY 8 TDZE (E) ELEV. 3,665.8'
RUNWAY 8 TDZE (U) ELEV. 3,650.6'
RUNWAY 8 END (U) ELEV. 3,615.5' (LOW POINT)
RUNWAY 8 END (E) ELEV. 3,630.72' (LOW POINT)
PAPI-2L (U)
PAPI-2L (E)
RUNWAY 8-26: 4,107' X 60' (E) 5,000' X 75' (U) - TRUE BEARING: 89.58°
SEGMENTED CIRCLE LIGHTED WIND CONE (E)
TETRAHEDRON (E)
RUNWAY 26 END (U) ELEV. 3,679.9' (HIGH POINT) TDZE
RUNWAY 26 END (E) ELEV. 3,680.04' (HIGH POINT) TDZE
RUNWAY 26 RUNWAY PROTECTION ZONE (U) 500' X 700' X 1,000'
BEACON (E/U)
FABENS FLYER PROPERTY
4' FENCE (E/U)
RUNWAY 8 APPROACH RUNWAY PROTECTION ZONE (E) 250' X 450' X 1,000'
EXISTING SEPARATION IS 240', MINIMUM SEPARATION PER B-I-VIS(SMALL) STANDARDS IS 150'
RUNWAY 8 RUNWAY PROTECTION ZONE (U) 500' X 700' X 1,000'
DEPARTURE SURFACE (U) 1,000' X 6,466' X 10,200'
TYPE 6 GLIDESLOPE QUALIFICATION SURFACE (U) 275' X 1,520' X 10,000'
DECOMMISSIONED RUNWAY 16/34 CONVERTED TO TAXIWAY E FABENS FLYER PROPERTY
UT LANDS PROPERTY - EASEMENT PROVIDED TO EL PASO COUNTY
ACCESS POINT TO AIRPORT FROM FABENS FLYER PROPERTY
CITIZEN TRANSFER STATION RD
FABENS RD
INTERSTATE 10
ALAMEDA AVENUE
MESA RIM DR
MESA CANYON RD
MESA JEWELL DR
MESA SILVER DR
MESA GOLD DR
MESA ISLAND CT
MESA SAND ST
FRONTAGE RD
FUEL FARM (E/U)
AIRCRAFT TIE-DOWN AREA 72 PARKING POSITIONS SINGLE ROW (E/U)
4' FENCE (E/U)
129,009 SF (E) 212,996 SF (U)

7.45° W
MAY 2020
(0.06° W CHANGE PER YEAR)

0 250' 500' 1000' 1500'
(IN FEET)

ALL COORDINATES REPRESENTED ARE NAD83
VERTICAL CONTROL DATUM NAVD88 USED FOR ALL ELEVATIONS

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REV.	DATE	DESCRIPTION	BY

FABENS AIRPORT
FABENS, TEXAS

FABENS AIRPORT
BUSINESS PLAN

AIRPORT LAYOUT DRAWING

JOB NO.: 18231020
DATE: JUNE 2020
DESIGNED BY: NRP
DRAWN BY: DLM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
ALD-1

SHEET NUMBER **1**

File: I:\2018\18231020 - E35 - ABP\Drawings\E35-ALP-ALD.dwg Last Save: 1/12/2021 8:35 AM Last saved by: DLMcKnight
Last plotted by: McKnight, Dylan L. Plot Style: AECmono.ctb Plot Scale: 1:1 Plot Date: 1/12/2021 8:37 AM Plotter used: _AutoCAD PDF (General Documentation).pc3

AIRPORT DATA

ITEM	EXISTING	ULTIMATE
AIRPORT REFERENCE CODE	B-I (SMALL)	B-II
MEAN MAX, TEMP, HOTTEST MONTH	96.4°F (JUNE)	SAME
AIRPORT ELEVATION (AMSL)	3,680.04'	3,709.9'
NAVIGATION AIDS	BEACON, PAPI-2	BEACON, PAPI-2
AIRPORT REFERENCE POINT (ARP)	31° 31' 01.91" N	31° 31' 15.52" N
	106° 08' 49.42" W	106° 08' 48.66" W
MISC. FACILITIES	LIGHTED WIND CONE, SEGMENTED CIRCLE, TETRAHEDRON, PAPI-2	LIGHTED WIND CONE, SEGMENTED CIRCLE, AWOS, PAPI-2
CRITICAL AIRCRAFT	KING AIR 90 (A90)	CITATION EXCEL
NPIAS SERVICE LEVEL / STATE SERVICE LEVEL	GA (UNCLASSIFIED)/ GA (BASIC)	GA (LOCAL)/ GA (BASIC)
MAGNETIC VARIATION	7° 45' E ± 0° 21'	CHANGING BY 0° 6' W PER YEAR

NOTE: MAGNETIC VARIATION INFORMATION OBTAINED FROM THE NOAA NATIONAL CENTERS FOR ENVIROMENTAL INFORMATION WEBSITE - MAGNETIC FIELD CALCULATORS - MAY 2020

RUNWAY END COORDINATES

RUNWAY END	EXISTING COORDINATES		EXISTING ELEVATION	ULTIMATE COORDINATES		ULTIMATE ELEVATION
RWY 8	LAT.	31° 31' 01.76" N	3,630.72'	LAT.	31° 31' 01.64" N	3,615.5'
	LONG.	106° 09' 13.66" W		LONG.	106° 09' 31.91" W	
RWY 8 DISPLACED THRESHOLD	LAT.	31° 31' 01.77" N	3,633.13'	EXISTING RUNWAY 8 DISPLACED THRESHOLD TO BE REMOVED IN ULTIMATE CONDITION		
	LONG.	106° 09' 11.46" W				
RWY 26	LAT.	31° 31' 02.06" N	3,680.04'	LAT.	31° 31' 02.04" N	3,679.9'
	LONG.	106° 08' 25.18" W		LONG.	106° 08' 28.42" W	
RWY 15	LAT.	N/A	N/A	LAT.	31° 31' 51.33" N	3,709.9'
	LONG.	N/A		LONG.	106° 08' 51.73" W	
RWY 33	LAT.	N/A	N/A	LAT.	31° 31' 09.82" W	3,684.9'
	LONG.	N/A		LONG.	106° 08' 20.28" W	

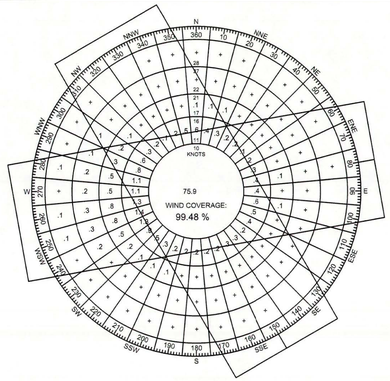
NOTE: THE EXISTING RUNWAY END COORDINATES AND ELEVATIONS FOR RUNWAY 8/26 ARE ESTIMATES PROVIDED ORIGINALLY IN THE 2013 ALD FOR THE AIRPORT. THE COORDINATES AND ELEVATION FOR THE EXISTING DISPLACED THRESHOLD FOR RUNWAY 8 ARE ESTIMATES BASED ON A 190' DISPLACED THRESHOLD DISTANCE FROM THE ESTIMATED EXISTING RUNWAY END COORDINATES FOR RUNWAY 8.

RUNWAY DATA

ITEM	RUNWAY 8		RUNWAY 26		RUNWAY 15	RUNWAY 33
	EXISTING	ULTIMATE	EXISTING	ULTIMATE	ULTIMATE	ULTIMATE
RUNWAY DESIGN CODE (RDC)	B-I-VIS (Small)	B-II-5000	B-I-VIS (Small)	B-II-5000	B-II-5000	B-II-5000
APPROACH REFERENCE CODE (APRC)	B/II/VIS	B/II/5000	B/II/VIS	B/II/5000	B/II/5000	B/II/5000
DEPARTURE REFERENCE CODE (DPRC)	B/II	B/II	B/II	B/II	B/II	B/II
PAVEMENT STRENGTH	12,500 POUNDS (SW)	30,000 POUNDS (SW)	12,500 POUNDS (SW)	30,000 POUNDS (SW)	30,000 POUNDS (SW)	30,000 POUNDS (SW)
PAVEMENT CLASSIFICATION NUMBER	N/A	SAME	N/A	SAME	N/A	N/A
SURFACE TREATMENT	NONE	SAME	NONE	SAME	NONE	NONE
PAVEMENT TYPE / MATERIAL	ASPHALT	SAME	ASPHALT	SAME	ASPHALT	ASPHALT
EFFECTIVE RUNWAY GRADIENT %	1.17%	SAME	1.17%	SAME	0.50%	SAME
% WIND COVERAGE	54.63% 10.5 knts	55.96% 13 knts	53.61% 10.5 knts	55.09% 13 knts	54.12% 13 knts	49.95% 13 knts
RUNWAY WIDTH AND LENGTH	4,197' X 60'	5,500' X 75'	4,197' X 60'	5,500' X 75'	5,000' X 75'	5,000' X 75'
DISPLACED THRESHOLD	3,633.13'	N/A	N/A	N/A	N/A	N/A
RUNWAY SAFETY AREA	240'(L) X 120'(W)	300'(L) X 150'(W)	240'(L) X 120'(W)	300'(L) X 150'(W)	300'(L) X 150'(W)	300'(L) X 150'(W)
RUNWAY PROTECTION ZONE	250' X 450' X 1,000'	500' X 700' X 1,000'	250' X 450' X 1,000'	500' X 700' X 1,000'	500' X 700' X 1,000'	500' X 700' X 1,000'
RUNWAY LIGHTING	MIRL	SAME	MIRL	SAME	MIRL	MIRL
RUNWAY MARKING	BASIC	NON-PRECISION	BASIC	NON-PRECISION	NON-PRECISION	NON-PRECISION
FAR PART 77 CATEGORY	VISUAL	NON-PRECISION	VISUAL	NON-PRECISION	NON-PRECISION	NON-PRECISION
PART 77 APPROACH SURFACES	20:1	34:1	20:1	34:1	34:1	34:1
APPROACH VISIBILITY MINIMUMS	VISUAL	1 MILE	VISUAL	1 MILE	1 MILE	1 MILE
AERONAUTICAL SURVEY TYPE	N/A	VGS	N/A	VGS	VGS	VGS
DEPARTURE SURFACE	N/A	YES	N/A	YES	YES	YES
RUNWAY OBJECT FREE AREA	240'(L) X 250'(W)	300'(L) X 500'(W)	240'(L) X 250'(W)	300'(L) X 500'(W)	300'(L) X 500'(W)	300'(L) X 500'(W)
OBSTACLE FREE ZONE	200'(L) X 250'(W)	200'(L) X 400'(W)	200'(L) X 250'(W)	200'(L) X 400'(W)	200'(L) X 400'(W)	200'(L) X 400'(W)
THRESHOLD SITTING SURFACE	TYPE 2 (20:1)	TYPE 4 (20:1)	TYPE 2 (20:1)	TYPE 4 (20:1)	TYPE 4 (20:1)	TYPE 4 (20:1)
VISUAL APPROACH AIDS	PAPI-2L	PAPI-2L	PAPI-2L	PAPI-2L	PAPI-2L	PAPI-2L
INSTRUMENT APPROACH AIDS	N/A	RNAV/GPS	N/A	RNAV/GPS	RNAV/GPS	RNAV/GPS
TAXIWAY WIDTH	30' - 40'	35'	30' - 40'	35'	35'	35'
TAXIWAY SAFETY AREA WIDTH	49'	79'	49'	79'	79'	79'
TAXIWAY OBJECT FREE AREA WIDTH	89'	131'	89'	131'	131'	131'
TAXIWAY EDGE SAFETY MARGIN	5'	7.5'	5'	7.5'	7.5'	7.5'
TAXIWAY SEPARATION	44.5'	65.5'	44.5'	65.5'	65.5'	65.5'
TAXIWAY LIGHTING	C/L REFLECTORS	EDGE REFLECTORS	C/L REFLECTORS	EDGE REFLECTORS	EDGE REFLECTORS	EDGE REFLECTORS

NOTE: RUNWAYS MEET RUNWAY LINE OF SITE REQUIREMENTS.

ALL WEATHER WIND ROSE

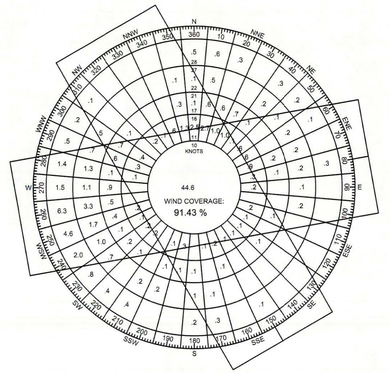


ALL WEATHER WIND COVERAGE
(INCL CALMS)

RUNWAY	10.5 KNOT	13 KNOT	16 KNOT	20 KNOT
8	54.63%	55.96%	57.27%	57.63%
26	53.61%	55.09%	56.14%	56.46%
15	52.16%	54.12%	56.00%	56.78%
33	46.67%	49.95%	53.23%	55.50%
COMBINED	98.32%	99.48%	99.86%	99.96%

SOURCE: NATIONAL CLIMATIC DATA CENTER, HOURLY OBSERVATIONS - 23044
PERIOD: 2010 - 2019, LOCATION : EL PASO INTERNATIONAL AIRPORT

IFR WIND ROSE



IFR WIND COVERAGE
(INCL CALMS)

RUNWAY	10.5 KNOT	13 KNOT	16 KNOT	20 KNOT
8	42.04%	45.82%	50.47%	52.16%
26	42.45%	46.45%	49.83%	51.65%
15	26.62%	27.88%	29.27%	30.37%
33	37.89%	41.16%	44.88%	49.51%
COMBINED	85.77%	91.43%	95.72%	98.24%

SOURCE: NATIONAL CLIMATIC DATA CENTER, HOURLY OBSERVATIONS - 23044
PERIOD: 2010 - 2019, LOCATION : EL PASO INTERNATIONAL AIRPORT

BUILDINGS / HANGARS

NO.	DESCRIPTION	ELEVATION
1	TERMINAL/HANGAR - EXISTING	17'4" AGL (ESTIMATED)
2	HANGAR - EXISTING (ON FABENS FLYER PROPERTY)	21'6" AGL (ESTIMATED)
3	HANGAR - EXISTING (ON FABENS FLYER PROPERTY)	22'8" AGL (ESTIMATED)
4	HANGAR - EXISTING (ON FABENS FLYER PROPERTY)	20'4" AGL (ESTIMATED)
5	BUILDING - EXISTING (ON FABENS FLYER PROPERTY)	12'5" AGL (ESTIMATED)
6	HANGAR - EXISTING (ON FABENS FLYER PROPERTY)	25'0" AGL (ESTIMATED)
7	HANGAR - ULTIMATE	TBD
8	HANGAR - ULTIMATE	TBD
9	HANGAR - ULTIMATE	TBD
10	HANGAR - ULTIMATE	TBD
11	HANGAR - ULTIMATE	TBD
12	HANGAR - ULTIMATE	TBD
13	HANGAR - ULTIMATE	TBD
14	HANGAR - ULTIMATE	TBD
15	HANGAR - ULTIMATE	TBD
16	HANGAR - ULTIMATE	TBD
17	HANGAR - ULTIMATE	TBD

NOTE: THE SURVEY DATA PROVIDED DID NOT CAPTURE BUILDING HEIGHTS. THE HEIGHTS OF ALL EXISTING STRUCTURES ARE ESTIMATES BASED ON BUILDING HEIGHT MEASUREMENTS PROVIDED BY EL PASO COUNTY STAFF. AS A RESULT, THE MEASUREMENTS ARE PROVIDED AS ABOVE GROUND LEVEL (AGL) HEIGHTS IN FEET AND INCHES.

RUNWAY DATA
TOUCHDOWN ZONE ELEVATION (TDZE)

RUNWAY	EXISTING	ULTIMATE
RWY 8	3,665.8'	3,650.6'
RWY 26	3,680.04'	3,679.9'
RWY 15	N/A	3,709.9'
RWY 33	N/A	3,699.9'

NOTE: TDZE REPRESENTS THE HIGHEST ELEVATION WITHIN THE FIRST 3000' FROM A RUNWAY END.

NON-STANDARD CONDITIONS

ITEM	AIRPORT REFERENCE CODE		STANDARD		NON-STANDARD CONDITION		REMARKS
	EXISTING	ULTIMATE	EXISTING	ULTIMATE	EXISTING	ULTIMATE	

NO NON-STANDARD CONDITIONS EXIST OR NONE REQUIRED.

AIRFIELD MONUMENTS

NO.	TYPE	DESIGNATION	LAT.	LONG.
NONE				

OBSTACLE FREE ZONE

FENCING AND RESIDENTIAL AREA AT THE APPROACH END OF RUNWAY 8 ENCROACHES ON EXISTING ROFZ.

RUNWAY DATA
DECLARED DISTANCES

ITEM	RUNWAY 8	RUNWAY 26	RUNWAY 8	RUNWAY 26	RUNWAY 15	RUNWAY 33
	EXISTING	EXISTING	ULTIMATE	ULTIMATE	ULTIMATE	ULTIMATE
TAKEOFF RUN AVAILABLE (TORA)	4197'	4197'	SAME	SAME	5000'	5000'
TAKEOFF DISTANCE AVAILABLE (TODA)	4197'	4197'	SAME	SAME	5000'	5000'
ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)	4197'	4197'	SAME	SAME	5000'	5000'
LANDING DISTANCE AVAILABLE (LDA)	4007'	4197'	SAME	SAME	5000'	5000'

GENERAL NOTES:

1. ALL COORDINATES AND ELEVATIONS HORIZONTAL NAD83, VERTICAL NAVD 88.
2. AIRPORT HAS NO EXISTING OR PROPOSED FUTURE MODIFICIATIONS TO STANDARDS.
3. THERE IS FENCING AND RESIDENTIAL AREAS AT THE APPROACH END OF RUNWAY 8 THAT ARE EXISTING RSA, OFZ, AND OFA PENETRATIONS THAT ARE PROPOSED TO BE RESOLVED THROUGH LAND PURCHASES AND FENCE REALIGNMENT.

THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

AIRPORT SPONSOR BLOCK

CURRENT AND FUTURE DEVELOPMENT DEPICTED ON THIS ALP IS APPROVED AND SUPPORTED BY AIRPORT SPONSOR

County Judge
TITLE, AIRPORT SPONSOR'S REPRESENTATIVE

Ricardo Samaniego 3-25-2021
SIGNATURE DATE

TxDOT APPROVAL BLOCK

4/3/2021
DIR AVN

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REV.	DATE	DESCRIPTION	BY

FABENS AIRPORT
FABENS, TEXAS

FABENS AIRPORT
BUSINESS PLAN

AIRPORT DATA SHEET

JOB NO.: 18231020
DATE: JUNE 2020
DESIGNED BY: NRP
DRAWN BY: DLM

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DRAWING NUMBER
ADS-1

SHEET NUMBER **2**

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