CHAPTER FIVE

Master Plan Concept

The airport master plan for Cleburne Regional Airport (CPT) has progressed through a systematic and logical process with a goal of formulating a recommended 20-year development plan. The process began with an evaluation of the existing and future operational demand, which aided in creating an assessment of future facility needs and was used to develop alternative airport plans. Each step in the planning process included the development of draft working papers, which were presented and discussed at Planning Advisory Committee (PAC) meetings and public information workshops and were also available on the project website.

In the previous chapter, several development alternatives were analyzed to explore options for the future growth and development of CPT, as well as an option to relocate the airport. A review of the relocation option is presented below, followed by a detailed discussion of the recommended concept.

RELOCATION ALTERNATIVE

Early in the master plan process, the possibility of constructing a new airport elsewhere within Johnson County was discussed. The primary motivating factor of this alternative is the landlocked condition with which the airport currently finds itself in; expansion of the airport property, and ultimately further growth, is limited due to the land uses immediately adjacent to the airport. These include residential and commercial developments, major transportation thoroughfares, and educational and worship facilities.

The development of a new facility is an expensive and complex endeavor. A new airport would require greater land area, duplication of financial obligations, installation of new infrastructure that is already in place, and a greater risk of negatively impacting biological, cultural, and natural resources. The new airport would have to be completed prior to the closure of the existing airport, and the existing airport would either have to remain operational for as long as current grant assurances require (typically 20 years for each project) or the City of Cleburne would have to repay a prorated amount of grant funds received to the federal government. The city has accepted $3.7 million since 2002; therefore, there would be a significant additional cost in establishing a new airport.

A high-level analysis was completed in the previous chapter to evaluate the replacement airport option. Four potential airports sites were identified within a 10-mile radius from the current airport, and a cost estimate to relocate the airport of approximately $231.3 million was provided. It is important to note that this analysis involved the **minimum** actions and costs necessary to relocate the airport. Additional studies would have to be completed before a site could be chosen, and the cost estimates provided are in current (2022) dollars and do not consider inflation and rising material and labor costs that are sure to occur before any construction of a new facility would commence. Ultimately, it was determined that the difficulty and associated construction and grant repayment costs were too great for the city to attempt at this time.

Therefore, it was determined that continued improvement and investment efforts to the existing airport facilities was the most logical alternative. Feedback from the PAC and the public was taken, as well as the current FAA design standards, and the recommended concept discussed below represents the decision to optimize the capacity and capabilities of the current airport.

RECOMMENDED CONCEPT

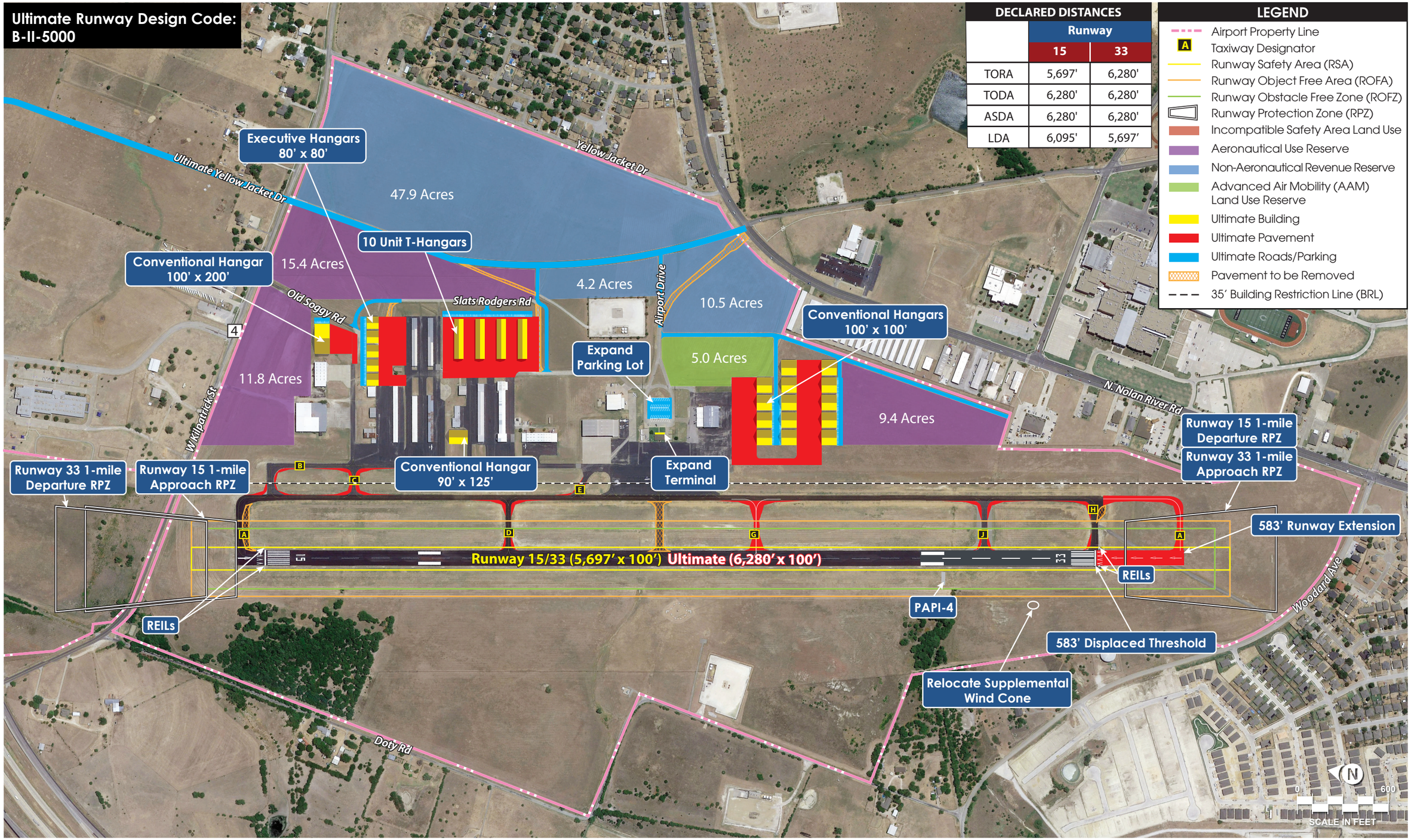
The development alternatives provided in the previous chapter were presented to the PAC and have been refined into a single recommended concept for the master plan. This chapter describes, in narrative and graphic form, the recommended direction for the future use and development of CPT.

The recommended concept provides the ability to meet the different needs of the various airport operators. The goal of this plan is to ensure that the airport can continue, and even improve, in its role of serving general aviation operators in and around the City of Cleburne, as well as the southern portion of the greater Dallas-Fort Worth metropolitan area. The plan has been specifically tailored to support existing and future growth in all forms of potential activity as the demand materializes.

The recommended airport development concept, as shown on **Exhibit 5A**, presents a long-term configuration for the airport, which preserves and enhances the role of the airport, while also meeting Federal Aviation Administration (FAA) design standards. The phased implementation of the recommended development concept will be presented in Chapter 6. The following sections describe the key details of the airside and landside elements of the recommended master plan concept.

AIRSIDE CONCEPT

The airside plan generally considers those improvements relating to the runway and taxiway system, as well as lighting and navigational aids.



DECLARED DISTANCES

	Runway	
	15	33
TORA	5,697'	6,280'
TODA	6,280'	6,280'
ASDA	6,280'	6,280'
LDA	6,095'	5,697'

LEGEND

- Airport Property Line
- Taxiway Designator
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- Runway Obstacle Free Zone (ROFZ)
- Runway Protection Zone (RPZ)
- Incompatible Safety Area Land Use
- Aeronautical Use Reserve
- Non-Aeronautical Revenue Reserve
- Advanced Air Mobility (AAM) Land Use Reserve
- Ultimate Building
- Ultimate Pavement
- Ultimate Roads/Parking
- Pavement to be Removed
- 35' Building Restriction Line (BRL)

Exhibit 5A
RECOMMENDED DEVELOPMENT CONCEPT

This page intentionally left blank

DESIGN STANDARDS

The FAA has established design criteria to define the physical dimensions of runways and taxiways, as well as the imaginary surfaces surrounding them, to enhance the safe operations of aircraft at airports. These design standards also define the separation criteria for the placement of landside facilities.

As discussed previously, the design criteria primarily center on the airport's established critical aircraft. The critical aircraft is the most demanding aircraft, or family of aircraft, which currently conducts, or is projected to conduct, 500 or more operations (takeoffs and landings) per year at the airport. Factors included in the airport design are an aircraft's wingspan, landing approach speed, tail height, and, in some cases, the instrument approach visibility minimums for each runway. The FAA has established the Runway Design Code (RDC) to relate these design aircraft factors to airfield design standards. The most restrictive RDC is also considered the overall Airport Reference Code (ARC).

While airfield elements, such as safety areas, must meet design standards associated with the applicable RDC, landside elements can be designed to accommodate specific categories of aircraft. For example, an airside taxiway must meet taxiway object free area (TOFA) standards for all aircraft types using the taxiway, while the taxilane to a T-hangar area only needs to meet width standards for smaller single- and multi-engine piston aircraft that are expected to use the taxilane.

The applicable RDC and critical design aircraft for each runway at CPT in the existing and ultimate conditions, as established in Chapter 2, are summarized in **Table 5A**. It should be noted that the ultimate RDC for Runway 15-33 has been identified as B-II, despite considering planning for a future C-II condition in previous chapters. While some alternatives did consider meeting C-II standards, it was determined that meeting more demanding design constraints would be impractical as the larger safety areas that would impact the immediate land uses surrounding the airport or require a reduction of on-airport operational spaces in a way that would not support the shift to C-II Thus, the most practical approach is to continue to support and plan for Runway 15-33 to meet RDC B-II design standards.

TABLE 5A | Airport and Runway Classification

	Runway 15-33 (existing/ultimate)
Airport Reference Code (ARC)	B-II
Critical Aircraft Example	Beechcraft King Air 300 Cessna Citation S/II/Latitude Dassault Falcon 900
Runway Design Code (RDC)	B-II-5000
Taxiway Design Group (TDG)	2A

RUNWAY 15-33

Runway Designation | A runway's designation is based on its magnetic headings, which are determined by the magnetic declination for the area. The magnetic declination in the area of CPT is 3° 13' E per year. The runway is oriented north/south with a true heading of 159°/339°, respectively. Adjusting for the magnetic declination, the current magnetic heading of the runway is 156° and 336°. Therefore, no changes to the runway designation are planned.

Runway Dimensions | Runway 15-33 is currently 5,697 feet long and 100 feet wide. At these dimensions, the runway is capable of safely accommodating all small general aviation aircraft, as well as several medium- to large-sized business jets. Most business jets can operate on the runway under moderate loading conditions with shorter trip lengths and during cool to warm temperatures. Longer trips (requiring higher useful loads) and hot summer days will limit the capabilities of some larger business jets.

As a general aviation airport, CPT's role is to support the regional economy by connecting the community to the region, state, and national markets by providing services to general aviation traffic, including business jets. Furthermore, the proximity to the Dallas-Fort Worth metropolitan area provides an increased opportunity for higher levels of business jet traffic. For these reasons, and based on the analysis presented in Chapter 3, ***the long-term plan considers an extension to an ultimate length of 6,280 feet.*** As shown on **Exhibit 5A**, the plan includes a 583-foot extension to the south to meet long-term needs as presented and justified.

The runway width of 100 feet meets the RDC B-II-5000 design standard. No change in the runway width is planned.

Pavement Strength | The runway at CPT is currently strength-rated for up to 30,000 pounds for single-wheel loading aircraft (SWL). This rating is adequate for smaller single and multi-engine piston aircraft and some lighter business jets, including the smaller Cessna Citation jets, Embraer Phenom 300, and Beechjet. The runway does not have a dual wheel loading (DWL) rating. Many aircraft within the critical design group, such as the Citation Latitude and the Dassault Falcon 900, can have an MTOW of up to 49,000 pounds (Falcon 900) and have dual wheel landing gear configurations. While these aircraft can safely operate at the airport, increasing the surface strength will prevent premature wear to the runway and extend the usefulness of the surface. Therefore, consideration should be given to ***improving the runway surface strength rating to 60,000 pounds (DWL)*** through the planning period. The single-wheel strength rating is adequate for the airport through the 20-year horizon.

Instrument Approach Procedures | Both Runway 15 and Runway 33 have published instrument approach procedures. Runway 33 has a single area navigation (RNAV)/global positioning system (GPS) approach with a visibility minimum of ⅞-mile. Runway 15 also has an RNAV/GPS approach, with a minimum of 1⅜-mile, but also has a localizer/non-precision approach with a 1-mile visibility minimum. The recommended concept includes ***raising the Runway 33 instrument procedure to a 1-mile approach and lowering the Runway 15 RNAV/GPS instrument procedure to a 1-mile approach***. This process would require the application and approval by FAA and Texas Department of Transportation (TxDOT). Raising the approach minimums is not the first choice for airport operators; however, it is the only option that would allow for the runway protection zone to be shifted off of residential land uses to the south, per FAA criteria.

Displaced Thresholds | A displaced threshold is a location on a runway other than the beginning of the physical surface that may be used for taxi and takeoff, but not landing. Currently the airport has a 185-foot displaced threshold on Runway 15. ***A 583-foot displaced threshold is planned for Runway 33***, starting at the end of the new, extended pavement. Displacement of a threshold reduces the effective landing distance of a runway in one direction and is often used to relocate FAA safety areas that are located in non-compatible land uses, such as a runway protection zone over a residential neighborhood.

Runway Protection Zones (RPZs) | As indicated above, the existing ⅞-mile RPZ for Runway 33 extends beyond airport property for a total of approximately 15.1 acres, including over residential and commercial land uses. The FAA does not approve of RPZs that extend over land uses that see the "congregation of people," such as homes or commercial buildings. Typically, as long as the airport does not endure any changes to the runway surface, the FAA has allowed non-standard conditions such as this to continue. However, with an extension being made to the runway, the FAA would require that a change be made to shift the RPZ away from those incompatible land uses. This may be done in a variety of ways; this master plan addresses this condition simultaneously by installing a 583-foot displaced threshold on the end of Runway 33, as well as raising the instrument approach procedure to a 1-mile visibility minimum, effectively reducing the size of the RPZ.

The 1-mile RPZ for Runway 15 extends over West Kilpatrick Street, approximately 0.6 acres. Because a relocation of Kilpatrick Street would not be reasonable or feasible, and no changes are proposed to the approach or physical surface of Runway 15 (such as a northern extension), the FAA may permit the road to remain within the RPZ. Therefore, no mitigation alternatives to Kilpatrick Street are presented.

Visual Approach Aids | Runway 15 is equipped with a 4-box Precision Approach Path Indicator (PAPI-4) to provide descent guidance to the runway during visual approaches. Runway 33 is not equipped with any visual approach aid. The plan includes ***installing a PAPI-4 to Runway 33*** to improve vertical guidance.

Runway Object Free Area (ROFA) | The ROFA for the runway is 500 feet wide and centered on the runway centerline. There is vegetation along the western edge of the ROFA that may cause a non-standard condition. The FAA mandates that the area within a ROFA be cleared of any above-ground objects that are non-essential to airport operations, such as runway lighting or visual approach aids. The airport should clear and maintain a level and obstacle-free ROFA through the planning period.

Supplemental Wind Cone | The supplemental wind cone at the Runway 33 end sits within the Runway Safety Area and Runway Object Free Area. Following guidance found in FAA Advisory Circular 150/5340-30J, *Design and Installation Details for Airport Visual Aids*, the supplemental wind cone shall be relocated outside of the safety areas and approximately 1,000 feet from the runway end. Considering the ultimate runway length, it is therefore recommended to ***relocate the wind cone 380 feet north and 140 feet west*** to meet the design standard.

TAXIWAY IMPROVEMENTS

Taxiway Design | The taxiway system serving Runway 15-33 is planned to meet Taxiway Design Group (TDG) 2A standards, which establishes a design standard width of 35 feet. With the Runway 15-33 extension, the parallel taxiway is also extended 583 feet and an entrance/exit taxiway joins the runway end with the taxiway.

Taxiway Geometry Improvements | Previous chapters have discussed non-standard taxiway geometry issues at CPT, including where taxiways provide direct access from an apron area to a runway and where wide expanses of pavement are present, particularly at the entrance to a runway. A non-standard holding position is also addressed. Specific changes are described below.

- The taxiway extending from the center of the primary apron that currently provides access to the runway is considered a direct-access condition. To mitigate this, the taxiway is shifted approximately 640 feet to the south.
- The north end of the parallel taxiway that provides access to Runway 15 is considered a non-standard design. The FAA discourages the use of wide expanses of pavement due to the possible loss of pilots' situational awareness. The surface is planned to be trimmed down to meet the taxiway design standard width of 35 feet.
- The south end of the parallel taxiway (Taxiway H) contains a non-standard holding bay. Due to the parallel taxiway extension, in addition to the need to correct the condition, the excess pavement that comprises the hold bay will be removed in lieu of a standard taxiway fillet.

LANDSIDE CONCEPT

The primary goal of landside facility planning is to provide adequate space to meet reasonably anticipated general aviation needs, while also optimizing operational efficiency and land use. Achieving these goals yields a development scheme that segregates functional uses while maximizing the airport's revenue potential. The CPT landside concept reflects generalized land use areas, as well as proposing specific facility/hangar layouts, which are likely to change depending on the needs of the developer and its target customers.

The key issues to be addressed in the landside areas at CPT are similar to most general aviation airports and include increasing hangar capacities and terminal size, adding amenities to accommodate existing users and attract new users, as well as reserving space for the eventual implementation of and use by advanced air mobility (AAM) operators. An additional issue addressed that is specific to CPT is a proposed construction of a road through the eastern section of the airport property.

As a reminder, all general aviation related development, such as new hangar construction, should only occur as dictated by demand. The recommended concept is intended to be used strictly as a guide for CPT staff when considering new developments.

Sections below describe reserving portions of airport property for non-aviation uses. Generally, airport property is subject to Airport Improvement Program (AIP) grant assurances; therefore, CPT will need to request a release of these properties of federal obligation by the FAA. Once a release of federal obligation is issued by the FAA, CPT would be able to lease or sell these certain properties to support revenue diversification and generation. The FAA Reauthorization Act of 2018, Section 163 changed how the FAA's Office of Airport's staff reviews and considers the release of airport property for non-aviation uses. The section focuses FAA's review and approval of Airport Layout Plans (ALPs) to those portions of the ALP that materially impact the safe and efficient operation of airports; the safety of people and property on the ground adjacent to the airport; and the value of prior Federal investments to a significant extent. In effect, this new guidance is intended to ease the process of gaining FAA approval of land releases.

The recommended landside concept is depicted on **Exhibit 5A**, with features of the concept described below.

Hangar Development | The primary focus of the landside development concept is on increasing the number of both executive and conventional hangar facilities. Conventional hangars are large, open-space facilities with no supporting interior structure that typically provide bulk aircraft storage and may be used by airport businesses, such as aircraft maintenance company or FBO. Executive hangars are conventional-style hangars that provide storage capacity larger than a typical T-hangar, but smaller than a conventional hangar, and can accommodate a single large or multiple small aircraft. Executive hangars range in size from 1,500 square feet (sf) to 2,500 sf, with some approaching the conventional hangar size of 10,000 sf. The plan includes 11 new hangars, totaling approximately 103,250 sf. The new hangar facilities include a 20,000-square-foot conventional hangar along the northern row of hangars, a row of five 80-foot-by-80-foot hangars just north of the T-hangar rows, and four additional conventional hangars (100x100) at the south end of the main terminal apron. The 10 additional hangars at the far south end represent a possible continuation of hangar development beyond the 20-year planning horizon.

The development concept also plans for additional T-hangar facilities. A total of four, 10-unit T-hangar buildings are planned, each adding approximately 15,900 sf of hangar space for small, single and multi-engine aircraft. The total of all new hangar developments in the development concept increases the available hangar space from roughly 218,300 sf to 385,150 sf. Additional apron areas will accompany the new hangars, as well as access taxiways/taxilanes. Vehicle access roads will be expanded upon, and additional parking areas will be installed, as well.

Terminal Building and Parking Expansions | Throughout the master plan process, airport management expressed a need in expanding on the existing terminal building. Several alternatives were discussed, with an expansion of approximately 630 sf of new terminal space planned, extending toward the parking lot. Additionally, based on the facility requirements analysis (Chapter 3), an expanded parking area is planned in the current Airport Drive loop to add approximately 50 more vehicle parking spaces.

Surface Road Reroutes | The City of Cleburne has proposed a rerouting of nearby Yellow Jacket Drive, plotting the new road through the eastern section of the airport property. This will require the removal of a section of Airport Drive to avoid a complicated intersection at Nolan River Road. Access to the airport will now extend directly from the new Yellow Jacket Drive. Additional surface road modifications include a connector drive from the new Yellow Jacket Drive to Slats Rodgers Road. In turn, Slats Rodgers Road will be adjusted to provide space for T-hangar development, as well as route around the conventional hangar development and connect to Old Soggy Road; plans to pave Slats Rodgers Road are also in place. A new access road to the southern hangar developments is also planned, extending off Airport Drive.

Advanced Air Mobility Land Use Reserve | In 2022, the FAA and private companies were undertaking efforts to develop and implement advanced air mobility (AAM). This new form of air travel might allow residents of Cleburne and surrounding communities to commute by air to the Dallas-Fort Worth metro by way of designated AAM “vertiports.” Companies that are planning to provide people with AAM will need space to establish their vertiports, consisting of both landside (terminal building) and airside (takeoff and landing surfaces) elements. While no design standards have been provided by either the FAA or leading AAM companies, a reasonable approximation of five acres has been established and reserved in the recommended concept for future AAM development.

Aeronautical Land Use Reserve | Approximately 36.6 acres of airport land is designated for future use of aviation purposes. This may include additional hangar development beyond what is planned in this master plan, FBO/SASO development, and airside facility development.

Non-Aeronautical Land Use Reserve | The airport owns approximately 62 acres of property along the eastern portion of its footprint, most of which will lie east of the rerouted Yellow Jack Drive. The remaining 14.7 acres lie adjacent to Nolan River Road and between Slats Rodgers Road and Airport Drive. Because these areas are not accessible to the airfield, it cannot be developed for aviation-related uses. For this reason, the plan reserves these areas for non-aviation development to include compatible commercial or industrial developments.

LAND USE COMPATIBILITY

Land use planning occurs through regulatory and non-regulatory means. The primary regulatory tool for directing land use is the zoning ordinance, which limits the type, size, and density of land uses in various locations. Examples of land use types include residential, commercial, industrial, and agricultural. Non-regulatory means of land use controls include the comprehensive or strategic land use plan. These documents can be adopted for the greater municipality or for specific areas.

It is important to note the distinction between primary land use concepts used in evaluating development with the airport environs and existing land use, comprehensive plan, and zoning land use. Existing land use refers to property improvements as they *exist today*, according to city records.

The comprehensive plan land use map identifies the *projected* or *future* land use, according to the goal and policies of the locally adopted comprehensive plan. This document guides future development within the city planning area and provides the basis for zoning designations.

Zoning identifies the type of land use *permitted* on a given piece of property, according to the city zoning ordinances and maps. Local governments are required to regulate the subdivision of all lands within their corporate limits. Zoning ordinances should be consistent with the general plan, if one has been prepared. In some cases, the land use prescribed in the zoning ordinance or depicted in the general plan may differ from the existing land use.

The following sections describe the applicable land use policies for the area within the vicinity of the airport. Specifically, these sections pertain to the lands within the 65 day-night noise level metric (DNL) contours and the FAA Title 14 Code of Federal Regulations (CFR) Part 77 Approach Surface out to one mile from runway ends.

EXISTING LAND USE

As discussed in Chapter One, CPT is surrounded by open space to the west and single-family home residential on the east. Cleburne High school and Middle School border the Southeast boundary of the airport.

FUTURE LAND USE PLAN

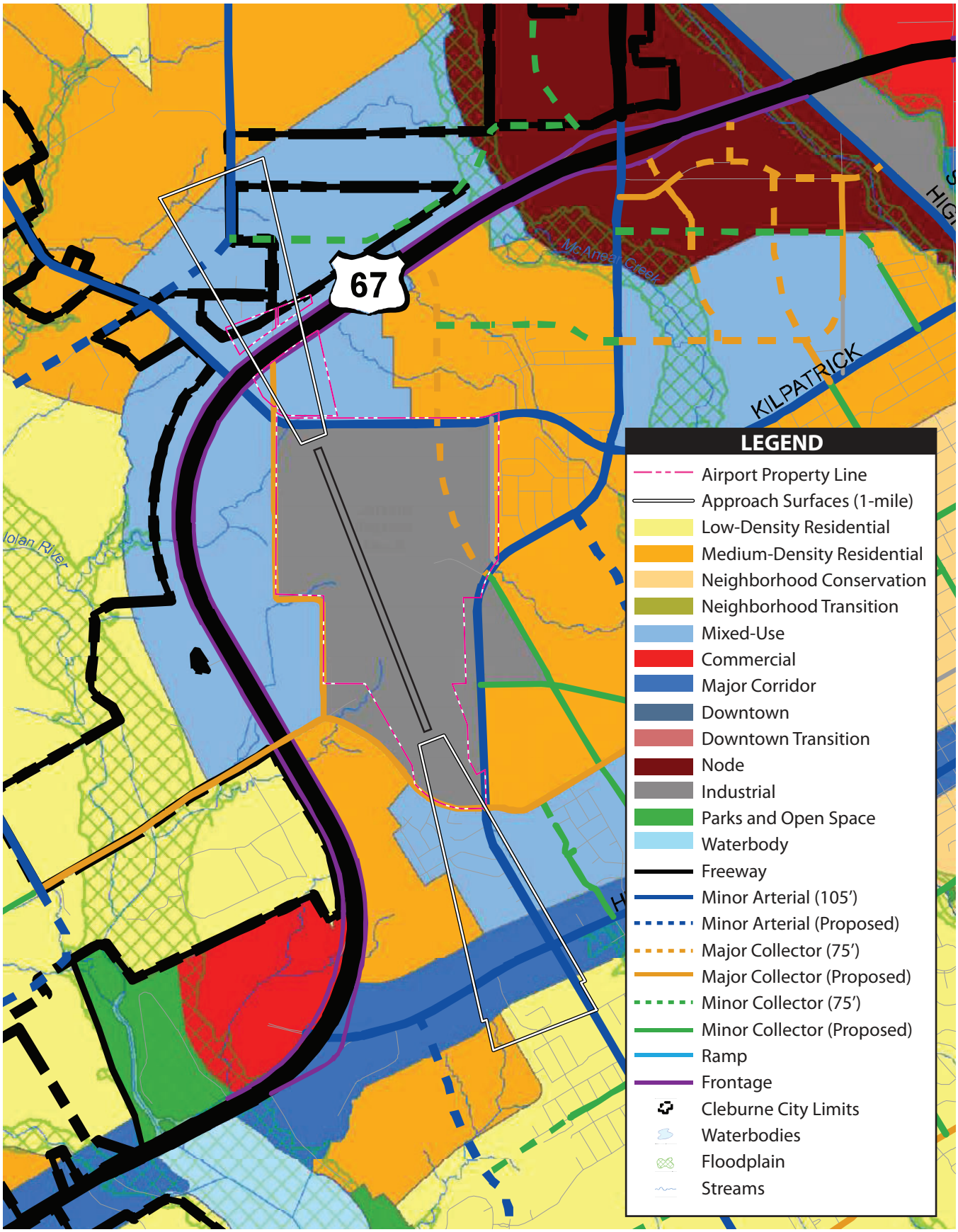
The future land use plan is a general policy document used by a government agency to identify and describe the community's characteristics, articulate goals and policies, and explore alternative plans for future growth, which, in turn, will produce zoning ordinances and subdivision regulations to carry out the plan's goals. Often, a municipality will incorporate goals and policies for their airports in the future land use plan, typically separate from an Airport Master Plan. Generally, the future land use plan assists local decision-makers regarding complicated issues during the development process or a maintenance issue. The most current planning document of this type for the land near the airport is the City of Cleburne Future Land Use Plan, adopted on February 21, 2022.

Exhibit 5B depicts the future land use designations within the airport approach surfaces out to one mile. These include Low-Density Residential, Medium-Density Residential, Mixed Use, and Major Corridor. **Table 5B** presents the purpose, characteristics and envisioned use for these classifications as stated in the City of Cleburne Future Land Use Plan.

TABLE 5B | Future Land Use Plan – Classification Summaries

Low-Density Residential	
Main Purpose	Provide areas for detached single-family homes on lots typically larger than a traditionally sized lot in Cleburne.
Secondary Purpose	Provide limited areas and locations for nonresidential development that directly serves adjacent neighborhoods (e.g., convenience stores, dry cleaners).
Characteristics	Home developments intended to serve a range of housing needs, from affordable to higher-end housing options. Nonresidential uses are limited to arterial roadways.
Main Uses	Detached Single-Family Homes
Secondary Uses	Civic Schools, Small-Scale Neighborhood Services
Medium-Density Residential	
Main Purpose	Provide areas for detached single-family homes on traditionally sized lots in Cleburne.
Secondary Purpose	Provide limited areas and locations for duplex, townhouses, and nonresidential development that directly serves adjacent neighborhoods (e.g., convenience stores, dry cleaners).
Characteristics	New construction of traditional single-family neighborhoods. Nonresidential uses are limited to arterial roadways.
Main Uses	Detached Single-Family Homes
Secondary Uses	Duplexes, Townhouses, Civic Schools, Small-Scale Neighborhood Services
Mixed Use	
Main Purpose	Provide areas for coordinated residential and nonresidential uses within a single development or planning area. Multi-family and high-density residential may be appropriate in the context of mixed uses.
Secondary Purpose	Provide unique destinations for people to visit, shop, dine, work, and live.
Characteristics	Horizontal or vertical mixture of residential and nonresidential uses. Standalone residential (e.g., multi-family developments) located at mid-block and not major street intersections.
Main Uses	Higher density residential & commercial, retail, medical office, service uses, and jobs centers
Secondary Uses	Civic, Schools, Hospital
Major Corridor	
Main Purpose	Provide areas for major activity centers, destinations, employment centers and facilities supportive and secondary to those uses (e.g., hotels or restaurants)
Secondary Purpose	Provide areas for high-density residential constructed at midblock areas with close proximity to nonresidential uses.
Characteristics	Mixed-Use development aligned along one of Cleburne's major thoroughfares where the development can capture large traffic volumes and visibility. Standalone high-density residential may be inappropriate away from major intersections.
Main Uses	Commercial, Retail, Office
Secondary Uses	High-Density Residential

Sources: City of Cleburne Future Land Use Plan (adopted February 21, 2022); Coffman Associates analysis



Source: Future Land Use Map, City of Cleburne, 2022, Coffman Associates analysis.

Exhibit 5B
FUTURE LAND USE

ZONING

Used in conjunction with subdivision regulations and an essential tool to achieve goals and policies outlined in the comprehensive plan, zoning regulations divide land into districts, or zones, and regulate land use activities in those districts, specify permitted uses, intensity and density of each use, and the bulk sizes of each building. Traditional zoning ordinances separate land into four basic uses: residential, commercial (including office), industrial, and agricultural.

The City of Cleburne's Zoning Ordinance was adopted on April 12, 2022. The following zoning districts are within the runway approach zones out to one mile:

Standard Districts

- SF-7, Single-Family Dwelling District
- MF-2, High-Density Residential District
- LC, Local Commercial District
- RC, Regional Commercial District
- CI, Commercial/Industrial Flex District

Special Districts

- AP, Airport Overlay
- F, Freeway Overlay
- HS, Henderson Street Overlay
- PD, Planned Development District
- IH, Interim Holding District

Table 5C summarizes the types of residential land uses allowed in each district, maximum allowable height, minimum lot area, and maximum density (dwelling units per acre) where applicable.

TABLE 5C | City of Cleburne Zoning District Dimensional Standards

Zoning Classification	Residential Allowed?	Maximum Allowable Height	Minimum Lot Area	Maximum Density
SF-7	Yes, Single Family	40 feet / 2.5 Stories	7,000 square feet	N/A
MF-2	Yes, Multi-Family	60 feet / 4 Stories	10,000 square feet	28 dwelling units per acre
LC	Yes, Residential Facilities, On-Premise Residences	40 feet / 3 Stories	8,500 square feet	Not Applicable
RC	Yes, Residential Facilities, On-Premise Residences	50 feet / 4 Stories	8,500 square feet	Not Applicable
CI	Yes, Residential Facilities, On-Premise Residences	70 feet / 5 Stories	10,000 square feet	Not Applicable

In addition to the standard zoning districts, there are overlays and special districts that apply to some of the land within runway approach zones out to one mile. Overlay zoning is a regulatory tool that creates a special zoning district, placed over an existing base zone, which identifies special provisions in addition to those in the underlying base zone.

Airport Overlay – The Airport Overlay (AP) is used in areas that the city and the Federal Aviation Administration (FAA) consider crucial to the continued operation of the airport. For property located within the AP the city may require that an applicant demonstrate that the FAA has reviewed and commented on the application and that the applicant has addressed changes requested by the FAA

before approving any variance from the standards of the City of Cleburne Zoning Ordinance. The Airport Overlay Standards include provisions for the height of structures and noise exposure. The height of structures is regulated based on the Part 77 surfaces for the airport. However, it is important to note that the mapping referenced in the zoning ordinance is dated 1980 and may not reflect the current conditions. The zoning ordinance also establishes three noise-based overlays for the city based on the most recently adopted noise contours for the airport. Land use restrictions have been adopted based on noise exposure levels of 65-70, >70-75, and >75 dB day-night noise level (DNL).

Freeway Overlay – The purpose of the Freeway Overlay (F) is to provide land development standards along the US Highway 67 loop and Chisholm Trail Parkway that maintain and enhance the corridor as a principal freeway corridor and gateway to the City of Cleburne.

Henderson Street Overlay – The purpose of the Henderson Street Overlay (HS) is to provide land development standards along Henderson Street that maintain and enhance the corridor as a major thoroughfare in the City of Cleburne. The HS, Henderson Street Overlay does not apply to property zoned for Residential Use, zoned I, Industrial District, or developed as a Public Use or Building or Play Field or Stadium.

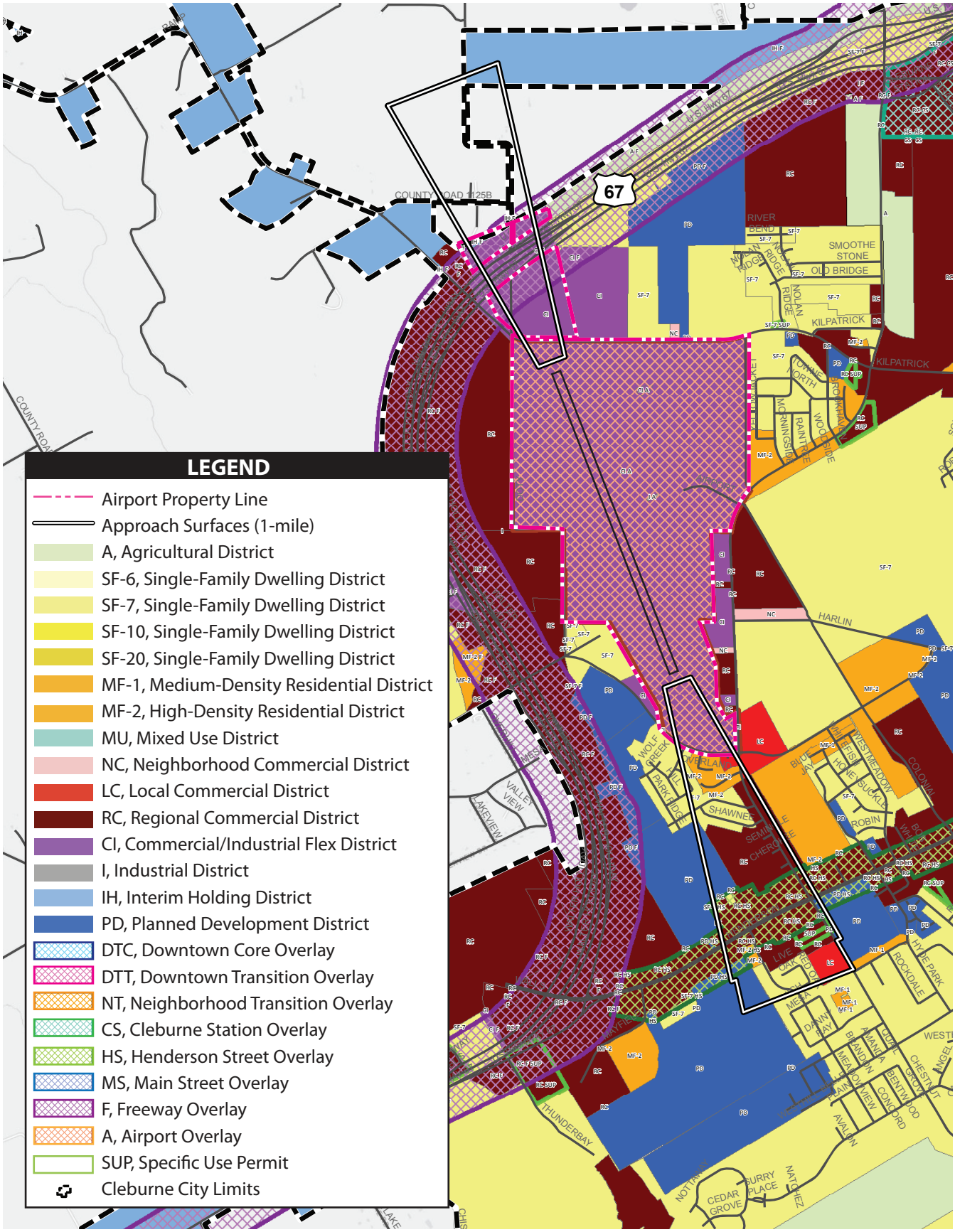
Planned Development District – The purpose of the Planned Development District (PD) is to allow for creative and exceptional design within a unique physical, natural, or market context where the standards provided in the PD create a balance that compensates for any deviations from or reductions in the City of Cleburne's zoning standards.

Interim Holding District – The Interim Holding District (IH) applies only to properties annexed and zoned IH, prior to adoption of the City of Cleburne's Zoning Ordinance that did not thereafter have a permanent zoning district applied.

EXTRATERRITORIAL JURISDICTION

Section 42.021, Texas Local Government Code, defines the Extraterritorial Jurisdictions (ETJ) as unincorporated areas outside a city's municipality which is contiguous to the corporate boundaries of that municipality.[1] Under Texas Code, a city's long-range planning jurisdiction is extended into the ETJ to ensure the most appropriate and beneficial use of land, water, and other natural resources are consistent with the public interest. Additionally, the Texas code allows a city the right to exercise subdivision review of development plans within the ETJ. In other words, when a development application is submitted within the ETJ, the city will also have an opportunity to review and comment on the project. Areas shown on **Exhibit 5C** that do not have a zoning designation (white parcels north of the airport) are within the City of Cleburne ETJ.

[1] State of Texas Title 2, Subtitle C, Chapter 42 *Extraterritorial Jurisdiction of Municipalities* (https://statutes.capitol.texas.gov/Docs/LG/htm/LG.42.htm)



Source: Zoning Map, City of Cleburne, 2022, Coffman Associates analysis.

SUBDIVISION REGULATIONS

Subdivision regulations are legal devices employed to administer the process of dividing land into two or more lots, parcels, or sites for the building and location, design, and installation of supporting infrastructure. The subdivision regulations are one of two instruments commonly employed to carry out the goals and policies outlined in the comprehensive plan.

Subdivision regulations can be used to specify requirements for airport-compatible land development by requiring developers to plat and develop land to minimize noise impacts or reduce noise exposure to new development. Subdivision regulations can also be used to protect the airport proprietor from litigation for noise impacts at a later date. The most common requirement is the dedication of a noise or avigation easement to the airport sponsor by the land developer as a condition of the development approval. Easements typically authorize overflights of property, with noise levels attendant to such operations.

The City of Cleburne's subdivision regulations do not specifically address airport noise or safety.

BUILDING CODE

Building codes were established to provide minimum standards to safeguard life, limb, health, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures. Building codes may be required to provide sound insulation in new residential, office, and institutional buildings when warranted by existing or potential high aircraft noise levels.

The City of Cleburne has adopted the 2021 International Building Code (IBC). The IBC generally does not include noise attenuation requirements in the building code. Jurisdictions can pass additional regulations in their building code to require additional building requirements, such as reacting to unique threats of regional natural disasters, helping to build structures "right" at the beginning of construction when it matters most, as it can be expensive and difficult to change. For new construction near an airport, incorporating noise attenuation can be especially important. Noise attenuation measures can include increased thicknesses of windows or sound-absorbing building materials.

The City of Cleburne's building codes currently do not enforce noise attenuation building design standards.

NON-COMPATIBLE DEVELOPMENT ANALYSIS

Areas with the potential for non-compatible development, when compared to the noise exposure contours and height restrictions within the Part 77 approach surfaces out to one mile, have been evaluated. Further discussion of these areas can be found in Chapter One. This was accomplished by evaluating city-adopted land use plans and zoning designations for those parcels encompassed by the noise contours to determine if noise-sensitive land uses could be developed in those areas. Both the noise contours and height restrictions within the Part 77 approach surface area are addressed below.

Noise Exposure Contours

The standard methodology for analyzing noise conditions at airports involves the use of a computer simulation model. The purpose of the noise model is to produce noise exposure contours that are overlain on a map of the airport and vicinity to graphically represent aircraft noise conditions. When compared to land use, zoning, and general plan maps, the noise exposure contours may be used to identify areas that are currently, or have the potential to be, exposed to aircraft noise.

To achieve an accurate representation of an airport's noise conditions, the noise model uses a combination of industry-standard information and user-supplied inputs specific to the airport. The software provides noise characteristics, standard flight profiles, and manufacturer-supplied flight procedures for aircraft which commonly operate at CPT. As each aircraft has different design and operating characteristics (number and type of engines, weight, and thrust levels), each aircraft emits different noise levels. The most common way to spatially represent the noise levels emitted by an aircraft is a noise exposure contour.

Airport specific information, including runway configuration, flight paths, aircraft fleet mix, runway use distribution, local terrain and elevation, average temperature, and numbers of daytime and nighttime operations, are also used in modeling inputs.

Based on assumptions provided by the user, the noise model calculates average 24-hour aircraft sound exposure within a grid covering the airport and surrounding areas. The grid values, representing the DNL at each intersection point on the grid, signify a noise level for that geographic location. To create noise contours, an isoline similar to those on a topographic map is drawn connecting points of the same DNL noise value. In the same way that a topographic contour represents the same elevation, the noise contour identifies areas of equal noise exposure.

DNL is the metric currently accepted by the FAA, U.S. EPA, and Department of Housing and Urban Development (HUD) as an appropriate measure of cumulative noise exposure. These three agencies have each identified the 65 DNL noise contour as the threshold of incompatibility.

The guidelines summarized on **Exhibit 5D** indicate that all land uses are acceptable in areas below 65 DNL. At or above the 65 DNL threshold, residential land uses without acoustic treatment, mobile homes, and transient lodging are all incompatible. The exhibit notes that homes of standard construction and transient lodging may be considered compatible where local communities have determined these uses are permissible; however, acoustic treatment of these structures is recommended to meet noise level reduction thresholds when comparing the outdoor noise level to the indoor noise level. Schools and other public use facilities are also generally considered to be incompatible with noise exposure above 65 DNL. As with residential development, communities can make a policy decision that these uses are acceptable with appropriate sound attenuation measures. Hospitals and nursing homes, places of worship, auditoriums, and concert halls are structures which are generally compatible if measures to achieve noise level reduction are incorporated into the design and construction of structures. Outdoor music shells and amphitheaters are not compatible and should be prohibited within the 65 DNL noise contour. Additionally, agricultural uses and livestock farming are generally considered compatible except for related residential components of these uses, which should incorporate sound attenuation measures.

LAND USE	Yearly Day-Night Average Sound Level (DNL) in Decibels					
	Below 65	65-70	70-75	75-80	80-85	Over 85
Residential						
Residential, other than mobile homes and transient lodgings	Y	N[1]	N[1]	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N[1]	N[1]	N[1]	N	N
Public Use						
Schools	Y	N[1]	N[1]	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Government services	Y	Y	25	30	N	N
Transportation	Y	Y	Y[2]	Y[3]	Y[4]	Y[4]
Parking	Y	Y	Y[2]	Y[3]	Y[4]	N
Commercial Use						
Offices, business and professional	Y	Y	25	30	N	N
Wholesale and retail-building materials, hardware and farm equipment	Y	Y	Y[2]	Y[3]	Y[4]	N
Retail trade-general	Y	Y	25	30	N	N
Utilities	Y	Y	Y[2]	Y[3]	Y[4]	N
Communication	Y	Y	25	30	N	N
Manufacturing and Production						
Manufacturing, general	Y	Y	Y[2]	Y[3]	Y[4]	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y[6]	Y[7]	Y[8]	Y[8]	Y[8]
Livestock farming and breeding	Y	Y[6]	Y[7]	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports arenas and spectator sports	Y	Y[5]	Y[5]	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N

The designations contained in this table do not constitute a federal determination that any use of land covered by the program is acceptable under federal, state, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. FAA determinations under Part 150 are not intended to substitute federally-determined land uses for those determined to be appropriate by local authorities in response to locally-determined needs and values in achieving noise compatible land uses.

See other side for notes and key to table.

Exhibit 5D
PART 150 NOISE COMPATIBILITY GUIDELINES

KEY

Y (Yes)	Land Use and related structures compatible without restrictions.
N (No)	Land Use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor-to-indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25, 30, 35	Land Use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structure.

NOTES

1. Where the community determines that residential or school uses must be allowed, measures to achieve outdoor-to-indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB, respectively, should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide an NLR of 20 dB; thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.

2. Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.

3. Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.

4. Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.

5. Land use compatible provided special sound reinforcement systems are installed.

6. Residential buildings require an NLR of 25.

7. Residential buildings require an NLR of 30.

8. Residential buildings not permitted.

Source: ***14 CFR Part 150***, Appendix A, Table 1.

Noise exposure contours were prepared for CPT for a baseline condition (2021) and a long-range condition (2041) established on the operational forecasts presented in Chapter Two. The resulting contours are shown on **Exhibit 5E**. As shown on the exhibit, noise contours out to the 65 DNL noise contour remain entirely on airport property in both the baseline and long-range forecast.

Height Restrictions

Using a similar process to the non-compatible development analysis for noise contours, the zoning within the Part 77 approach surface area out to one mile from the end of the runways were evaluated. **Table 5C** above notes the maximum height limit for the zoning districts within the area ranges between 40 and 70 feet.

Texas Department of Transportation *State of Texas Airport Compatibility Guidelines*

In 2003, the Texas Department of Transportation (TxDOT) composed the *State of Texas Airport Compatibility Guidelines*[2] (TxACG) to ensure local officials address land use compatibility concerns between the airport and surrounding environs. Part of assuring land use compatibility is establishing noise abatement measures, including facility or operational changes. The TxACG addresses both noise and structure height compatibility within the airport environs.

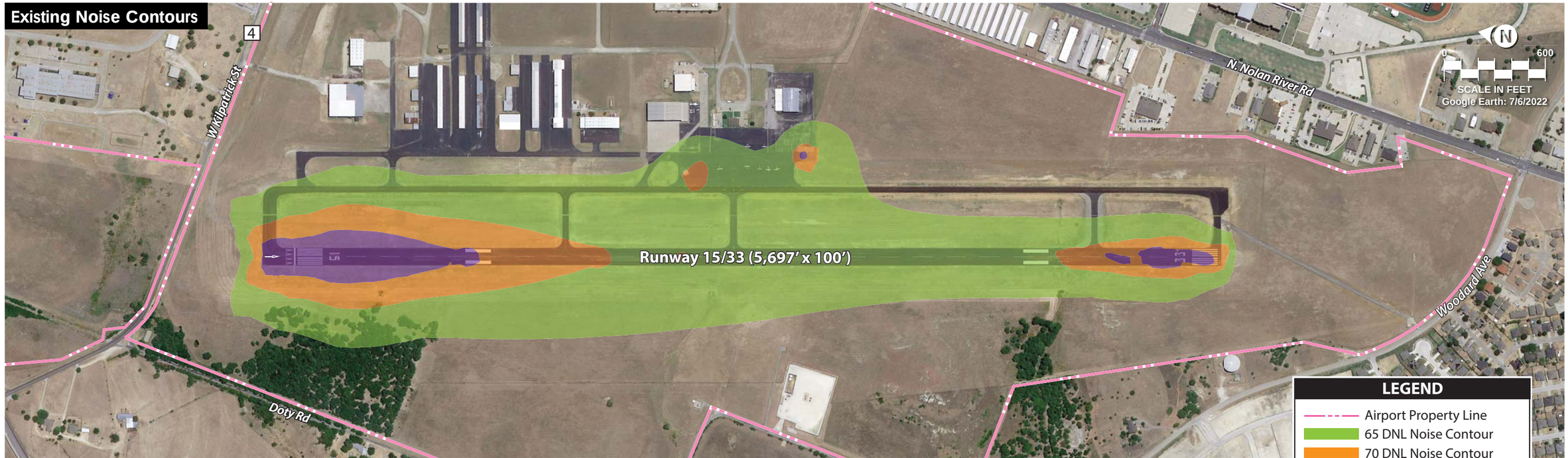
Noise compatibility standards outlined the TxACG adhere to land use recommendations from the FAA based on the DNL levels. Similar to FAA 14 Code of Federal Regulations (CFR) Part 150 guidelines, all land uses below the 65 DNL are considered compatible; however, above the 65 DNL contour, residential land uses, and places of assembly are no longer compatible without interior sound attenuation. When feasible, residential uses should be prohibited within the 65 DNL contour and should under no circumstances be permitted within the 75 DNL contour.

In 1987, the State of Texas passed the Airport Zoning Act (AZA)[3] in an effort to "prevent the creation of an airport hazard," which grants municipalities the ability to adopt, administer, and enforce airport hazard area zoning regulations for airports within their jurisdictions. The AZA divides airport hazard areas into zones and for each zone:

1. Specifies permitted land uses,
2. Regulates the type of structures, and
3. Restricts the height of structures and objects of natural growth to prevent the creation of an obstruction to flight operations or air navigation.

[2] Texas Department of Transportation *State of Texas Airport Compatibility Guidelines* (January 2003)
[3] State of Texas - Local Government Code Title 7, Subtitle C, Chapter 241, Subchapter A - *Airport Zoning Act* (https://statutes.capitol.texas.gov/Docs/LG/htm/LG.241.htm)

Existing Noise Contours



Future Noise Contours

This page intentionally left blank

The TxACG encourages local municipalities to adopt airport hazard zoning into their ordinances and incorporate into their zoning maps. The TxACG states that "the AZA does not dictate the areas that can be regulated by hazard zoning," but the generally accepted imaginary surfaces are defined by CFR Part 77. TxACG provides sample language local jurisdictions can use when drafting airport hazard zoning. Texas allows local governments to restrict structure height within the vicinity of the airport through land use regulations.

Recommended actions outlined in the TxACG to address incompatible development include:

- Property Acquisition
- Restrictive covenants
- Plat review
- Condemnation
- Subdivision regulations
- Building codes
- Capital improvements
- Zoning regulations

RECOMMENDATIONS

Based on the information presented above and the non-compatible development analysis, the following recommendations are provided to maintain airport land use compatibility in the vicinity of CPT.

Update the City of Cleburne's Height Limitation Zones | The current Height Limitation Zones are based on the Cleburne Regional Airport Zoning Map dated 1980. This map reference should be updated to reflect the most current version of the Part 77 surfaces for the airport which were created as part of the 2022 Master Plan for the airport. See Section 155.4.06.F.

Adopt Fair Disclosure Requirements for Real Estate Transactions within the Vicinity of CPT | Fair disclosure regulations in real estate transactions are intended to ensure that prospective buyers of property are informed that the property is, or will be, exposed to potentially disruptive aircraft noise or overflights. It is not uncommon, around even the busiest airports, for newcomers to report having bought property without having been informed about airport noise levels. At the most formal level, fair disclosure can be implemented through a city ordinance requiring a deed notice for property within the vicinity based on an existing boundary, such as the Part 77 Horizontal Imaginary Surface. The following is an example of deed notice language that would notify the property owner of the proximity of an airport and expectations for living in the vicinity of the airport:

> *The subject property is within the vicinity of Cleburne Regional Airport, located at 1650 Airport Drive, Cleburne, TX 76033. Properties within this area are routinely subject to overflights by aircraft using this public-use airport and, as a result, residents may experience inconvenience, annoyance, or discomfort arising from the noise of such operations. Residents also should be aware that the current volume of aircraft activity may increase in response to the population and economic growth within the City of Cleburne. Any subsequent deed conveying this parcel or subdivisions thereof shall contain a statement in substantially this form.*

AIRPORT RECYCLING, REUSE, and WASTE REDUCTION

REGULATORY GUIDELINES

FAA Modernization and Reform Act of 2012

The *FAA Modernization and Reform Act of 2012* (FMRA), which amended Title 49, United States Code (USC), included several changes to the Airport Improvement Program (AIP). Two of these changes are related to recycling, reuse, and waste reduction at airports.

- Section 132(b) of the FMRA expanded the definition of airport planning to include "developing a plan for recycling and minimizing the generation of airport solid waste, consistent with applicable State and local recycling laws, including the cost of a waste audit."

- Section 133 of the FMRA added a provision requiring airports that have, or plan to prepare, a master plan and that receive AIP funding for an eligible project to ensure that the new or updated master plan addresses issues relating to solid waste recycling at the airport, including:
    - The feasibility of solid waste recycling at the airport;
    - Minimizing the generation of solid waste at the airport;
    - Operation and maintenance requirements;
    - A review of waste management contracts; and
    - The potential for cost savings or the generation of revenue.

SOLID WASTE

Typically, airport sponsors have purview over waste handling services in facilities owned and operated such as the passenger terminal building, airport-owned hangars, and maintenance facilities. Tenants of airport-owned buildings/hangars or tenants that own their own facilities are typically responsible for coordinating their own waste handling services.

For airports, waste can generally be divided into eight categories[4]:

- **Municipal Solid Waste** (MSW) is more commonly known as trash or garbage consisting of everyday items that are used and then discarded, such as product packaging.

- **Construction and Demolition Waste** (C&D) is considered non-hazardous trash resulting from land clearing, excavation, demolition, renovation or repair of structures, roads, and utilities, including concrete, wood, metals, drywall, carpet, plastic, pipe, cardboard, and salvaged building components. C&D is also generally labeled MSW.

[4] Recycling, Reuse and Waste Reduction at Airports, FAA (April 24, 2013)

- **Green Waste** is a form of MSW yard waste consisting of tree, shrub and grass clippings, leaves, weeds, small branches, seeds, and pods.

- **Food Waste** includes unconsumed food products or waste generated and discarded during food preparation and is also considered MSW.

- **Deplaned Waste** is waste removed from passenger aircraft. Deplaned waste includes bottles, cans, mixed paper (newspapers, napkins, paper towels), plastic cups, service ware, food waste, and food soiled paper/packaging.

- **Lavatory Waste** is a special waste that is emptied through a hose and pumped into a lavatory service vehicle. The waste is then transported to a triturator[5] facility for pretreatment prior to discharge in the sanitary sewage system. Due to the chemicals in lavatory waste, it can present environmental and human health risks if mishandled. Caution must be taken to ensure lavatory waste is not released to the public sanitary sewage system prior to pretreatment.

- **Spill Clean and Remediation Wastes** are also special wastes and are generated during cleanup of spills and/or the remediation of contamination from several types of sites on an airport.

- **Hazardous Wastes** are governed by the Resource Conservation and Recovery (RCRA), as well as the regulations in 40 Code of Federal Regulations (CFR) Subtitle C, Parts 260 to 270. The U.S. Environmental Protection Agency (EPA) developed less stringent regulations for certain hazardous waste, known as universal waste, described in 40 CFR Part 237, *The Universal Waste Rule*.

As seen on **Exhibit 5F**, there are multiple areas where CPT potentially contributes to the waste stream, including the administrative building, on-airport tenants (FBOs/SASOs, etc.), hangars, and airport construction projects. To create a comprehensive waste reduction and recycling plan for the airport, all potential inputs must be considered.

EXISTING SERVICES

CPT does not have an existing recycling program in place. Waste collection and management is provided by the City of Cleburne and Waste Connections, a local trash pickup franchise. On-site dumpsters are provided to the airport by Waste Connections and are serviced during the week.

SOLID WASTE MANAGEMENT SYSTEM

Airports generally utilize either a *centralized* or a *decentralized* waste management system. The differences between these two methods are described below and summarized in **Exhibit 5G**.

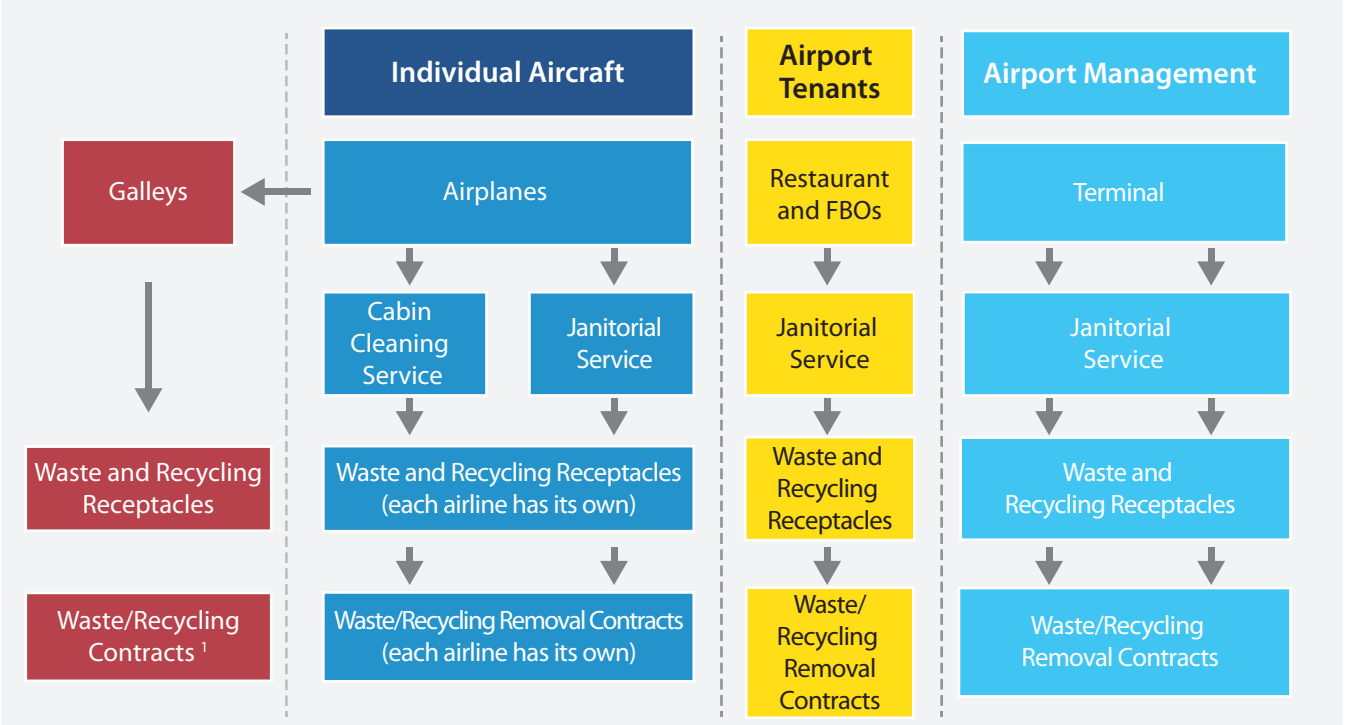
[5] A triturator facility turns lavatory waste into fine particulates for further processing.

Airport Waste Streams

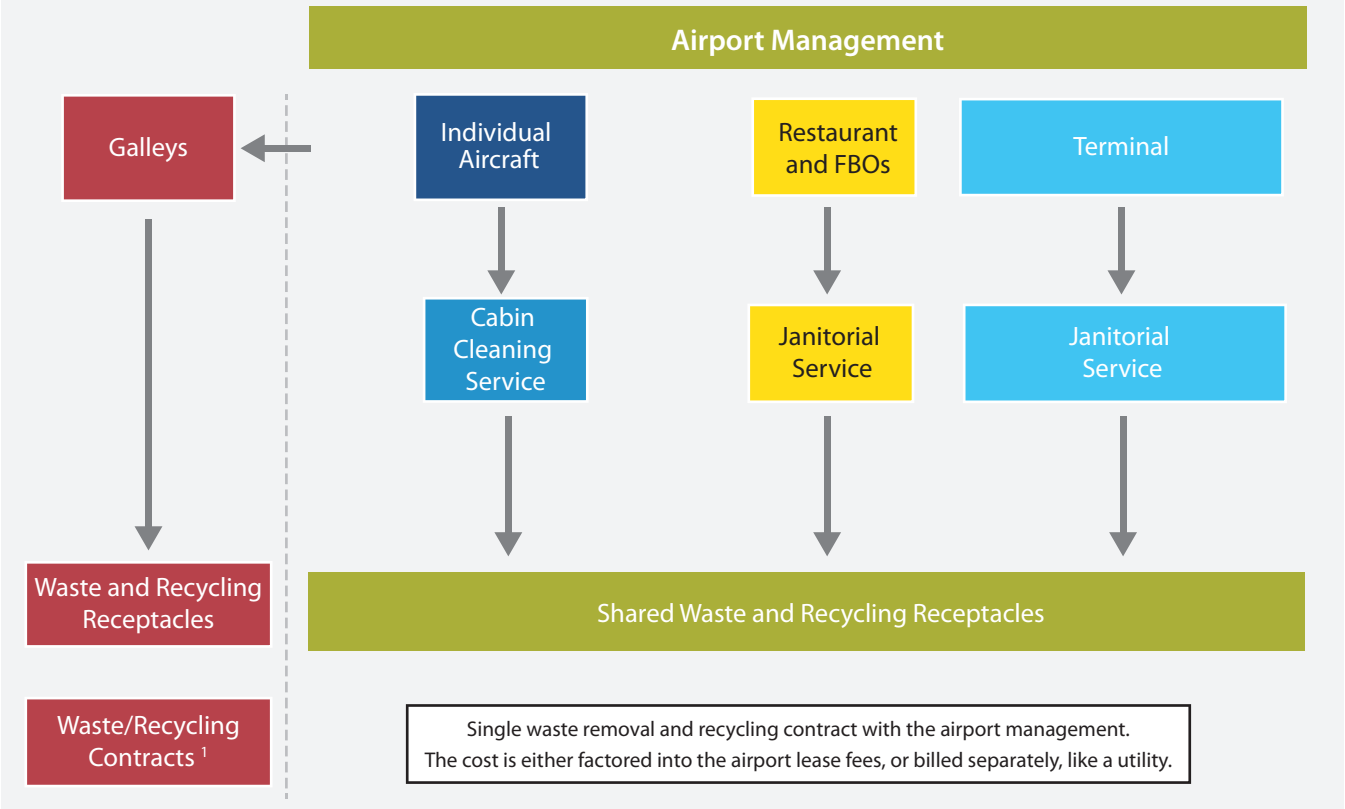
AIRPORT AREA	POTENTIAL INPUTS	POTENTIAL OUTPUTS
TERMINAL & ADMINISTRATION OFFICE	Pilots Employees	Food Waste, Paper Plastic, Aluminum Cans Trash,Green Waste Deplaned Waste
AIRFIELD	Aircraft Operations	Runway Rubber Green Waste
AIRCRAFT	Aircraft Ground Support Equipment (GSE)	Vehicle Waste Plastic Wastewater Hazmat
AIRPORT CONSTRUCTION	Demolition Construction Re-Construction	Reused Concrete Reused Asphalt Vehicle Waste Soils, Building Materials Wood, General Waste
FIXED BASE OPERATORS	Employees Clients	Food Waste Paper, Plastic Aluminum Cans Trash, Grease & Oil Green Waste

Source: Recycling, Reuse, and Waste Reduction at Airports, FAA (April 24, 2013)

Components of a Decentralized Airport Waste Management System



Components of a Centralized Airport Waste Management System



[1] Galleys typically manage their own waste even if an airport relies on a centralized system

Source: Natural Resources Defense Council, Trash Landings: How Airlines and Airports Can Clean Up Their Recycling Programs, December 2006.

- **Centralized waste management system.** With a centralized waste management system, the airport provides receptacles for the collection of waste, recyclables, or compostable materials and contracts for the removal by a single local provider.[6] The centralized waste management system allows for more participation from airport tenants who may not be incentivized to recycle on their own and can reduce the overall cost of service for all involved. A centralized strategy can be inefficient for some airports as it requires more effort and oversight on the part of airport management. However, the centralized system is advantageous decreases the number of people involved in the overall management of the solid waste and recycling efforts and allows greater control by the city over the type, placement, and maintenance of dumpsters, thereby saving space and eliminating the need for each tenant to have their own containers.

- **Decentralized waste management system.** Under a decentralized waste management system, the airport provides waste containers and contracts for the hauling of waste materials in airport-operated spaces only. However, airport tenants, such as fixed-base operators, retail shops, and other tenants manage the waste from their leased spaces with separate contracts, billing, and hauling schedules. A decentralized waste management system can increase both the number of receptacles on airport property and the number of trips by a waste collection service provider, should the collection schedule for the tenant differ from the airport.

CPT currently uses a decentralized waste management system.

GOALS AND RECOMMENDATIONS

Solid Waste and Recycling Goals

Table 5D outlines objectives that could help reduce waste generation and increase recycling efforts at the airport. To increase the effectiveness of tracking progress at the airport, a baseline state of all suggested metrics should be established to provide a comparison over time.

TABLE 5D | Waste Management and Recycling Goals

Goals	Objectives
Reduce amount of solid waste generated	Switch to online bill pay to eliminate monthly paper bills
	Conduct a waste audit to identify most common types of waste
	Eliminate purchase of items that are not recyclable (e.g., Styrofoam, plastic bags)
Reuse of materials or equipment	Reuse grass clippings as mulch
	Offer reusable dishes to employees
	Reuse cardboard boxes for storage
Increase amount of materials recycled	Promote the expansion of recycling services to all areas and users of the airport
	Improve waste and recycling tracking and data management
	Incorporate recycling requirements and/or recommendations into tenant lease agreements
	Expand recycling marketing and promotion efforts throughout public areas
	Require contractors to implement strategies to reduce, reuse, and recycle construction and demolition waste

[6] *Airport Waste Management and Recycling Practices* (2018) The National Academies of Sciences, Engineering, and Medicine Airport Cooperative Research Program, Synthesis 92.

Recommendations

To maximize waste reduction and increase recycling efforts at the airport, the following recommendations are made:

- **Assign the responsibility of waste management to a dedicated individual(s)** | Having one person or a group of people oversee and manage solid waste and recycling at the airport will create efficient and cost saving solutions to solid waste management. People dedicated to this operational aspect of the airport will have a familiarity of processes and will help identify areas of improvement and cost-cutting measures.

- **Audit the current waste management system** | The continuation of an effective program requires accurate data of current waste rates. There are several ways an airport can gain insight into their waste stream, such as requesting weights from the hauler or tracking the volume. But managing the waste system first starts with a waste audit. A waste audit is an analysis of the types of waste produced and is the most comprehensive and intensive way to assess waste stream composition, opportunities for waste reduction, and capture of recyclables. A waste audit should include the following actions:

    - Examination of records
        - Waste hauling and disposal records and contracts
        - Supply and equipment invoices
        - Other waste management costs (commodity rebates, container costs, etc.)
        - Track waste from the point of origin
        - Establish a baseline for metrics

    - Facility walk-through conducted by the airport
        - Qualitative waste information to determine major waste components and waste-generating processes
        - Identify the locations of the airport that generate waste
        - Identify what type of waste is generated by the airport to determine what can be reduced, reused, or recycled
        - Understand waste pickup and hauling practices

    - Waste sort
        - Provides quantitative data on total airport waste generation
        - Allows problem solving design/enhancing the recycling program for the airport

- **Create a tracking and reporting system** | Continuing to track solid waste generated will allow the airport to identify areas where a significant amount of waste is generated and will help the airport estimate annual waste volumes. Understanding the cyclical nature of waste generation will allow the airport to estimate costs and identify areas of improvement. Since the airport engages in recycling services, the airport can track recycling rates and waste quantities to identify cost saving measures that are currently unidentified simply based on the lack of quantitative data.

- **Reduce waste through controlled purchasing practices** | The airport can control the amount of waste generated by prioritizing the purchase of items or supplies that are reusable, recyclable, compostable, or made from recycled materials.

- **Create a recycling program at the airport** | While the focus of this plan is airport-operated facilities, the airport should work to incorporate facility-wide strategies that create consistency in waste disposal processes. This would ultimately result in the reduction of materials sent to the landfill.

ENVIRONMENTAL OVERVIEW

Analysis of the potential environmental impacts of recommended airport development projects, as discussed in this chapter and depicted on **Exhibit 5A** is a key component of the airport layout plan update process. The primary purpose of this environmental overview is to identify significant thresholds for the various resource categories contained in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, Exhibit 4-1. The environmental overview then evaluates the development program to determine whether proposed actions could individually or collectively have a significant effect on the quality of the environment.

The construction of any improvements depicted on the recommended development concept plan would require compliance with the National Environmental Policy Act (NEPA) to receive federal financial assistance or to obtain a federal approval (i.e., a federal action). For projects not "categorically excluded" under FAA Order 1050.1F, compliance with NEPA is generally satisfied through the preparation of an environmental assessment (EA). An EA is prepared when the initial review of the proposed action indicates that it is not categorically excluded, involves at least one extraordinary circumstance, or the action is not one known normally to require an environmental impact statement (EIS). If none of the potential impacts are likely to be significant, then the responsible FAA official prepares a Finding of No Significant Impact (FONSI), which briefly presents, in writing, the reasons why an action, not otherwise categorically excluded, would not have a significant impact on the human environment and the approving official may approve it. Issuance of a FONSI signifies that FAA would not prepare an EIS and has completed the NEPA process for the proposed action.

In instances where significant environmental impacts are expected, an EIS may be required. An EIS is a clear, concise, and appropriately detailed document that provides agency decision-makers and the public with a full and fair discussion of significant environmental impacts of the proposed action and reasonable alternatives, which satisfies the requirement in NEPA §102(2)(C) for a detailed written statement.

Table 5E summarizes potential environmental concerns associated with implementation of the recommended proposed development concept. Analysis under NEPA includes direct, indirect, and cumulative impacts. Direct impacts are those caused by the action and occur at the same time and place. Examples of direct impacts include:

- Construction of a facility or runway in a wetland which results in the loss of a portion or entirety of the wetland, or
- Noise generated by the proposed action or alternative(s) which adversely affects noise sensitive land uses.

Indirect impacts are those impacts caused by the action but are later in time, or farther removed in distance, but are still reasonably foreseeable. Indirect impacts may include growth inducing impacts and other effects related to induced changes in the pattern of land use, population density or growth rate, and related impacts on air and water and other natural systems, including ecosystems. Cumulative impacts are those that take into consideration the environmental impact of past, present, and future actions. Cumulative impacts vary based on the project type, geographic location, potential to impact resources, and other factors, such as the current condition of potentially affected impact categories.

TABLE 5E | Summary of Potential Environmental Concerns

AIR QUALITY	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***The action would cause pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards (NAAQS), as established by the United States (U.S.) Environmental Protection Agency (EPA) under the Clean Air Act, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.***
Potential Environmental Concerns	**Potential Impact.** The airport is in Johnson County, Texas. Johnson County is in nonattainment for 8-Hour Ozone (Serious) for the 2008 standard and Marginal for the 2015 standard, as of January 31, 2022. Johnson County is in attainment for all other criteria pollutants. The construction and operation of the new conventional, executive, and T- hangars; runway extension; terminal expansion; and parking lot development would result in additional emissions. According to the most recent FAA *Aviation Emissions and Air Quality Handbook* (2015), an emissions inventory under NEPA may be necessary for any proposed action that would result in a reasonably foreseeable increase in emissions due to plan implementation. For construction emissions, a qualitative or quantitative emissions inventory under NEPA may be required, depending on the type of environmental review needed for development projects outlined in proposed developments.
BIOLOGICAL RESOURCES (including fish, wildlife, and plants)	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***The U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS) determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would result in the destruction or adverse modification of federally designated critical habitat.*** ***FAA has not established a significance threshold for non-listed species. However, factors to consider are if an action would have the potential for:*** - ***Long-term or permanent loss of unlisted plant or wildlife species;*** - ***Adverse impacts to special status species or their habitats;*** - ***Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or*** - ***Adverse impacts on a species' reproductive rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance.***
Potential Environmental Concerns	**Potential Impact.** According to the USFWS Information for Planning and Consultation (IPaC) report, four birds (Golden-cheeked warbler, red knot, piping plover, and whooping crane), one clam (the Texas fawnsfoot), and one insect (the Monarch butterfly) are all protected under the Endangered Species Act (ESA) and have the potential to occur in the vicinity of the airport. As part of any NEPA documentation required for implementation of the projects outlined in the development concept, biological field surveys may be required. The location of the airport does not overlap with critical habitat for listed threatened or endangered species. One migratory bird, called the lesser yellowlegs, was identified within the vicinity of the airport by the IPaC Report. Non-listed species of concern include those protected by the *Migratory Bird Treaty Act*. The potential for impacts to migratory birds should be evaluated on a project-specific basis. This may include pre-construction surveys or scheduling construction outside of nesting seasons for these species.

CLIMATE	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***FAA has not established a significance threshold for Climate.*** *Refer to FAA Order 1050.1F Desk Reference and/or the most recent FAA Aviation Emissions and Air Quality Handbook for the most up-to-date methodology for examining impacts associated with climate change.*
Potential Environmental Concerns	**Potential Impact.** Temporary increase of greenhouse gas (GHG) emissions would occur during construction and operation of the new conventional, executive, and T- hangars, runway extension, terminal expansion, and parking lot development. An increase in greenhouse gas (GHG) emissions could occur during implementation of the projects outlined on the Airport Layout Plan. Increased airside and landside development could temporarily increase emissions from construction.
COASTAL RESOURCES	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***FAA has not established a significance threshold for Coastal Resources. Factors to consider are if an action would have the potential to:*** • ***Be inconsistent with the relevant state coastal zone management plan(s);*** • ***Impact a coastal barrier resources system unit;*** • ***Pose an impact on coral reef ecosystems;*** • ***Cause an unacceptable risk to human safety or property; or*** • ***Cause adverse impacts on the coastal environment that cannot be satisfactorily mitigated.***
Potential Environmental Concerns	**No Impact**. The airport is located 265 miles northwest of the Gulf of Mexico.
***DEPARTMENT OF TRANSPORTATION ACT*, SECTION 4(f)** (NOW CODIFIED IN 49 UNITED STATES CODE [U.S.C.] § 303)	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***The action involves more than a minimal physical use of a Section 4(f) resource or constitutes a "constructive use" based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource. Resources that are protected by Section 4(f) are publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance; and publicly or privately owned land from an historic site of national, state, or local significance. Substantial impairment occurs when the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished.***
Potential Environmental Concerns	**No Impact**. There are no wilderness areas or wildlife refuges within the vicinity that would be impacted by proposed development at the Airport. The closest wildlife area is located 98 miles from the airport, listed as Hagerman National Wildlife Refuge. Although there are no expected physical effects to historic sites, public parks, or recreation areas by the proposed improvements, constructive use (i.e., substantial impairment of a recreational use) would need to be evaluated on a project-specific basis.
FARMLANDS	

FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***The total combined score on Form AD-1006, Farmland Conversion Impact Rating, ranges between 200 and 260. (Form AD-1006 is used by the U.S. Department of Agriculture, Natural Resources Conservation Service [NRCS] to assess impacts under the Farmland Protection Policy Act [FPPA].)***
	
	FPPA applies when airport activities meet the following conditions:
	• *Federal funds are involved;*
	• *The action involves the potential for the irreversible conversion of important farmlands to non-agricultural uses. Important farmlands include pastureland, cropland, and forest considered to be prime, unique, or statewide or locally important land; or*
	• *None of the exemptions to FPPA apply. These exemptions include:*
	  ○ *When land is not considered "farmland" under FPPA, such as land already developed or already irreversibly converted. These instances include when land is designated as an urban area by the U.S. Census Bureau or the existing footprint includes rights-of-way.*
	  ○ *When land is already committed to urban development.*
	  ○ *When land is committed to water storage.*
	  ○ *The construction of non-farm structures necessary to support farming operations.*
	  ○ *The construction/land development for national defense purposes.*

Potential Environmental Concerns	**Potential Impact.** The U.S. Department of Agriculture's Web Soil Survey reports that "All areas are prime farmland," "Farmland of statewide importance," or "Not prime farmland" are present within the airport boundary.

HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***FAA has not established a significance threshold for Hazardous Materials, Solid Waste, and Pollution Prevention. However, factors to consider are if an action would have the potential to:*** • ***Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;*** • ***Involve a contaminated site;*** • ***Produce an appreciably different quantity or type of hazardous waste;*** • ***Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or*** • ***Adversely affect human health and the environment.***
Potential Environmental Concerns	**Potential Impact**. There is one FBO that offers fuel services at the airport. The FBO is required to maintain spill response procedures to minimize non-stormwater discharges from contaminating waterways under federal regulations. The closest Landfill, City of Cleburne Transfer Station Facility is located three miles from the airport. The proposed developments include new conventional, executive, and T- hangars, runway extension, terminal expansion, and parking lot development.
HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***FAA has not established a significance threshold for Historical, Architectural, Archaeological, and Cultural Resources. Factors to consider are if an action would result in a finding of "adverse effect" through the Section 106 process. However, an adverse effect finding does not automatically trigger the preparation of an EIS (i.e., a significant impact).***
Potential Environmental Concerns	**No Impact**. The closest area listed on the National Register of Historic Places (NRHP) is the Joiner Long House, two miles southeast of the airport boundary. The Joiner Long House will not be disrupted by the airport's proposed development. For all areas on airport which are subject to future ground disturbance, a cultural resources survey may be necessary to determine the potential presence of historical or cultural resources.
LAND USE	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***FAA has not established a significance threshold for Land Use. There are also no specific independent factors to consider. The determination that significant impacts exist is normally dependent on the significance of other impacts.***
Potential Environmental Concerns	**Potential Impact**. Future proposed projects will not disrupt current land uses outside of the airport property. The airport has reserved 48 acres for aeronautical development north, east, and west of the existing landside facilities. Directly east, adjacent to existing landside facilities, 47.9 acres of land is reserved for non- aeronautical revenue reserve. South of the airport are the airport's closest residences.
NATURAL RESOURCES AND ENERGY SUPPLY	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***FAA has not established a significance threshold for Natural Resources and Energy Supply. However, factors to consider are if the action would have the potential to cause demand to exceed available or future supplies of these resources.***
Potential Environmental Concerns	**Potential Impact**. Planned development projects at the airport will increase demands on energy utilities, water supplies and treatment, and other natural resources during construction and operation of new airport structures and facilities. If the potential for long-term impacts is a concern, coordination with service providers is recommended.
NOISE AND NOISE-COMPATIBLE LAND USE	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***The action would increase noise by Day-Night Average Sound Level (DNL) 1.5 decibel (dB) or more for a noise-sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.*** ***Another factor to consider is that special consideration should be given to the evaluation of the significance of noise impacts on noise-sensitive areas within Section 4(f) properties where the land use compatibility guidelines in Title 14 Code of Federal Regulations (CFR) Part 150 are not relevant to the value, significance, and enjoyment of the area in question.***
Potential Environmental Concerns	**Potential Impact.** Noise sensitive land uses, including residences, are located within ¼-mile of the airport. As shown on **Exhibit 5E**, both the existing and future noise exposure contours remain over airport property.

SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS	
Socioeconomics	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***FAA has not established a significance threshold for Socioeconomics. However, factors to consider are if an action would have the potential to:*** • ***Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area);*** • ***Disrupt or divide the physical arrangement of an established community;*** • ***Cause extensive relocation when sufficient replacement housing is unavailable;*** • ***Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities;*** • ***Disrupt local traffic patterns and substantially reduce the levels of service of roads serving the airport and its surrounding communities; or*** • ***Produce a substantial change in the community tax base.***
Potential Environmental Concerns	**No Impact**. Proposed development will not disrupt the nearest homes located outside of the airport boundary. The closest residences are located 0.3 miles east of the 48 acres of aeronautical development planned on the east side of the airport. The proposed projects outlined in the recorded development plan would not result in temporary disruption of local traffic patterns during construction operation.
Environmental Justice	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***FAA has not established a significance threshold for Environmental Justice. However, factors to consider are if an action would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population (i.e., a low-income or minority population), due to:*** • ***Significant impacts in other environmental impact categories; or*** • ***Impacts on the physical or natural environment that affect an environmental justice population in a way that FAA determines is unique to the environmental justice population and significant to that population.***
Potential Environmental Concerns	**No Impact**. Executive Order (E.O.) 12898, *Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations*, and the accompanying Presidential Memorandum, and Order DOT 5610.2, *Environmental Justice*, require the FAA to provide for meaningful public involvement for minority and low-income populations, as well as analysis that identifies and addresses potential impacts on these populations that may be disproportionately high and adverse. Low-income and minority populations have been identified within one mile of the airport. It is unlikely that implementation of the proposed improvements outlined on the Proposed Development would affect these populations in a disproportionate or adverse manner. The closest residences are located 0.3 miles east of the 48 acres of aeronautical development planned on the east side of the airport. Environmental justice impacts may be avoided or minimized through early and consistent communication with the public and allowing ample time for public consideration.
Children's Health and Safety Risks	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***FAA has not established a significance threshold for Children's Environmental Health and Safety Risks. However, factors to consider are if an action would have the potential to lead to a disproportionate health or safety risk to children.***
Potential Environmental Concerns	**No Impact.** The nearest school is located 0.6 miles southeast of the airport, called Cleburne High School. Implementation of the proposed improvements outlined in the Proposed Development would not affect children at the nearest facilities. Best management practices should be implemented to decrease environmental health risks to children. For example, during construction of the projects outlined on the Proposed Development, appropriate measures should be taken to prevent access by unauthorized persons to construction project areas.

VISUAL EFFECTS (INCLUDING LIGHT EMISSIONS AND VISUAL RESOURCES/VISUAL CHARACTER)	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***FAA has not established a significance threshold for Light Emissions. However, a factor to consider is the degree to which an action would have on the potential to:*** • ***Create annoyance or interfere with normal activities from light emissions;*** • ***Affect the nature of the visual character of the area due to light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resources;***
Potential Environmental Concerns	**No Impact**. Runway 15-33 has medium intensity runway and taxiway lighting, PAPIs, and REILs used for navigation on the airport. Projects are likely to include additional lighting during construction phases and operation of the airport's new structures and facilities. However, future improvements would be similar to what currently exists at the airport and would not change the overall visual character of the airport.
WATER RESOURCES (INCLUDING WETLANDS, FLOODPLAINS, SURFACE WATERS, GROUNDWATER, AND WILD AND SCENIC RIVERS)	
Wetlands	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***The action would:*** 1. ***Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers;*** 2. ***Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected;*** 3. ***Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public);*** 4. ***Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands.*** 5. ***Promote the development of secondary activities or services that would cause the circumstances listed above to occur; or,*** 6. ***Be inconsistent with applicable state wetland strategies.***
Potential Environmental Concerns	**Potential Impact.** According to USFWS National Wetlands Inventory there are no wetland habitats within the proposed project. Proposed improvements will not disturb existing wetlands. It is important to note that this information is based on aerial photography interpretation from May 2021. Field surveys and wetland delineations may be required to determine the presence or absence of wetlands in project areas. During construction, Best Management Practices should be implemented to decrease environmental damage to wetland features, including water quality and possible species habitat. Removal or relocation of wetlands may require a Section 404 permit under the *Clean Water Act*, which regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Future airport construction will require further evaluation of wetland features. Best Management Practices should be implemented to decrease environmental damage to wetland features, including water quality and possible species habitat.
Floodplains	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***The action would cause notable adverse impacts on natural and beneficial floodplain values. Natural and beneficial floodplain values are defined in Paragraph 4.k of DOT Order 5650.2, Floodplain Management and Protection.***
Potential Environmental Concerns	**Potential Impact**. According to the most current study by FEMA, Panel 48251C0285J (eff. 12/4/2012), the airport is located Zone X - Area of Minimal Flood Hazard.
Surface Waters	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***The action would:*** 1. ***Exceed water quality standards established by federal, state, local, and tribal regulatory agencies; or*** 2. ***Contaminate public drinking water supply such that public health may be adversely affected.***
Potential Environmental Concerns	**No Impact**. The closest natural surface water feature is Buffalo Creek, located south of the airport.

Groundwater	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***The action would:*** ***1. Exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies: or*** ***2. Contaminate an aquifer used for public water supply such that public health may be adversely affected.*** ***Factors to consider are when a project would have the potential to:*** • ***Adversely affect natural and beneficial groundwater values to a degree that substantially diminishes or destroys such values;*** • ***Adversely affect groundwater quantities such that the beneficial uses and values of such groundwater are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated; or*** • ***Present difficulties based on water quality impacts when obtaining a permit or authorization.***
Potential Environmental Concerns	**No Impact**. The airport property does not serve as a significant source of groundwater recharge and is not located near a sole source aquifer. The nearest sole source aquifer, the Arbuckle-Simpson Aquifer SSA, is 143 miles from the airport.
Wild and Scenic Rivers	
FAA Order 1050.1F, *Significance Threshold/Factors to Consider*	***FAA has not established a significance threshold for Wild and Scenic Rivers. Factors to consider are when an action would have an adverse impact on the values for which a river was designated (or considered for designation) through:*** • ***Destroying or altering a river's free-flowing nature;*** • ***A direct and adverse effect on the values for which a river was designated (or under study for designation);*** • ***Introducing a visual, audible, or another type of intrusion that is out of character with the river or would alter outstanding features of the river's setting;*** • ***Causing the river's water quality to deteriorate;*** • ***Allowing the transfer or sale of property interests without restrictions needed to protect the river or the river corridor; or*** • ***Any of the above impacts preventing a river on the Nationwide Rivers Inventory (NRI) or a Section 5(d) river that is not included in the NRI from being included in the Wild and Scenic River System or causing a downgrade in its classification (e.g., from wild to recreational).***
Potential Environmental Concerns	**No Impact**. There are no protected rivers in proximity to the airport. The closest National Wild and Scenic River is Cossatot River located 228 miles from the airport. The closest National River Inventory feature is the Brazos River located 24 miles from the airport.

Source: Coffman Associates analysis

SUMMARY

This chapter has been prepared to help the City of Cleburne make decisions on the future growth and development of CPT by describing narratively and graphically the Recommended Master Plan Concept. It details environmental and land use conditions that must be taken into consideration when implementing the development plan. The plan represents an airfield facility that fulfills aviation needs for the airport, while conforming to safety and design standards to the extent practicable. It also provides a landside development concept that can be developed as demand (and technology) dictates and is subject to further refinement pending comments from the PAC, City of Cleburne, and the public.

Flexibility will be crucial to successful future development at the airport, as activity may not occur as predicted. The Recommended Master Plan Concept provides stakeholders with a general guide that, if followed, can maintain the airport's long-term viability, and allow it to continue to provide air transportation service to the area. The next chapter of this master plan will provide a reasonable schedule for undertaking the projects based on safety and demand over the course of the next 20 years.