



Chapter Five

RECOMMENDED MASTER PLAN CONCEPT

The airport master plan for Texarkana Regional Airport (TXK) 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 existing and future operational demand, which aided in creating an assessment of future facility needs. Those needs were then used to develop alternative facility plans to meet projected needs. Each step in the planning process has included the development of draft working papers, which were presented and discussed at previous planning advisory committee (PAC) meetings and public information workshops and have been made available on the project website.

In the previous chapter, several development alternatives were analyzed to explore options for the future growth and development of TXK. The development alternatives 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 TXK.

The recommended concept provides the ability to meet the disparate needs of various airport operators. The goal of this plan is to ensure the airport can continue (and improve) in its role of serving commercial passenger airlines, general aviation operators, and military aviation, as well as support the potential for future cargo and maintenance/repair/overhaul (MRO) operators. The plan has been specifically tailored to support existing and future growth in all forms of potential aviation activity as the demand materializes.

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

AIRFIELD PLAN

The airfield plan generally considers improvements related to the runway and taxiway system and navigational aids. The following sections provide descriptions of the airfield recommendations.

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 operation 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 critical design aircraft. The critical design aircraft is the most demanding aircraft (or family of aircraft) that currently conducts or is projected to conduct 500 or more operations (takeoffs and landings) per year at the airport. Factors included in airport design are an aircraft’s wingspan, approach speed, tail height, and 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.

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 expected to utilize the taxilane.

The applicable RDC and critical design aircraft for each runway at TXK in the existing and ultimate conditions – as established in Chapter Two – are summarized in **Table 5A**.

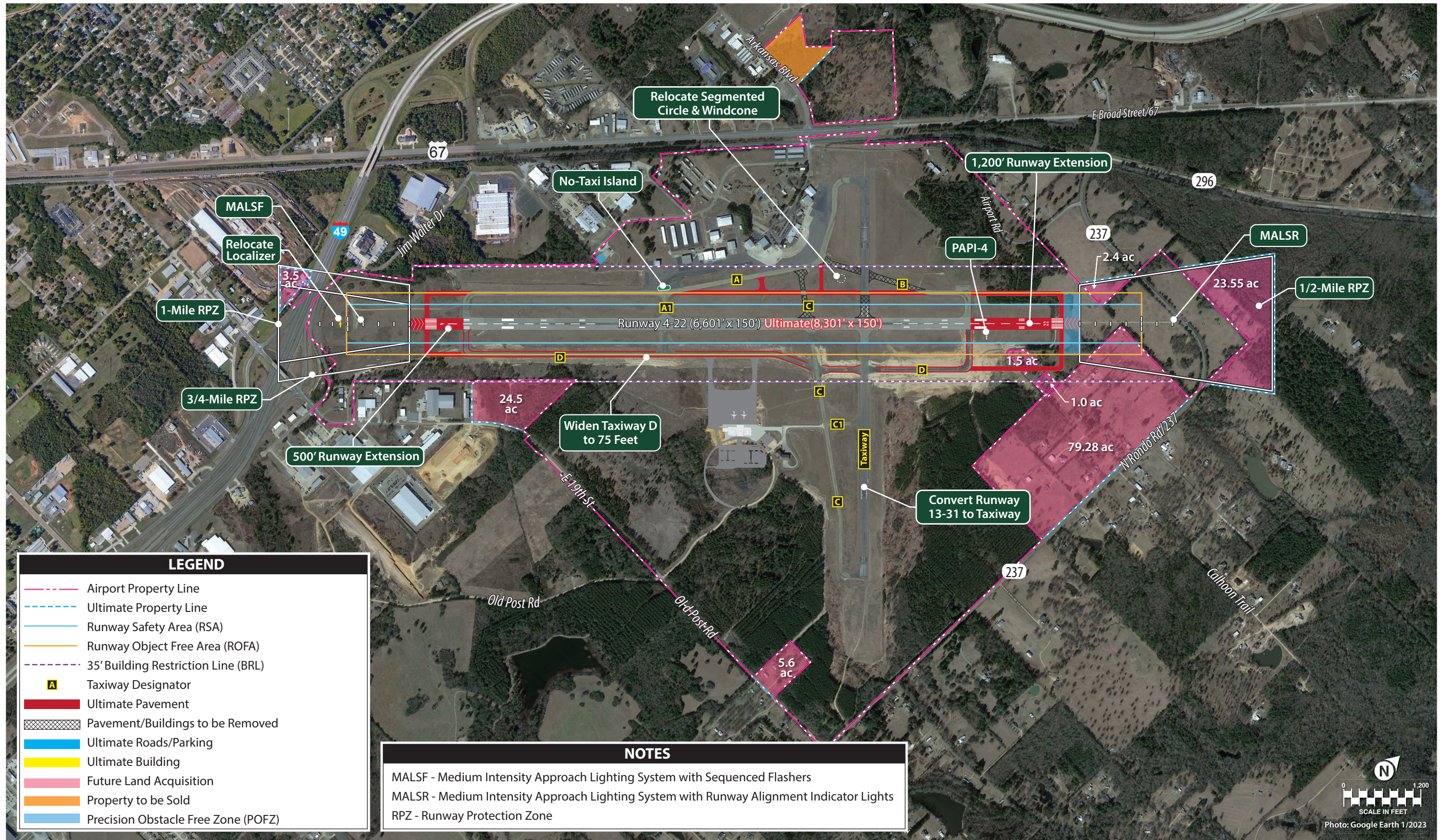
TABLE 5A | Airport and Runway Classifications

	Runway 4-22 (existing)	Runway 4-22 (ultimate)	Runway 13-31 (existing)	Runway 13-31 (ultimate)
Airport Reference Code (ARC)	C-II	C-III	B-II	Runway to be closed
Critical Aircraft (Typ.)	CRJ-700	ERJ-175	Citation Excel/XLS	
Runway Design Code (RDC)	C-II-2400	C-III-2400	B-II-5000	
Taxiway Design Group (TDG)	TDG 2B	TDG 3	2B	

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

RUNWAY 4-22

Runway Dimensions | Runway 4-22 is currently 6,601 feet long and 150 feet wide. At this length, the runway can accommodate most commercial and business jet aircraft that currently operate at TXK; however, additional length is needed to safely accommodate larger/heavier aircraft, especially during the hotter summer months. During these periods, some aircraft are forced to restrict payloads (fuel/passengers/freight) to ensure a safe departure. The alternatives in the previous chapter considered options to extend the runway up to 10,001 feet. After review and discussion of the various alternatives with

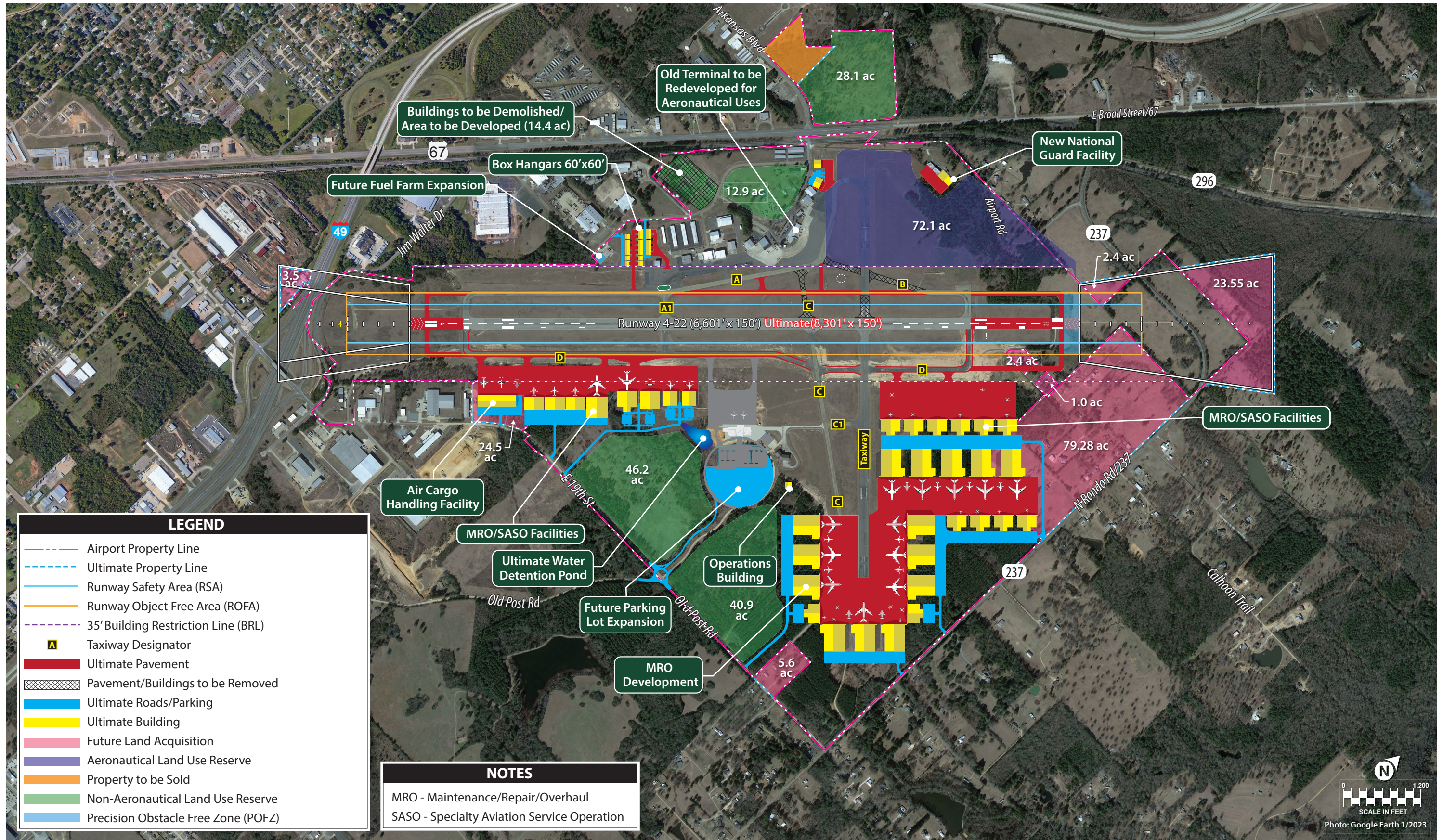


LEGEND

- Airport Property Line
- Ultimate Property Line
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- 35' Building Restriction Line (BRL)
- A Taxiway Designator
- Ultimate Pavement
- Pavement/Buildings to be Removed
- Ultimate Roads/Parking
- Ultimate Building
- Future Land Acquisition
- Property to be Sold
- Precision Obstacle Free Zone (POFZ)

NOTES

MALSF - Medium Intensity Approach Lighting System with Sequenced Flashers
 MALSR - Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
 RPZ - Runway Protection Zone



LEGEND

- Airport Property Line
- Ultimate Property Line
- Runway Safety Area (RSA)
- Runway Object Free Area (ROFA)
- 35' Building Restriction Line (BRL)
- A Taxiway Designator
- Ultimate Pavement
- Pavement/Buildings to be Removed
- Ultimate Roads/Parking
- Ultimate Building
- Future Land Acquisition
- Aeronautical Land Use Reserve
- Property to be Sold
- Non-Aeronautical Land Use Reserve
- Precision Obstacle Free Zone (POFZ)

NOTES

MRO - Maintenance/Repair/Overhaul
 SASO - Specialty Aviation Service Operation

0 1,200
 SCALE IN FEET
 Photo: Google Earth 1/2023

the PAC, it was determined that the most reasonable alternative was to extend the runway to 8,301 feet by extending it 500 feet to the southwest and 1,200 feet to the northeast. This length is adequate for 80-90 percent or higher useful loads for most commercial service aircraft, including the Boeing 777 series and 747 series, which may utilize the airport in the future as part of a planned maintenance/repair/overhaul (MRO) operation.

Connected actions and notes regarding the runway extension are as follows:

- Due to the significant negative terrain slope to the northeast of the runway, the extension will require a large amount of fill material to build up a platform on which the runway and taxiway pavement will be constructed and to meet RSA grading standards beyond the runway end. The resulting platform could result in a need to reroute a portion of N Rondo Road. This determination will be made based on engineering design of the runway extension.
- The visual approach aids on both ends of the runway (VASI, MALSR) will need to be relocated. The visual approach slope indicator (VASI) system available on Runway 4 is planned to be upgraded to a precision approach path indicator (PAPI-4) system. A PAPI-4 system is also planned for Runway 22.
- The instrument landing system (ILS) equipment (localizer and glideslope antenna) will need to be relocated.
- The parallel taxiways serving Runway 4-22 will need to be extended to the new runway ends.
- Blast pads measuring 200 feet wide by 200 feet long will be added to the runway ends to prevent soil erosion from jet blast.
- Runway edge lighting (MIRL) will be added to all new runway pavement to be consistent with the existing system.
- New airfield signage will need to be updated to reflect new taxiway connectors associated with the runway extension.
- Existing instrument approach procedures will need to be revalidated once the runway extensions are completed.

The RDC C-II/III-2400 runway width design standard is 100 feet, unless the critical aircraft has a maximum certified takeoff weight (MTOW) of 150,000 pounds or more, in which case the standard is 150 feet. The existing and future critical aircraft (CRJ-700 and ERJ-175) have MTOWs of less than 150,000 pounds. Based on this standard, it is likely that the FAA will only support maintaining the design width of 100 feet when major rehabilitation projects are undertaken. The remaining 50 feet of width would need to be maintained by sponsor funding or removed permanently. Another consideration is that the FAA will support maintaining the runway width at 150 feet if operations by widebody aircraft weighing over 150,000 pounds occur on a frequent basis (500 operations annually) when MRO activities begin at TXK.

Pavement Strength | Runway 4-22 is currently strength-rated for up to 50,000 pounds for single wheel loading aircraft (S), 86,000 pounds for dual wheel loading aircraft (D), and 120,000 pounds for dual tandem wheel loading aircraft (2D). These strengths are adequate for the commercial aircraft currently operating at TXK; however, the airport should consider strengthening the runway to 100,000 pounds (D) to ensure compatibility with the Embraer E175 (future critical aircraft), as well as heavier business jets, such as the Gulfstream G550/650/700. To accommodate the widebody aircraft (Boeing 747/777) anticipated to be serviced by the planned MRO facility at TXK, the runway should be strengthened to at least 125,000 pounds and up to 875,000 pounds double dual tandem (2D2).

Instrument Approach Procedures | Runway 22 is equipped with a Category I (CAT I) ILS approach with minimums down to 200-foot cloud ceilings and visibility down to ½-mile. Both ends of Runway 4-22 are also equipped with precision area navigation (RNAV) localizer performance with vertical guidance (LPV) approaches; the Runway 22 approach provides minimums down to ½-mile and the Runway 4 approach provides minimums down to 1-mile. The ILS and global positioning system (GPS) approaches to Runway 22 are adequate and should be maintained. The plan recommends improving the Runway 4 GPS approach to achieve minimums down to ¾-mile. Such an approach would make the airport more accessible during poor weather conditions when winds favor Runway 4. The FAA recommends the installation of an approach lighting system in support of ¾-mile approach minimums. The plan calls for the installation of a medium intensity approach lighting system with sequenced flashing lights (MALSF) which extends 1,400 feet from the runway end into the approach area of the runway. This is a more economical system and less land-intensive than the MALS system installed on Runway 22, which is necessary due to roadway constraints (Jim Walter Drive and Interstate Highway 49 [I-49]) southwest of the runway.

Property Acquisition | To accomplish the runway extension and protection of the various runway safety areas, properties surrounding the airport will need to be acquired. The 500-foot extension to the southwest and associated extension of the runway safety area (RSA) and runway object free area (ROFA) result in these areas remaining on existing airport property. The localizer antenna array will need to be relocated outside of the shifted RSA/ROFA. The approach runway protection zone (RPZ) associated with Runway 4 will increase in size due to the lower ¾-mile minimums and will encompass a juvenile detention center and a portion of a railyard. The plan calls for the acquisition of approximately 3.5 acres of property within the ultimate ¾-mile RPZ to ensure sponsor control over this area. An additional alternative to fee simple acquisition of this property is to establish an aviation easement over this area to protect the approach airspace into Runway 4. Since rerouting I-49 and Jim Walter Drive is not feasible, the plan is for those roadways to remain within the RPZ. An evaluation of the ultimate approach surface to Runway 4 shows that both roadways and the vehicles traveling on them remain below the approach surface and do not pose any obstruction issues to Runway 4.

For the 1,200-foot extension to the northeast, the physical pavement will remain on airport property, but the RSA/ROFA and RPZ extend beyond. To protect these areas, approximately 40 acres of property are planned for acquisition, including several residential properties which would need to be relocated.

RUNWAY 13-31

As discussed in the facility requirements chapter, Runway 13-31 does not qualify as a crosswind or second runway because Runway 4-22 exceeds the 95 percent crosswind coverage threshold and the airfield operates at less than 60 percent of the annual service volume (ASV). As such, Runway 13-31 is classified as an additional runway and is not likely to receive funding for major maintenance/rehabilitation through the Airport Improvement Program (AIP). Runway 13-31 is planned to remain active for the duration of its useful life and then be decommissioned and the pavement converted to a taxiway at such time that it requires major rehabilitation.

Runway 13-31 is currently 5,200 feet long and 100 feet wide, which is adequate for all small aircraft and several small business jets. Because the plan is to close the runway in the future, the plan does not call for any improvement projects for Runway 13-31. The RSA/ROFA/RPZs do not require any improvements and should be maintained to meet RDC B-II-5000 design standards until the runway is decommissioned. The decommissioning of the runway will also eliminate the runway visibility zone (RVZ) and the need to relocate the automated surface observation system (ASOS) equipment. The decommissioning of the runway will also open certain landside areas up to development. Converting the runway to a taxiway will require replacing the runway edge lighting with taxiway edge lighting, remarking the pavement, and updating airfield signage.

TAXIWAY IMPROVEMENTS

The taxiway system at TXK is planned to meet airplane design group (ADG) III and taxiway design group (TDG) 3 design standards. These standards establish a minimum taxiway width of 50 feet, which is currently met or exceeded on all taxiways.

Taxiway A | Taxiway A (60 feet wide) extends from the Runway 4 threshold, curving to the north to the Runway 13 end. Several connecting taxiways (A1, C, and B) provide access from the ramp areas to the runways via Taxiway A; each is oriented to provide direct access from the ramp to either runway, which is a non-standard taxiway geometry condition. The plan calls for Taxiway A to be reconfigured into a full-length parallel taxiway connecting to both ultimate ends of Runway 4-22, with new connecting taxiways extending from the ramp area. Portions of existing Taxiways B and C will be removed to mitigate the direct access points and a no-taxi island will be incorporated into the ramp prior to Taxiway A1 to mitigate that direct access point. The segmented circle and lighted wind cone will be relocated to the north to allow for the new Taxiway A pavement.

Taxiway D | Taxiway D (50 feet wide) is a full-length parallel taxiway that extends from the Runway 4 threshold to the Runway 22 threshold and provides access to the new terminal building and apron. This taxiway can sufficiently accommodate the commercial traffic anticipated for TXK; however, MRO development is anticipated to be positioned on the southeast side of the airfield when it occurs. Early indications are that the MRO operations could attract widebody aircraft, such as the Boeing 747 and 777, which would need taxiways meeting up to ADG V and TDG 5 standards. As such, Taxiway D would need to be widened to 75 feet, along with improvements to the taxiway fillets to meet these higher design standards. Widening the taxiway will also require relocating airfield signage and the taxiway edge lighting system.

Taxiway C | Taxiway C (50 feet wide) is a partial-parallel taxiway located east of Runway 4-22 and south of Runway 13-31. Taxiway C is planned to remain in place while Runway 13-31 remains active. Once Runway 13-31 is decommissioned and converted to a taxiway, Taxiway C may be closed and the land made available for redevelopment for new landside facilities.

LANDSIDE CONCEPT

The primary goal of landside facility planning is to provide adequate space to meet reasonably anticipated needs of the variety of users – including the commercial passenger terminal building, the fixed base operator (FBO) and maintenance/repair/overhaul (MRO) businesses, and general aviation – while optimizing operational efficiency and land use. Achieving these goals yields a development scheme that segregates functional uses while maximizing the airport’s revenue potential.

As a reminder, all landside development should occur only as dictated by demand. The locations and sizes of aprons and hangars proposed in the recommended plans are conceptual and may not reflect the needs of future developers and their customers. The recommended concept is intended to be used strictly as a guide for TXK staff when considering new developments.

Recommended landside developments are depicted on the back side of **Exhibit 5A**.

TERMINAL AREA

TXK is in the process of completing the construction of a new 39,300-square-foot passenger terminal building. The facility requirements analysis concluded that the new facility will adequately meet the passenger demands at TXK over the long-term horizon of the master plan. The plan does not include any expansions to the new terminal facility. The associated terminal parking lot will have a capacity for 425 parking spaces, including 383 public spaces and 42 employee spaces, which should meet or exceed the long-term demand identified in the facility requirements. There is space available within the circle formed by TXK Boulevard (terminal loop road) to more than double the existing capacity of the terminal lot, if demand should exceed projections. At the completion of the terminal facility, an additional lane will be added to TXK Boulevard to provide separated one-way traffic to/from the terminal. TXK Boulevard will intersect with E 19th Street and Old Post Road at a roundabout for safer and more efficient traffic flow.

Additional terminal area recommendations include:

- A new water detention pond to the south of the terminal building to handle stormwater flow from the terminal apron and parking lots;
- A new operations building, located adjacent to the aircraft rescue and firefighting (ARFF) station, to consolidate airport management and operations facilities on the east side of the airfield; and
- Redevelopment of the existing terminal (which will be replaced by the new terminal) for aeronautical purposes, which could include being taken over by the airport’s FBO to expand its general aviation support facilities, or demolition of the to make way for new hangar facilities.



MRO/SASO DEVELOPMENT

The establishment of the ARFF facility and the new terminal on the east side, supported by the construction of Taxiway D, have made the east side of the airfield attractive to potential developers. The large expanses of undeveloped greenspace in this area have prompted interest from several MROs and specialty aviation service operators (SASOs) which would develop large hangars and apron spaces to service a variety of aircraft, including widebody aircraft. The plan preserves the bulk of the flight line along Taxiway D for development of new MRO/SASO operators. The conceptual layout includes aprons and hangars large enough to house up to a Boeing 747 or 777. While not shown on the concept, it is assumed that any MRO/SASO operator would develop its own fuel storage facilities to support its operation. These would need to be located near the hangar/apron facilities for quick and easy distribution and would need roadside accessibility for refueling trucks.

Once Runway 13-31 is closed, the plan includes redevelopment of the east side of the runway into a taxiway supporting new MRO/FBO types of developments. The area should be planned up to ADG V/TDG 5 design standards so that it is accessible to widebody aircraft. Roadway access to this area is planned to extend from Old Post Road and N Rondo Road. Several parcels of property adjacent to the airport are planned for acquisition to support MRO and other aeronautical developments on the east side. These include 5.6 acres of property along Old Post Road and 79.28 acres along N Rondo Road. The 79.28-acre area includes several residential properties that would need to be relocated.

AIR CARGO

Several air cargo scenarios were explored in the forecasts chapter of the master plan. At this point, there has been no indication that an air cargo operation is considering starting service at TXK; however, it is prudent for the master plan to consider that possibility for the future. If TXK attracts an air cargo operation, the plan includes the development of a new air cargo handling facility, apron, and truck staging/parking lot on the east side of the airfield. The planned site is on approximately 24.5 acres of land that would need to be acquired and is located at the south end of Taxiway D with easy accessibility to the airfield, near the E 19th Street on/off ramps from I-49. The sizing of the facilities could accommodate larger aircraft, such as the Boeing 757 or 767.

GENERAL AVIATION

General aviation facilities at TXK are located on the west side of the airfield within the core landside area which includes the passenger terminal building that is being replaced. They consist of the airport's FBO (Signature Aviation) facilities, several private conventional hangars, and T-hangar units. Demand for new general aviation hangars is primarily for executive/box style hangars. The plan includes sets of 60-by-60-foot box hangars to be located between the T-hangars and the fuel farm. The plan also identifies two conventional hangars that are already under development along Airport Drive near the Runway 13 end. The plan reserves approximately 72 acres of land on the north side for new aeronautical developments with a focus on general aviation support facilities. The 72-acre area includes the northwest portion of

Runway 13-31, which will be redeveloped once it is decommissioned. General aviation facilities planned for this area include box hangars, T-hangars, or additional conventional hangars to support FBO/SASOs. **New hangar development types and sizes will be dictated by demand.**

The fuel farm on the west side of the airfield along Glove Avenue is planned to remain and be expanded, as needed. The facility requirements identified a potential need for additional Jet A fuel storage by the long-term planning horizon. An expansion to add a 12,000-gallon tank is reflected in the recommended concept. Future fuel storage capacity may also be needed for unleaded aviation fuel when it becomes more widely adopted and available.

ARKANSAS NATIONAL GUARD

The Arkansas National Guard (ANG) occupies a facility on the north side of the airfield which does not have access to the airfield. The ANG has expressed an interest in extending its lease of this facility and making improvements, including adding a hangar facility and apron to accommodate rotorcraft. A conceptual layout of these facilities is included in the master plan concept. These facilities are planned to remain segregated from the airfield.

NON-AERONAUTICAL DEVELOPMENT

This section describes reserving portions of airport property for non-aeronautical uses. Generally, airport property is subject to Airport Improvement Program (AIP) grant assurances; therefore, TXK will need to request a release of these properties from federal obligations by the FAA. Once a release from federal obligation is issued by the FAA, TXK would be able to lease or sell these properties to support revenue diversification and generation. The FAA Reauthorization Act of 2018, Section 163 changed how the FAA's Office of Airports staff reviews and considers the release of airport property for non-aeronautical uses. The Section 163 process focuses the 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.

Airports often have property that is inaccessible to the airfield and offers limited utility for aviation operations. These areas are typically reserved for other non-aeronautical related uses that provide an opportunity to diversify and expand revenue streams for the airport.

The recommended concept includes reserving approximately 146 acres of airport property for non-aeronautical development. The remainder of the airport property can sufficiently meet the airport's aviation use needs for the 20-year planning period and beyond; property reserved for non-aeronautical use provides the airport with an opportunity to attract commercial and industrial tenants and diversify its revenue base. This property is separated from the airfield by roads/parking lots that would restrict the ability to provide airfield access. Areas on the west that are reserved for non-aeronautical uses include old

military facilities and the vehicle parking lot supporting the terminal building, which will need to be re-developed once the new terminal is opened. Airport property west of Highway 67 – a portion of which was acquired to provide airport control over the Runway 13 RPZ – is included as future non-aeronautical development once Runway 13-31 is decommissioned. This is prime developable real estate with highway access that the airport should target for development. A portion of this property is already subject to a deal with a private entity which is in the process of acquiring approximately eight acres of airport property outside the Runway 13 RPZ.

LAND USE COMPATIBILITY

Land use planning around TXK 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 comprehensive or strategic land use plans. These documents can be adopted for the greater municipality or for specific areas. In most states, including Arkansas, zoning ordinances are required to be created in accordance with the city or county comprehensive plan.

It is important to note the distinction between primary land use concepts used in evaluating development within 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 goals 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 (where 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.

EXISTING LAND USE

As discussed in Chapter One, TXK is located within the city limits of Texarkana, AR, three miles northeast of downtown Texarkana. West and southwest of the airport, existing land uses are predominantly medium to high density residential. Commercial land use is prevalent west of the airport and is concentrated along the US-67 corridor. The area immediately southeast of the airport is comprised of heavy industrial use with rail access. Northeast of the airport, existing land use is comprised of rural undeveloped and lower density residential land use on larger lots.

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 will be used to produce zoning ordinances and subdivision regulations to carry out the plan's goals. A municipality will often incorporate goals and policies for its airports in its 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 current planning document of this type for the future use of land near the airport is the *Texarkana Arkansas Comprehensive Growth Plan*¹, which was adopted by the Texarkana, Arkansas, Board of Directors in July 2023². The planning boundary extends beyond the city limits of Texarkana, Arkansas, to include its territorial jurisdiction in accordance with statutes of Arkansas Codes §14-56-413.

The *Texarkana Arkansas Comprehensive Growth Plan's* Future Land Use 2040 map identifies the Airport District as the existing area of TXK. The district serves to accommodate the types of land uses adjacent to the airport.

Exhibit 5B depicts the future land use designations within the airport approach surfaces out to one mile for both runways (Runway 4-22 and Runway 13-31). In addition to the Airport District use, planned land uses identified within the one-mile approach surfaces include Mixed Use Commercial, Civic/Institutional, Recreation/Open Space, Industrial, Industrial Park, Walkable Neighborhood, and Residential. **Table 5B** presents the purpose for each designation, as stated in the comprehensive plan; the specific recommended use that pertains to this analysis; and the approach location where each use is planned.

ZONING

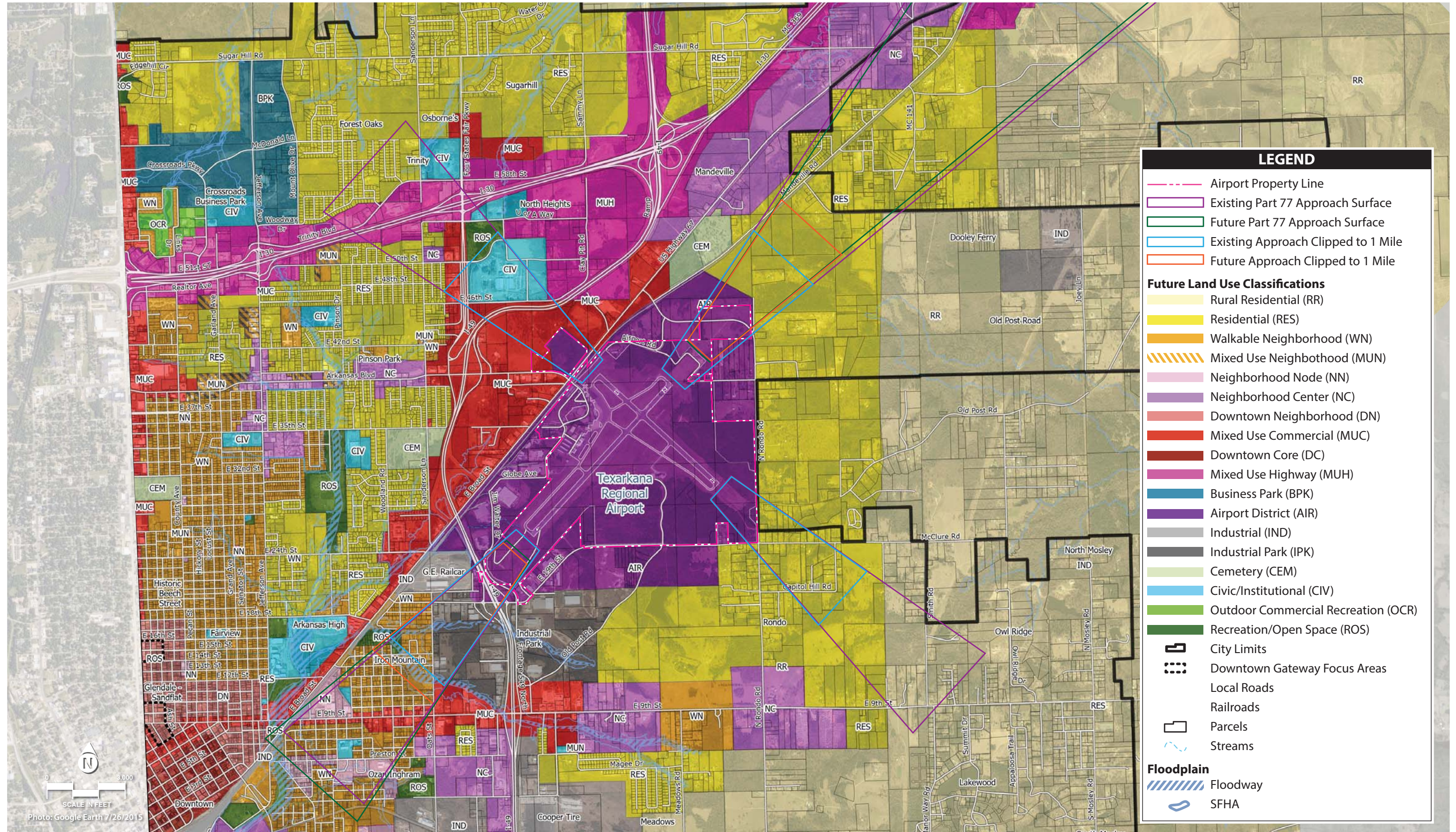
Zoning regulations are used in conjunction with subdivision regulations and are an essential tool to achieve goals and policies outlined in the comprehensive plan. Zoning regulations divide land into districts, or zones; regulate land use activities in those districts; and specify permitted uses, intensity, 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's zoning ordinance is codified in Chapter 12 – Zoning of the City of Texarkana, Arkansas, municipal code under authority granted to it by the General Assembly of the State of Arkansas.³ All of the land within the runway approach surfaces out to one mile for Runways 13, 4, and 22 is within the jurisdiction of the City of Texarkana, Arkansas; however, portions of the Runway 31 approach surface, clipped to one mile, extend into unincorporated Miller County and land development there would not be subject to the city's zoning ordinance.

¹ Texarkana Arkansas Comprehensive Growth Plan (2023) (<https://texarkanaplan.transportationplanroom.com>)

² Ordinance No. 24-2023

³ A.S.A. § 14-56-402



Source: Texarkana, Arkansas Comprehensive Plan 2040

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TABLE 5B | Future Land Use Plan – Classification Summaries

Mixed Use Commercial	
Purpose	Allows for people to live, work, shop, and play in the same area. Designed to accommodate a mix of uses and development in the city with a variety of buildings in a more traditional square, node, or downtown-like development pattern. Residential, office, commercial, and open space amenities are included in the development site with pedestrian access.
Recommended Use	Residential uses include multi-family developments and single-family residential uses, which would likely be patio homes, townhomes, or row house models. Up to 18 dwelling units per acre. For non-residential uses, structure footprint size is limited to a size that is appropriate for compatibility with surrounding developments and uses.
Location	Runway 13 and Runway 4
Civic/Institutional	
Purpose	Integral to a community and its citizens by providing services and social connection to the city. Should be integrated into the fabric of each zoning district, except Industrial.
Recommended Use	Includes government buildings and services, schools, community buildings, educational institutions, and cultural facilities.
Location	Runway 13
Recreation/Open Space	
Purpose	Integrating this type of development throughout the entire city benefits citizens, visitors, and employers.
Recommended Use	Includes parks, recreation areas, floodways, wetlands, and environmentally sensitive lands.
Location	Runway 13 and Runway 4
Industrial	
Purpose	Considers where industrial development will be allowed in the future.
Recommended Use	Includes manufacturing and industrial activities that may create some environmental nuisances, which can be objectionable near residential and non-residential property; distribution centers and other similar uses of very large scale and high impact to transportation infrastructure.
Location	Runway 4
Industrial Park	
Purpose	Similar to the Industrial category; located in a specific geographic area. Due to the proximity of the airport, uses may be more focused on air and freight.
Recommended Use	Includes manufacturing and industrial activities that may create some nuisances, which can be objectionable near residential and non-residential property; distribution centers and other similar uses of very large scale and high impact to transportation infrastructure.
Location	Runway 4
Walkable Neighborhood	
Purpose	Traditional neighborhood development that encompasses most neighborhoods built before the 1950s. Has higher densities than strictly single-family residential neighborhoods and provides a mix of non-residential and residential uses. Single-family and some lower density multifamily may be found within this area. Focus is primarily residential, but institutional and neighborhood-scale commercial uses are incorporated; area is anticipated to provide services to the surrounding residential uses.
Recommended Use	Residential densities of six to 16 dwelling units per acre. For neighborhood-scale commercial uses, structure footprint size is limited to a size that is appropriate for compatibility with surrounding developments and uses.
Location	Runway 4
Residential	
Purpose	Connected block development with gridded street patterns. Incorporates institutional and other low-intensity, non-residential uses to serve in the transitions or corridors surrounding the neighborhood. Consists primarily of single-family units.
Recommended Use	Residential densities of four to nine dwelling units per acre.
Location	Runway 31 and Runway 22

Sources: Texarkana Arkansas Comprehensive Growth Plan (2023), Appendix D; Coffman Associates analysis

As shown on **Exhibit 5C**, the following zoning districts are within the runway approach surfaces out to one mile:

- A-1 – Mixed Use Rural; Runway 22
- C-3 – Open Display Commercial District; Runway 13
- M-1 – Limited Manufacturing; airport property and all four runway approach surfaces
- M-2 – General Manufacturing; Runway 4
- R-1 – Rural Residential; Runway 13, Runway 22, and Runway 31
- R-2 – Single Family Residential; Runway 4
- R-3 – Low Density Residential; Runway 4
- R-4 – Medium Density Residential; Runway 31
- W-1 – Warehousing and Wholesaling; Runway 4

In addition to the requirements of the standard zoning designations listed above, the City of Texarkana, Arkansas, adopted the Texarkana Municipal Airport Zoning Ordinance⁴ in 1970, based on the airport’s instrument approach zone, transition zones, horizontal zone, and conical zone, as shown on the Texarkana Municipal Airport Zoning Map (dated December 1969). The approach surfaces utilized in this analysis fall within the instrument approach zone with a 50:1 slope; therefore, the permitted height for each land use within these zones varies based on the distance of the proposed use from the end of the runway. The airport zoning ordinance outlines additional height restrictions for each zone in Section 6-221 of Article IV: Airport Zoning.

Table 5C summarizes the types of land uses allowed in each zoning district, maximum allowable height, and minimum lot area. Density requirements are not specified.

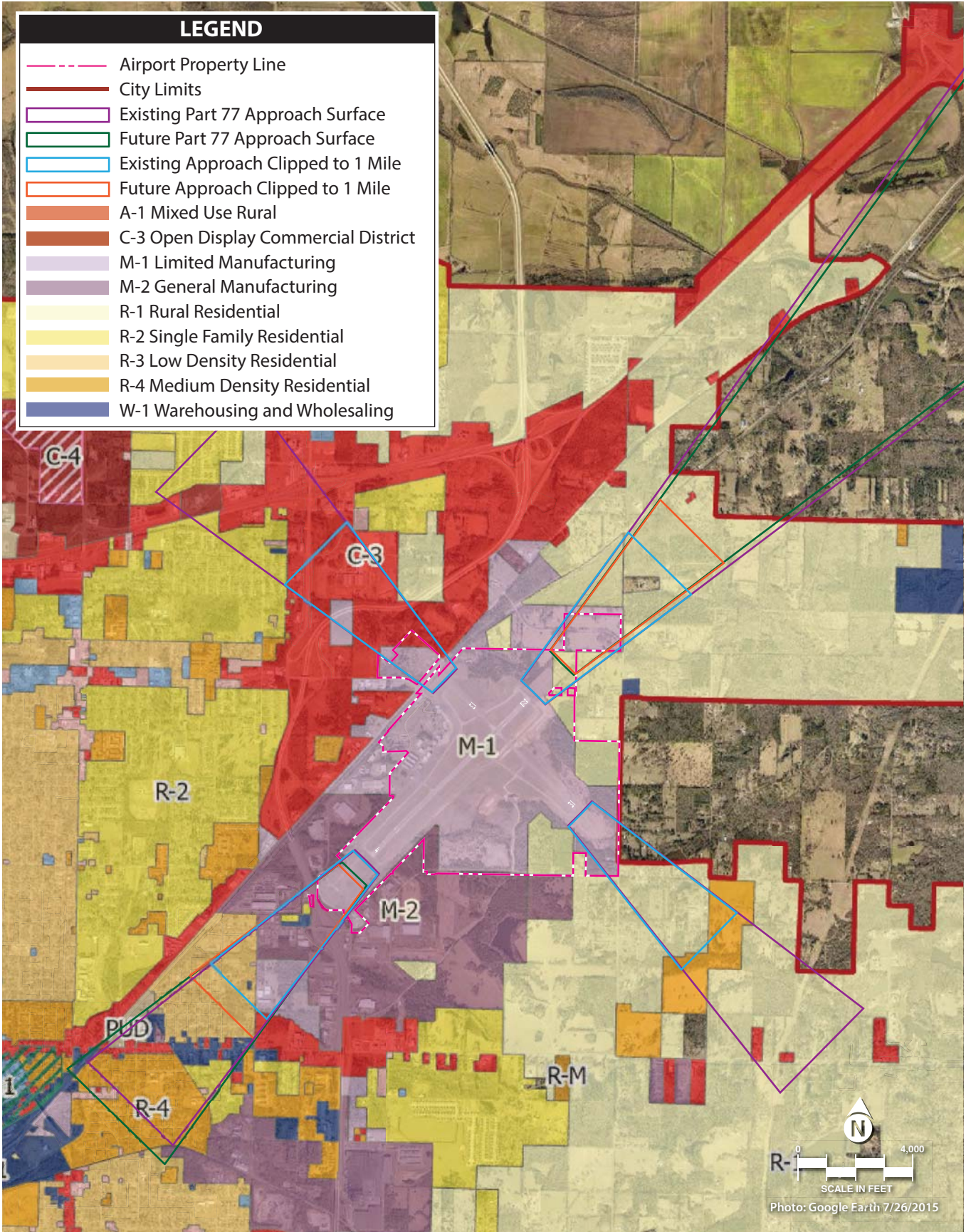
TABLE 5C | Zoning Classifications Summary

Zoning Classification	Residential Allowed?	Maximum Allowable Height	Minimum Lot Area
A-1 – Limited Mixed Use Rural	Yes	3 stories, 36’	1.5 acres
C-3 – Open Display Commercial District	No	3 stories, 36’	N/A
M-1 – Limited Manufacturing	No	3 stories, 36’	N/A
M-2 – General Manufacturing	No	6.5 stories, 75’	N/A
R-1 – Rural Residential	Yes	3 stories, 36’	16,500 sf
R-2 – Single Family Residential	Yes	3 stories, 36’	8,400 sf
R-3 – Low Density Residential	Yes	3 stories, 36’	5,000 sf
R-4 – Medium Density Residential	Yes	3 stories, 36’	5,000 sf
W-1 – Warehousing and Wholesaling	No	3 stories, 36’	15,000 sf

Sources: Chapter 28 – Zoning, Texarkana Arkansas Municipal Code; Coffman Associates analysis

As previously mentioned, the one-mile Part 77 approach surface for Runway 31 crosses the municipal boundary into unincorporated Miller County. Chapter 14, Article 2, of the Miller County, Arkansas, Code of Ordinances states that the county planning board has “the exclusive zoning and planning jurisdiction over all unincorporated areas” within the county; however, no zoning designations are formally adopted for these areas.

⁴ Ord. No. H-93, § 11, 5-4-70



Source: Texarkana, Arkansas Zoning

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, 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. The land subdivision ordinance of the City of Texarkana, Arkansas, is codified within Chapter 24 of the Texarkana, Arkansas, Code of Ordinances.⁵ The subdivision regulations are the same throughout the city and do not vary based on location within the airport's instrument approach zones, transition zones, horizontal zone, or conical zone.

Subdivision regulations provide a means to secure aviation easements. The most common requirement is the dedication of a noise or aviation 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. Subdivision regulations can also be used as a means to require fair disclosure measures for development in airport-impacted areas.

BUILDING CODES

Building codes are 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 Texarkana, Arkansas, has adopted the latest editions of the Arkansas Fire Prevention Code, Arkansas Mechanical Code, Arkansas Plumbing Code, Arkansas Gas Code, and National Electrical Code for all structures, which are based on International Building Code (IBC) 2021 requirements. The IBC generally does not have sound insulation requirements for non-residential structures. The city's Housing Code also adopts the 1994 edition of the Standard Housing Code, as published by the Southern Building Code Congress International (SBCCI) for residential structures. The current SBCCI has since been replaced by the International Residential Code (IRC). The IRC generally does not include provisions for sound insulation from exterior noise.

A jurisdiction can pass additional regulations in its building codes to require further building requirements – such as in reaction to unique threats of regional natural disasters – so that structures are built correctly at the beginning of construction when it matters most, as change can be expensive and difficult. 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.

⁵ Chapter 24 – Subdivisions, Texarkana, Arkansas, Code of Ordinances

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. This was accomplished by evaluating city-adopted land use plans and zoning designations for the parcels encompassed by the noise contours to determine if noise-sensitive land uses could be developed in those areas. 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 that commonly operate at TXK. Because each aircraft has different design and operating characteristics (number and type of engines, weight, 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 – is 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 represent the DNL at each intersection point on the grid and 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 equal elevation, the noise contour identifies areas of equal noise exposure.

Day-night average sound level (DNL) is the metric currently accepted by the FAA, U.S. Environmental Protection Agency (EPA), and Department of Housing and Urban Development (HUD) as an appropriate measure of cumulative noise exposure. These three agencies have identified the 65 DNL noise contour as the threshold of incompatibility.

The guidelines summarized in 14 CFR Part 150⁶ indicate that all land uses are acceptable in areas below 65 DNL. At or above the 65 DNL threshold, residential uses (including RV parks and campgrounds), educational and religious facilities, health and childcare facilities, and outdoor sport, recreation, and park facilities are all incompatible. Educational, healthcare, and religious facilities are also generally considered to be incompatible with noise exposure above 65 DNL. As with residential development, a community

⁶ Table 1 – Land Use Compatibility With Yearly Day-Night Average Sound Levels, Appendix A to 14 CFR Part 150

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 that are generally compatible if measures to achieve noise level reduction are incorporated into their design and construction. 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.

As part of this master plan, noise exposure contours were prepared for TXK for the existing condition (2022) and a long-range future condition (2042). The resulting contours are shown on **Exhibit 5D**. As shown on the exhibits, the 65 DNL and greater noise contours remain entirely on airport property in the existing condition. In the future condition, the 65 DNL and greater noise contours largely remain on airport property; however, a small portion of the 65 DNL contour extends off airport property near each end of Runway 4-22 in the future condition. The area that extends off Runway 4 is within the I-49 right-of-way. The area that extends off Runway 22 is identified for acquisition.

Height Restrictions | To analyze the potential for non-compatible development of land off airport property, zoning within the Part 77 approach surface area out to one mile from the ends of the runways was evaluated. **Table 5C** notes the maximum height limit for zoning of the underlying permitted land uses, which range from 36 to 75 feet.

RECOMMENDATIONS

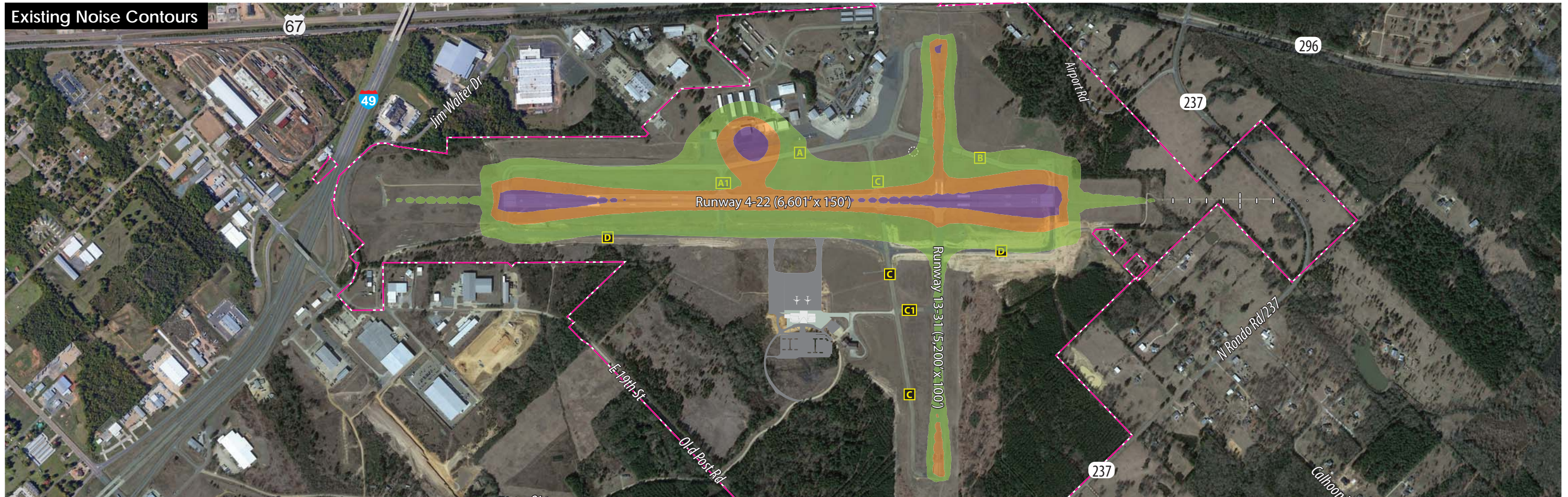
Based on the information presented above and the non-compatible development analysis, the following recommendations are provided to maintain airport land use compatibility in the vicinity of TXK. These recommendations are in accordance with the recently published FAA Advisory Circular (AC) 150/5190-4B, which identifies compatible land use development tools, resources, and techniques to protect surrounding communities from adverse effects associated with airport operations.⁷

Update Texarkana Municipal Airport Zoning Map | The current Texarkana Municipal Airport Zoning Map could be updated with the existing and future conditions information to ensure the most up-to-date compatible design and noise standards are implemented within properties subject to the city's airport zoning ordinance. The map referenced in the latest version of the airport zoning ordinance is dated December 1969.

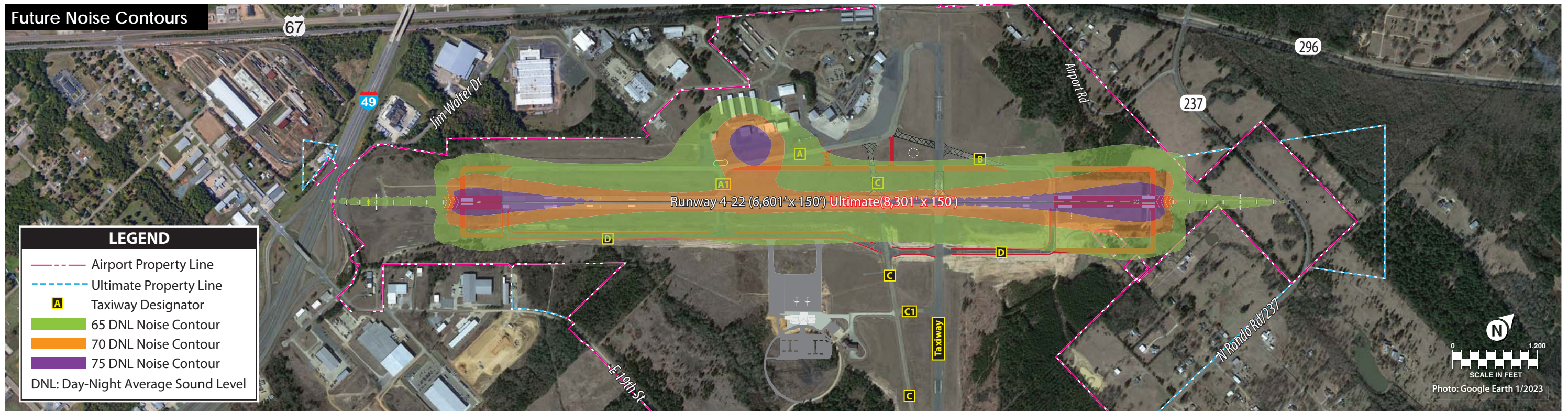
Notification of 14 CFR Part 77 Analysis | The Texarkana Municipal Airport Zoning Ordinance could be updated to require notification of a 14 CFR Part 77 analysis during the project review phase – as per 14 CFR Part 77 notification requirements – in compliance with federal regulations governing the use of the airspace surrounding TXK.

⁷ Federal Aviation Administration, Advisory Circular 150/5190-4B, Airport Land Use Compatibility Planning (September 16, 2022)

Existing Noise Contours



Future Noise Contours



LEGEND

- Airport Property Line
- Ultimate Property Line
- A** Taxiway Designator
- 65 DNL Noise Contour
- 70 DNL Noise Contour
- 75 DNL Noise Contour
- DNL: Day-Night Average Sound Level



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Implement Review of Wildlife Hazards | Wildlife hazards are not currently defined as an airport hazard in the city or county zoning ordinance. Currently, an airport hazard is defined as a height hazard penetrating the approach, operation, transition, or turning zone imaginary surfaces. Certain land uses that attract birds and other wildlife hazards should not be permitted on or near the airport, according to FAA AC 15/5200-33C.⁸

Special Exceptions/Conditional Uses | In its most recent circular, the FAA advises that if a community located near an airport allows some land use control through conditional uses, that community should make certain such uses do not create a hazard for the community, the airport, or the user of the subject property. The City of Texarkana, Arkansas, could modify its change of zone requirements and/or conditional use requirements within the airport's vicinity to have a designation that triggers extraordinary review of these exceptions due to the location of the property being near an airport.

Adopt Fair Disclosure Requirements for Real Estate Transactions Within the Vicinity of TXK | 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. Around even the busiest airports, it is not uncommon 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 Texarkana Regional Airport, located at 201 Airport Drive, Texarkana, AR 71854. 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 should also be aware that the current volume of aircraft activity may increase in response to the population and economic growth surrounding Texarkana Regional Airport. Any subsequent deed conveying this parcel or subdivisions thereof shall contain a statement in substantially this form.

AIRPORT RECYCLING, REUSE, AND WASTE REDUCTION

The primary objective of this section is to provide the Texarkana Regional Airport Authority (TRAA) and its airport administration with recommendations for future improvements and processes that promote sustainable principles in addressing airport operations and aviation demand. Making sustainability a priority in the planning process will aid the airport in identifying ways to reduce its overall environmental impact. As a result of implementing sustainability issues into the master plan process, the airport can become a more environmentally friendly economic hub.

⁸ Federal Aviation Administration, Advisory Circular 15/5200-33C, Hazardous Wildlife Attractants on or near Airports (February 21, 2020)

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 which 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.

State of Arkansas Solid Waste Management | Under *Act 1376 of 2001*, the Arkansas Department of Energy and Environment is charged with creating a new comprehensive statewide solid waste management plan every 10 years and establishing minimum requirements for the development of new plans by the state’s 18 regional solid waste management boards.

The Southwest Arkansas Regional Solid Waste Management Board (SWARSWMB) is the designated solid waste management board for the City of Texarkana and conducts solid waste planning and management responsibilities outlined in Section Four (4) of *Arkansas Act 870 of 1989*. The SWARSWMB has the following responsibilities:

- Collect and study data to evaluate the solid waste management needs of the areas located within the SWARSWMB’s jurisdiction.
- Create and propose recommendations to local governments within its jurisdiction on issues related to solid waste management.
- Regulate and issue Certificates of Need⁹ to applicants for solid waste landfills.

The SWARSWMB also provides grant funds for recycling projects for counties within its jurisdiction.¹⁰ Types of recycling grants include:

- Electronic waste recycling;
- Recycling facility improvements;

⁹ A Certificate of Need is a condition of application for a solid waste landfill under the Arkansas Regional Solid Waste Planning Board.

¹⁰ Southwest Arkansas Planning & Development District (<https://www.southwestar.org/environmental-services>)



- Trucks and trailers;
- Recycling equipment (balers, forklifts, etc.); and
- Recycling education.

SOLID WASTE

An airport sponsor typically has purview over waste handling services in facilities it owns and operates, such as the passenger terminal building, city-owned hangars, aircraft rescue and firefighting (ARFF) station, 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:¹¹

- **Municipal Solid Waste (MSW)** is more commonly known as trash or garbage and consists 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, and renovation or repair of structures, roads, and utilities. C&D waste includes concrete, wood, metals, drywall, carpet, plastic, pipe, cardboard, and salvaged building components. C&D is also generally labeled MSW.
- **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 triturator¹² facility for pretreatment prior to discharge in the sanitary sewage system. Chemicals in lavatory waste can present environmental and human health risks if mishandled; therefore, 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 special wastes that 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 Act (RCRA)*, as well as by the regulations in 40 CFR Subtitle C, Parts 260 to 270. The U.S. EPA developed less stringent regulations for certain hazardous waste – universal waste – described in 40 CFR Part 237, *The Universal Waste Rule*.

¹¹ Recycling, Reuse and Waste Reduction at Airports, FAA (April 24, 2013)

¹² A triturator facility turns lavatory waste into fine particulates for further processing.

As shown on **Exhibit 5E**, there are multiple areas where the airport potentially contributes to the waste stream, including the passenger terminal building, on-airport tenants (FBOs/SASOs, etc.), hangars, airfields, aircraft ground support equipment, airport construction projects, and the airport traffic control tower (ATCT). To create a comprehensive waste reduction and recycling plan for the airport, all potential inputs must be considered.

EXISTING SERVICES

The airport and its tenants currently contract solid waste handling to Richardson Waste. There is currently no recycling program at TXK; however, the airport does recycle e-waste at UNICOR Recycling Center, and also recycles hazardous waste (e.g., florescent bulbs, aircraft tires, batteries, etc.).

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 on **Exhibit 5F**.

- **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 others) manage the waste from their leased spaces with separate contracts, billing, and hauling schedules. A decentralized waste management system can increase the number of receptacles on airport property, as well as the number of trips by a waste collection service provider if tenants' collection schedules differ from the airport's schedule.
- **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 their removal by a single local provider.¹³ The centralized waste management system allows for more participation from airport tenants that 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 in that fewer working components are involved in the overall management of the solid waste and recycling efforts. A centralized system also allows greater control by the city over the type, placement, and maintenance of dumpsters, thereby saving space and eliminating the need for tenants to have their own containers.

Although the airport manages solid waste collection for its T-hangar tenants and terminal, the airport primarily utilizes a decentralized waste management system, as other conventional hangars tents have separate contracts for solid waste pickup.

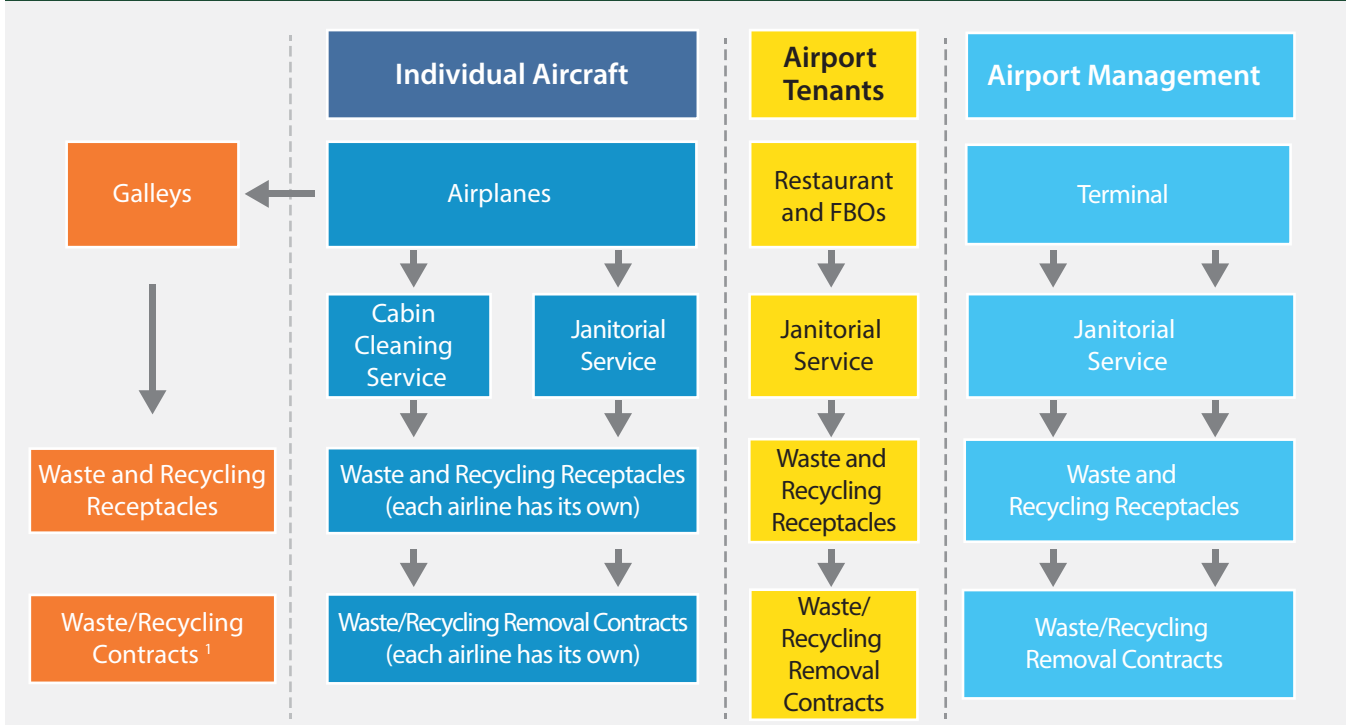
¹³ The National Academies of Sciences, Engineering, and Medicine Airport Cooperative Research Program, Synthesis 92, Airport Waste Management and Recycling Practices (2018)

AIRPORT WASTE STREAMS for TEXARKANA REGIONAL AIRPORT

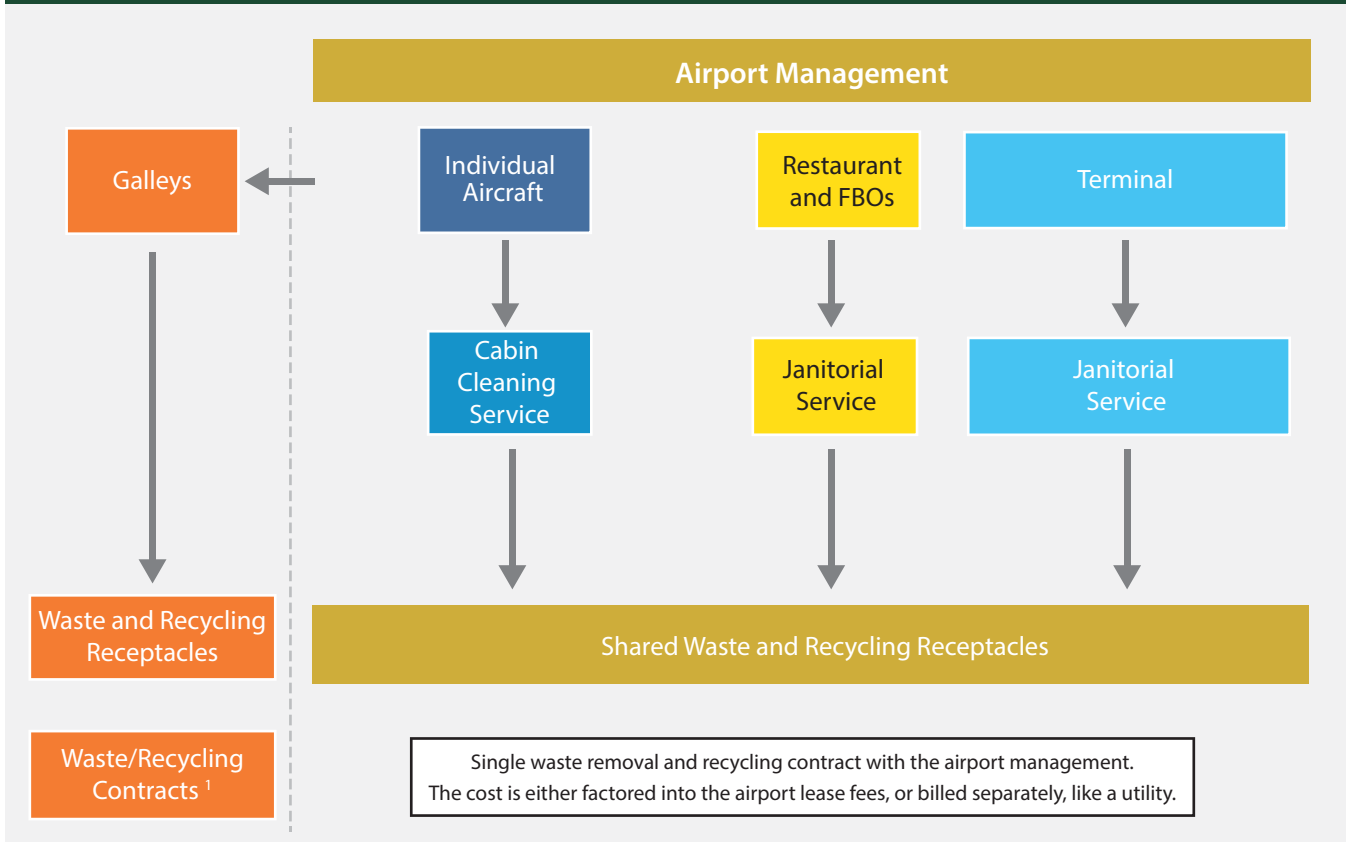


Source: Recycling, Reuse, and Waste Reduction at Airports, FAA (April 24, 2013)

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.

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 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 of the airport
	Improve waste tracking and data management
	Incorporate recycling requirements and/or recommendations into tenant lease agreements
	Implement recycling marketing and promotion efforts throughout public areas
	Require contractors to implement strategies to reduce, reuse, and recycle C & D waste

Source: Coffman Associates analysis

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

- **Create a centralized waste management system at the airport.** TXK currently participates in a decentralized waste management system because a portion of airport tenants are responsible for overseeing their own waste management. Airport staff could consider engaging tenants to streamline waste management and recycling efforts at TXK by creating a centralized waste management system at the airport.
- **Assign the responsibility of waste management to a dedicated individual or group.** Having one person or a group of people oversee and manage solid waste and recycling at the airport will create efficient and cost-saving solid waste management solutions. People dedicated to this operational aspect of the airport will be familiar with processes and will help identify areas of improvement and cost-saving measures.
- **Audit the current waste management system.** The continuation of an effective program requires accurate data on current waste and recycling rates. An airport can gain insight into its waste stream in several ways, such as requesting weights from the hauler, tracking the volume, or reviewing the bills; however, managing the waste system starts with a waste audit, which 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
 - Review waste hauling and disposal records and contracts
 - Examine supply and equipment invoices
 - Evaluate other waste management costs (commodity rebates, container costs, etc.)
 - Track waste from the point of origin
 - Establish a baseline for metrics
- Facility walkthrough conducted by the airport
 - Gather qualitative waste information to determine major waste components and waste-generating processes
 - Identify the locations on the airport that generate waste
 - Identify what types of waste are generated by the airport to determine what can be reduced, reused, or recycled
 - Improve understanding of 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.** Tracking solid waste generated at the airport 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 will identify areas of improvement.
- **Reduce waste through controlled purchasing practices and the consumption of nonessential products.** 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.** To guarantee the airport reduces the amount of waste hauled to the landfill, materials that cannot be reused or avoided should be recycled, if possible. The city should review internal procedures to ensure there are no unacceptable items contaminating recycling containers or recyclables thrown in the trash. Clearly marked signage of what is and is not accepted, placed near the solid waste and recycling containers, is another significant component of an effective recycling program.
- **Provide ongoing education for airport employees.** To minimize waste within the airport, it is crucial to inform and provide airport employees with a thorough education on waste management at both an individual and group level. As part of the onboarding process, new employees should be given the tools needed to achieve a thorough understanding of the airport's solid waste and recycling goals. This education should be tailored to the type of job an individual may hold within the airport.

- **Provide ongoing tenant education.** It is crucial to encourage tenant participation to ensure buy-in of the airport's recycling efforts. To ensure recycling is part of the airport's everyday business, airport administration can provide training and education to support personnel, tenants, and others who conduct business at the airport. In-person meetings with airport tenants could be held to create mutual understanding of the airport's solid waste and recycling goals and how tenants play a vital role in the airport's overall success.
- **Incorporate an airport-wide waste reduction strategic plan.** Designing an airport-wide waste reduction strategic plan will create consistency in waste disposal mechanisms, ultimately resulting in the reduction of materials sent to the landfill.

ENVIRONMENTAL OVERVIEW

An analysis of potential environmental impacts associated with proposed airport projects is an essential consideration in the airport master plan process. The primary purpose of this discussion is to review the recommended development concept (**Exhibit 5A**) and associated capital program at the airport to determine whether projects identified in the airport master plan could, individually or collectively, significantly impact existing environmental resources. Information contained in this section was obtained from previous studies, official internet websites, and analysis by the consultant.

The *FAA Reauthorization Act of 2018* (Act) changed how the FAA historically operates with respect to airport oversight. Section 163 of the Act limits the FAA's approval authority over certain projects. Pursuant to Section 163, when a sponsor submits a change to the ALP for a project that would not be federally funded, requests a change in land use from aeronautical to non-aeronautical, or requests to dispose of airport-owned land, the FAA must determine if the proposal would be subject to the agency's approval authority. This approval is a two-step process. The FAA exercises its regulatory authority consistent with the Act and separately examines if it has ALP approval authority under both of the following steps. First, the FAA determines if it has ALP approval authority under Section 163 of the Act. The second step is to determine how the land was acquired and if land release obligations are required. Projects depicted on the ALP that were approved prior to the Act must be evaluated to determine whether the FAA retains its approval authority.

If the FAA retains approval authority over a project, the project is typically subject to the *National Environmental Policy Act* (NEPA). For projects not categorically excluded under FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, compliance with NEPA is generally satisfied through the preparation of an environmental assessment (EA). In instances where significant environmental impacts are expected, an environmental impact statement (EIS) may be required.

The following portion of the airport master plan is not designed to satisfy the NEPA requirements for a specific development project, but it provides a preliminary review of environmental issues that may need to be considered in more detail within the environmental review processes. It is important to note that the FAA is ultimately responsible for determining the level of environmental documentation required for airport actions.

The environmental inventory included in the first chapter of this master plan provides baseline information about the airport environs. This section provides an overview of potential impacts to existing resources that could result from implementation of the planned improvements outlined on the recommended development concept.

Table 5E summarizes potential environmental concerns associated with implementation of the recommended development concept for TXK. Analysis under NEPA includes effects or impacts a proposed action or alternative may have on the human environment (see 40 CFR §1508.1). Effects have been recently defined in the Council of Environmental Quality guidelines as foreseeable environmental effects of the proposed action, reasonably foreseeable adverse environmental effects that cannot be avoided, and a reasonable range of alternatives to the proposed action.¹⁴

TABLE 5E | Summary of Potential Environmental Concerns

AIR QUALITY	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	<i>The action would cause pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards (NAAQS), as established by the U.S. 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.</i>
Potential Environmental Concerns	<p>Potential Impact. An increase in operations could occur over the 20+ year planning horizon of the master plan that would likely result in additional emissions. The portion of Miller County that contains the airport is currently in attainment for all federal criteria pollutants¹⁵, so general conformity review per the <i>Clean Air Act</i> would not be required; however, according to the most recent FAA <i>Aviation Emissions and Air Quality Handbook</i> (2015), an emissions inventory under NEPA may still be necessary for any proposed actions that would result in a reasonably foreseeable increase in emissions due to plan implementation.</p> <p>For construction emissions, a qualitative or quantitative emissions inventory under NEPA may be required, depending on the type of environmental review needed for specific projects defined on the development plan concept.</p>
BIOLOGICAL RESOURCES (INCLUDING FISH, WILDLIFE, AND PLANTS)	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	<p><i>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.</i></p> <p><i>The FAA has not established a significance threshold for non-listed species; however, factors to consider include whether an action would have the potential for:</i></p> <ul style="list-style-type: none"> • <i>Long-term or permanent loss of unlisted plant or wildlife species;</i> • <i>Adverse impacts to special status species or their habitats;</i> • <i>Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or</i> • <i>Adverse impacts on a species' reproductive rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance.</i>
Potential Environmental Concerns	<p><u>Federally Protected Species</u></p> <p>Potential Impact. According to the USFWS Information for Planning and Consultation (IPaC) report¹⁶, there is the potential for eight candidate, proposed threatened, threatened, proposed endangered, and endangered species within the vicinity of the airport: Indiana bat (mammal), northern long-eared bat (mammal), tricolored bat (mammal), eastern black rail (bird), piping plover (bird), red knot (bird), alligator snapping turtle (reptile), and monarch butterfly (insect). Of the eight species listed above, four have potential habitat at the airport (Indiana bat, northern long-eared bat, tricolored bat, and</p>

(Continues)

¹⁴ Federal Register / Vol. 88, No. 145 Monday, July 31, 2023 / Proposed Rules

¹⁵ Arkansas Nonattainment / Maintenance Status for Each County by Year for All Criteria Pollutants, November 30th, 2022 (https://www3.epa.gov/airquality/greenbook/anayo_ar.html)

¹⁶ USFWS IPaC, Information for Planning and Consultation (<https://ipac.ecosphere.fws.gov/>)



TABLE 5E | Summary of Potential Environmental Concerns (continued)

<p>Potential Environmental Concerns (continued)</p>	<p>monarch butterfly). These species may inhabit areas of the airport that contain trees or shrubs. In addition, monarch butterflies inhabit areas that contain milkweed (<i>Asclepias</i> sp.) and other types of vegetation.</p> <p>Proposed airport developments that occur in vegetated areas may be areas of concern; thus, if trees or other vegetation are removed, a bat survey may be warranted prior to project development. Furthermore, habitat surveys (i.e., botanical surveys) may be necessary prior to development in vegetated areas.</p> <p><u>Designated Critical Habitat</u> No Impact. There are no designated critical habitats within airport boundaries.</p> <p><u>Non-Listed Species</u> Potential Impact. Non-listed species of concern include those protected by the <i>Migratory Bird Treaty Act</i> (MBTA) and the <i>Bald and Golden Eagle Protection Act</i>. No eagles are expected to use the airport environs. Bird species protected by the MBTA could be adversely affected if construction occurs during the nesting and breeding seasons (typically March through August). Pre-construction surveys of vegetated areas at the airport are recommended for projects where ground clearing would occur, unless happening outside the nesting and breeding seasons. Projects related to future land acquisitions and future land swaps that contain vegetation may also be areas of concern.</p>
<p>CLIMATE</p>	
<p>FAA Order 1050.1F, Significance Threshold/Factors to Consider</p> <p>Potential Environmental Concerns</p>	<p>The 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.</p> <p>Unknown. An increase in greenhouse gas (GHG) emissions could occur over the 20+ year planning horizon of the airport master plan. A project-specific analysis may be required per FAA Order 1050.1F, <i>Environmental Impacts: Policies and Procedures</i>, based on the parameters of the individual projects; however, the FAA does not currently have an impact threshold to use to determine significance under NEPA.</p>
<p>COASTAL RESOURCES</p>	
<p>FAA Order 1050.1F, Significance Threshold/Factors to Consider</p> <p>Potential Environmental Concerns</p>	<p>The FAA has not established a significance threshold for Coastal Resources. Factors to consider include whether an action would have the potential to:</p> <ul style="list-style-type: none"> • 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. <p>No Impact. The airport is not located within a coastal zone. The closest National Marine Sanctuary is the Flower Garden Bank National Marine Sanctuary, located 365 miles away.</p>
<p>DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(f) (NOW CODIFIED IN 49 UNITED STATES CODE [U.S.C.] § 303)</p>	
<p>FAA Order 1050.1F, Significance Threshold/Factors to Consider</p> <p>Potential Environmental Concerns</p>	<p>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 a 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.</p> <p>No Impact. No wilderness areas, public recreational facilities, or National Register of Historic Places (NRHP)-listed resources would be impacted by proposed development at the airport. The closest known potential Section 4(f) resource is Old US 67, Mandeville, located 0.10 miles to the northwest and west of the airport¹⁷, which is listed on the NRHP; however, this resource is not likely to be physically or constructively used as a result of proposed airport development because it is not located on airport property. Any airport structures 50 years or older should be evaluated for historic significance prior to alteration or demolition. If determined to be a significant historic resource, they would qualify as a Section 4(f) resource.</p>

(Continues)

¹⁷ National Register of Historic Places (<https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466>)



TABLE 5E | Summary of Potential Environmental Concerns (continued)

FARMLANDS	
<p>FAA Order 1050.1F, Significance Threshold/Factors to Consider</p>	<p><i>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 [USDA] Natural Resources Conservation Service [NRCS] to assess impacts under the Farmland Protection Policy Act [FPPA].)</i></p> <p><i>The FPPA applies when airport activities meet the following conditions:</i></p> <ul style="list-style-type: none"> • <i>Federal funds are involved;</i> • <i>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</i> • <i>None of the exemptions to the FPPA apply. These exemptions include:</i> <ul style="list-style-type: none"> ○ <i>When land is not considered farmland under the FPPA, such as land that is already developed or 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;</i> ○ <i>When land is already committed to urban development;</i> ○ <i>When land is committed to water storage;</i> ○ <i>Construction of non-farm structures necessary to support farming operations; and</i> ○ <i>Construction/land development for national defense purposes.</i>
<p>Potential Environmental Concerns</p>	<p>No Impact. According to the NRCS Web Soil Survey (WSS), the airport is primarily designated as “not prime farmland”¹⁸ and the remaining portions of soils on the airport are listed as “all areas are prime farmland” and “farmland of statewide importance”; however, because the airport is located within an urbanized area, the FPPA would not be warranted and coordination with the NRCS is not needed.</p>
HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION	
<p>FAA Order 1050.1F, Significance Threshold/Factors to Consider</p>	<p><i>The FAA has not established a significance threshold for Hazardous Materials, Solid Waste, and Pollution Prevention; however, factors to consider include whether an action would have the potential to:</i></p> <ul style="list-style-type: none"> • <i>Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;</i> • <i>Involve a contaminated site;</i> • <i>Produce an appreciably different quantity or type of hazardous waste;</i> • <i>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</i> • <i>Adversely affect human health and the environment.</i>
<p>Potential Environmental Concerns</p>	<p>No Impact. There are no identified brownfields or Superfund sites located within a one-mile buffer of the airport.¹⁹</p> <p>Because of the existing regulatory environmental management regarding hazardous materials and waste and stormwater management, no impacts related to future airport development are anticipated. There is one fuel farm located on the southwest portion of the airport; the fuel farm is required to maintain spill response procedures (i.e., a spill prevention control and countermeasure plan) to prevent non-stormwater discharges from contaminating waterways under federal regulations.</p> <p>The construction of the planned developments would temporarily increase solid waste. In addition, the construction of new MRO/SASO facilities, the air cargo handling facility, box hangars, and new national guard facility would increase solid waste in the long term. No impacts related to solid waste disposal are expected. There are numerous solid waste and recycling facilities within Texarkana.</p> <p>See discussion on Surface Water for information on water quality pollution prevention.</p>
HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES	
<p>FAA Order 1050.1F, Significance Threshold/Factors to Consider</p>	<p><i>The FAA has not established a significance threshold for Historical, Architectural, Archaeological, and Cultural Resources. Factors to consider include whether 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).</i></p>

(Continues)

¹⁸ USDA Natural Resources Conservation Service (<https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>)

¹⁹ U.S. EPA EIScreen (<https://eiscreen.epa.gov/mapper/>)



TABLE 5E | Summary of Potential Environmental Concerns (continued)

<p>Potential Environmental Concerns</p>	<p>Potential Impact. The closest resource listed on the NRHP is Old US 67, Mandeville, located 0.10 miles northwest and west from the airport²⁰; the closest proposed developments are the proposed box hangars on the western portion of the airport and the new national guard facility on the north-west portion of the airport.</p> <p>An airport-wide cultural resources survey should be completed to document any other resources at the airport. In addition to listed NRHP resources, there are also old military facilities located along the western portion of the airport, east of US 67. Prior to demolishing any buildings and redeveloping in this area, these facilities should be evaluated with a cultural resources survey to determine any potential impacts to historic structures.</p> <p>The FAA would then determine the level of effect airport projects would have on these historic properties under NEPA and through the <i>National Historic Preservation Act</i>, Section 106 process. If previously undocumented buried cultural resources are identified during ground-disturbing activities for future or ultimate airport development, all work must immediately cease within 30 meters (100 feet) until a qualified archaeologist has documented the discovery and evaluated its eligibility for the NRHP, as appropriate. Work must not resume in the area without the approval of FAA.</p>
<p>LAND USE</p>	
<p>FAA Order 1050.1F, Significance Threshold/Factors to Consider</p>	<p>The 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.</p>
<p>Potential Environmental Concerns</p>	<p>Potential Impact. There are two scattered residential areas that surround the airport. The first residential community is located near the northern portion of the airport along Airport Road. The nearest proposed airport development would be the construction of a new national guard facility; however, this proposed development would be contained to the airport and would not relocate any nearby residential areas. The second residential community abuts the southwestern boundary of the airport along Old Post Road and contains approximately three to four residential units. A 5.6-acre parcel has been identified in this area for a proposed future land acquisition. As a result, the <i>Uniform Relocation Assistance and Real Property Acquisition Act</i> (URA) will need to be enacted. See discussion on Socioeconomics for more information about the URA.</p> <p>The proposed development concept also recommends acquiring land along N Rondo Road east of Runway 22 and land north of Runway 22 along Parker Lane. These areas currently contain seven to 10 scattered residential family units; thus, the URA will need to be enacted if proposed land is acquired.</p> <p>Proposed development will include a 72.1-acre parcel of land east of US 67 to be reserved as an aeronautical land use reserve (i.e., hangars, apron/taxilane pavement, etc.). Furthermore, two non-aeronautical reserves along E 19th St and Old Post Road, as well as a non-aeronautical land use reserve along US 67, have been recommended for future development. These reserves may be used for non-aviation related development in the future. Future land use incompatibilities (if any) would need to be evaluated when development is proposed.</p>
<p>NATURAL RESOURCES AND ENERGY SUPPLY</p>	
<p>FAA Order 1050.1F, Significance Threshold/Factors to Consider</p>	<p>The FAA has not established a significance threshold for Natural Resources and Energy Supply; however, factors to consider include whether the action would have the potential to cause demand to exceed available or future supplies of these resources.</p>
<p>Potential Environmental Concerns</p>	<p>No Impact. Planned development projects at the airport could increase demands on energy utilities, water supplies and treatment, and other natural resources during construction; however, significant long-term impacts are not anticipated. Should long-term impacts be a concern, coordination with local service providers is recommended.</p>

(Continues)

²⁰ National Register of Historic Places (<https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466>)



TABLE 5E | Summary of Potential Environmental Concerns (continued)

NOISE AND NOISE-COMPATIBLE LAND USE	
<p>FAA Order 1050.1F, Significance Threshold/Factors to Consider</p>	<p><i>The action would increase noise by 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.</i></p> <p><i>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 14 CFR Part 150 are not relevant to the value, significance, and enjoyment of the area in question.</i></p>
<p>Potential Environmental Concerns</p>	<p>No Impact. Exhibit 5D shows existing and anticipated noise contours for the airport. As shown on the exhibit for existing conditions, the DNL 65 dB noise exposure remains on airport property. In the future noise contours, the DNL 65 dB noise exposure contour expands around the runways and slightly outside the airport on the northwestern and northeastern boundary.</p> <p>Scattered residences are located within the vicinity of the northeastern, southwestern, and eastern airport property boundaries. The recommended development at the airport is not expected to change the overall noise environment by more than the 1.5 dB threshold; however, this should be confirmed prior to implementing a runway extension along proposed Runway 4-22.</p> <p>Operation growth will not result in noise impacts under FAA 1050.1F. Impacts to noise-sensitive land uses are only identified through NEPA documentation for specific projects or through the voluntary Part 150 process.</p>
SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS	
Socioeconomics	
<p>FAA Order 1050.1F, Significance Threshold/Factors to Consider</p>	<p><i>The FAA has not established a significance threshold for Socioeconomics; however, factors to consider include whether an action would have the potential to:</i></p> <ul style="list-style-type: none"> • <i>Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area);</i> • <i>Disrupt or divide the physical arrangement of an established community;</i> • <i>Cause extensive relocation when sufficient replacement housing is unavailable;</i> • <i>Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities;</i> • <i>Disrupt local traffic patterns and substantially reduce the levels of service of roads serving the airport and its surrounding communities; or</i> • <i>Produce a substantial change in the community tax base.</i>
<p>Potential Environmental Concerns</p>	<p>Potential Impact. Proposed development would not relocate or disrupt current businesses; however, there are proposed future land acquisitions that are currently inhabited by two separate residential communities. Under the URA*, coordination between the property owners and the airport is required to provide equitable treatment and assistance to the persons displaced due to future land acquisitions containing residential land uses.</p> <p>Ultimate airport projects would result in temporary disruption of local traffic patterns during construction. Developments that would disrupt local traffic patterns are primarily landside developments, like the proposed construction of MRO/SASO facilities and new hangars. As mentioned above, these traffic disruptions will be temporary and will not result in significant impacts. Furthermore, associated infrastructure, such as ultimate roads and vehicle parking, will also be constructed.</p> <p>Once operational, these ultimate roads may alleviate traffic along connecting roadways, like E 19th Street and Old Post Road. Significant impacts on traffic are not anticipated, as MRO/SASO facilities and hangars do not generate large volumes of traffic.</p> <p><i>*Uniform Relocation Assistance and Real Property Acquisition Act (URA): a federal law that establishes protections and assistances for federally funded programs and projects that require the acquisition of real property or displace persons from their respective homes, businesses, or farms.</i></p>

(Continues)



TABLE 5E | Summary of Potential Environmental Concerns (continued)

Environmental Justice	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	<p><i>The FAA has not established a significance threshold for Environmental Justice; however, factors to consider include whether 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:</i></p> <ul style="list-style-type: none"> • <i>Significant impacts in other environmental impact categories; or</i> • <i>Impacts on the physical or natural environment that affect an environmental justice population in a way that the FAA determines is unique to the environmental justice population and significant to that population.</i>
Potential Environmental Concerns	<p>No Impact. Both low-income and minority populations have been identified in the vicinity of the airport²¹. The nearest residential area abuts the airport on the southwestern boundary of the airport along Old Post Road; however, it is unlikely that implementation of the proposed improvements outlined in the development concept plan would affect these populations in a disproportionate or adverse manner. Any residences that will be displaced due to the proposed development concept will be acquired to adhere to the URA.</p> <p>Executive Order (E.O.) 12898, <i>Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations</i>, and the accompanying Presidential Memorandum, and Order DOT 5610.2, <i>Environmental Justice</i>, require the FAA to provide 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. Environmental justice impacts may be avoided or minimized through early and consistent communication with the public and allowing ample time for public consideration; therefore, disclosure of ultimate airport development to potentially affected environmental justice populations near the airport as the projects are proposed is crucial. If disproportionately high or adverse impacts are noted, mitigation and enhancement measures and offsetting benefits should be taken into consideration.</p>
Children’s Health and Safety Risks	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	<p><i>The FAA has not established a significance threshold for Children’s Environmental Health and Safety Risks; however, factors to consider include whether an action would have the potential to lead to a disproportionate health or safety risk to children.</i></p>
Potential Environmental Concerns	<p>No Impact. There are no parks or schools located near any of the proposed airport development projects; however, there are nearby residential areas near the northern and eastern portion of the airport which may house people 17 years or younger. The airport is an access-controlled facility and children will not be allowed within the fenced portions of the airport without adult supervision. All construction areas should be controlled to prevent unauthorized access.</p>
VISUAL EFFECTS (INCLUDING LIGHT EMISSIONS AND VISUAL RESOURCES/VISUAL CHARACTER)	
Light Emissions	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	<p><i>The FAA has not established a significance threshold for Light Emissions; however, a factor to consider is the degree to which an action would have the potential to:</i></p> <ul style="list-style-type: none"> • <i>Create annoyance or interfere with normal activities from light emissions; or</i> • <i>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.</i>
Potential Environmental Concerns	<p>No Impact. Night lighting during construction phases within the runway environment is typically directed down to the construction work area to prevent light from spilling outside the airport boundaries. Other future and ultimate projects are likely to include additional lighting during the operation of the airport’s new structures and facilities but would not significantly change the amount of lighting seen from outside the airport.</p>

(Continues)

²¹ U.S. EPA EIScreen (<https://eiscreen.epa.gov/mapper/>)



TABLE 5E | Summary of Potential Environmental Concerns (continued)

Visual Resources/Visual Character	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	<p><i>The FAA has not established a significance threshold for Visual Resources/Visual Character; however, a factor to consider is the extent to which an action would have the potential to:</i></p> <ul style="list-style-type: none"> • <i>Affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources;</i> • <i>Contrast with the visual resources and/or visual character in the study area; and</i> • <i>Block or obstruct the views of the visual resources, including whether these resources would still be viewable from other locations.</i>
Potential Environmental Concerns	<p>Potential Impact. Proposed ultimate building development and associated infrastructure (i.e., roads and parking) occurring west of N Rondo Road/237 and northeast of Runway 4 will occur in existing vegetated open space. This could alter the line of sight from nearby residential areas (i.e., residences along Old Post Road).</p>
WATER RESOURCES (INCLUDING WETLANDS, FLOODPLAINS, SURFACE WATERS, GROUNDWATER, AND WILD AND SCENIC RIVERS)	
Wetlands	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	<p><i>The action would:</i></p> <ol style="list-style-type: none"> <i>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;</i> <i>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;</i> <i>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);</i> <i>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;</i> <i>5. Promote the development of secondary activities or services that would cause the circumstances listed above to occur; or</i> <i>6. Be inconsistent with applicable state wetland strategies.</i>
Potential Environmental Concerns	<p>Potential Impact. According to the USFWS National Wetlands Inventory, there are a few scattered freshwater emergent wetlands and a freshwater forested/shrub wetland located on the eastern end of the airport²² (Exhibit 1L). The proposed ultimate 40.9-acre non-aeronautical reserve and the 46.2-acre non-aeronautical reserve are located with areas containing wetlands.</p> <p>If development occurs in one of these areas involving the relocation or removal of wetlands or impacting other potential waters of the U.S., a delineation of the area should be completed by a qualified wetland biologist to help determine if the area is protected by the <i>Clean Water Act</i>. Based on the results of this study, consultation with the U.S. Army Corps of Engineers may be required to determine if a Section 404 permit under the <i>Clean Water Act</i> is warranted. A Section 404 permit regulates the discharge of dredged or fill material into jurisdictional waters and wetlands. Mitigation for impacts to wetlands or other jurisdictional waters may be required.</p>
Floodplains	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	<p><i>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.</i></p>
Potential Environmental Concerns	<p>No Impact. A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) panel 05091C0150D, effective December 18th, 2009, indicates that the airport is in Zone X, an area of minimal flood hazard²³. The airport is located outside the 100-year and 500-year floodplain.</p> <p>E.O. 14030, <i>Climate-Related Financial Risk</i>, was established on May 25, 2021. Section 5(e) of E.O. 14030 reinstates E.O. 13690^a, amends E.O. 11988^b, and mandates that a Federal Flood Risk Management Standard (FFRMS) be created. One of the primary purposes of the FFRMS is to expand the management of floodplains from a base flood evaluation to include a higher vertical elevation (and the corresponding floodplain) to protect against future flood risks for federally funded projects.</p>

(Continues)

²² USFWS National Wetlands Inventory (<https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>)

²³ FEMA Flood Map Service Center (<https://msc.fema.gov/portal/search?AddressQuery=texarkana%20regional%20airport>)



TABLE 5E | Summary of Potential Environmental Concerns (continued)

<p>Potential Environmental Concerns (continued)</p>	<p>Under E.O. 13690 and its guidelines, one of several approaches should be used to identify floodplains and their risks to critical^c or non-critical federally funded actions:</p> <ul style="list-style-type: none"> • Climate-Informed Science Approach (CISA) – the elevation and flood hazard area (i.e., 100-year floodplain) using data that integrate climate science with an emphasis on possible future effects on critical actions; • Freeboard Value Approach – the elevation and flood hazard area and an additional two or three feet above the base flood elevation, depending on whether the proposed federal action is critical or non-critical; • 500-year Floodplain Approach – all areas subject to the 0.2 percent annual chance flood or • Other methods resulting from updates to the FFRMS. <p>Since the airport is outside the 500-year floodplain, which is one of the methods for determining federal flood risk, no impacts related to the FFRMS are expected.</p> <p>^a <i>Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input</i> (2015)</p> <p>^b <i>Floodplain Management</i> (May 1977)</p> <p>^c Critical action is defined in E.O. 13690 and the 2015 <i>Guidelines for Implementing E.O. 11988</i> as any activity for which even a slight change of flooding is too great. For example, a facility producing and/or storing highly volatile, toxic, or water-reactive materials; structures, such as schools, where occupants may not be sufficiently mobile or have available transport capability given the flood warning lead times available; or essential or irreplaceable resources, utilities, or other functions that could be damaged beyond repair or otherwise made unavailable.</p>
<p>Surface Waters</p>	
<p>FAA Order 1050.1F, <i>Significance Threshold/Factors to Consider</i></p>	<p>The action would:</p> <ol style="list-style-type: none"> 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.
<p>Potential Environmental Concerns</p>	<p>Potential Impact. The closest natural surface water feature is a freshwater pond west of Runway 4. There are no impaired waterbodies near the airport; however, long-term impacts to water quality from the proposed airfield improvements may need to be assessed, depending on how or if storm-water runoff is conveyed to airport stormwater infrastructure.</p> <p>The airport manages its stormwater discharges with a National Pollutant Discharge Elimination System (NPDES) permit issued and regulated by the Arkansas Department of Environmental Quality (ADEQ). Improvements to the airport will require a revised permit to be issued addressing operational and structural source controls, treatment best management practices (BMPs), and sediment and erosion control.</p> <p>An NPDES General Construction permit would be required for all projects involving ground disturbance over one acre. FAA AC 150/5370-10G, <i>Standards for Specifying Construction of Airports, Item P-156, Temporary Air and Water Pollution, Soil Erosion and Siltation Control</i> should also be implemented during construction projects at the airport.</p>
<p>Groundwater</p>	
<p>FAA Order 1050.1F, <i>Significance Threshold/Factors to Consider</i></p>	<p>The action would:</p> <ol style="list-style-type: none"> 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. <p>Factors to consider include whether a project would have the potential to:</p> <ul style="list-style-type: none"> • 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.

(Continues)



TABLE 5E | Summary of Potential Environmental Concerns (continued)

Potential Environmental Concerns	No Impact. The airport property is not located near a sole source aquifer ²⁴ . The nearest sole source aquifer is the Chicot Aquifer System, located 150 miles from the airport.
Wild and Scenic Rivers	
FAA Order 1050.1F, Significance Threshold/Factors to Consider	<p><i>The FAA has not established a significance threshold for Wild and Scenic Rivers. Factors to consider include whether an action would have an adverse impact on the values for which a river was designated (or is considered for designation) through:</i></p> <ul style="list-style-type: none"> • <i>Destroying or altering a river’s free-flowing nature;</i> • <i>A direct and adverse effect on the values for which a river was designated (or is under study for designation);</i> • <i>Introducing a visual, audible, or other type of intrusion that is out of character with the river or would alter outstanding features of the river’s setting;</i> • <i>Causing the river’s water quality to deteriorate;</i> • <i>Allowing the transfer or sale of property interests without restrictions needed to protect the river or the river corridor; or</i> • <i>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).</i>
Potential Environmental Concerns	<p>No impact. The nearest designated Wild and Scenic River is the Cossatot River, located approximately 58 miles from the airport²⁵. The nearest river on the NRI is the Little Missouri River, 54 miles from the airport²⁶.</p> <p>Projects delineated on the future and ultimate development concept would not have adverse effects on these rivers’ outstanding remarkable values (i.e., scenery, recreation, geology, fish, wildlife, and history).</p>

SUMMARY

The best way to begin implementation of the recommendations in the master plan is to first recognize that planning is a continuous process that does not end with completion and approval of this document. Rather, the ability to continuously monitor the existing and forecast status of airport activity must be provided and maintained. The issues upon which the master plan is based will remain valid for many years. The primary goal is for TXK to best serve the commercial and general aviation air transportation needs of the region while continuing to be economically self-sufficient.

The actual need for facilities is most appropriately established by TXK activity levels, rather than by a specified date. For example, projections have been made as to when additional hangars may be needed; however, the timeframe in which the development is needed may be substantially different. Actual demand may be slower to develop than expected or high levels of demand may establish the need to accelerate development. Although every effort has been made in this master planning process to conservatively estimate when facility development may be needed, actual aviation demand will dictate when facility improvements need to be delayed or accelerated.

²⁴ U.S. EPA Sole Source Aquifer (<https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b>)

²⁵ National Wild and Scenic River System in the U.S. (<https://nps.maps.arcgis.com/apps/MapJournal/index.html?ap- pid=ba6debd907c7431ea765071e9502d5ac>)

²⁶ Nationwide Rivers Inventory (<https://www.nps.gov/maps/full.html?mapId=8adbe798-0d7e-40fb-bd48-225513d64977>)

The real value of a usable master plan is its ability to keep the issues and objectives in the minds of the airport's managers and decision-makers so they can better recognize change and its effect. In addition to adjustments in aviation demand, decisions regarding when to undertake the improvements recommended in the master plan will impact the period for which the plan remains valid. The format used in this plan is intended to reduce the need for formal and costly updates by simply adjusting the timing. Updates can be performed by TXK staff, thereby improving the plan's effectiveness.

In summary, the planning process requires TXK management to consistently monitor progress in terms of aircraft operations and based aircraft. Analysis of aircraft demand is critical to the timing and need for certain airport facilities. The information obtained from continually monitoring activity will provide the data necessary to determine if the development schedule should be accelerated or decelerated.

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