TEXARKANA
REGIONAL AIRPORT

Chapter One

INVENTORY

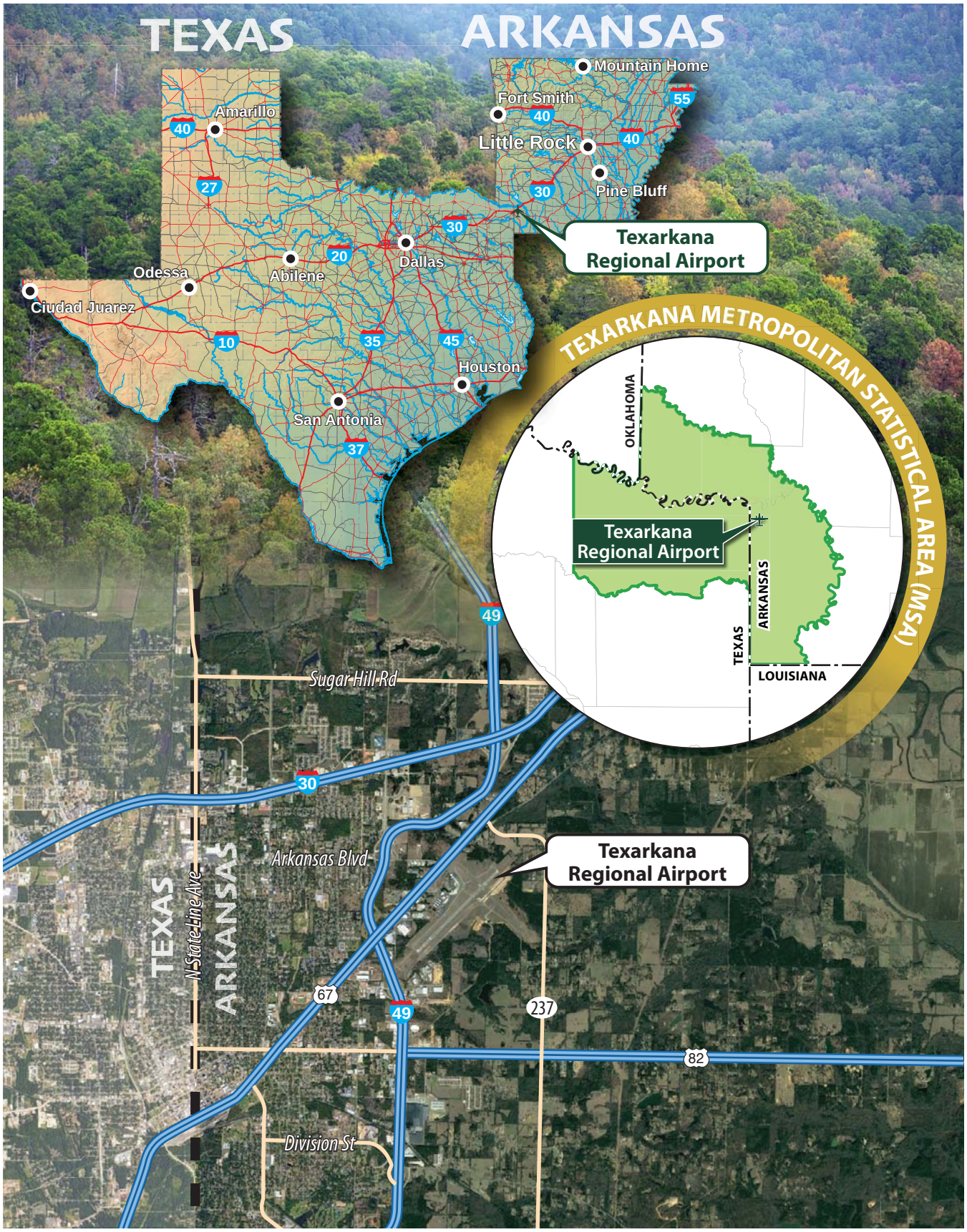
The inventory chapter of existing conditions is the initial step in the preparation of the Texarkana Regional Airport (TXK) Master Plan. The inventory will serve as an overview of the airport's physical and operational features, including facilities, users, and activity levels, as well as specific information related to the airspace, air traffic activity, and role of the airport. Finally, a summary of socioeconomic characteristics and review of existing environmental conditions on and adjacent to the airport are thoroughly detailed, which will provide further input into the study process.

Information provided in this chapter serves as a baseline for the remainder of the master plan, which is compiled using a wide variety of resources, including: applicable planning documents; on-site visits; interviews with airport staff, tenants, and users; aerial and ground photography; federal, state, and local publications; and project record drawings.

AIRPORT SETTING

TXK is located three miles northeast of downtown Texarkana, USA in southwest Arkansas. Texarkana, USA is comprised of the City of Texarkana, AR and Texarkana, TX and often functions as one city. The airport serves the greater Ark-La-Tex Region, a socioeconomic tri-state area comprised of Arkansas, Louisiana, and Texas. Texarkana, collectively, makes up the region's third largest metropolitan area and includes Miller County, Arkansas and Bowie County, Texas. Texarkana, AR serves as the seat of government for Miller County. The U.S. Census estimates that the population of Texarkana, AR in 2020 was 29,387, while the Texarkana metropolitan area had a 2022 estimated population of 135,598.

TXK, which encompasses approximately 1,026 acres, is situated at an elevation of 389 feet mean sea level (MSL). Roadway access to the airport is provided by Airport Drive/Arkansas Blvd. For intra- and interstate travel, highway access via U.S. Highway 67, Interstate 49, and Interstate 30 is available within two miles of the airport. Other local features include the Red River, located five miles to the north, and Wright Patman Lake, located 13 miles to the southwest. There are no other public-use airports within Miller County. **Exhibit 1A** depicts TXK in its local and regional setting.


TEXAS
ARKANSAS
Mountain Home
Fort Smith
Little Rock
Pine Bluff
Amarillo
Odessa
Abilene
Dallas
Ciudad Juarez
Houston
San Antonia
Texarkana Regional Airport
TEXARKANA METROPOLITAN STATISTICAL AREA (MSA)
OKLAHOMA
TEXAS
ARKANSAS
LOUISIANA
Texarkana Regional Airport
Sugar Hill Rd
Arkansas Blvd
N State Line Ave
Texarkana Regional Airport
Division St
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27
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20
10
35
45
55
49
67
237
82
37

CLIMATE

Weather conditions are important to the planning and development of an airport. Temperature is an essential factor in determining runway length requirements, while wind direction and speed are used to determine the optimal runway orientation. The need for navigational aids and lighting is determined by the percentage of time that visibility is impaired due to cloud coverage or other conditions.

According to the Köppen climate classification system, Texarkana has a Humid Subtropical climate, characterized by hot, humid summers and mild to cool winters, with no significant seasonal precipitation changes. The summer months in Texarkana are hot and humid, with an average high temperature in August of 92.8 degrees Fahrenheit (°F). Winters are generally mild and cool. January is the coldest month, with an average low temperature of 35.1°F. The airport receives a total of 48.9 inches of precipitation during an average year, with May being the wettest month. **Exhibit 1B** summarizes the weather and wind data for the area.

AIRPORT HISTORY

The history of TXK can be traced back to 1924 when Spring Lake Park racetrack became an aerodrome (an older term for airport). In 1925, two years before his historical crossing, Charles Lindbergh landed near the airfield, looking for fuel. The City of Texarkana, AR purchased 190 acres of land between local dairies to establish the official airport in 1928. The first terminal building was constructed by American Airways (the predecessor to American Airlines) in 1931 and inaugural commercial air service and air mail began in June of that year, flying Ford Tri-Motors between Chicago and LA. In 1936, a Works Progress Administration (WPA) project constructed a second terminal building, which is still in use today as the airport administration offices. The City of Texarkana, TX became a joint owner of the airport in 1956, and the Texarkana Regional Airport Authority (TRAA) was created. Four members from each city comprise the TRAA.

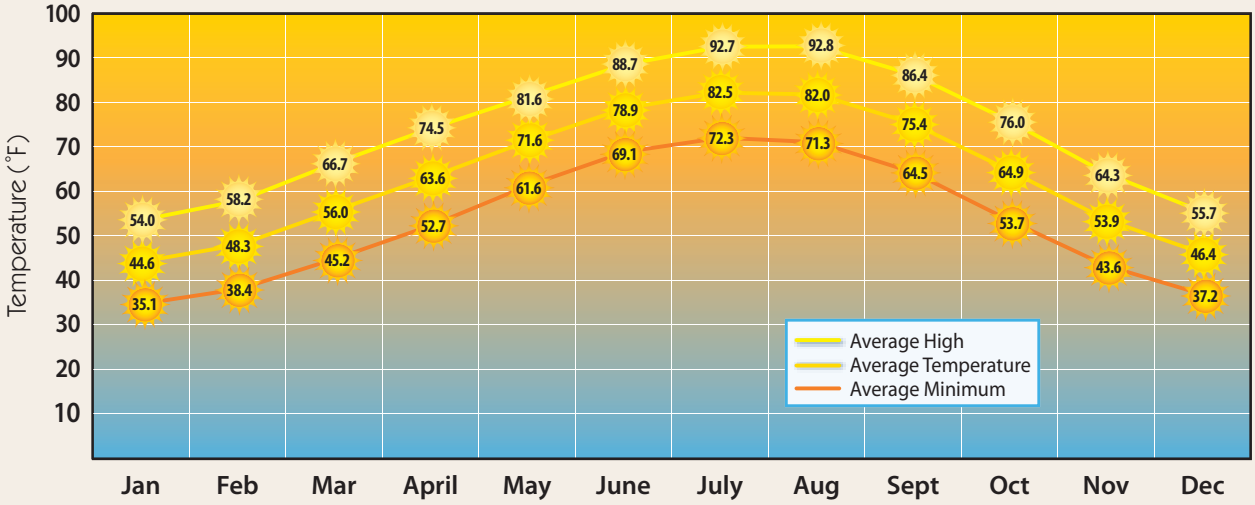
The airport has a history of military service, too. The airfield was paved by the government in 1942 and used to screen WWII pilots. During the Cold War, an early warning radar facility was established by the Air Force to guard against bomber and missile threats. In the 1970s, both runways were lengthened to their existing configuration as shipments of ammunition from the Lone Star Ammo Plant arrived via C-141 aircraft in support of the Vietnam War. By 1990, the Air Force had withdrawn from the airport, and the existing passenger terminal was expanded for a third time.

Today, travelers are provided 3-4 daily round-trip flights to Dallas-Fort Worth (DFW) on American Airlines. A new fire station was recently completed, and a new, modernized commercial passenger terminal is being constructed on the south side of the airport. The airport continues to grow and improve and will serve the Ark-La-Tex region for another 90 years and beyond.

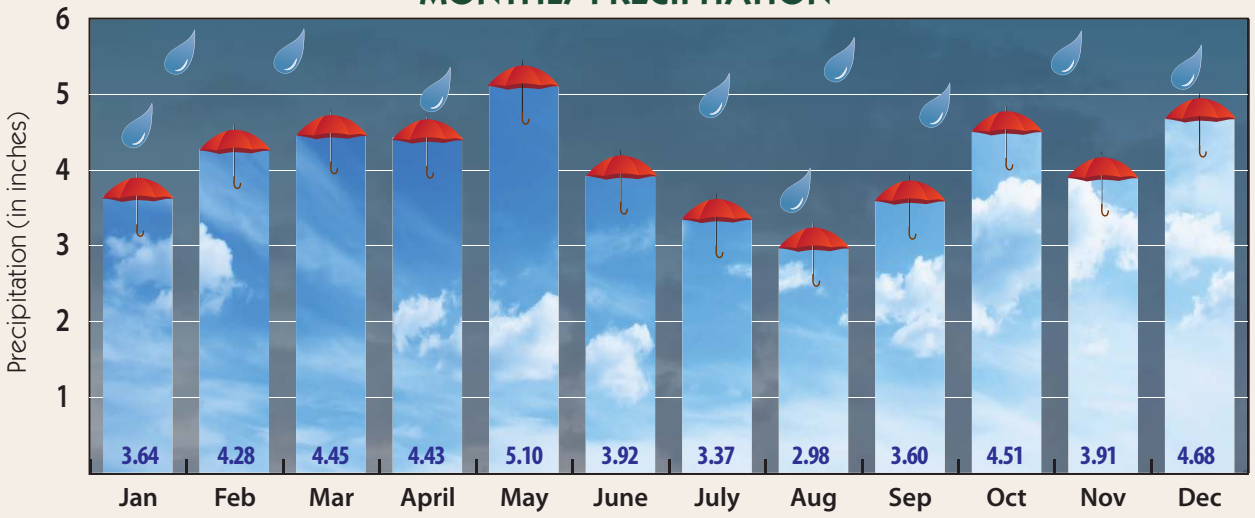
CAPITAL IMPROVEMENT HISTORY

To assist in ongoing capital improvements, the FAA provides funding to TXK through the Airport Improvement Program (AIP). TXK is also eligible to receive grant funding from the Arkansas Department of Aeronautics (ADA) for assistance in capital projects.

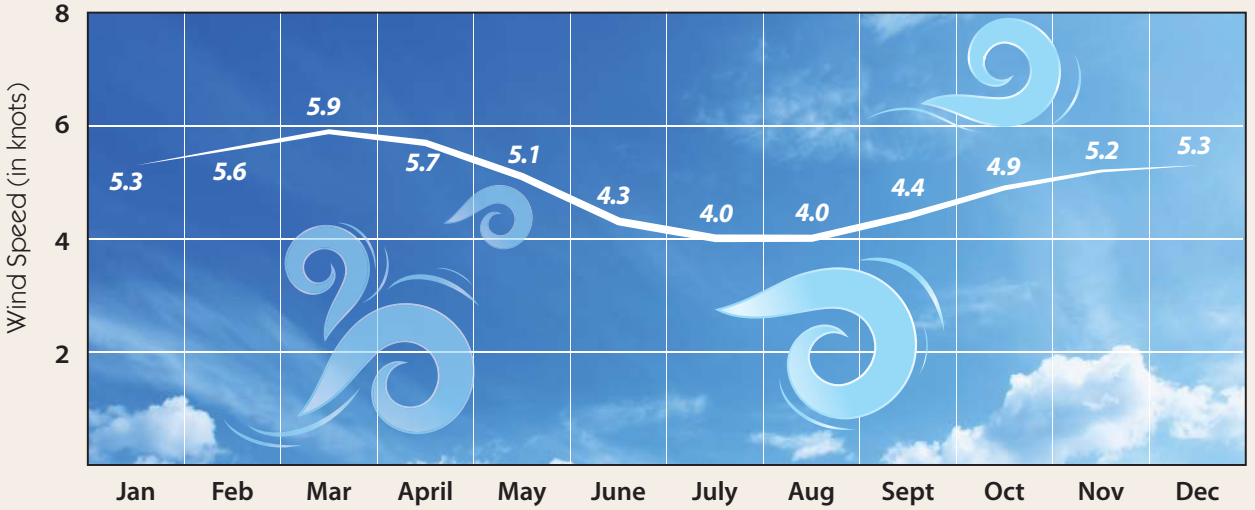
MONTHLY TEMPERATURES



MONTHLY PRECIPITATION



MONTHLY WIND DATA



Source: NOAA National Centers for Environmental Information Climate Normals, 1991-2020 -- Station: Texarkana Webb Field

Table 1A summarizes TXK capital improvement projects undertaken since 1999 that received funding through FAA's AIP. Many AIP projects may include ADA matching funds, which is money used in conjunction with federal grants to help fund a project in order to lessen the costs on the sponsor. Since 1999, TXK has received approximately $55,697,919, which includes $594,992 in CARES money in 2020. **Table 1B** presents the ADA funds the airport has received since 1987, totaling approximately $3,499,741.

Airports that apply for and accept AIP grants must adhere to various grant assurances. These assurances include maintaining the airport facility safely and efficiently in accordance with specific conditions. The duration of the assurances depends on the type of airport, the useful life of the facility being developed, and other factors. Typically, the useful life for an airport development project is a minimum of 20 years. Thus, when an airport accepts AIP grants, they are obligated to maintain that facility in accordance with FAA standards for at least that long.

TABLE 1A | Airport Capital Improvement Projects – AIP Funded

Award Year	Grant Sequence Number	Project Description	AIP Amount
1999	16	Improve runway safety area and drainage	$500,000
2000	17	Reconstruct aprons	$1,316,891
2001	18	Acquire sweeper; Rehabilitate Runway 4-22 lighting; Install PAPI	$350,000
2002	20	Rehabilitate runway; Acquire security equipment	$2,068,500
	21	Security enhancements	$21,613
2003	22	Rehabilitate apron, taxiway, and Runway 4-22	$583,200
2004	23	Conduct environmental study; Construct ARFF building, terminal building; Rehabilitate, widen taxiway	$905,650
2005	24	Acquire ARFF vehicle	$595,332
2006	25	Construct ARFF building (Design)	$441,750
2007	26	Construct ARFF building (Phase 2)	$1,880,184
2008	27	Construct ARFF building (Phase 3)	$2,495,270
2009	28	Construct ARFF building (Phase 4)	$1,897,758
2010	30	Construct ARFF building (Phase 5)	$1,050,214
	31	Improve Runway 4-22 Runway Safety Area (RSA)	$154,098
	32	Wildlife hazard assessments	$101,401
	33	Construct ARFF building (Phase 6)	$830,656
2011	34	Install airfield guidance signs	$31,590
	35	Install airfield guidance signs; Rehabilitate airport beacon	$330,986
	36	Conduct Environmental Assessment	$484,170
2012	37	Conduct pavement evaluation on Runway 4-22	$58,500
2014	38	Rehabilitate Runway 4-22 (Design)	$391,211
2015	39	Rehabilitate Runway 4-22	$3,403,151
	40	Rehabilitate Runway 4-22	$3,193,359
2017	41	Construct taxiway	$982,998
	42	Construct terminal building	$651,798
2018	43	Construct apron for new terminal (Design)	$419,710
2019	44	Construct taxiway	$6,854,319
2020	45	Construct taxiway	$4,288,572[1]
	47	Reconstruct terminal building	$1,661,352[2]
	48	Reconstruct terminal building	$1,888,974
2022	52	General ARPA	$1,184,786
	53	Large concessions	$32,119
	54	Construct apron	$7,443,278
	55	Update Airport Master Plan	$819,104
	56	Reconstruct terminal building	$6,385,425
		1999-2022 Total AIP Grants	**$55,697,919**

[1]Project includes $428,857 CARES funds.
[2]Project includes $166,135 CARES funds.

Source: FAA Airport Improvement Program (AIP) Grant Histories

TABLE 1B | Airport Capital Improvement Projects – ADA-Funded

Award Year	Grant Number	Project Description	ADA Amount
1987	770-87	Fence	$48,750
1988	859-88	N/A	$24,684
1989	923-89	Taxiway overlay	$24,000
1992	1123-92	Terminal	$27,482
	1124-92	Emer Gen	$5,427
	1125-92	Clear CLR Zone	$7,000
1993	1154-93	Helipads fuel relocation	$22,676
1994	1243-94	Electrical Vault	$11,507
	1269-94	Runway APP work	$20,072
1995	1316-95	Land purchase	$10,688
	1317-95	Clear Zone Work	$47,511
	1318-95	Runway and taxiway Signage	$6,053
	1319-95	Grade work	$48,982
1998	1515-98	Drainage	$22,971
	1519-98	North Ramp expansion	$26,839
1999	1616-99	Enclose drainage ditch	$13,287
	1634-99	Runway 4-22 rehabilitation	$57,919
2000	1727-00	New taxiway & apron	$58,691
2001	1779-01	Master Plan and Economic Impact Study	$14,236
	1780-01	Rehabilitation of concrete and asphalt ramps	$69,721
	1781-01	Terminal building carpet replacement	$4,946
2002	1870-02	Runway 4-22 lights rehabilitation; Runway 31 PAPI	$17,409
	1871-02	Build embankments for Runway Safety Area, new taxiway	$39,635
	1922-02	Renovate existing commercial hangar	$61,386
	1946-02	Repair and reconstruct fuel area	$14,786
2003	1963-03	Runway 13-31 rehabilitation; Seal Taxiway C; Repaint hold markings	$97,698
2004	2042-04	Seal runways; Overlay Taxiway C; Pavement repairs	$31,263
	2118-04	Seal cracks; Overlay Taxiways A & B; Preliminary engineering of terminal building	$43,932
2005	2224-05	Purchase new ARFF vehicle	$31,098
	2225-05	New roof for administration building	$8,305
2006	2277-06	Roof repairs for two T-hangars	$52,500
	2383-06	Site design for new ARFF building/development area	$23,250
2007	2410-07	Wall and door repair for three T-hangars	$43,578
	2418-07	Terminal building renovations	$5,692
	2511-07	Long-term parking lot improvements	$36,398
	2539-07	Terminal building renovations	$40,415
	2558-07	New tractor for airport maintenance	$64,215
	2566-07	ARFF building; New emergency access road	$98,957
2009	2711-09	Runway crack sealing	$90,291
2012	3133-12	Construction of ARFF station (Phase 3 of 6)	$146,778
2013	3210-13	Improve Runway 4-22 Runway Safety Area	$7,763
	3211-13	Wildlife hazard assessment	$4,801
	3212-13	Install surface-painted hold signs	$1,613
	3213-13	Rehabilitate airfield signs & beacon	$17,833
	3248-13	Environmental Assessment for south side development	$25,483
	3249-13	Runway 4-22 rehabilitation (Evaluation)	$6,500
	3257-13	Construction of ARFF station (Phase 4 of 6)	$99,882
	3258-13	Construction of ARFF station (Phase 5 of 6)	$55,274

TABLE 1B | Airport Capital Improvement Projects – ADA-Funded (continued)

Award Year	Grant Number	Project Description	ADA Amount
2014	3355-14	Construction of ARFF station (Phase 6 of 6)	$34,808
2015	3467-15	Remarking of Runway 13-31	$22,036
2016	3515-16	Runway 4-22 rehabilitation (Design)	$42,138
2017	3601-17	Runway 4-22 rehabilitation (Phase 1)	$333,567
	3606-17	Runway 4-22 rehabilitation (Phase 2)	$316,828
2019	3829-19	Parallel taxiway construction (Design)	$114,716
2020	3865-20	Emergency airfield fence and drainage repair	$105,113
2021	3964-21	Repair terminal building air conditioning; ARFF station roof; T-hangar doors	$140,358
	4001-21	Land purchase (36.8 acres)	$250,000
	4015-21	Replace/repair T-hangar doors (Phase 2 of 3)	$150,000
2022	4040-22	Construct new parallel "Taxiway D" with signage	$250,000
		1987-2022 Total ADA Grants	**$3,499,741**

Source: Airport records

AIRPORT ADMINISTRATION

Airport Administration Building

The airport is owned and operated by the Texarkana Regional Airport Authority (TRAA). The TRAA is comprised of nine Board of Directors, four of which come from Texarkana, Miller County, AR and Texarkana, Bowie County, TX, each, and one member-at-large. The Board Members from Miller County are appointed and approved by the Texarkana, AR City Board of Directors; the Bowie County members are appointed by the mayor and approved by the city council of Texarkana, TX. The member-at-large is appointed in a similar manner but is approved jointly by the cities' governing bodies. Each Board Member is elected to a three-year term. The TRAA meets monthly to discuss matters regarding the management of the airport. The TRAA also serves as an advisory board to both Texarkana cities, reviewing administrative, management, and policy matters for TXK.

Exhibit 1C shows the organizational structure for TXK. The daily operations of the airport are left to the Airport Director and a team of operations, administrative, and emergency staff.

SOCIOECONOMIC CHARACTERISTICS

Socioeconomic characteristics are collected and examined to derive an understanding of the dynamics of growth near the airport. This information is essential in determining aviation demand level requirements, as most general aviation demand is related to the socioeconomic condition of the surrounding region. Statistical analysis of population, employment, income, and gross regional product (GRP) trends provide a picture of the economic strength of the region, as well as the ability of the area

to sustain a strong economic base into the future. Additional socioeconomic data will be used in the forecast chapter; however, the information provided in this section will introduce the socioeconomic trends in the study area.

TXK serves the area known as "Texarkana, USA," which is comprised of both the cities of Texarkana, TX and Texarkana, AR, as well as the counties of Miller County, AR and Bowie County, TX. The socioeconomic characteristics of both cities and counties will be examined as they are symbiotic. **Exhibit 1D** details the combined socioeconomic profile of Texarkana, USA and includes future projections. The data shows that the area population has increased over the past 20 years at an annual rate of 0.22 percent, with a total population of 135,598 in 2022. Projections indicate that population will grow at a slower pace than previously, with an estimated 139,423 people living in the area by 2042 (0.14% CAGR). Employment has grown slightly faster than population over the same period (0.55% CAGR) and is expected to outpace future population growth. Through the next 20 years, employment is projected to increase from 75,122 in 2022 to 85,321 in 2042 (0.64% CAGR). The top industries in Texarkana are transportation and logistics, medical services, manufacturing, and defense. A selection of the top employers in the area is listed on **Exhibit 1D**.

The total value of goods and services produced by a region is its gross regional product (GRP). Texarkana, USA has seen nearly one percent annual growth over the past 20 years, with its 2022 GDP valued at $4.886 billion. This value is also expected to grow faster than it has previously, with a GDP estimate of $6.387 billion in 2042 (1.35% CAGR). Individual incomes, measured as "per capita personal income (PCPI)" in the area were at $36,664 in 2022, representing an annual growth rate of 1.07 percent over the past two decades. This level is expected to increase faster than historical rates through 2042, with PCPI anticipated at $49,345 by 2042 (1.50% CAGR).

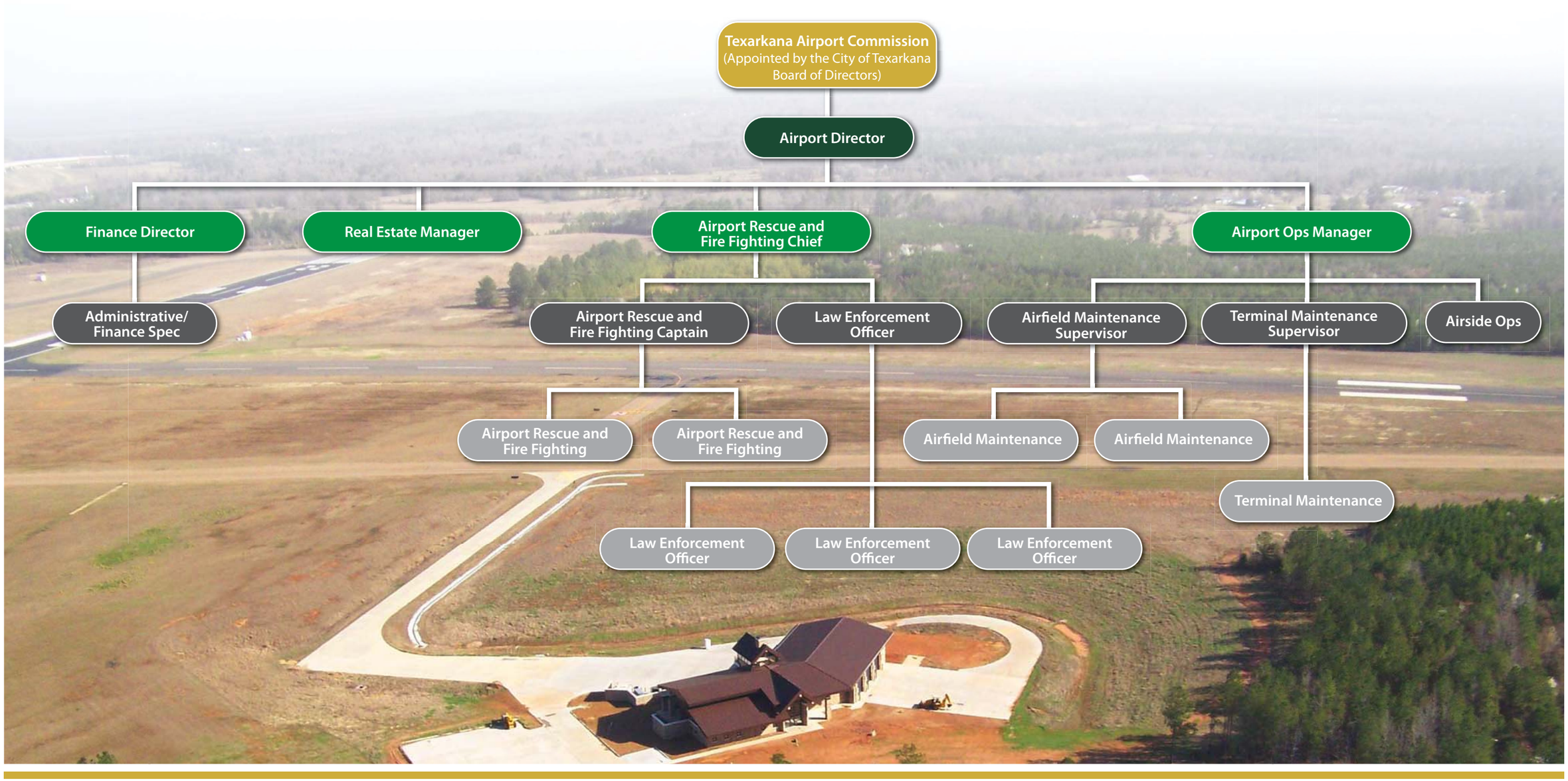
It is important to understand the current and historical economic condition of the region; these socioeconomic indicators will provide a valuable base for the forecasting process, presented in the next chapter.

ECONOMIC IMPACT

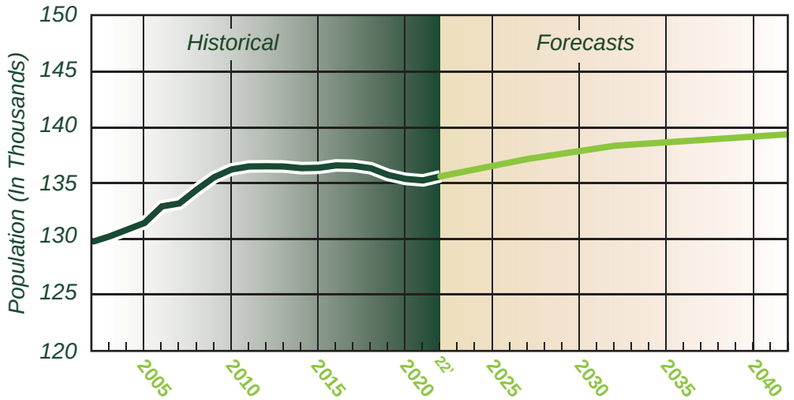
The Arkansas Department of Aeronautics (ADA) completed a review of the relationship and impact TXK has on the local and state economies as part of their update to the *Arkansas Statewide Airport System Plan Update* (ASASP), completed in 2016. The economic benefits provided by TXK are derived from the on-airport activities of business, as well as capital spending at the airport and the benefits associated with visitor spending that come through the airport. The direct impacts that are measured – jobs, payroll, and economic output – become the inputs to a formula used to estimate the total economic impact an airport has on the state of Arkansas. This includes multiplier impacts consisting of activity of local businesses at or near the airport that host visitors and the recirculation of the payroll of those businesses.

Based on the ASASP, the direct economic impacts of TXK include supporting 495 jobs with a total payroll of $15.369 million and a total annual economic output of $38.823 million. The total, statewide impact of TXK includes a total of 646 jobs, nearly $40.2 million in payroll, and $88.4 million in total output. **Table 1C** and **Figure 1A** summarize the economic impacts of TXK, as well as all airports in the ASASP.

TEXARKANA REGIONAL AIRPORT

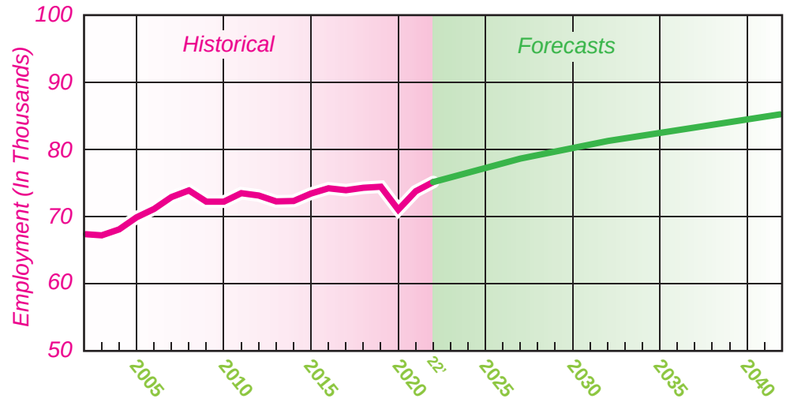


POPULATION



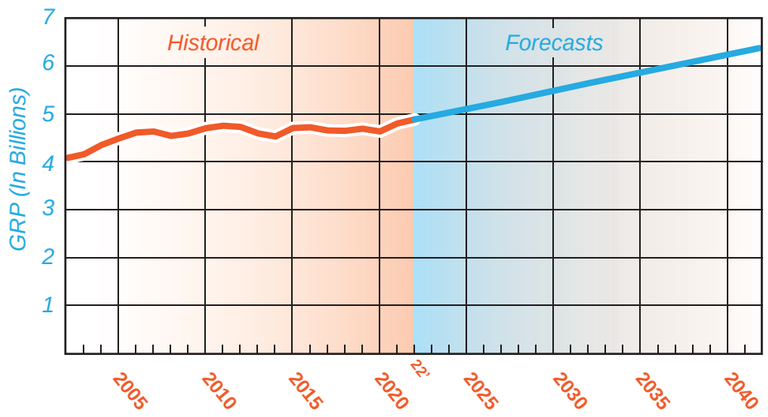
TEXARKANA, USA

EMPLOYMENT

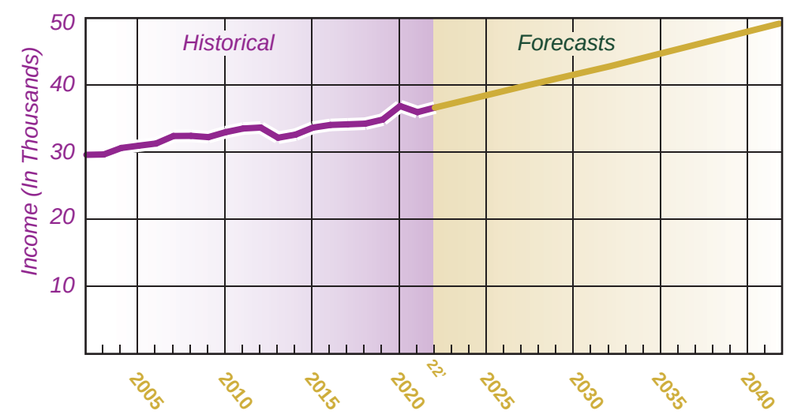


Transportation & Logistics	Medical Services
Truman Arnold Companies	CHRISTUS St Michael Health System
DLA Distribution Red River	Wadley Regional Medical Center
Wolesale Electric	Humco
BWI Companies	University of Arkansas Medical Sciences
Manufacturing	**Defense**
Domtar	Red River Army Depot
Texarkana Aluminum	Honeywell
Graphic Packaging International	BAE Systems
Red River Lumber	Northrup Grumman
West Fraser	Raytheon
Ledwell	Caterpillar
Cooper Tire & Rubber	VSE Corporation
Mayo Furniture	Lockheed Martin

GROSS REGIONAL PRODUCT (2012 Dollars)



PERSONAL INCOME PER CAPITA (2012 Dollars)



Sources: Woods & Poole 2022 Complete Economic and Demographic Data Source (CEDDS), Miller County, AR and Bowie County, TX; Arkansas-Texas Regional Economic Development (2021)

TABLE 1C | Airport Economic Impact

	TXK Direct Impacts	TXK Total Impacts	All AR Airports
Employment	495	646	42,457
Annual Payroll	$15.369 million	$40.198 million	$1.471 billion
Economic Output	$38.823 million	$88.423 million	$3.564 billion

Source: 2036 Arkansas Statewide Airport System Plan Update

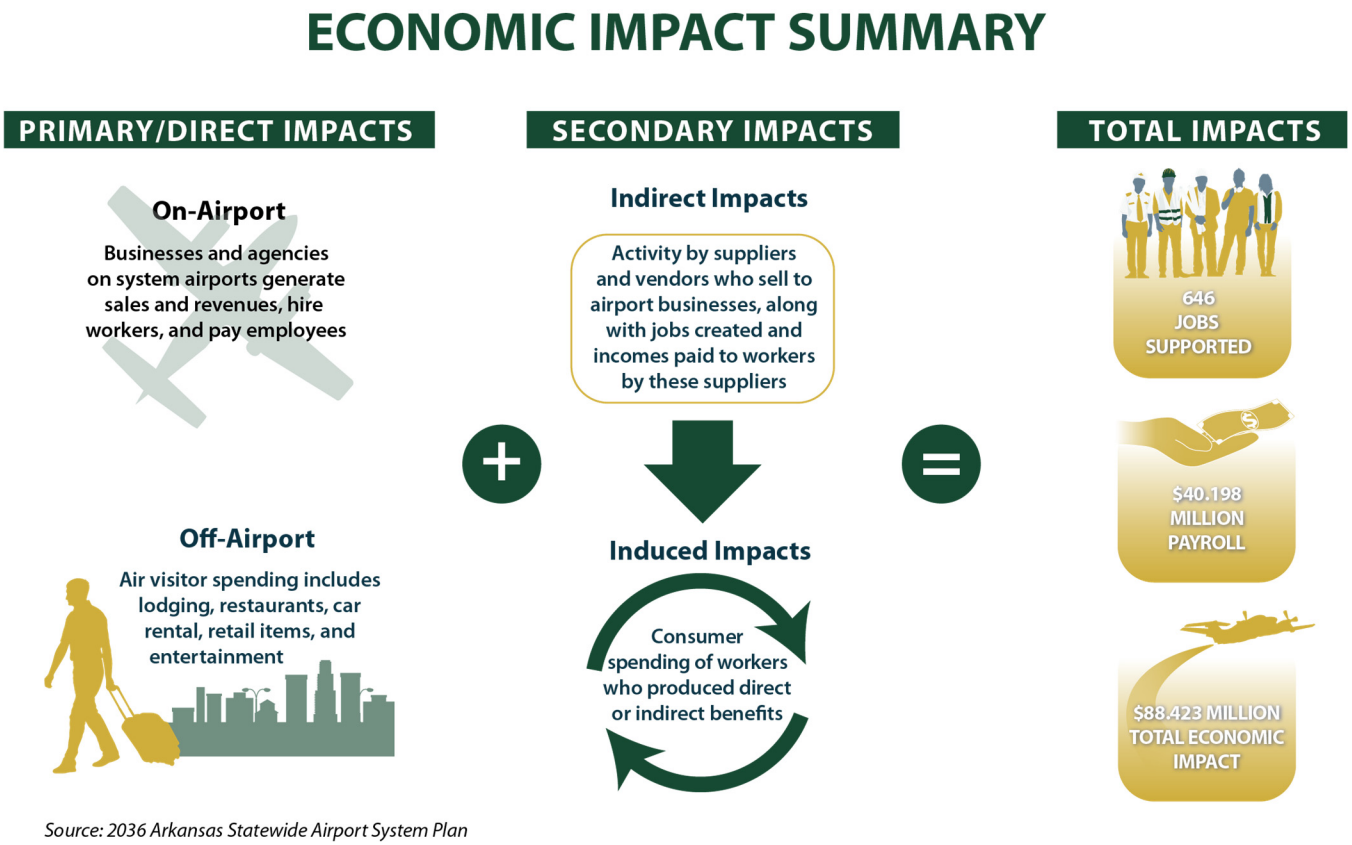


Figure 1A: Economic Impact of TXK

THE AIRPORT'S SYSTEM ROLE

Airport planning takes place at the local, state, and national levels, and each has a different emphasis and purpose.

- **Local**: At the local level, TXK last updated their Airport Master Plan in 2003. The Airport Layout Plan (ALP) was most recently updated in 2012. Other city-drafted documents also factor into airport planning on a local level.
- **State**: ADA maintains the *Arkansas State Airport System Plan* (ASASP), which provides a framework for which the state and stakeholders may maintain, improve, and plan for the state's aviation network. The ASASP was last updated and adopted in 2016 and identifies 90 public-use airports, including eight commercial service and 82 general aviation airfields, designed to fulfill a variety of roles, and is a guide for decision making.

- **National**: TXK is included in the FAA *National Plan of Integrated Airport Systems* (NPIAS). The NPIAS lists the airports across the country that are important to the National Airspace System and are therefore eligible for FAA grant funding for certain capital improvements. The NPIAS classifies both commercial service and general aviation airports based on certain operational characteristics of each airport.

LOCAL AIRPORT PLANNING

The Airport Master Plan is the primary local planning document that provides a 20-year airport development vision based on aviation demand forecasts. The 2003 Airport Master Plan used data from 2000 for its aviation forecast baseline. Given the inevitable uncertainties as a master plan ages, the FAA recommends airports update their master plan every 5-10 years, or as necessary to address any significant changes. Primary recommendations from the airport's previous master plan included remodeling and expansion of the existing terminal building, construction of a general aviation complex adjacent to Runway 31, and the construction of a new airport fire station near the terminal. Since then, a new fire station has been constructed on the south end of the airport and a new, expanded terminal is under construction, due to open in 2024.

STATE AIRPORT PLANNING

TXK is included in the *Arkansas Statewide Airport System Plan* (ASASP). The ASASP is an evaluation of Arkansas's aviation system and serves as a guide for future development. Airports were examined and evaluated based on key performance metrics, with each airport assigned to one of five system levels. The levels – numbered "1" through "5" – identify the type of activity that can be expected at each airport, with "1" being rural, general aviation airports that serve primarily single engine general aviation aircraft, and "5" being equipped to serve all business and corporate jets, with some expected to accommodate scheduled airline and air cargo operations. TXK is identified as one of twelve Level 5 airports in the state and is expected to remain as such. The typical facilities and services expected at Level 5 airports are listed in **Exhibit 1E**.

FEDERAL AIRPORT PLANNING

Many of the nation's existing airports were either initially constructed by the federal government, or their development and maintenance were partially funded through various federal grant-in-aid programs to their local communities. The system of airports existing today is therefore due, in large part, to federal policy that promotes the development of civil aviation. As part of a continuing effort to develop a national airport system, the U.S. Congress has maintained a national plan for the development and maintenance of airport.

Criteria	Objective	Existing	Meets Objective
Runway Length	6,000'	6,601'	✓
Runway Width	100'-150'	150'	✓
Runway Strength	75,000 DW	86,000 DW	✓
Taxiway System	Full-Parallel	Full-Parallel	✓
Runway Lighting	MIRL, HIRL at Commercial Service Airports	HIRL	✓
Taxiway Lighting	MITL	MITL	✓
Approach Capabilities	Precision	Precision	✓
Approach Lighting	ALS	MALSR	✓
Visual Glide Slope Indicator	PAPI/VASI	VASI	✓
Rotating Beacon	Yes	Yes	✓
Segmented Circle	Yes	Yes	✓
Weather Reporting	ASOS/AWOS/AWSS	ASOS	✓
Hangar Storage	42	61	✓
Apron Spaces	13	13	✓
Public Use Space	5,000 sf	7,000 sf	✓
Fuel	Jet A & AvGas	Jet A & AvGas	✓

Source: 2036 Arkansas Statewide Airport System Plan

KEY

ALS	-	Approach Lighting System
ASOS	-	Automated Surface Observing System
AWOS	-	Automated Weather Observing System
AWSS	-	Automated Weather Sensor System
DW:	-	Dual-Wheel Loading
HIRL	-	High-Intensity Runway Lighting
MALSR	-	Medium-Intensity ALS with Runway Alignment Indicator Lights
MIRL	-	Medium-Intensity Runway Lighting
MITL	-	Medium-Intensity Taxiway Lighting
PAPI	-	Precision Approach Path Indicator
VASI	-	Visual Approach Slope Indicator
sf	-	Square Feet

The FAA maintains a database of public-use airports eligible for Airport Improvement Program (AIP) funding called the *National Plan of Integrated Airport Systems* (NPIAS). The NPIAS is published and used by the FAA in administering the AIP, which is the source of federal funds for airport improvement projects across the country. The AIP is funded exclusively by user fees and user taxes, such as those imposed on fuel and airline ticket sales. An airport must be included in the NPIAS to be eligible for federal funding assistance through the AIP.

The most current plan is the 2023-2027 NPIAS, which identifies 3,295 public-use airports (3,287 existing and eight proposed) that are important to the national air transportation system. The plan estimates approximately $62.4 billion in AIP-eligible and justified airport development projects will occur between 2023 and 2027. **Table 1D** identifies the types of airports included in the NPIAS.

TABLE 1D | Activity and Development at NPIAS Airports

Number of Airports	Airport Category	Percentage of Airports	Percentage of Paved Runways	Percentage of 2021 Total Enplanements	Percentage of All Active GA Aircraft[1]	Percentage of Total Operations	Percentage of NPIAS Cost[2]
30	Large Hub	1	2	69	1	10	32.0
35	Medium Hub	1	2	18	2	5	14.9
80	Small Hub	2	4	9	5	7	9.7
238	Non-Hub	7	9	3	10	10	12.2
383	**Primary Subtotal**	**11**	**17**	**99**	**18**	**32**	**68.8**
107	National	3	4		12	11	5.3
501	Regional	15	17		22	25	9.0
1,179	Local	36	34		20	23	10.3
904	Basic	28	23		3	7	6.0
213	Unclassified	7	5		1	2	0
2,904	**Nonprimary Subtotal**	**89**	**83**	**0.07**	**58**	**68**	**30.6**
3,287	**Total NPIAS Airports**	**100**	**100**	**100**	**76**	**100**	**100**

[1] Based on active general aviation fleet of 204,380 aircraft in 2020. The remaining aircraft are based at other, non-NPIAS airports.
[2] These costs are rounded and do not include the cost for new airports (0.6 percent)

Source: National Plan of Integrated Airport Systems, 2023-2027

TXK is currently classified as a primary commercial service (CS) airport in the NPIAS. CS airports are publicly owned airports with at least 2,500 annual enplanements (passenger boardings) and scheduled air carrier service. The NPIAS further categorizes CS airports into four "hub" subcategories based on the number of annual enplanements: large, medium, small, and nonhub. The standards of each subcategory are defined in **Table 1E**. TXK is defined as a nonhub commercial service airport. As such, TXK receives less than 0.05 percent but more than 10,000 of all U.S. annual enplanements. The airport also provides general aviation (GA) support to airport users, including flight training, emergency services, personal flying, and business/corporate jet travel.

TABLE 1E | Commercial Service Airport Hub Categories

Hub Type	Criteria
Large Hub	Receives 1 percent or more of the annual U.S. commercial enplanements
Medium Hub	Receives 0.25 to 1.0 percent of the annual U.S. commercial enplanements
Small Hub	Receives 0.05 to 0.25 percent of the annual U.S. commercial enplanements
Nonhub	Receives less than 0.05 percent but more than 10,000 of the annual U.S. commercial enplanements

Source: National Plan of Integrated Airport Systems, 2023-2027

Part 139 Certification

An airport must have an Airport Operating Certificate (AOC) if it is serving air carrier aircraft with more than nine seats or is serving unscheduled air carrier aircraft with more than 30 passenger seats. 14 CFR Part 139 describes the requirements for obtaining and maintaining an AOC. This includes meeting various Federal Aviation Regulations (FARs).

Airports are classified in the following categories based on the type of air carrier operations served:

- **Class I Airport** – an airport certificated to serve scheduled operations of large air carrier aircraft (31 passenger seats or more) that can also serve unscheduled passenger operations of large air carrier aircraft and/or scheduled operations of small air carrier aircraft. **TXK is a Class I Airport**.
- **Class II Airport** – an airport certificated to serve scheduled operations of small air carrier aircraft (10 to 30 passenger seats) and unscheduled passenger operations of large air carrier aircraft. A Class II Airport cannot serve scheduled large air carrier aircraft.
- **Class III Airport** – an airport certificated to serve scheduled operations of small air carrier aircraft. A Class III Airport cannot serve scheduled or unscheduled large air carrier aircraft.
- **Class IV Airport** – an airport certificated to serve unscheduled passenger operations of large air carrier aircraft. A Class IV Airport cannot serve scheduled large or small air carrier aircraft.

The regulation (which implemented provisions of the *Airport and Airway Development Act of 1970*, as amended Nov. 27, 1971) set standards for: the marking and lighting of areas used for operations; firefighting and rescue equipment and services; the handling and storage of hazardous materials; the identification of obstructions; and safety inspection and reporting procedures. It also required airport operators to have an FAA-approved Airport Certification Manual (ACM). A Class I Airport must comply with all sections of Part 139.

The ACM is a required document that defines the procedures to be followed in the routine operation of the airport and for response to emergency situations. The ACM is a working document that is updated annually. It reflects the current condition and operation of the airport and establishes responsibility, authority, and procedures as required. There are required sections for the ACM covering administrative detail and procedural detail. Each section independently addresses who (primary/secondary), what, how, and when as it relates to each element.

The administrative sections of the ACM cover such elements as the organizational chart, operational responsibilities, maps, descriptions, weather sensors, access, and cargo. The procedural elements cover such items as paved and unpaved areas, safety areas, lighting and marking, communications and navigational aids, airport rescue and fire fighting (ARFF), handling of hazardous materials, utility protection, public protection, self-inspection program, ground vehicle control, obstruction removal, wildlife management, and construction supervision. TXK has an approved ACM, which is being revised and updated as the master plan is developed.

AVIATION ACTIVITY

At commercial service airports, the number of passenger boardings (enplanements) is a key indicator of operational strength as they are typically the bases for federal grants-in-aid. Enplanement activity is also a good indicator of operational conditions as they can be used to measure the strength of commercial passenger airline services. The airport's based aircraft and annual operations (takeoffs and landings) are also important aeronautical activity measures to factor. These indicators will be used in more depth in the forecast chapter of this maser plan to project future aviation activity and determine future facility needs. Each of these segments is briefly described below.

PASSENGER ENPLANEMENTS

Commercial service airports provide local and regional access to the national and international aviation systems. As such, these airports are vital to interstate commerce and a key component to local and regional economic infrastructure. These facilities support, and can even drive, growth in all socioeconomic categories.

An enplanement is defined as any revenue passenger that boards an aircraft at the airport. This statistic is important because the FAA uses it to determine the annual level of entitlement funding dedicated to an airport under the AIP. An airport must reach 10,000 annual enplanements to be eligible for a minimum one million dollars in annual entitlement funds. Airline passenger enplanements will typically be influenced by many factors, including the number of airlines serving the airport, frequency of daily departures, types of aircraft used, and the number of non-stop destinations. Historic passenger enplanement data, shown on **Table 1F**, shows that from 2008 to 2021, TXK averaged nearly 32,000 annual enplanements. This average is slightly lower than expected because of the COVID pandemic; the average enplanement count for the period between 2008 and 2019 – before the pandemic – is 33,437. The annual growth rate for this pre-pandemic period was 2.04 percent; enplanement numbers have rebounded faster than expected at TXK, with 2021 seeing 55 percent more enplanements than in 2020.

TXK is currently served by American Airlines (operated by SkyWest Airlines) and offers daily non-stop flights to and from Dallas-Fort Worth International Airport (DFW).

TABLE 1F | Historical Aviation Activity at TXK

Year	Enplanements	Operations	Based Aircraft
2008	31,434	26,894	63
2009	27,811	28,581	63
2010	27,437	31,568	69
2011	29,438	26,700	73
2012	29,123	27,617	74
2013	33,169	23,413	54
2014	38,214	22,556	54
2015	36,155	24,707	52
2016	34,515	25,720	52
2017	35,655	27,235	52
2018	39,051	25,331	52
2019	39,239	33,029	52
2020	18,215	31,085	52
2021	28,250	33,478	53
2022	35,699	30,745	63

Sources: Airport records; TXK FAA TAF

AIRPORT OPERATIONS AND BASED AIRCRAFT

Table 1F also presents the historical annual operations and based aircraft at TXK. Airport operational statistics are recorded by the airport traffic control tower (ATCT) which classifies operations as a takeoff or landing. Aircraft operations are further classified into local or itinerant operations and will be discussed in greater detail in the next chapter. Annual operations at TXK have been cyclical, with an average of almost 27,000 operations between 2008 and 2019. Ironically, this average increases to 27,714 when including 2020 and 2021; recent data has shown that airports nationwide saw an increase in operations during the pandemic as more people opted to fly general aviation as opposed to commercial air travel. This explains why enplanements at TXK may have dipped in 2020 but operations continued to grow.

The number of based aircraft at an airport is another important part of the master plan process; however, it can be difficult to be accurate given the transient nature of aircraft storage. TXK maintains a record of based aircraft, but data from the FAA's *Terminal Area Forecast* (TAF) was also consulted. In 2022, the TAF reported 52 aircraft based at TXK. This is 11 aircraft less than the airport's current based aircraft count of 63. Historical based aircraft data is shown on **Table 1F**.

AIRSIDE FACILITIES

Airside facilities are those which facilitate aircraft movement between the air and ground. Generally, these facilities include runways, taxiways/taxilanes, terminal ramp aprons, airport lighting and markings, and weather and communication aids. The airside facilities at TXK are depicted on **Exhibit 1F**.

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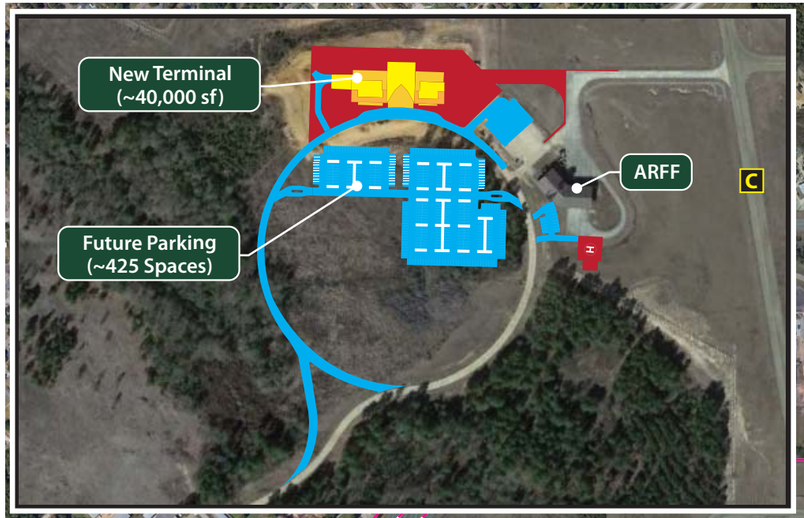

Runway Characteristics	Rwy 4	Rwy 22	Rwy 13	Rwy 31
Length (ft.)	6,601		5,200	
Width (ft.)	150		100	
Surface & Condition	Grooved Asphalt - Good		Grooved Asphalt - Good	
Gradient	0.69%		0.48%	
Load Bearing Strength (lbs)				
Single Wheel (S)	50,000		25,000	
Double Wheel (D)	86,000		0	
Double Tandem Wheel (2D)	120,000		0	
Markings	Precision	Precision	Non-Precision	Non-Precision
Lighting	High-Intensity		Medium-Intensity	
Visual Approach Aids	VASI-4	None	PAPI-4	PAPI-4
Approach Lighting Systems	None	MALSR	None	None
Instrument Approaches	LOC BC, RNAV/GPS	ILS/LOC, RNAV/GPS	RNAV/GPS, VOR	RNAV/GPS
Traffic Pattern	Left	Left	Left	Left

Weather and Navigational Aids
Automated Surface Observing Station (ASOS)
Rotating Airport Beacon
Lighted Wind Cone & Segmented Circle
VORTAC, NDB, LOC

LEGEND

- Airport Property Line
- A — Taxiway Designator

ILS/LOC:	Instrument Landing System/Localizer
LOC BC:	Localizer Back Course
MALSR:	Medium-Intensity Approach Lighting System with Runway Alignment Indicator Lights
NDB:	Non-Directional Beacon
PAPI:	Precision Approach Path Indicator
RNAV/GPS:	Area Navigation/Global Positioning System
VASIL:	Visual Approach Slope Indicator
VOR:	Very High Frequency Omnidirectional Range
VORTAC:	VOR with Tactical Air Navigation System

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RUNWAYS

Two runways serve TXK – Runway 4-22 and Runway 13-31. Runway 4-22 is the airport's primary runway, and Runway 13-31 is the crosswind runway. All four runways use the standard left-hand traffic pattern. Information pertaining to the runways is available on **Exhibit 1F**.

Primary Runway 4-22

Runway 4-22

Runway 4-22 is the primary runway and is 6,601 feet long and 150 feet wide. It is a grooved, asphalt surface in good condition. The runway has precision instrument markings, consisting of the runway designator, a centerline, threshold markings, and aiming point and touchdown markings. The surface has a strength rating of 50,000 pounds for single wheel landing gear configurations (S), 86,000 pounds for dual wheel (D), and 120,000 pounds for dual tandem gear configurations (2D). The gradient of the runway is 0.69 percent, with the Runway 4 end elevation at 338 feet mean sea level (MSL) and the Runway 22 end at 384 feet MSL. The runway is equipped with high-intensity runway lighting (white) to illuminate the runway edges at night and/or during poor meteorological conditions.

Crosswind Runway 13-31

The crosswind runway at TXK is designated Runway 13-31. The runway is 5,200 feet long and 100 feet wide, paved and grooved with asphalt, and is in good condition. Non-precision instrument markings are located at each runway end, which are similar to precision markings but do not have touchdown zone markings. The surface has a published strength rating only for single wheel gear aircraft of 25,000 pounds. Runway 13-31 is equipped with medium-intensity runway lighting and has an effective grade of 0.48 percent.

TAXIWAYS

Taxiways are generally aircraft movement surfaces that provide direct access to runways. This includes parallel and connector taxiways. Taxilanes are surfaces that generally provide access to hangars or aircraft tie-down areas.

The taxiway system at TXK includes full-length parallel taxiways that serve both runways, as well as connector taxiways that provide additional entry/exit points along the runways. The taxiways range in width from 50 to 60 feet, with sections of taxiways prior to runway entrances expanding to 75 feet. Taxilanes provide access to the T-hangar facilities and range in width from 20 to 45 feet.

Aircraft holding positions are located prior to the entrance of a runway and require pilots to "hold short" and wait for clearance before moving onto or crossing a runway. This clearance is provided by the air traffic controllers. Hold position markings are located at least 250 feet from each runway surface, with some markings on taxiways that do not intersect a runway at a 90-degree angle further than 250 feet. Holding position markings are measured from the runway centerline to the center of the hold markings.

Holding Position for Runway 4-22 at Taxiway C

TERMINAL AND GENERAL AVIATION APRONS

Aprons are expansive areas of pavement that are used for the parking and servicing of aircraft. Aircraft fueling, baggage loading, passenger egress, and other ground services are provided within an apron. Long-term parking is often also used on aprons. The apron system at TXK is approximately 75,600 square yards (sy) in size and can be defined by location and design.

Main Terminal Apron

The terminal apron at TXK is located adjacent to the passenger terminal, airport traffic control tower, and airport administrative offices. This apron provides an area for ground service and handling of the commercial airline aircraft that operate at TXK. The apron is approximately 21,200 square yards (sy) in size.

General aviation aprons are located in conjunction with hangar facilities along the western side of the airport. These provide areas for ground service and parking of general aviation aircraft, such as private single engine aircraft and business jets. The North Ramp is located north of the terminal apron and is approximately 11,900 sy in size. The South Ramp is located south of the terminal apron and includes the ramp area for the fixed-base operator (FBO) Signature Flight Support. FBOs are discussed later in this chapter. The South Ramp is separated by a taxilane to the T-hangar facilities and is approximately 42,500 sy total in size. **Exhibit 1G** shows the location and approximate size of each ramp area at TXK.

AIRFIELD LIGHTING

Airfield lighting systems extend an airport's usefulness into periods of darkness and/or poor visibility. A variety of lighting systems are installed at the airport for this purpose. These lighting systems, categorized by function, are summarized below.

#	Type	Size (sf)
1	Conventional Hangar	12,400
2	Conventional Hangar	8,500
3	Airport Administration	4,100
4	Commercial Terminal	20,400
5	Electrical Vault	1,490
6	Airport Traffic Control Tower	1,350
7	Conventional Hangar & FBO Terminal	10,100
8	Conventional Hangar	10,600
9	Conventional Hangar	10,300
10	Conventional Hangar	12,100
11	Conventional Hangar	11,700
12	Conventional Hangar	12,100
13	Conventional Hangar	4,100
14	Trailer	1,200
15	T-Hangars (7-unit)	13,900
16	T-Hangars (12-unit)	13,900
17	T-Hangars (12-unit)	13,900
18	T-Hangars (12-unit)	14,200
19	Conventional Hangar	12,100
20	Conventional Hangar	23,600

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Identification Lighting

The location of the airport at night is universally identified by a rotating beacon. The beacon projects two beams of light, one white and one green, 180 degrees apart. The beacon, which operates from sunset to sunrise or during periods of instrument meteorological conditions (IMC), is located near the treeline at the north edge of the airport property.

Airport Beacon

Pavement Edge Lighting/Signage

Runway edge lighting uses light fixtures placed near the edge of the pavement to define the lateral limits of the surface. This lighting is essential during night and/or times of low visibility to maintain safe and efficient movement of aircraft. Runway 4-22 is equipped with high-intensity runway lighting (HIRL), Runway 13-31 is equipped with medium-intensity runway lighting (MIRL), and the taxiways are equipped with medium-intensity taxiway lighting (MITL). To differentiate between the two, taxiway lighting is typically blue and runway lighting is generally white.

The presence of runway/taxiway signage is an essential component of a surface movement guidance control system necessary for the safe and efficient operation of the airport. Currently installed at TXK are runway holding position signs at each holding position discussed previously. The airport also has location signage, indicating the taxiway or runway where an aircraft is located directional signage, which provides direction to locations at the airport, such as a ramp or terminal; and runway distance remaining signs, which provide pilots with the remaining runway length in 1,000-foot increments.

Blue Taxiway Edge Light

Various Runway and Taxiway Signage at TXK

Visual Glide Slope Approach Aids

Visual approach aids provide pilots with glide slope information when landing in visual meteorological conditions or when transitioning from an instrument approach procedure. Approach aids consist of light boxes that shine either a red or white light that the pilot of a landing aircraft interprets to determine if they are on the correct glide path to the runway. The two most commonly used approach aids are the visual approach slope indicator (VASI) and precision approach path indicator (PAPI).

Both Runway 13 and Runway 31 are equipped with a four-box PAPI (PAPI-4) system. The PAPI serving Runway 13 is located on the left side of the runway, 770 feet from the runway displaced threshold. The Runway 31 PAPI is located 700 feet from the runway threshold, also on the left side of the pavement. Both PAPIs are set to a standard glide path of 3.00 degrees.

Runway 31 PAPI-4

Runway 4 is equipped with a four-box VASI (VASI-4) that provides a standard 3.00-degree glide path to the runway. The VASI-4 is located on the left side of the runway, 750 feet from the threshold. Runway 22 does not have either a PAPI or VASI system, but is equipped with a MALSR, which is discussed in more detail in the next section.

Runway 4 VASI-4

Approach Lighting System (ALS)

An ALS is a configuration of lights positioned symmetrically along the extended runway centerline to supplement navigational aids, such as an instrument landing system (ILS), to provide lower visibility minimums. Runway 22 is equipped with a MALSR, which is a combination of a medium-intensity ALS with runway alignment indicator lights. This system is commonly used for runways with Category I precision approaches. The MALSR extends for a length of 2,400 feet and includes a combination of threshold lights, steady burning light bars, and flashers which provide visual guidance and references to pilots on approach to the runway.

Pilot-Controlled Lighting (PCL)

During times of low light and/or poor visibility when the ATCT is closed (10:00 p.m. to 6:00 a.m.), pilots can use the pilot-controlled lighting (PCL) system to activate the runway lights and the Runway 22 MALSR. The airfield lights are activated by a series of clicks with the pilot's radio transmitter using the airport common traffic advisory frequency (CTAF) of 123.875 MHz.

WEATHER AND COMMUNICATION AIDS

Weather and communication devices provide pilots with information about the existing conditions at the airport. At airports without an airport traffic control tower, it is essential that pilots can still communicate with each other and receive current weather reports. These devices are described below.

Wind Indicator

TXK is equipped with a lighted wind cone, located adjacent to the terminal ramp within a segmented circle. The wind cone provides information to pilots regarding wind direction and approximate intensity. Additional supplemental wind cones are located at the ends of Runway 4 and 31 to provide immediate wind speed and direction to pilots operating on the runways.

Primary Wind Cone/Segmented Circle

Supplemental Wind Cone

Automated Surface Observing System (ASOS)

Different weather recording and reporting systems are available to airports to provide pilots information on current weather conditions. TXK is served by an ASOS, which measures and reports the altimeter setting (barometric pressure) and density altitude; wind direction and speed; temperature and dew point; visibility; and cloud/ceiling heights. The ASOS can also identify type and intensity of precipitation, thunderstorms, and visibility obstructions such as haze and fog.

The station updates observations every minute, 24 hours a day, and transmits the information to pilots at and near the airport by a very high frequency (VHF) ground-to-air radio transmitter via frequency 120.2 MHz. Pilots can also receive the weather report by calling a local telephone number (870-774-0404). The ASOS at TXK is located mid-field adjacent to the Runway 4-22/Runway 13-31 intersection.

ASOS at TXK

Common Traffic Advisory Frequency (CTAF)

A Common Traffic Advisory Frequency (CTAF) is used by pilots at and near the airport to communicate with each other about approaches to or departures from the airport whenever the ATCT is closed. The CTAF is also used to control the airport's PCL system, discussed above. The CTAF radio frequency at TXK is 123.875 MHz.

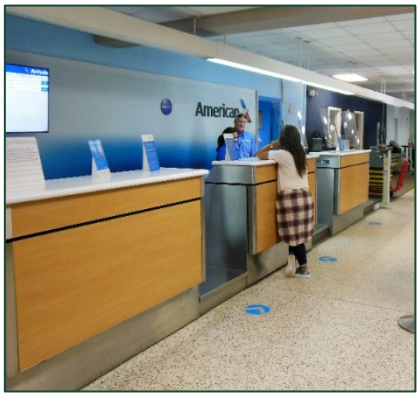
LANDSIDE FACILITIES

Landside facilities support the aircraft and pilot/passenger transition between air and ground. Typical landside facilities include the terminal, fixed-base operators, on-airport businesses, aircraft hangars, and vehicle parking. An overview of the landside facilities and a building inventory at TXK are depicted on **Exhibit 1G**.

TERMINAL BUILDING

TXK has a dedicated terminal building for the handling of passengers and baggage for commercial airline service. The terminal building is approximately 20,400 square feet (sf) and is located along a looped road extended from Airport Drive. The terminal is a linear style concept with a single level, which is a common layout for most nonhub airports serving primarily origin and destination (O&D) passenger traffic. Key areas of the existing terminal building are described below.

Airline/Rental Car Counters | The center of the terminal building consists of counter and office space for airline and rental car companies. Three airline ticketing/check-in counters are currently used by American Airlines. Opposite the airline counters are three rental car counters, occupied by Hertz, Budget, and Avis. A public waiting area is also located in this area with vending machines.



Airline Ticket Counters

Hertz and Budget Rental Counters

Avis Rental Counter

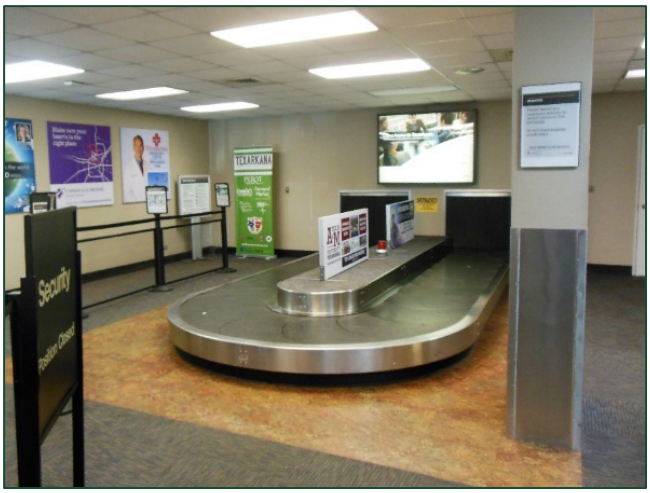
Security Screening Area | The TSA security checkpoint, located at the north end of the airline counters, consists of a passenger queuing area that leads into a single screening station equipped with a walk-through metal detector and baggage x-ray machine.

Baggage Claim | Arriving passengers depart the secured area via a hallway parallel to the TSA checkpoint entering the terminal lobby. Baggage claim is located adjacent to the TSA checkpoint and consists of a single conveyor belt.

Secured Area | Beyond the security checkpoint is the secured holdroom area. This area consists primarily of seating and queuing for the terminal's gate. Passengers exit the terminal at the gate and board an aircraft outside via a loading ramp.

Restrooms | Public restrooms are available both in the secured and unsecured areas of the terminal.

TSA Checkpoint



Baggage Claim

NEW TERMINAL

At the time of this writing, a new modernized terminal building was being constructed on the south end of the airport property, with ground access provided from East 19th Street via a new airport loop drive. The new terminal, which is expected to open in 2024, will double the amount of space available for travelers, airport, and airline staff. **Exhibit 1H** presents the layout of the new facility. The ground level of the terminal is planned to have airline ticketing stations and offices, concessions, an expanded baggage claim area, airport security offices, and a TSA screening area. The second floor will support an expansive departure area with gates for two enclosed boarding bridges ("jetways"), a business lounge, and airport administration offices. Public restrooms will be available on both floors. The new terminal will be able to support three airlines, supporting the possibility for increased destination and trip offerings to travelers. New parking facilities are also to be constructed, with approximately 425 parking positions planned, including 12 dedicated handicap positions and a smaller, employee lot. Also, a helipad is planned adjacent to the new ARFF building for emergency evacuation uses. This can be seen in the insert graphic on **Exhibit 1H**.

Rendering of the New Texarkana Regional Airport Passenger Terminal

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FIRST LEVEL

LEGEND

Mechanical	Screen Monitor
Electrical	Janitor
Data	Storage
Restrooms	T.S.A.
Concessions	Manager Office
Airport Security	Work Space
Egress Stair	Elevator
Private Screen	Car Rental Office

SECOND LEVEL

LEGEND

Restrooms	Janitor
Conference Room	Storage
Kitchen	Office
Reception Desk	Elevator
Copy Room	

TERMINAL ACCESS ROADWAYS

The terminal building is accessible from Airport Drive, which extends from Arkansas Boulevard and U.S. Highway 67/E Broad Street. The terminal's one-way loop provides the opportunity to enter the terminal's short-term parking adjacent to the terminal. The loop road also provides access to the paid long-term parking lot, as well as rental car ready/return spaces and employee parking for the airport control tower. Airport Drive continues past the terminal loop road and reconnects to Globe Avenue at the old military facility. Globe Avenue continues south, providing access to the South Ramp hangar and T-hangar facilities.

Airport Circle with Terminal Loop and Parking

TERMINAL CURB FRONTAGE

The terminal loop also provides for curbside access at the terminal for immediate passenger drop-off and pick-up. The curb frontage area is clearly denoted with pavement markings and pedestrian crossing signs and markings. Due to the layout of the terminal with the airline counters on the south end and baggage claim on the north end, the southern portion of curb frontage is intended for passenger drop-off and the northern portion for passenger pick-up. The entirety of the curb frontage area is approximately 230 feet in length.

Curbside at TXK Terminal

AIRPORT BUSINESSES

A passenger terminal is not the only building at an airport that may provide services to its users. TXK also has a fixed-base operator (FBO) and specialized aviation service operators (SASOs) located at the airport.

An FBO is an airport service center responsible for a variety of aviation services, such as passenger handling, aircraft fueling, parking, maintenance, aircraft towing and storage, and other related services. Signature Flight Support (formerly TAC Air) provides these services to general aviation users of the airport, from single engine piston training aircraft to corporate business jets. The FBO facilities include a 10,000-sf hangar attached to a 2,000-sf terminal building.

FBO Terminal and Ramp (Note: Signature Flight Support now owns this facility)

There are four specialty aviation service operators (SASOs) located at the airport. These are companies that offer one or more specialized aviation services, such as flight instruction or aircraft maintenance and repair. The airport businesses operating at the airport at the time of this writing (January 2023) include:

- **Texarkana Flying Club** – Non-profit flying club that provides flight training and aircraft rental
- **Texarkana College** – Education institution offering Part 147 aviation maintenance technology and Part 141 professional pilot flight training programs

AIRCRAFT HANGARS

It is important to identify those hangars that may be used for aircraft storage. By having a reasonable estimate of the baseline hangar capacity, a determination of future hangar needs can be made based on forecast hangar demand. Existing hangar facilities at TXK consist of large, conventional-style hangars used to store multiple aircraft, as well as T-hangars that are designed to accommodate smaller aircraft. Conventional hangars are used for storage and/or aircraft maintenance and are generally greater than 3,500 square feet (sf). Approximately 127,600 sf of conventional hangar space and 55,900 sf of T-hangar space, consisting of 43 total units, are available at TXK. While smaller executive hangars are common at larger airports, this type of hangar is not currently found at TXK. Existing hangar facilities at TXK are identified on **Exhibit 1G**.

Conventional Hangar Facilities at TXK

T-Hangar Facilities at TXK

VEHICLE PARKING

Vehicle parking at TXK is provided for commercial air passengers, staff, and general aviation users. The current parking layout includes one 150-spot lot with three handicap positions. The rental car lot includes 95 total spaces. Terminal parking is charged at $10 per day; there is no charge for one-hour pick-up or drop-off travelers. Airport staff are provided with dedicated parking adjacent to the administration building.

Plans are in place to improve the parking facilities at the terminal. These will include a short-term lot of 185 parking positions, a long-term lot with 148 spots, and 107 dedicated rental car positions. A total of 16 handicap positions will be provided throughout each lot. Employee parking will also be expanded to 60 spots with four dedicated handicap positions.

Parking for other airport users is located throughout the landside facilities. Signature Flight Support currently has 40 spots for customers and a separate employee lot that is unmarked with an unknown number of spots. Approximately 154 parking positions, including three handicap spots, are located within the general aviation facilities to the south of the terminal and FBO. These areas also include five handicap parking spots.

The parking areas discussed do not include private parking spaces at businesses and private hangars inside the fence line of the airport; access to these spaces is restricted to those with access and is controlled by gates. Vehicle parking spaces outside the airport security fencing are identified on **Exhibit 1G**.

MILITARY FACILITIES

Within the airport property, remnants of the military partnership at TXK are still present. 13 buildings, including seven Quonset huts, a maintenance shop, movie theater, and the old radome, are located on approximately nine acres at the west side of the airport (shown on **Exhibit 1G**). The Civil Air Patrol leases space in one of the Quonsets. All the buildings are considered to be in poor condition and plans for their removal, and redevelopment of the area, have been discussed in the past. This master plan will evaluate this potential.

Former Military Facilities

NON-AERONAUTICAL FACILITIES

The airport also houses facilities used for non-aeronautical uses. At the entrance to the airport property on Airport Drive and Globe Avenue is a four-unit mini-storage facility, which is fenced and controlled by gate access. The airport also leases out eight private

residences along Airport Circle, additional remnants of the military presence at TXK. The Arkansas National Guard leases a facility on the north end of the airport property, and the Texarkana, AR Police Department occupies a building at the south end of the property. While these leaseholders do not contribute directly to the aeronautical activity discussed previously (operations and enplanements), their presence nonetheless contributes to the economic vitality of the airport.

SUPPORT FACILITIES

The previous section addresses airside and landside facilities, those critical to the movement of aircraft and people on the airport. This section discusses other facilities that support airport operations, including ARFF, airport maintenance, fuel storage, and perimeter fencing. These facilities are identified on previous **Exhibits 1F** and **1G**.

AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF)

Airports that have regularly scheduled commercial air service using aircraft with 10 or more seats are required to provide aircraft rescue and fire fighting (ARFF) services during air carrier operations. Each certificated airport maintains equipment and personnel based on an ARFF index established according to the length of the aircraft and scheduled daily flight frequency. There are five indices, A through E, with A applicable to the smallest aircraft and E the largest. TXK currently falls within ARFF Index A, due to the historical use of the Bombardier CRJ200 (87’ 10” long) by American Airlines. As the airlines, including American, transition to larger regional jets, such as the Bombardier CRJ700 (107’ long) currently being used at TXK, the airport could see an increase in its ARFF index from “A” to “B.”

ARFF Station

TXK maintains an on-site ARFF station, located on the south side of the airport property, adjacent to the new terminal construction. The facility, which was completed in 2015, houses ARFF vehicles, training and classroom facilities, and residential areas for when ARFF staff are activated. The new ARFF station is identified on **Exhibit 1F**.

FUEL STORAGE

TXK maintains a fuel farm that stores both AvGas and Jet A aviation fuels and is located at the south end of the landside facilities (**Exhibit 1G**). Jet fuel is stored in two 20,000-gallon tanks, one above ground and the other underground. AvGas is stored in a 12,000-gallon underground tank. The fuel farm also has

storage tanks for diesel and unleaded automotive gasoline. Additionally, a self-serve 100LL fuel pump with a 1,200-gallon tank is located adjacent to the T-hangars. The fuel farm tanks are owned by TRAA and managed by Signature Flight Support, while the self-serve tank is owned and maintained entirely by the FBO. All tanks are reported to be in good condition. Full-service fueling is provided by Signature Flight Support via fuel trucks owned by the FBO. Two 3,000-gallon Jet-A and one 1,200-gallon AvGas truck are owned and maintained by the FBO. **Table 1G** presents the fuel sales since 2017.

TABLE 1G | Fuel Sales at TXK

Year	AvGas (gal.)	Jet A (gal.)
2017	83,579	606,465
2018	64,327	633,255
2019	60,941	621,902
2020	48,495	436,348
2021*	52,377	549,527

*Data through Sept 2021

Source: Airport records

Fuel Farm

Self-Serve 100LL Fuel Pump

PERIMETER FENCING

The entirety of the airfield is enclosed with security fencing, which is regularly inspected. The fence provides a barrier to both trespassers and wildlife. Vehicle access on and off the airport Is provided through automatic gates, situated at various locations around the airport.

AREA AIRSPACE AND AIR TRAFFIC CONTROL

The *FAA Act of 1958* established the FAA as the responsible agency for the control and use of navigable airspace within the U.S. The FAA has established the National Airspace System (NAS) to protect people and property on the ground, in addition to establishing a safe and efficient airspace environment for civil, commercial, and military aviation. The NAS covers the common network of U.S. airspace, including air navigation facilities; airports and landing areas; aeronautical charts; associated rules, regulations, and procedures; technical information; and personnel and material. The system also includes components shared jointly with the military.

AIRSPACE STRUCTURE

Airspace within the U.S. is broadly classified as either "controlled" or "uncontrolled." The difference between controlled and uncontrolled airspace relates primarily to requirements for pilot qualifications, air-to-ground communications, navigation and air traffic services, and weather conditions. Six classes of airspace have been identified in the U.S. and given letter designations, as shown on **Exhibit 1J**. Airspace designated as Class A, B, C, D, or E is considered controlled airspace. Aircraft operating within controlled airspace are subject to varying requirements for positive air traffic control. The airspace near TXK is depicted on **Exhibit 1K**.

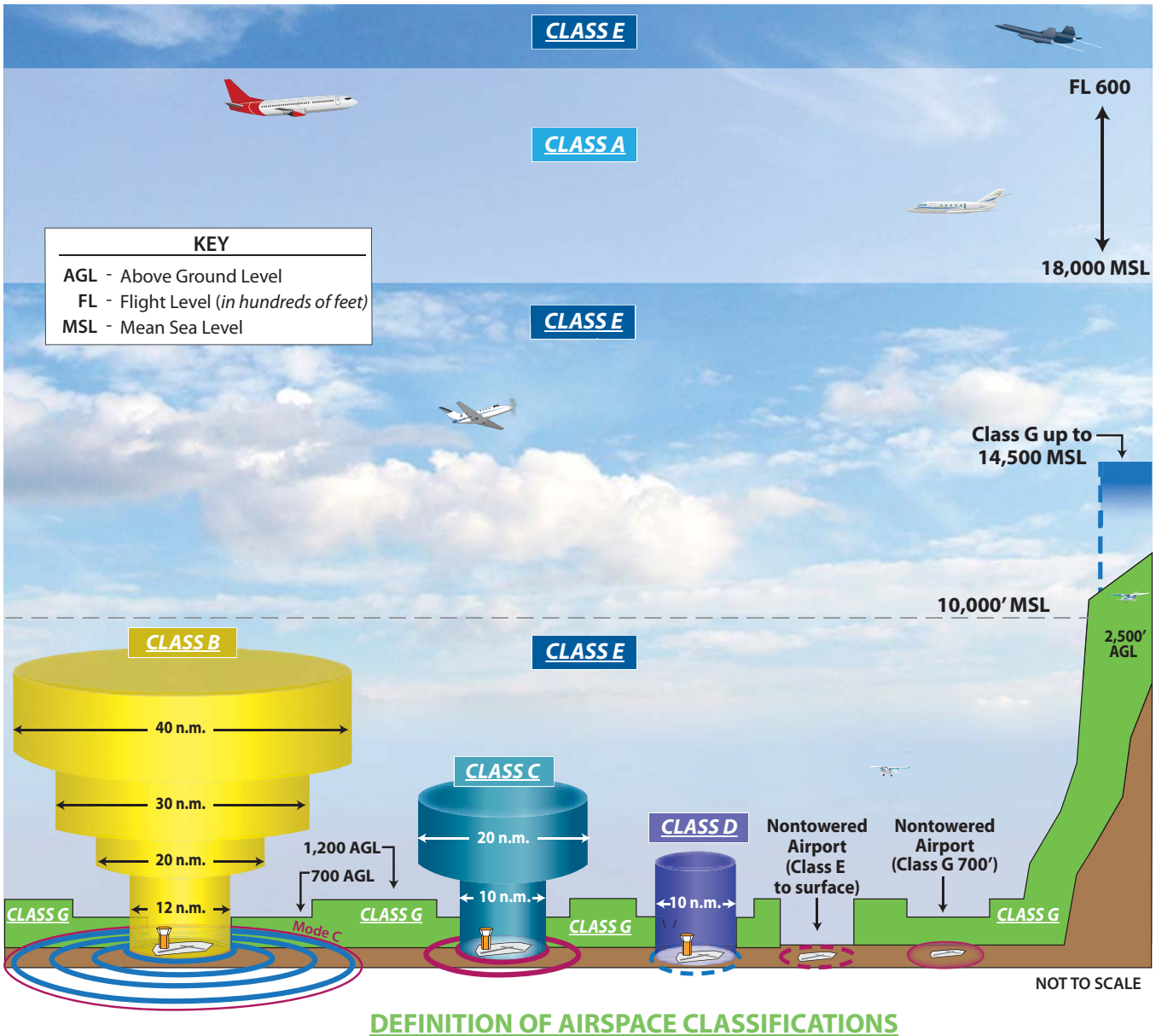
Class A Airspace | Class A airspace includes all airspace from 18,000 feet mean sea level (MSL) to flight level (FL) 600 (approximately 60,000 feet MSL) over the contiguous 48 states and Alaska. This airspace is designated in Federal Aviation Regulation (FAR) Part 71.33 for positive control of aircraft. All aircraft operating within Class A airspace must be on an instrument flight rules (IFR) clearance and flight plan.

Class B Airspace | Class B airspace has been designated around some of the country's major airports, such as Chicago O'Hare International Airport, to separate all aircraft within a specified radius of the primary airport. Each Class B airspace is specifically tailored for its primary airport. All aircraft operating within the Class B airspace must have air traffic control (ATC) clearance. Certain minimum aircraft equipment and pilot certification requirements must also be met. This airspace is the most restrictive controlled airspace routinely encountered by pilots operating under visual flight rules (VFR). The nearest Class B airspace surrounds Dallas-Fort Worth International Airport (DFW), approximately 156 nautical miles (nm) to the southwest of TXK.

Class C Airspace | The FAA has established Class C airspace at approximately 120 airports around the country that have significant levels of IFR traffic. Class C airspace is designed to regulate the flow of uncontrolled traffic above, around, and below the arrival and departure airspace that is required for high-performance, passenger-carrying aircraft at major airports. To fly inside Class C airspace, an aircraft must have a two-way radio, an encoding transponder, and have established communication with ATC. Aircraft may fly below the floor or above the ceiling of the Class C airspace without contacting ATC. The nearest Class C airports to TXK are Shreveport Regional (SHV) and Barksdale Air Force Base, approximately 60 nm to the south.

Class D Airspace | Class D airspace is controlled airspace surrounding airports with an airport traffic control tower (ATCT). The Class D airspace typically constitutes a cylinder with a horizontal radius of four or five nautical miles from the airport, extending from the surface up to a designated vertical limit, typically set approximately 2,500 feet above the airport elevation. Pilots planning to operate within Class D airspace are required to contact the ATCT prior to entering the airspace and must remain in contact while within the airspace. **TXK is considered a Class D Airport**.

Class E Airspace | Class E airspace consists of controlled airspace designed to contain IFR operations near an airport and while aircraft are transitioning between the airport and enroute environments. Unless otherwise specified, Class E airspace terminates as the base of any overlying airspace. Only aircraft operating under IFR are required to be in contact with ATC when operating in Class E airspace.



DEFINITION OF AIRSPACE CLASSIFICATIONS

CLASS A Think A - Altitude. Airspace above 18,000 feet MSL up to and including FL 600. Instrument Flight Rule (IFR) flights only, ADS-B 1090 ES transponder required, ATC clearance required.

CLASS B Think B - Busy. Multi-layered airspace from the surface up to 10,000 feet MSL surrounding the nation's busiest airports. ADS-B 1090 ES transponder required, ATC clearance required.

CLASS C Think C - Mode C. Mode C transponder required. ATC communication required. Generally airspace from the surface to 4,000 feet AGL surrounding towered airports with service by radar approach control.

CLASS D Think D - Dialogue. Pilot must establish dialogue with tower. Generally airspace from the surface to minimum 2,500 feet AGL surrounding towered airports.

CLASS E Think E - Everywhere. Controlled airspace that is not designated as any other Class of airspace.

CLASS G Think G - Ground. Uncontrolled airspace. From surface to a 1,200 AGL (in mountainous areas 2,500 AGL) Exceptions: near airports it lowers to 700' AGL; some airports have Class E to the surface. Visual Flight Rules (VFR) minimums apply.

Source: FAA 2016 Pilot's Handbook of Aeronautical Knowledge (PHAK), Ch. 15

While aircraft conducting visual flights (VFR) in Class E airspace are not required to be in radio contact with ATC facilities, visual flight can only be conducted if minimum visibility and cloud ceilings exist. Class E airports are the predominant airport types and can be found nationwide; Hall-Miller Municipal (ATA) and Hope Municipal (M18) are two examples of Class E airports and are less than 25 nm from TXK.

Class G Airspace | Airspace not designated as Class A, B, C, D, or E is considered uncontrolled, or Class G, airspace. Air traffic control does not have the authority or responsibility to exercise control over air traffic within this airspace. Class G airspace lies between the surface and the overlying Class E airspace (700 to 1,200 feet AGL).

While aircraft may technically operate within this Class G airspace without any contact with ATC, it is unlikely that many aircraft would operate this low to the ground. Furthermore, federal regulations specify minimum altitudes for flight. FAR Part 91.119, *Minimum Safe Altitudes*, generally states that, except when necessary for takeoff or landing, pilots may not operate an aircraft over any congested area of a city, town, or settlement, or over any open-air assembly of people, below an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet to the aircraft.

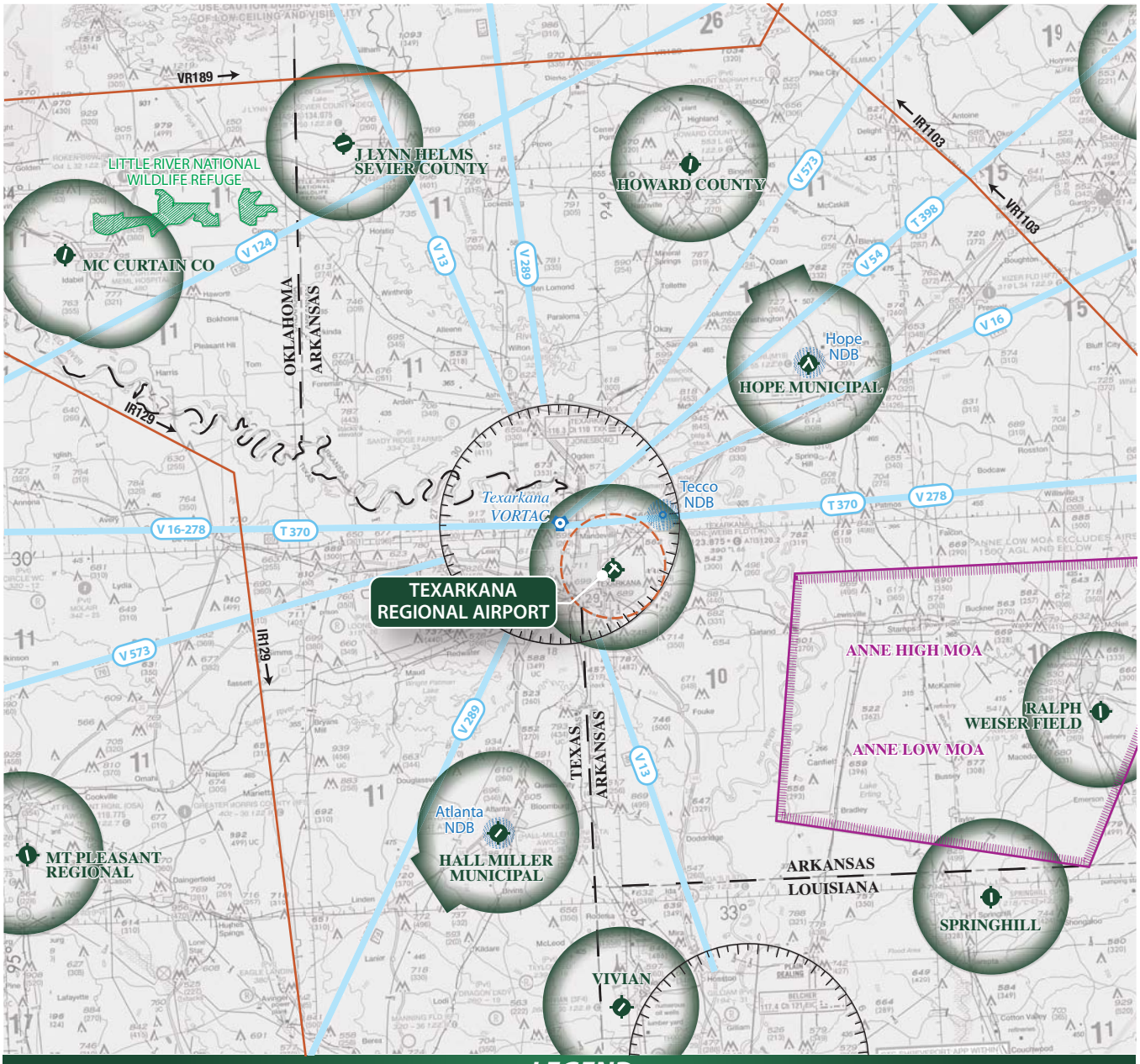
Over less congested areas, pilots must maintain an altitude of 500 feet above ground level (AGL), except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vehicle, or structure. Helicopters may be operated at less than the minimums prescribed above if the operation is conducted without hazard to people or property on the surface. In addition, each person operating a helicopter shall comply with any routes or altitudes specifically prescribed for helicopters by the FAA.

SPECIAL USE AIRSPACE

Special use airspace is defined as airspace where activities must be confined because of their nature or where limitations are imposed on aircraft not taking part in those activities. The designation of special use airspace identifies for other users the areas where military activity may occur, provides for segregation of that activity from other operators, and allows charting to keep airspace users informed.

Victor Airways | For aircraft arriving or departing the regional area using very high frequency omni-directional range (VOR) facilities, a system of Federal Airways, referred to as Victor Airways, has been established. Victor Airways are corridors of airspace eight miles wide, extending upward from 1,200 feet AGL to 18,000 feet MSL, that extend between VOR navigational facilities. Victor Airways near TXK are identified on **Exhibit 1K**. For aircraft enroute to or departing from TXK, there are several Victor Airways available converging on the Texarkana VORTAC, 5.5 nm to the north of the airport.

Military Training Routes | Military Training Routes (MTRs) are designated airspace that has been established for use by high-performance military aircraft to train below 10,000 feet AGL and at speeds of more than 250 knots. There are VR (visual) and IR (instrument) designated MTRs. MTRs with no segment above 1,500 feet AGL are designated with the VR or IR, followed by a four-digit number. MTRs with one or more segments above 1,500 feet AGL are identified by the route type (VR/IR), followed by a three-digit number. The arrows on the route show direction of travel. The closest MTR to TXK is IR-129, which runs north-south approximately 29.5 nm west of the airport.



LEGEND

- Airport with hard-surfaced runways 1,500' to 8,069' in length
- Compass Rose
- Non-Directional Radio Beacon (NDB)
- VORTAC
- Military Operations Area (MOA)
- Class D Airspace
- Class E (sfc) Airspace with floor 700 ft. above surface that laterally abuts 1200 ft. or higher Class E airspace
- Victor Airways
- Military Training Routes
- Wildlife Refuge

NORTH

NOT TO SCALE

Source:
Dallas Fort-Worth and Memphis Sectional Chart, US Department of Commerce, National Oceanic and Atmospheric Administration, September 08, 2022

Military Operations Area | Military Operations Areas (MOAs) are areas of airspace where military activities are conducted. The nearest MOA to TXK is "Annie High/Low," its western border located over the Red River, approximately 14.6 nm to the east. The Annie High/Low MOA is controlled by the Fort Worth ARTCC. The MOA is separated (high and low), with Annie Low defined as the airspace 100 feet AGL up to but not including 7,000 feet MSL; Annie High is defined by the airspace from 7,000 feet MSL up to but not including 18,000 feet MSL. It is operated from sunrise to sunset, Monday through Friday, and at other times as issued by a notice to air mission (NOTAM).

Terminal Radar Service Area | A Terminal Radar Service Area (TRSA) is defined as non-regulated airspace that surrounds select busy Class D airports where ATC provides traffic separation with the use of a radar. The purpose of a TRSA is to provide VFR aircraft with additional, yet voluntary, benefits such as vectoring, sequencing, and separation. Though typically busier than other Class D airports, these airports are not busy enough to be classified as Class C or Class B airports. The closest TRSA to TXK is the Longview TRSA, which surrounds East Texas Regional Airport (GGG), approximately 74 nm to the southwest.

AIRSPACE CONTROL

A system of facilities provides services to aircraft operating at airports and within the NAS. These include arrival and departure clearance, flight plan filings, aircraft separation, navigational instructions, weather information, and more. The most common of these is the airport traffic control tower (ATCT), which provides immediate control within the boundaries of an airport and its associated airspace, while ARTCCs and FSSs cover wider expanses of the NAS. The control facilities applicable to TXK are discussed below.

Airport Traffic Control Tower (ATCT)

TXK has an airport traffic control tower (ATCT) that provides separation and clearance instructions to pilots operating at and within the airspace of the airport. The tower is located adjacent to the commercial terminal and has a top elevation of 455 feet MSL. The tower operates from 6:00 a.m. to 10:00 p.m. seven days per week. When the tower is closed, the airport is uncontrolled, and pilots announce their relative position and intentions within the airspace or when on the ground via the airport's CTAF. Aircraft looking for IFR flight clearances must contact Fort Worth Center when the tower is closed.

ATCT at TXK

Air Route Traffic Control Center (ARTCC)

The FAA has established 22 Air Route Traffic Control Centers (ARTCCs) throughout the continental U.S., Alaska, and Hawaii to control aircraft operating under IFR flight plans within controlled airspace and while enroute. An ARTCC assigns specific routes and altitudes along Federal Airways to maintain separation and orderly traffic flow. The Fort Worth ARTCC controls IFR traffic enroute to and from TXK.

Flight Service Station (FSS)

A Flight Service Station (FSS) is an air traffic facility which provides pilot briefings, flight plan processing, inflight radio communications, search and rescue services, and assistance to lost aircraft or aircraft in emergency situations. An FSS can also relay air traffic control clearances, process NOTAMs, broadcast aviation meteorological and aeronautical information, and notify Customs and Border Protection of transborder flights. The Jonesboro FSS provides these services to TXK.

NAVIGATIONAL AIDS

Navigational aids are electronic devices that transmit radio frequencies that pilots of properly equipped aircraft can translate into point-to-point guidance and position information. The types of electronic navigational aids available for aircraft flying to or from the airport include very high frequency omni-directional range (VOR), non-directional beacon (NDB), and the global positioning system (GPS).

A VOR provides azimuth readings to pilots of properly equipped aircraft by transmitting radio signals at every degree to provide 360 individual navigation courses. Frequently, distance measuring equipment (DME) is combined with a VOR facility (VOR-DME) to provide distance, as well as directional information. Military tactical air navigation aids (TACANs) and civil VORs are commonly combined to form a VORTAC. The VORTAC provides distance and direction information to both civil and military pilots. The Texarkana VORTAC is the closest navigational aid to TXK, located 5.5 nautical miles to the northwest of the airport.

An NDB is a low- or medium-frequency radio beacon that transmits nondirectional signals which a pilot of a properly equipped aircraft can use to determine bearings and “home” on the station. The TECCO NDB is the closest NDB to TXK, located just six nm to the northeast of the airport.

GPS was initially developed by the U.S. Department of Defense for military navigation around the world. However, GPS is now used extensively for a wide variety of civilian uses, including civil air navigation. GPS uses satellites placed in orbit to transmit electronic signals, which pilots of properly equipped aircraft use to determine altitude, speed, and navigational information. With GPS, pilots can directly navigate to any airport in the country and are not required to navigate to a specific ground-based facility, such as a VOR or NDB. This provides more freedom in flight planning and allows for more direct routing to a destination. Furthermore, GPS provides enroute navigation and non-precision instrument area navigation (RNAV) approaches to every runway at TXK.

INSTRUMENT APPROACH PROCEDURES

Instrument approach procedures assist pilots in locating and landing at an airport during night and/or poor meteorological conditions. Approaches may be categorized as either precision, approach with vertical guidance (APV), or non-precision. Precision instrument approach procedures provide an exact course alignment and vertical descent path for an aircraft on final approach to a runway with a height above threshold (HATh) lower than 250 feet and visibility lower than ¾-mile. APVs also provide course alignment and vertical guidance but have HAThs of 250 feet or more and visibility minimums of ¾-mile or greater. Non-precision instrument approaches only provide course alignment information with no vertical guidance.

Approach minimums are published for different aircraft categories (aircraft categories are described in detail in Chapter 2) and consist of a minimum altitude and required visibility. According to FAR 91.175, a pilot must be able to make a safe landing (have a stabilized approach), have the runway in sight, and meet the visibility requirement. There are no cloud ceiling requirements; the published minimum altitude ("decision height") is the point at which the pilot must meet all three criteria for landing, otherwise they cannot land using the published instrument approach and must execute a "missed approach" and try again.

TABLE 1H | Instrument Approach Procedures

	AIRCRAFT CATEGORY			
Runway/Approach	**A**	**B**	**C**	**D**
Runway 4				
LOC BC	880 – 1		880 – 1½	880 – 1¾
RNAV (GPS)	613 – 1			
Runway 22				
ILS/LOC	584 – ½			
RNAV (GPS)	634 – ½			
Runway 13				
VOR	760 – 1			760 – 1¼
RNAV (GPS)	647 – 1			
Runway 31				
RNAV (GPS)	645 – 1			

ILS/LOC: Instrument Landing System/Localizer
LOC BC: Localizer Back Course
RNAV (GPS): Area Navigation (Global Positioning System)
VOR: Very high frequency omni-directional range
(# – #): Decision height (ft. MSL) – Visibility minimum (mi.)

Source: airnav.com

There are currently seven published instrument approach procedures at TXK which are shown on **Table 1H** above, along with their respective visibility minimums and decision heights relative to aircraft category. Aircraft categories will be discussed in detail in the next chapter, while visibility minimums will become a factor during the facility requirements and alternatives analyses later in the master plan process.

RUNWAY USE AND TRAFFIC PATTERNS

The traffic pattern at the airport is maintained to provide the safest and most efficient use of the airspace. At TXK, each runway uses the standard left-hand traffic pattern, which means aircraft make left turns when in the pattern for landing. The established pattern altitude at TXK is 1,590 feet MSL.

The airport does not have aircraft restrictions, curfews, or a mandatory noise abatement program, as these programs would violate the *Airport Noise and Capacity Act of 1990* (ANCA). Federal law requires the airport to remain open 24 hours a day, 7 days a week, and to accept all civilian and military aircraft that can be safely accommodated.

REGIONAL AVIATION FACILITIES

A review of other public-use airports with at least one paved runway within a 30-nautical mile radius of TXK was conducted to identify and distinguish the types of air services provided in the region. It is important to consider the capabilities and limitations of these airports when planning for future changes or improvements to TXK. Only two public-use facilities with a paved runway are within 30 nm of TXK: Hope Municipal Airport (M18), located 23.0 nm northeast of TXK, and Hall-Miller Municipal Airport, TX (ATA), located 23.4 nm southwest of TXK. **Table 1J** provides basic information on these airports, along with data on TXK. The location of these airports is identified in **Figure 1B**.

TABLE 1J | Local Airports

	Texarkana Regional (TXK)	Hope Municipal (M18)	Hall-Miller Municipal (ATA)
FAA Service Level	Primary CS – Nonhub	Basic GA	Local GA
Arkansas Service Level	5	3	N/A
Towered	Yes	No	No
Annual Operations (2021)	33,478	8,000	20,000
Based Aircraft (2021)	53	15	17
Longest Runway	6,601’	5,501’	3,800’
Instrument Approaches	ILS, LOC, RNAV(GPS), VOR	RNAV(GPS), VOR	NDB, RNAV(GPS)
Lowest Approach Minimum	½-mile	1-mile	1-mile

CS: Commercial Service
GA: General Aviation
ILS: Instrument Landing System
LOC: Localizer
NDB: Non-Directional Beacon
RNAV(GPS): Area Navigation (Global Positioning System)

Sources: FAA NPIAS, Arkansas Statewide Airport System Plan; FAA ADIP; FAA TAF; airnav.com

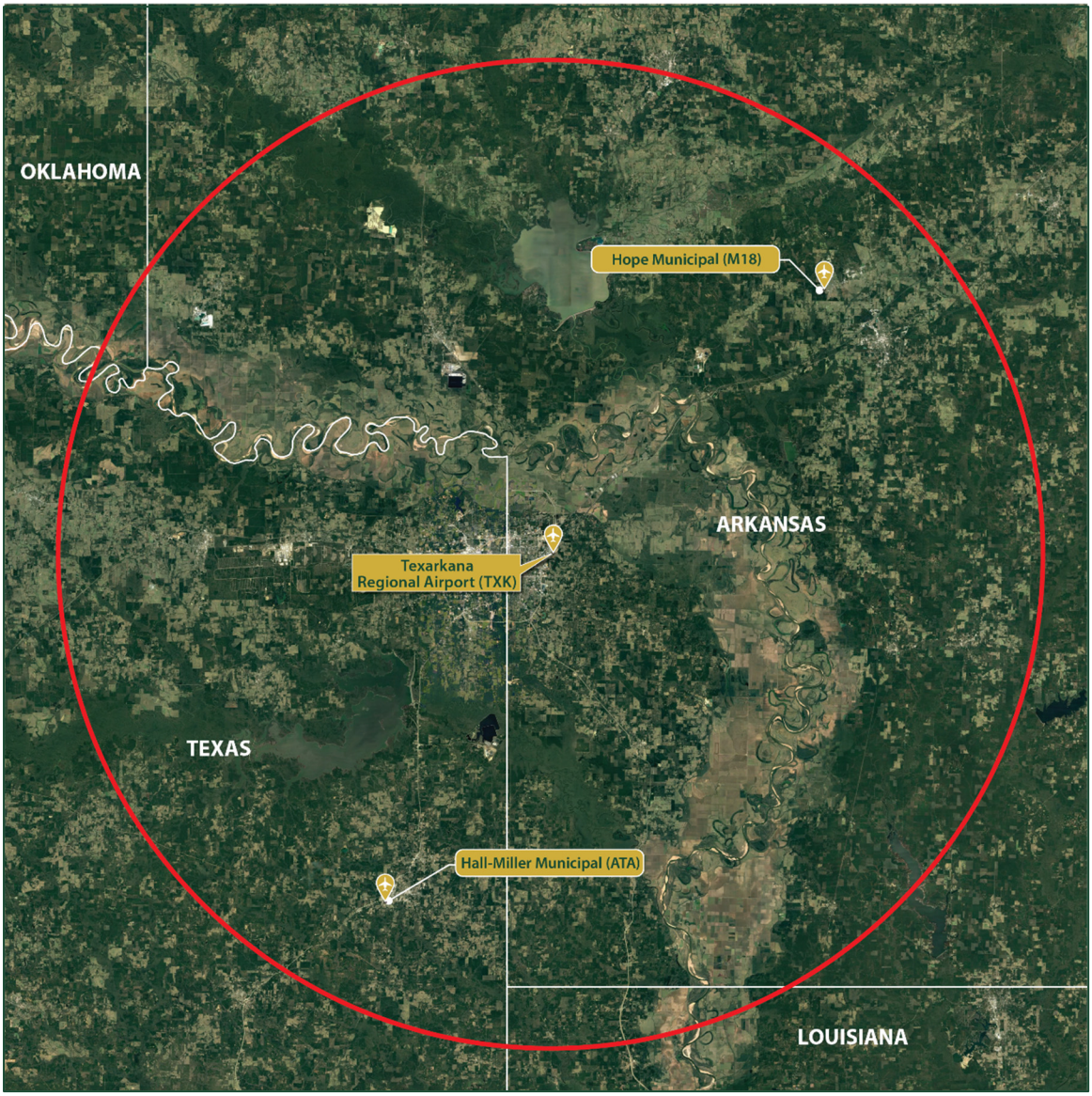


Figure 1B: Local Airports

ENVIRONMENTAL INVENTORY

The purpose of the following environmental inventory is to identify potential environmental sensitivities that should be considered when planning future improvements at the airport. Research was performed for each of the 14 environmental impact categories described within the FAA's Order 1050.1F *Environmental Impacts: Policies and Procedures*.

- Air Quality
- Biological Resources (including fish, wildlife, and plants)
- Climate
- Coastal Resources
- *Department of Transportation Act*, Section 4(f)
- Farmlands
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Noise and Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
- Visual Effects (including light emissions)
- Water Resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers)

AIR QUALITY

The concentration of various pollutants in the atmosphere describes the local air quality. The significance of a pollutant's concentration is determined by comparing it to the state and federal air quality standards. In 1971, the U.S. Environmental Protection Agency (EPA) established standards that specify the maximum permissible short- and long-term concentrations of various air contaminants. The National Ambient Air Quality Standards (NAAQS) consist of primary and secondary standards for criteria pollutants: ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead (Pb).

Based on federal air quality standards, a specific geographic area can be classified as an "attainment," "maintenance," or "nonattainment" area for each pollutant. The threshold for nonattainment designation varies by pollutant.

The airport is in Miller County, Arkansas, three miles northwest of the City of Texarkana, Arkansas and six miles south of the Village of Lake Delton, Arkansas. The portion of Miller County that contains the airport is in attainment for all federal criteria pollutants.[1]

[1] 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)

BIOLOGICAL RESOURCES

Biotic resources include the various types of plants and animals that are present in an area. The term also applies to rivers, lakes, wetlands, forests, and other habitat types that support plants and animals.

The U.S. Fish and Wildlife Service (USFWS) is charged with overseeing the requirements contained within Section 7 of the *Endangered Species Act* (ESA). The ESA provides a framework to conserve and protect animal or plant species whose populations are threatened by human activities. The FAA and USFWS review projects to determine if a significant impact to protected species will result in the implementation of a proposed project. Significant impacts occur when a proposed action could jeopardize the continued existence of a protected species or would result in the destruction or adverse modification of federally designated critical habitat in the area. The USFWS's Information for Planning and Consultation (IPaC) resource list describes species and habitat protected under ESA within the vicinity of the airport (**Table 1K**). Section 3 of the ESA is used to protect critical habitat areas. Designated critical habitat areas are geographically defined and have been determined to be essential to the recovery of a specific species. There is no federally designated critical habitat at the airport.

There is potential for avian concerns for areas at the airport listed in the IPaC. Habitat for migratory birds may occur if bushes or other ground nesting substrate is present.

Increasing concentrations of greenhouse gases (GHG) can affect global climate by trapping heat in Earth's atmosphere. Scientific measurements have shown that Earth's climate is warming with concurrent impacts, including warmer air temperatures, rising sea levels, increased storm activity, and greater intensity in precipitation events. Climate change is a global phenomenon that can also have local impacts. GHGs, such as water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and O_3, are both naturally occurring and anthropogenic (man-made). The research has established a direct correlation between fuel combustion and GHG emissions. GHGs from anthropogenic (i.e., human made) sources include CO_2, CH_4, N_2O, hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF6). CO_2 is the most important anthropogenic GHG because it is a long-lived gas that remains in the atmosphere for up to 100 years.

The U.S. EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2020* shows total transportation emissions, including aviation, decreased largely due to coronavirus (COVID-19), and the combined impacts of long-term trends in population, economic growth, energy markets, technological changes, and changes in energy efficiency. The inventory included aviation as a part of the 13.3 percent decrease in transportation sector GHG emissions leading up to 2020.[2]

Information regarding the climate for the airport and surrounding environments, including wind, temperature, and precipitation, are found earlier in this Airport Master Plan.

[2] Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020 (https://www.epa.gov/system/files/documents/2022-04/us-ghg-inventory-2022-main-text.pdf)

TABLE 1K | Species Protected Under ESA Section 7 with Potential to Occur at the Airport

Common Name (*Scientific Name*)	Federal Status	Habitat and Range	Potential for Occurrence
Mammals			
Indiana bat (m*yotis sodalis*)	Endangered	From late fall through winter, Indiana bats hibernate in caves. During the spring and summer, the bats utilize living, injured (e.g., split trunks and broken limbs from lightning strikes or wind), dead, or dying trees for roosting throughout the state.	Potential. Foraging or nesting habitat (such as trees) may be present at the airport. Additional habitat surveys may be necessary to determine the presence of this species.
Northern long-eared bat (*myotis septentrionalis*)	Endangered	Spend winter hibernating in caves and mines. During spring and summer northern long-eared bats roost underneath bark and in crevices of trees and snags.	Potential. Roosting habitat (such as trees) may be present at the airport. Additional habitat surveys may be necessary to determine the presence of this species.
Birds			
Eastern black rail (*laterallus jamaicensis* ssp. *jamaicensis)*	Threatened	Require dense vegetation that allows for movement underneath a canopy. Can be found year-round near a variety of salt, brackish, and freshwater marsh habitats.	No potential for occurrence. There are no marsh habitats within direct vicinity of the airport.
Piping plover (*charadrius melodus)*	Threatened	Wintering piping plovers inhabit a variety of habitats such as sand spits, small islands, tidal flats, shoals, and sandbars with inlets. During the spring and summer piping plovers can inhabit seasonally emergent seagrass beds, unvegetated shorelines of alkaline lakes, reservoirs, or river sandbars.	No potential for occurrence. There are no marsh habitats within direct vicinity of the airport.
Red knot (*calidris canutus rufa*)	Threatened	Spend winter in habitats that include both high-energy ocean or bay-front areas, as well as tidal flats in more sheltered bays and lagoons.	No potential for occurrence. There are no marsh habitats within direct vicinity of the airport.
Insects			
Monarch butterfly (d*anaus plexippus*)	Candidate	During the winter months, monarchs inhabit places with dense vegetation, roosting in crevices of trees and snags. Monarchs breed on all types of milkweed.	Potential. Roosting habitat (such as trees) may be present at the airport. Additional habitat surveys may be necessary to determine the presence of this species or its habitat.

Source: USFWS IPaC (https://ipac.ecosphere.fws.gov/)

CLIMATE

Currently, the State of Arkansas has a Climate Action document recognized by the U.S. Center for Climate and Energy Solutions. In 2008, Arkansas released its Final Report of the Arkansas Governor's Commission on Global Warming. The report recommends reducing state GHG emissions 50 percent below 2000 levels by 2035 and incorporates 54 policies to meet this goal. Key aspects of the plan include improving building codes, developing and expanding biofuels, and managing forests sustainably.[3]

[3] U.S. State Climate Action Plans — Center for Climate and Energy Solutions (https://www.c2es.org/document/climate-action-plans/)

COASTAL RESOURCES

Federal activities involving or affecting coastal resources are governed by the *Coastal Barriers Resource Act*, the *Coastal Zone Management Act*, and Executive Order (E.O.) 13089, *Coral Reef Protection*.

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.[4]

DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(f)

Section 4(f) of the *Department of Transportation Act,* which was recodified and renumbered as Section 303(c) of 49 United States Code, provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly or privately owned historic sites, public parks or recreation areas, or waterfowl and wildlife refuges of national, state, regional, or local importance unless there is no feasible and prudent alternative to the use of such land, and the project includes all possible planning to minimize harm resulting from the use.[5]

Table 1L and **Exhibit 1L** identify potential Section 4(f) resources within one mile of the airport. School playgrounds or athletic fields may be considered a Section 4(f) resource if the recreational facilities at the school are readily available to the public.

TABLE 1L | U.S. Dept. of Transportation Section 4(f) Resources within One Mile of the Vicinity of the Airport

Place	Location	Distance from Airport (miles)	Direction from Airport
Public Recreational Facilities			
Bobby F. Ferguson Park	3400 U of A Way	0.9	Northwest
Iron Mountain Park	1500 Ray Street	0.7	Southwest
Public Schools			
North Heights Junior High School	2118 E 35th Street	1.0	West
University of Arkansas – Texarkana	3501 U of A Way	0.9	Northwest
National Register of Historic Places (NRHP)-listed Resources			
Confederate Section Old Rondo Cemetery	1612 Smith Road	0.6	East
US Highway 67, Old Mandeville Rd	AR 296, Miller County Road 138 and Southeast of current US 67	0.1	North

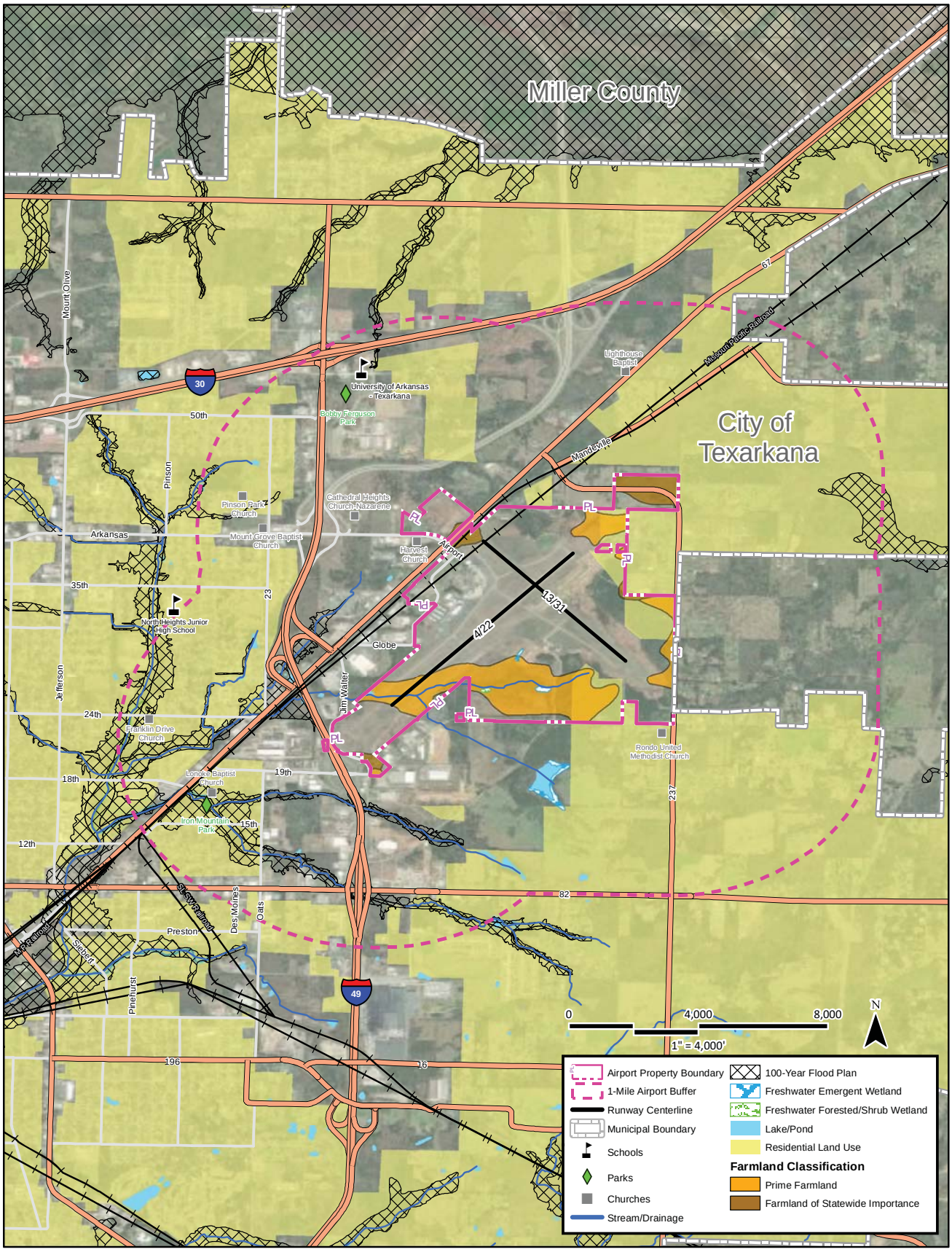
Sources: Google Earth Aerial Imagery (2022); U.S. Department of the Interior, National Park Service, National Register of Historic Places (https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466)

There are no waterfowl and wildlife refuges within one mile of the airport. The nearest wilderness and national recreation areas are listed below:

- Nearest Wilderness Area: Caney Creek Wilderness (62 miles from airport)
- Nearest National Recreation Area: Chickasaw National Recreation Area (183 miles from airport)

[4] Google Earth Aerial Imagery (December 2022)

[5] **49 U.S. Code** § **303** - Policy on lands, wildlife and waterfowl refuges, and historic sites



Source: ESRI Basemap Imagery (2022), FEMA, USDA, USGS, City of Texarkana Arkansas

FARMLANDS

Under the *Farmland Protection Policy Act* (FPPA), federal agencies are directed to identify and consider the adverse effects of federal programs on the preservation of farmland, to consider appropriate alternative actions which could lessen adverse effects, and to assure that such federal programs are, to the extent practicable, compatible with state or local government programs and policies to protect farmland. The FPPA guidelines, developed by the U.S. Department of Agriculture (USDA), apply to farmland classified as prime, unique, or of state or local importance as determined by the appropriate government agency, with concurrence by the Secretary of Agriculture.

The U.S. Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey shows the types of soils and their farmland classification on and adjacent to the airport. Most of the airport is classified as UahC – Urban Land Complex – which is classified as "Not prime farmland" (**Exhibit 1L**). However, a small portion of the soils in the airport's northern, northeastern, southern, and eastern corners are classified as "All areas are prime farmland." In addition to this, a small portion of the northern and western area of the airport are classified as "Farmland of statewide importance." **Table 1M** describes the farmland classification based on the soil inhabiting the airport's boundaries.

It should be noted that the FPPA does not typically apply to areas within designated urban areas. Based on the 2010 – Urbanized Area Reference Map for Texarkana, Arkansas, the airport is within the urbanized area.[6]

TABLE 1M | Farmland Classification – Summary by Map Unit Lafayette, Little River, and Miller Counties, Arkansas (AR670)

Web Soil Survey Symbol	Soil Type	Farmland Rating
18	Eylau fine sandy foam, 3 to 5 percent slopes	Farmland of statewide importance
20	Eylau-Urban land complex, 3 to 5 percent slopes	Not prime farmland
30	Harleston fine sandy loam, 1 to 3 percent slopes	All areas are prime farmland
58	Sacul fine sandy loam, 1 to 3 percent slopes	All areas are prime farmland
59	Sacul fine sandy loam, 3 to 8 percent slopes	Not prime farmland
63	Sacul-Urban land complex, 3 to 8 percent slopes	Not prime farmland
69	Sawyer silt loam, 1 to 3 percent slopes	All areas are prime farmland
70	Sawyer silt loam, 3 to 8 percent slopes	Farmland of statewide importance
86	Water	Not prime farmland

Source: USDS Web Soil Survey (https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx)

HAZARDOUS MATERIALS, SOLID WASTE AND POLLUTION PREVENTION

Federal, state, and local laws regulate hazardous materials use, storage, transport, and disposal. These laws may extend to past and future landowners of properties containing these materials. In addition, disrupting sites containing hazardous materials or contaminants may cause significant impacts to soil, surface water, groundwater, air quality, and the organisms using these resources. According to the U.S. EPA's *EJSCREEN* online tool, there are no Superfund or brownfields sites within one mile of the airport.

[6] 2010 Census – Urbanized Area Reference Map (https://www2.census.gov/geo/maps/dc10map/UAUC_RefMap/ua/ua87193_texarkana--texarkana_tx--ar/DC10UA87193_001.pdf)

There are numerous recycling centers within Texarkana, AR. The closest recycling center is a metal scrap yard, Tri-State Iron & Metal, located three miles from the airport.

National Pollutant Discharge Elimination System (NPDES) permits outline the regulatory requirements of municipal storm water management programs and establish requirements to help protect the beneficial uses of the receiving waters. They require permittees to develop and implement Best Management Practices (BMPs) to control/reduce the discharge of pollutants to waters of the United States to the maximum extent practicable (MEP). In Arkansas, NPDES permits are required for all facilities that release treated waste into bodies of water (creeks, streams, rivers, or lakes) in the state. The NPDES program manages wastewater, construction, stormwater, and pretreatment.[7] In addition to this, the airport has a Stormwater Pollution Prevention Team (SWPPP). It is the primary responsibility of this team to develop, implement, maintain, and revise the airport's storm water pollution prevention plan.[8] Based off airport activities, potential pollutants that may be present in storm water discharges from the airport site consist primarily of petroleum products such as fuels, oils, and gases.

HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Determination of a project's environmental impact to historic and cultural resources is made under guidance in the *National Historic Preservation Act* (NHPA) *of 1966*, as amended, the *Archaeological and Historic Preservation Act* (AHPA) *of 1974*, the *Archaeological Resources Protection Act* (ARPA), and the *Native American Graves Protection and Repatriation Act* (NAGPRA) *of 1990*. In addition, the *Antiquities Act of 1906*, the *Historic Sites Act of 1935*, and the *American Indian Religious Freedom Act of 1978* also protect historical, architectural, archaeological, and cultural resources. Impacts may occur when a proposed project causes an adverse effect on a resource which has been identified (or is unearthed during construction) as having historical, architectural, archaeological, or cultural significance.

The Arkansas Historic Preservation Program (AHPP) was created by the Arkansas General Assembly in 1969. The mission of the AHPP is to fulfill the goals outlined by the NHPA through the identification, preservation, and protection of the cultural resources within the State of Arkansas. The AHPP is required to review their work in accordance with the NHPA's goals every five-year period. Currently, the AHPP is in the process of reviewing the old Arkansas Historic Preservation Program Plan to update/replace it with the new plan that will remain in place from 2023-2028. In this plan the AHPP analyzes the current context for preservation of historic sites in the state, as well as any economic and social opportunities that may aid in practicing preservation in Arkansas.[9]

LAND USE

Land use regulations near airports are achieved through local government codes, city policies, and plans that include airport districts and planning areas. Regulations are used to avoid land use compatibility conflict around airports.

[7] U.S. EPA (Arkansas NPDES Permits) (https://www.epa.gov/npdes-permits/arkansas-npdes-permits)
[8] SWPP for TXK – (July 2014)
[9] State Historic Preservation Plan (https://www.arkansasheritage.com/arkansas-preservation/about/state-historic-preservation-plan)

According to the City of Texarkana's Zoning Map, the airport is primarily zoned M-1 (light industrial) with some R-1 (low density single family residential) along the eastern boundary, as shown on **Exhibit 1M**. West of TXK lie U.S. Highway 67 and Interstate 49 which acts as a boundary between the airport and nearby residential neighborhoods. East of TXK lies Arkansas Highway 237 which can be utilized as an access point for the airport. Most of the urbanization occurs west of the airport where residential neighborhoods, commercial buildings, and public recreational facilities are located.

The airport is primarily located within Ward 3 of the city, with a small piece of airport property located in Ward 6 on the northwest portion of the airport.

The City of Texarkana, Arkansas, is in the process of updating its comprehensive plan. As a result, there is limited information currently available on the city's planning and development.[10]

NATURAL RESOURCES AND ENERGY SUPPLY

Natural resources and energy supply provide an evaluation of a project's consumption of natural resources. It is the policy of FAA Order 1053.1C, *Energy and Water Management Program for FAA Buildings and Facilities*, to encourage the development of facilities that exemplify the highest standards of design, including principles of sustainability.

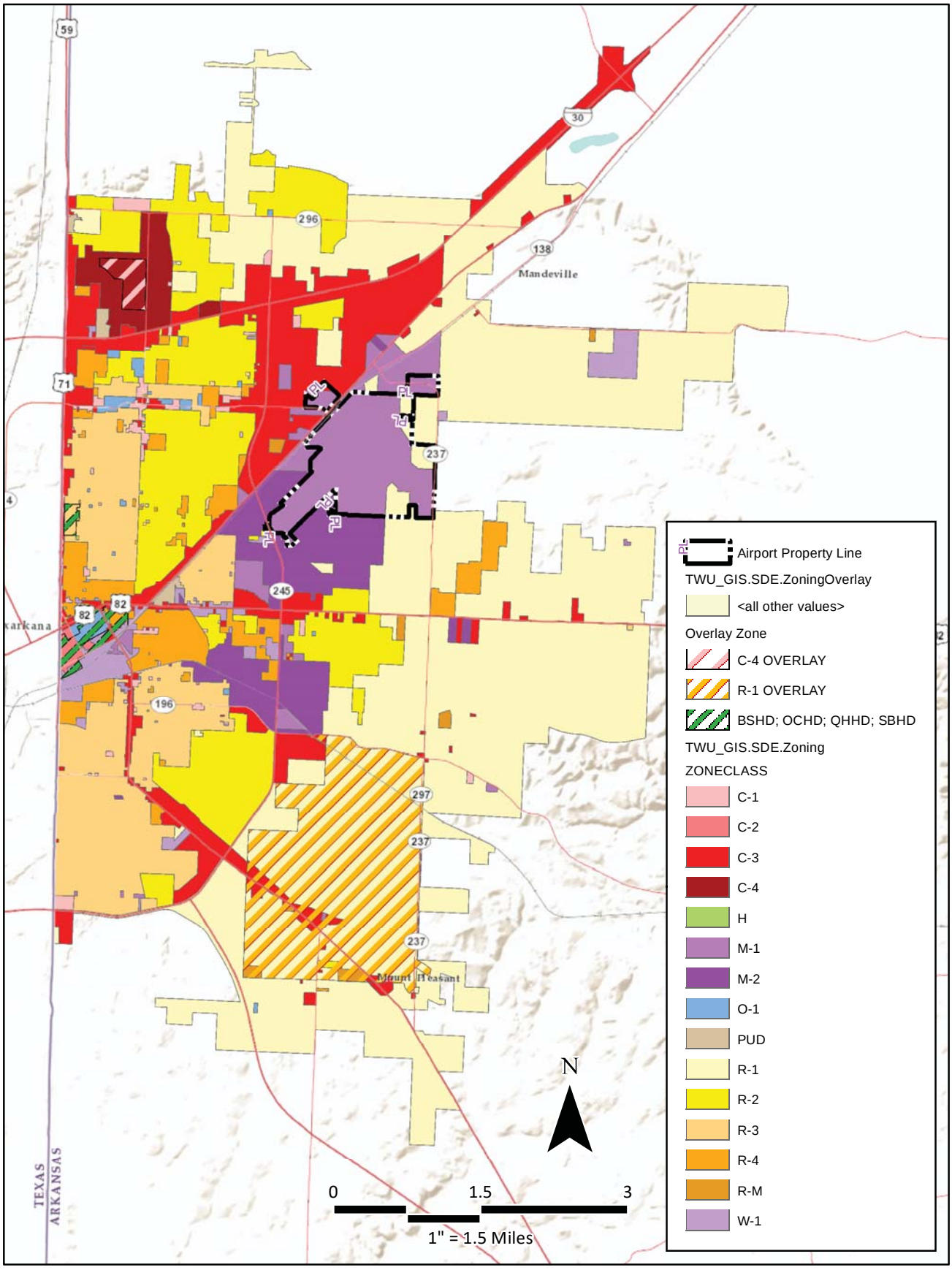
Arkansas Department of Energy and Environment (E&E) is Arkansas's regulatory body for environmental protection. It consists of four primary offices - Office of Energy, Office of Land Resources, Office of Water Quality, and Office of Air Quality.[11]

NOISE AND NOISE COMPATIBLE LAND USE

Federal land use compatibility guidelines are established under 14 Code of Federal Regulations (CFR) Part 150, *Airport Noise Compatibility Planning*. According to 14 CFR Part 150, residential land and schools are noise-sensitive land uses that are not considered compatible with a 65 decibel (dB) Day-Night Average Sound Level (Ldn or DNL).[12] Other noise-sensitive land uses (such as religious facilities, hospitals, or nursing homes), if located within a 65 dB DNL contour, are generally compatible when an interior noise level reduction of 25 dB is incorporated into the design and construction of the structure. Special consideration should also be given to noise-sensitive areas within Section 4(f) properties where the land use compatibility guidelines in 14 CFR Part 150 do not account for the value, significance, and enjoyment of the area in question.[13]

Table 1N below identifies noise-sensitive land uses within one mile of the airport. These land uses are also shown on **Exhibit 1L**. The closest residential areas are located southwest of the airport boundary to the west of Interstate 49 across Sanderson Lane and East 24th Street, as well as northeast of the airport along N Rondo Road.

[10] City of Texarkana, AR Comprehensive Plan Update (https://texarkanaplan.transportationplanroom.com/)
[11] Arkansas Energy and Environment (Environmental Quality) (https://www.adeq.state.ar.us/home/divisions.aspx)
[12] The DNL accounts for the increased sensitivity to noise at night (10:00 PM to 7:00 AM) and is the metric preferred by FAA, the U.S. EPA, and the U.S. Department of Housing and Urban Development as an appropriate measure of cumulative noise exposure.
[13] 49 U.S. Code § 47141 – Compatible land use planning and projects by state and local governments



Source: Texarkana, AR Zoning

TABLE 1N | Noise-Sensitive Land Uses within One Mile of Airport

Facility	Location	Distance from Airport (Miles)	Direction from Airport
Schools			
North Heights Community School	2118 E 35th Street	1.0	West
University of Arkansas – Texarkana	3501 U of A Way	1.0	Northwest
Places of Worship			
Harvest International Ministries	4000 Arkansas Boulevard #2573	0.4	West
Rondo United Methodist Church	2335 N Rondo Road	0.4	East
Gospel Lighthouse Holiness Church	4006 N Rondo Road	0.5	East
Cathedral Heights Church-Nazarene	4010 Fairground Road	0.6	West
Lighthouse Baptist Fellowship	5421 E Broad Street	1.0	North
Mount Grove Baptist Church	2801 Arkansas Boulevard	1.0	West
Lonoke Baptist Church	1841 Lonoke Ave	1.0	South

Source: Google Earth Aerial Imagery (2022); Coffman Associates analysis

SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Socioeconomics | *Socioeconomics* is an umbrella term used to describe aspects of a project that are either social or economic in nature. A socioeconomic analysis evaluates how elements of the human environment such as population, employment, housing, and public services might be affected by the proposed action and alternative(s).

FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* specifically requires that a federal action causing disproportionate impacts to an environmental justice population (i.e., a low-income or minority population) be considered, as well as an evaluation of environmental health and safety risks to children. The FAA has identified factors to consider when evaluating the context and intensity of potential environmental impacts.

Would the proposed action?

- Induce substantial economic growth in an area, either directly or indirectly;
- Disrupt or divide the physical arrangement of an established community;
- Cause extensive relocation when sufficient replacement housing is unavailable;
- Cause extensive relocation of community business what would cause severe economic hardship for affected communities;
- Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities; or
- Produce a substantial change in the community tax base.

Environmental Justice | *Environmental justice* is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies.

Meaningful Involvement ensures that:

- People have an opportunity to participate in decisions about activities that may affect their environment and/or health;
- The public's contribution can influence the regulatory agency's decision;
- Their concerns will be considered in the decision-making process; and
- The decision-makers seek out and facilitate the involvement of those potentially affected.[14]

The closest residential areas are located southwest of the airport boundary to the west of Interstate 49 across Sanderson Lane and East 24th Street. According to the 5-Year 2016-2020 American Community Survey (ACS) estimates, the population within one mile of the airport is 5,776 persons, of which 48 percent of the population is considered low-income and 48 percent are people of color. Indicated in **Table 1P**, approximately two percent of the population has identified as Hispanic or Latino.

TABLE 1P | Population Characteristics Within One Mile of the Airport

Characteristic	
Total Population	5,776
Population by Race[1]	
White	52%
Black	45%
American Indian	1%
Asian	0%
Pacific Islander	0%
Some Other Race	1%
Population Reporting Two or More Races	1%
Total Hispanic population **(of any race)**	2%

[1]Percentages do not add up to 100. Hispanic or Latino is treated by the U.S. Census as a question separate from Race.

Source: U.S. EPA EJSCREEN ACS Summary Report (5-Year 2016-2022) (https://ejscreen.epa.gov/mapper/)

Children's Environmental Health and Safety | Federal agencies are directed, per E.O. 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, to make it a high priority to identify and assess the environmental health and safety risks that may disproportionately impact children. Such risks include those that are attributable to products or substances that a child is likely to encounter or ingest (air, food, water – including drinking water) or to which they may be exposed.

According to the 2016-2020 ACS estimates, 25 percent of the population within one mile of the airport are age 17 or under, which equates to 1,418 people. See **Tables 1L** and **1N** for lists of schools and recreational facilities that are used by children within one mile of the airport.

VISUAL EFFECTS

Visual effects deal broadly with the extent to which a proposed action or alternative(s) would either (1) produce light emissions that create an annoyance or interfere with activities; or (2) contrast with, or detract from, the visual resources and/or the visual character of the existing environment. Each jurisdiction will typically address outdoor lighting, scenic vistas, and scenic corridors in zoning ordinances and their general plan.

[14] U.S. EPA website - Environmental Justice (https://www.epa.gov/environmentaljustice)

Light Emissions | *Light Emissions.* These impacts typically relate to the extent to which any light or glare results from a source that could create an annoyance for people or would interfere with normal activities. Generally, local jurisdictions will include ordinances in the local code addressing outdoor illumination to reduce the impact of light on surrounding properties.

Airfield lighting at the airport include high-intensity runway lighting (HIRL) at Runway 4-22, medium-intensity runway lighting (MIRL) (white) to illuminate the runway edges at night and/or during poor meteorological conditions at Runway 13-31, a rotating beacon, taxiway medium-intensity lighting (MITL), PAPIs at both ends of Runways 4-22 and REILs at both ends of Runway 4-22. The airfield lights utilize pilot-controlled lighting (PCL), and thus, the airfield lights are only lit when activated by pilots using the airport. For further information, see the *"Airfield Lighting"* section earlier in the inventory.

Visual Character and Visual Resources | *Visual character* refers to the overall visual makeup of the existing environment where a proposed action or its alternative(s) would be located. For example, areas near densely populated areas generally have a visual character that could be defined as urban, whereas less developed areas could have a visual character defined by the surrounding landscape features, such as open grass fields, forests, mountains, deserts, etc.

Visual resources include buildings, sites, traditional cultural properties, and other natural or manmade landscape features that are visually important or have unique characteristics. Visual resources may include structures or objects that obscure or block other landscape features. In addition, visual resources can include the cohesive collection of various individual visual resources that can be viewed at once or in concert from the area surrounding the site of the proposed action or alternative(s).

Although the airport environment is within an urban area, visually it is characterized not only by buildings and streets, but by both trees and vegetated open areas. Views of portions of the airport are not accessible from surrounding roadways due to the heavy vegetated areas obstructing the skyline. In addition to this, long-range views are not readily available due to the relatively flat topography of the airport environs. Along the western portion of the Interstate 49 which bounds the western portion of the airport boundary, there are multiple residential communities and commercial land uses. Near the eastern portion of the airport boundary, are more residential communities though these communities are more spread out compared to the dense residential areas to the west of the airport.

The State of Arkansas participates in the Scenic Byways Programs. The Arkansas Scenic Byways Program was created in 1991 after Congress had passed the *Intermodal Surface Transportation Efficiency Act*. The Arkansas Highway Commission oversees classifying routes in Arkansas which can be designated as Arkansas Scenic Byways.[15]

Currently, the State of Arkansas has 12 routes that are classified as scenic byways. Of the 12 routes, three are considered National Scenic Byways.[16] However, there are no routes within Miller County, and therefore, no federal or national scenic byways near the airport. The airport is in an urbanized area.

[15] *Arkansas Department of Transportation* (*Scenic Byways*) (https://www.ardot.gov/divisions/right-of-way/row_sections/beautification-section/scenic-byways/)
[16] U.S. Department of Transportation Federal Highway Administration (https://fhwaapps.fhwa.dot.gov/bywaysp/States/Show/AR)

WATER RESOURCES

Wetlands | The U.S. Army Corps of Engineers regulates the discharge of dredged and/or fill material into waters of the United States, including adjacent wetlands, under Section 404 of the *Clean Water Act* (CWA). Wetlands are defined in E.O. 11990, *Protection of Wetlands*, as "those areas that are inundated by surface or groundwater with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction." Wetlands can include swamps, marshes, bogs, sloughs, potholes, wet meadows, river overflows, mudflats, natural ponds, estuarine areas, tidal overflows, and shallow lakes and ponds with emergent vegetation. Wetlands exhibit three characteristics: the soil is inundated or saturated to the surface at some time during the growing season (hydrology), has a population of plants able to tolerate various degrees of flooding or frequent saturation (hydrophytes), and soils that are saturated enough to develop anaerobic (absent of air or oxygen) conditions during the growing season (hydric).

USFWS manages the National Wetlands Inventory on behalf of all federal agencies. The National Wetlands Inventory identifies surface waters and wetlands in the nation. Within airport boundaries, there is a small freshwater emergent wetland mapped on the eastern portion of the airport. Additionally, there are multiple small freshwater ponds mapped in the northwestern, southwestern, and southeastern portions of the airport boundaries outside of the developed airfield.[17]

Floodplains | E.O. 11988, *Floodplain Management*, directs federal agencies to take action to reduce the risk of flood loss, minimize the impact of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial values served by the floodplains. A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) panel number 05091C0150D effective December 18th, 2009, indicates that the airport is in Zone X, an area of minimal flood hazard.[18]

Surface Waters | The CWA establishes water quality standards, controls discharge, develops waste treatment management plans and practices, prevents or minimizes the loss of wetlands, and regulates other issues concerning water quality. Water quality concerns related to airport development most often relate to the potential for surface runoff and soil erosion, as well as the storage and handling of fuel, petroleum products, solvents, etc. Additionally, Congress has mandated (under the CWA) the NPDES. TXK is in the Clear Creek-McKinney Bayou and Mill Creek-McKinney Bayou watersheds. Impaired waters along the west and southwest forks of the Clear Creek-McKinney Bayou watersheds are impaired under Section 303 of the CWA. There are also impaired waters along the northern portion of the Mill Creek-McKinney Bayou.[19] These impaired waters are not near the airport.

Groundwater | Groundwater is subsurface water that occupies the space between sand, clay, and rock formations. The term aquifer is used to describe the geologic layers that store or transmit groundwater, such as wells, springs, and other water sources. Examples of direct impacts to groundwater could include withdrawal of groundwater for operational purposes or reduction of infiltration or recharge area due to new impervious surfaces.[20]

[17] National Wetlands Inventory (https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/)
[18] Federal Emergency Management Agency *Flood Map Service Center* (https://msc.fema.gov/portal/home)
[19] U.S. EPA – How's My Waterway (https://mywaterway.epa.gov/community/Texarkana%20Regional%20Airport/overview)
[20] United States Geological Survey - What is Groundwater? (https://www.usgs.gov/faqs/what-groundwater)

U.S. EPA's Sole Source Aquifer (SSA) Program was established under Section 1424(e) of the *Safe Drinking Water Act* (SDWA). Since 1977, it has been used by communities to help prevent contamination of groundwater from federally funded projects. It has increased public awareness of the vulnerability of groundwater resources. The SSA program is authorized by Section 1424(e) of the SDWA (Public Law 93-523, 42 U.S.C. 300 et. seq), which states:

> "*If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register.*"[21]

According to the U.S. EPA Sole Source Aquifer for Drinking Water website, there are no sole source aquifers located within airport boundaries. The nearest sole source aquifer is the Chicot Aquifer System SSA which is more than 150 miles from the airport. [22]

Wild and Scenic Rivers | The *National Wild and Scenic Rivers Act* was established to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations.

The Nationwide River Inventory (NRI) is a list of over 3,400 rivers or river segments that appear to meet the minimum *Wild and Scenic Rivers Act* eligibility requirements based on their free-flowing status and resource values. The development of the NRI resulted from Section 5(d)(1) in the *Wild and Scenic Rivers Act*, directing federal agencies to consider potential wild and scenic rivers in the comprehensive planning process.

The closest designated National Wild and Scenic River identified is the Cossatot River, located 58 miles from the airport.[23] The nearest National River Inventory feature is Little Missouri River, located 54 miles from the airport.[24]

[21] U.S. EPA - Overview of the Drinking Water Sole Source Aquifer Program (https://www.epa.gov/dwssa/overview-drinking-water-sole-source-aquifer-program#Authority)
[22] U.S. EPA - Interactive Map for Sole Source Aquifers (https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b)
[23] National Wild and Scenic River System in the U.S. (https://nps.maps.arcgis.com/apps/MapJournal/index.html?appid=ba6debd907c7431ea765071e9502d5ac#)
[24] Nationwide Rivers Inventory (https://www.nps.gov/maps/full.html?mapId=8adbe798-0d7e-40fb-bd48-225513d64977)

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