Chapter One

Inventory

The inventory of existing conditions is the initial step in the preparation of the *Denton Enterprise Airport 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 a 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 the baseline for the remainder of the master plan, which is compiled using a wide variety of resources, including: applicable planning documents and financial reports; 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

LOCATION

The City of Denton is the county seat of Denton County, Texas, and is located on the far north end of the Dallas-Fort Worth metroplex area at the intersection of Interstate 35 (I-35) and U.S. Highways 380, 377, and 77. At this location, I-35 splits into I-35E to reach Dallas, Texas, and I-35W to reach Fort Worth, Texas. Both Dallas and Fort Worth are approximately 40 miles southeast and southwest of Denton, respectively. These three cities were commonly known as the "Golden Triangle of North Texas" due to the wealth of the area that resulted from the Spindletop oil boom in 1901 and to the strategic location of the cities, which form the shape of a triangle. Denton's prime location within the Dallas-Fort Worth Metroplex make it a highly desirable place to live and work.

The City of Denton is comprised of approximately 98.8 square miles[1] and lies on the northeast edge of the Bend Arch-Fort Worth Basin, which is characterized by flat terrain. Underneath the city is a portion of the Barnett Shale, which is a geological formation and a rich source of natural gas.

The city is included within the Dallas-Fort Worth-Arlington Metropolitan Statistical Area (MSA) and had an estimated population of 158,349 residents in 2023. In addition, the city contains several major contributors to the state's economy, including industries such as service and manufacturing, retail, automotive, and healthcare. Education also plays a significant role in the local economy, as the city is home to the University of North Texas and Texas Woman's University.

Denton Enterprise Airport (DTO) is located approximately three miles west from the central Denton business district and is situated on 929 acres at an elevation of 642.7 feet above mean sea level (MSL). Access to the airport is provided from the north via Highway 380 and from the east via I-35. The terminal is accessed from Airport Road. **Exhibit 1A** depicts the regional setting.

CLIMATE

Climate and local weather conditions are important considerations in the master planning process, as they can significantly impact an airport's operations. For example, high temperatures and humidity can increase runway length requirements for some aircraft, prevailing winds dictate primary runway orientation, and cloud cover percentages and frequency of inclement weather can determine the need for navigational aids and lighting. Knowledge of these weather conditions during the planning process allows the airport to prepare for any improvements that may be needed on the airfield.

Denton experiences hot summers with an average high temperature of 95.7 degrees Fahrenheit (°F) in July. Winters are generally mild; January is the coldest month, with an average low temperature of 32.2°F. According to the Köppen Climate Classification System, Denton has a humid subtropical climate with no significant precipitation difference between seasons. The area receives an average of 35.60 inches of precipitation each year and May is the rainiest month. **Exhibit 1B** summarizes weather and wind patterns at the airport.

Table 1A indicates that visual meteorological conditions (VMC) occur 89.49 percent of the time. When under VMC, pilots can operate using visual flight rules (VFR) and are responsible for maintaining proper separation from objects and other aircraft. Instrument meteorological conditions (IMC) account for all weather conditions less than VMC that still allow for aircraft to safely operate under instrument flight rules (IFR). Under IFR, pilots rely on instruments in their aircraft to accomplish navigation. IMC occur 7.40 percent of the time. Less than IMC, or poor visibility conditions (PVC), are present 3.11 percent of the time. Under PVC, the airport is only accessible by utilizing published precision instrument approach procedures.

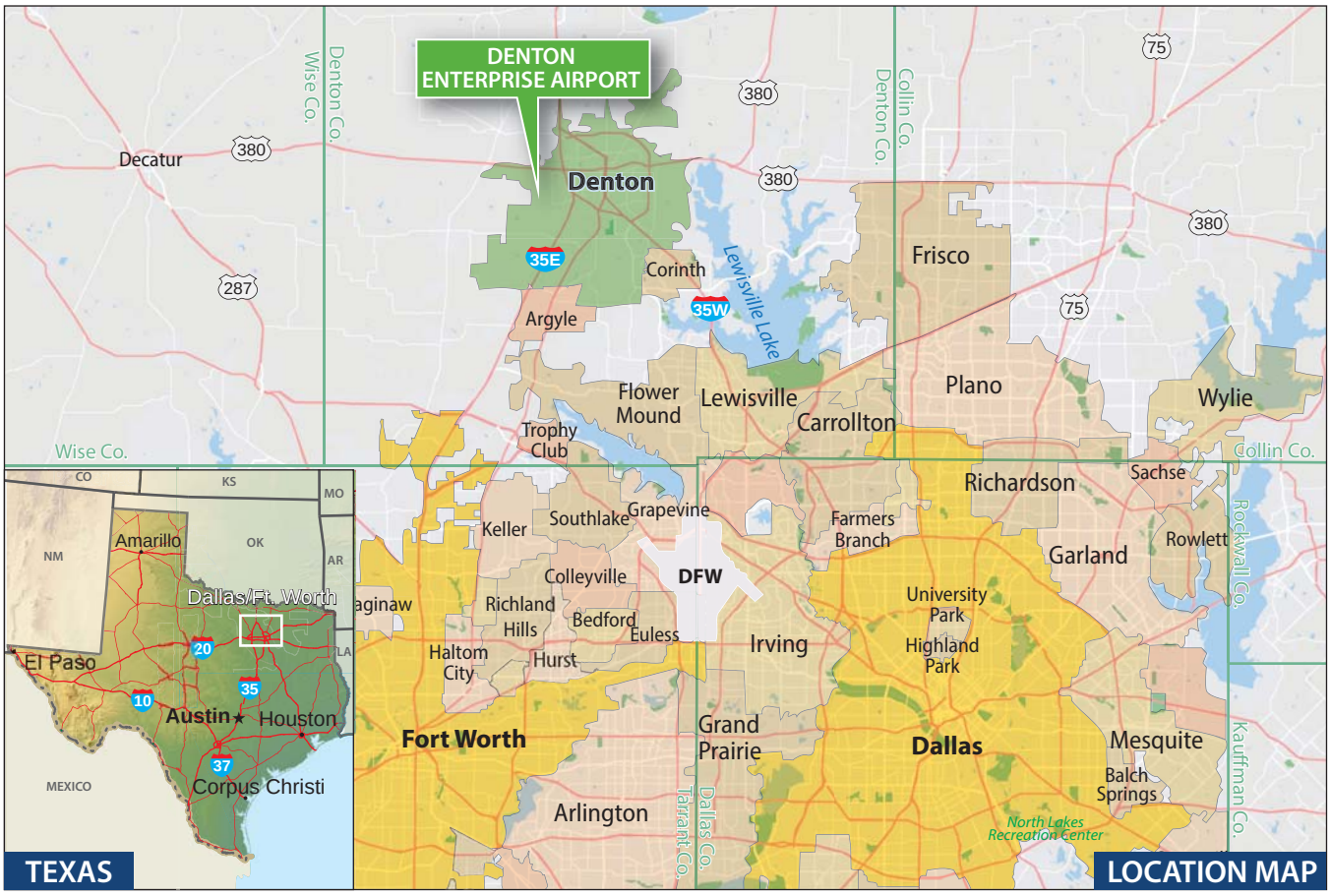
TABLE 1A | Weather Conditions

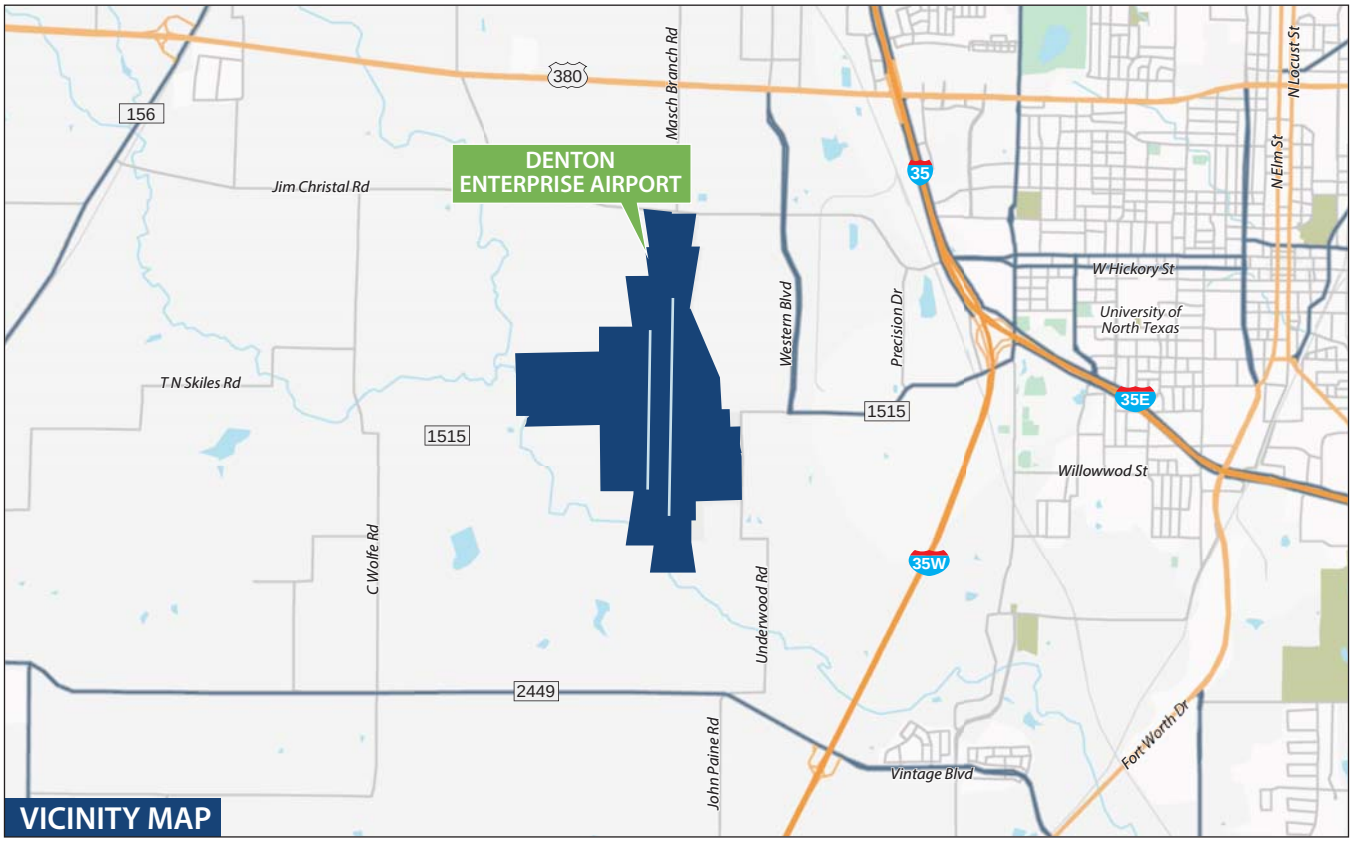
Condition	Cloud Ceiling	Visibility	Percent of Total
VMC	≥ 1,000' AGL	≥ 3 statute miles	89.49%
IMC	≥ 500' AGL and < 1,000' AGL	≥ 1 to < 3 statute miles	7.40%
PVC	< 500' AGL	< 1 statute mile	3.11%

VMC= visual meteorological conditions
IMC= instrument meteorological conditions
PVC= poor visibility conditions
AGL= above ground level

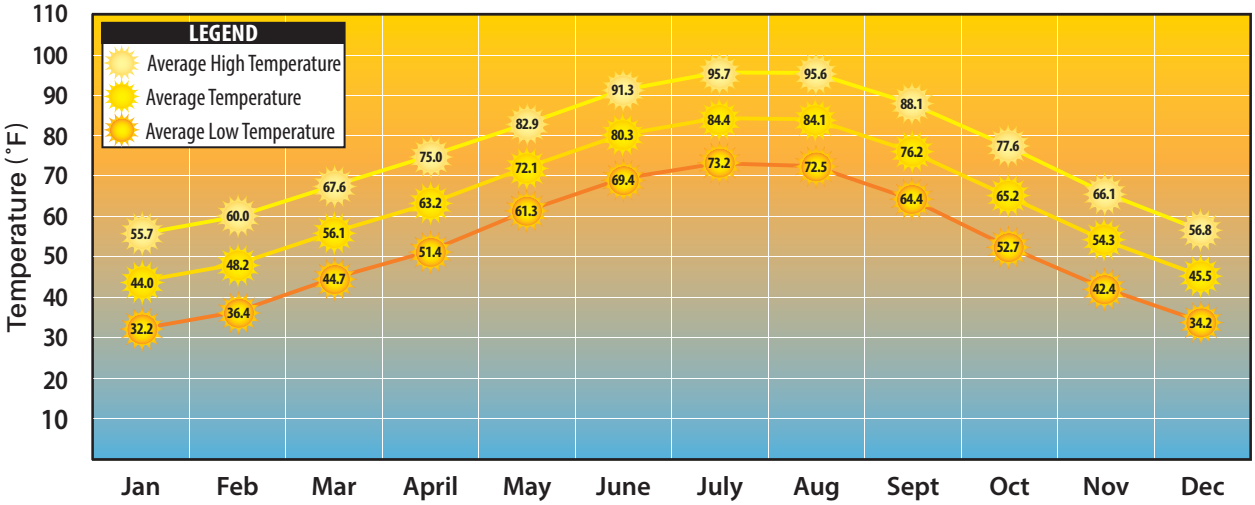
Source: Denton Municipal Airport, US USW00003991, observations from 1/1/1991 through 12/31/2020

[1] *Statistical Trends and News of Denton*, Fourth Quarter Fiscal Year 22/23.

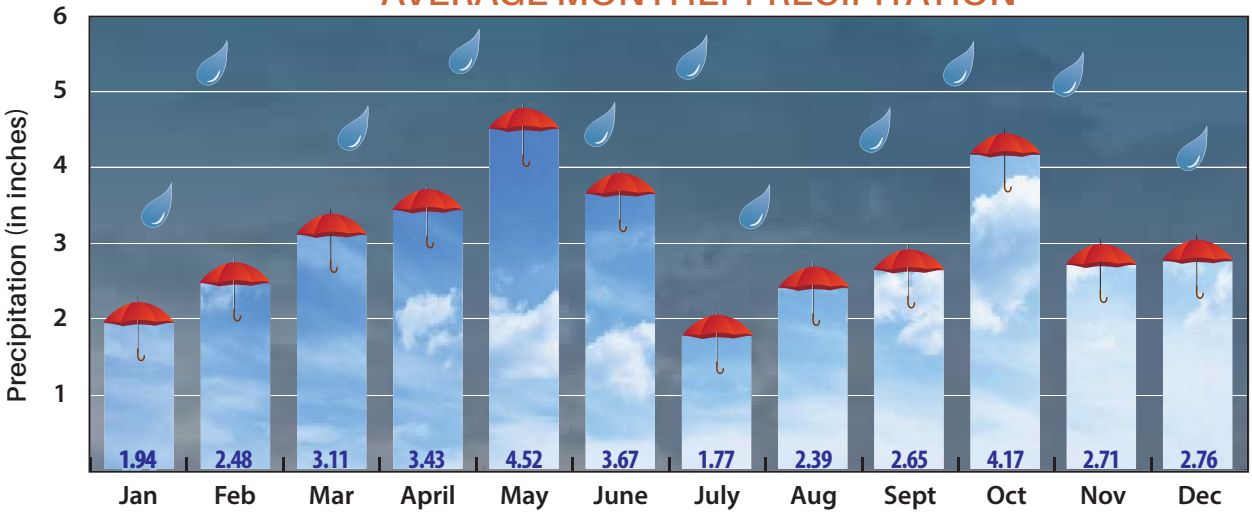

DENTON ENTERPRISE AIRPORT
Wise Co.
Denton Co.
Collin Co.
Rockwall Co.
Kaufman Co.
Tarrant Co.
Dallas Co.
Decatur
Denton
Corinth
Argyle
Lewisville Lake
Flower Mound
Lewisville
Trophy Club
Carrollton
Plano
Frisco
Wylie
Sachse
Richardson
Rowlett
Garland
Farmers Branch
Grapevine
Southlake
Keller
Colleyville
DFW
Richland Hills
Bedford
Euless
Haltom City
Hurst
Irving
University Park
Highland Park
Fort Worth
Grand Prairie
Dallas
Mesquite
Balch Springs
Arlington
North Lakes Recreation Center
380
75
35E
35W
287
TEXAS
Amarillo
Dallas/Ft. Worth
El Paso
Austin
Houston
Corpus Christi
MEXICO
LOCATION MAP


DENTON ENTERPRISE AIRPORT
380
156
Masch Branch Rd
Jim Christal Rd
T N Skiles Rd
1515
C Wolfe Rd
2449
John Paine Rd
Underwood Rd
Western Blvd
Precision Dr
35
35E
35W
1515
N Locust St
N Elm St
W Hickory St
University of North Texas
Willowwod St
Vintage Blvd
Fort Worth Dr
VICINITY MAP

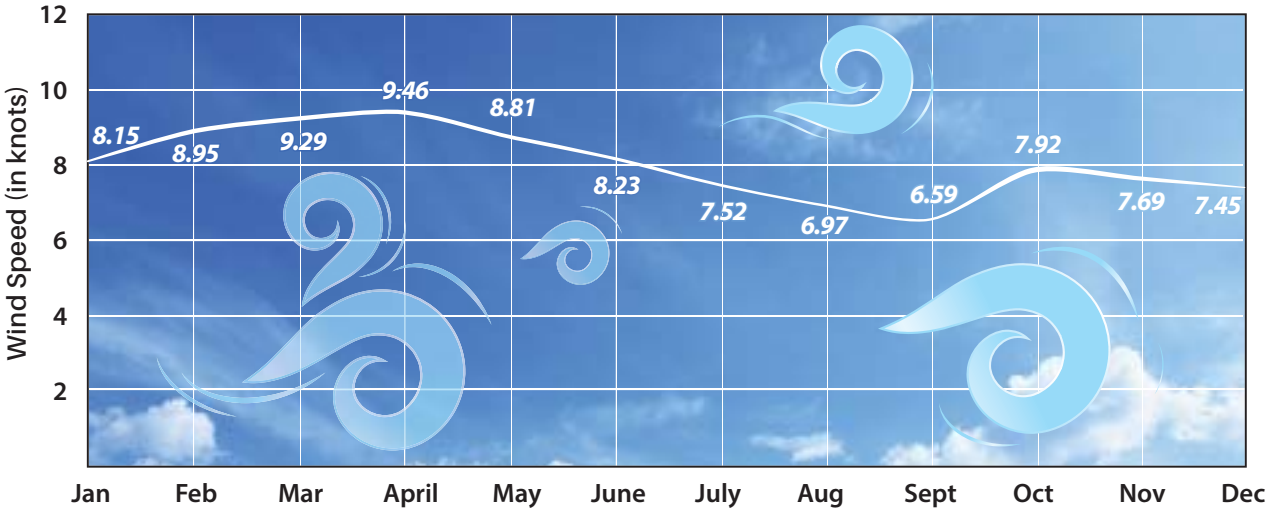
AVERAGE MONTHLY TEMPERATURES



AVERAGE MONTHLY PRECIPITATION



AVERAGE MONTHLY WIND DATA



Source: NOAA National Centers for Environmental Information Climate Normals, 1991-2020 -- Station: Denton MUNI AP, TX

AIRPORT HISTORY

The history of the airport in Denton began in September 1943, when the City of Denton purchased 550 acres of land on the west side of the city to develop Denton Enterprise Airport (formally known as Denton Municipal Airport prior to 2013). In January 1944, the City of Denton entered into a contract with the Civil Aeronautics Authority (CAA) for the construction of the airport. In May 1946, the Mayor of Denton received a letter from the CAA informing the city that airport construction was completed and ready to be taken over by the city. Initially, the airport had a single concrete runway, which measured 4,125 feet long and 150 feet wide.

During World War II, the airport was used for considerable training activity by the North Texas State College (now known as the University of North Texas) flying school. The airport also hosted one of the only seven glider schools in the United States.

Today, DTO sits on 929 acres and has two parallel paved asphalt runways. Runway 18L-36R is the primary runway. It measures 7,002 feet long and 150 feet wide and can accommodate larger jet traffic. The airport completed construction of parallel Runway 18R-36L in November 2019 to provide a secondary location for flight training, separate traffic, and help minimize delays for arrivals and departures. Runway 18R-36L measures 5,000 feet long and 75 feet wide. The airport constructed a general aviation administration building in 2007 and a new Denton fire station (Station #9) was completed in July 2024. The airport traffic control tower (ATCT) at DTO was constructed in 2004.

AIRPORT ADMINISTRATION

The airport is owned by the City of Denton and is operated as a department within the city's organizational chart. The Director of Airport reports to the city manager and manages day-to-day operations and oversight of airport staff. The airport's staff include six full-time positions and two part-time positions. **Figure 1A** depicts the DTO organizational chart.

The Airport Advisory Board (AAB) serves the city council in an advisory capacity concerning matters related to airport safety, flight and ground operations, airport infrastructure improvements, long-term planning, and budgetary issues. The AAB consists of seven members appointed by the city council. Each member serves a two-year term with a three-term limit, or until a successor is appointed.

The city's Economic Development Partnership Board makes recommendations to the City Council regarding DTO branding, marketing, and incentive policies, and acts as a recommending body to the city council regarding specific airport economic development incentives.

The airport is set up as an enterprise fund within the city budget and revenue is sourced from customers of the airport. The Airport Fund, which was established in fiscal year (FY) 2011, is required to use the revenues received at the airport (including gas well revenues from airport property) for airport uses due to state and federal rules regarding grant funding received for airport improvements. Prior to 2011, the airport was part of the General Fund and debt was supported by the City's debt portion of the tax rate. The Airport Fund was established in FY 2011 as a self-sustaining enterprise. Airport paid its own debt service from FY 2011 to 2016. Beginning in FY 2017, airport debt service was budgeted to be paid by the City's debt service tax rate to assist with the financial sustainability of the airport. However, beginning in FY 2021, the airport resumed paying its own debt service as a self-sustaining fund.

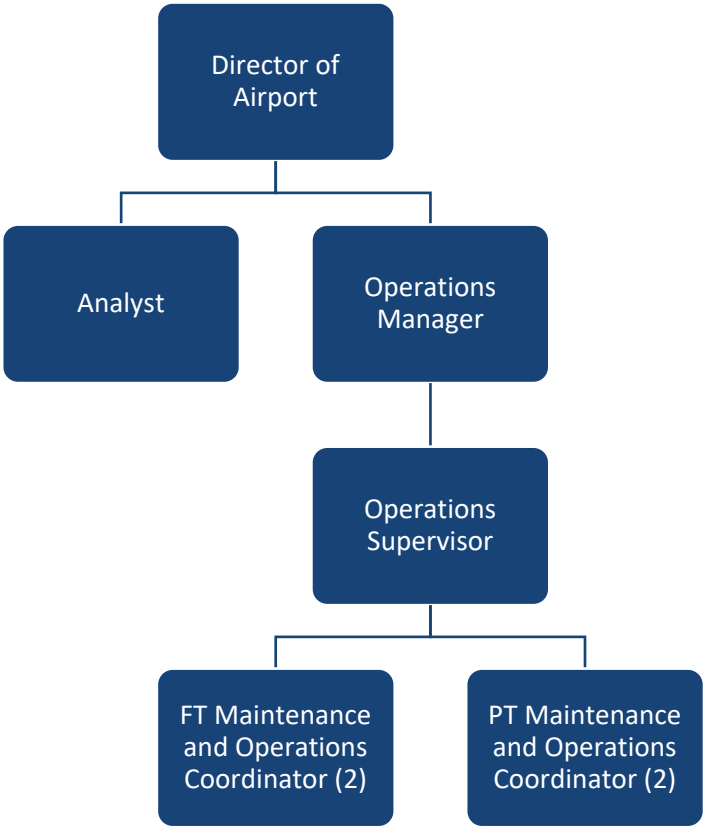


Figure 1A – Denton Enterprise Airport Organizational Chart

AIRPORT SYSTEM PLANNING ROLE

Airport planning exists on many levels: national, state, and local. Each level has a different emphasis and purpose. On the national level, Denton Enterprise Airport is included in the *National Plan of Integrated Airport Systems* (NPIAS). On the regional and state levels, the airport is included in the *Texas Airport System Plan* (TASP). The local planning document is the *Denton Enterprise Airport Master Plan*, which was previously updated and approved in 2015.

FEDERAL AIRPORT PLANNING

The NPIAS identifies nearly 3,310 existing and proposed airports that are included in the national airport system, the roles they currently serve, and the amounts and types of airport development eligible for federal funding under the Airport Improvement Program (AIP) over the next five years. The NPIAS contains all commercial service airports, all reliever airports, and select publicly owned general aviation airports.

DTO is classified in the NPIAS as a reliever airport (one of 24 in the State of Texas), meaning that certain criteria must be met to be viewed by the federal government as an asset to the air transportation system. Reliever airports are designated by the Federal Aviation Administration (FAA) to relieve congestion at commercial service airports (Dallas-Fort Worth International Airport and Dallas Love Field Airport) and to provide more general aviation access to the overall community. Within this airport designation, there are four different airport categories: national, regional, local, and basic. DTO is classified within the

national category (one of 14 in the State of Texas). National reliever airports are critical components of the national airport system, as they provide communities with access to national and international markets in multiple states and throughout the United States. National airports have very high levels of aviation activity, including activity by many jet and multi-engine propeller aircraft.

STATE AIRPORT PLANNING

DTO is included in the 2010 TASP; an update to the TASP is currently underway. The primary purpose of a state airport system plan is to study the performance and interaction of an entire aviation system. The TASP objectives include providing air service based on the level of service required throughout the state, adequate airport capacity to meet forecast demand, and an airport system developed to applicable federal and state planning and design standards.

DTO is included in the 2010 TASP as one of the 24 reliever airports in the State of Texas. According to the TASP, reliever airports have or must be forecast to have 100 based aircraft or 25,000 annual itinerant operations, and generally serve areas with populations of 250,000 or more. These airports generally relieve commercial service airports that operate at 60 percent capacity with at least 250,000 annual enplanements.

There are no specific design standards for reliever airports; however, typical reliever airport reference codes (ARCs) are C-II and D-II. ARC is used to relate airport design criteria to the operational and physical characteristics of the aircraft types that will operate at the airport. The ARC is comprised of two components: 1) the aircraft approach category (AAC), which is designated with a capital letter (A through E) and is based on an aircraft's approach speed (operational characteristic); and 2) the airplane design group (ADG), which is designated by a Roman numeral (I through VI) and is based on an aircraft's wingspan and tail height (physical characteristics). More detail on ARCs as they apply to DTO will be provided in the Critical Aircraft section of the Forecast chapter. A reliever airport in Texas can be designed to accommodate a variety of aircraft, based on the specific role it performs in the TASP. For comparison purposes, **Table 1B** details the state standards.

TABLE 1B | TASP Minimum Design Standards

	Commercial Service		General Aviation	DTO
	Primary	Non-Primary	Business/Corporate	Reliever
Airport Criteria				
Airport Reference Code[1]	ARC C-II thru D-VI	ARC B-II thru D-IV	ARC B-II through D-IV	ARC D-II[2]
Design Aircraft	Heavy transport	Light transport, business jet	Business jet	Business jet, light/ heavy transport
Minimum Land Requirement				
Runway Safety Area	As required by hub size	136 acres	136 acres	111 acres
Runway Protection Zone		160 acres	160 acres	226 acres
Landside Development		24 acres	24 acres	160+ acres
Runways				
Length	As required by critical aircraft	5,000'	5,000'	7,002'
Width		100'	100'	150'
Strength		30,000 lb.	30,000 lb.	100,000 lb.
Lighting	HIRL	MIRL	MIRL	MIRL

Continues on next page

TABLE 1B | TASP Minimum Design Standards (continued)

	Commercial Service		General Aviation	DTO
	Primary	Non-Primary	Business/Corporate	Reliever
Taxiways				
Type	Full Parallel	Full Parallel	Full Parallel	Full Parallel
Approach				
Type	Precision	Precision	Non-precision	Precision
Visibility Minimums	200' – ½ mile	200' – ½ mile	250' – ¾ mile LPV	200' – ½-mile
Services				
Services Available	Full range	Full range	Terminal, restrooms, telephone, Avgas, Jet A; attended 18 hours	Full range

[1]Described in detail in Chapter 2
[2]Per the *DTO Airport Layout Plan*, November 2015

Sources: 2010 Texas Aviation System Plan; Airnav.com

ECONOMIC IMPACT

In 2018, the Texas Department of Transportation (TxDOT) conducted a study of the impact and relationship of airports in Texas with the statewide economy. Impact types include:

- Direct impacts, which account for activities by on-airport businesses and visitor spending at locations such as hotels and restaurants;
- Indirect impacts, which include any portions of direct impacts that are used to purchase goods or services within the state;
- Induced impacts, which are portions of direct and indirect revenues that are paid to on-airport workers and spent on goods and services within the state; and
- Total economic impacts, which are the sums of direct, indirect, and induced impacts.

Table 1C summarizes the annual economic impact of DTO.

TABLE 1C | Aviation Economic Impact

	DTO	All Texas System Airports
Total Annual Economic Impact	$156.3 million	$94.3 billion
Total Annual Payroll	$45.8 million	$30.1 billion
Total Jobs	1,435	778,995

Source: TxDOT, Texas Aviation Economic Impact Study, 2018

DTO is home to numerous on-airport businesses, which offer services such as fixed base operator (FBO) amenities, flight instruction, avionics, and aircraft maintenance. The most frequent general aviation operations at DTO include flight instruction, recreational flying, aircraft charter operations, air cargo operations, and flights bringing visitors to the region. DTO's economic impact makes it one of the top economic generators of the 264 general aviation airports in the State of Texas.

The airport is in the process of updating its economic impact figures. This section will be updated in later printings with more current data.

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. Given the inevitable uncertainties as the master plan ages, the FAA recommends that airports update their master plans every seven to 10 years, or as necessary to address any significant changes. DTO's master plan was last updated in 2015. Major recommendations from this plan included the following:

- The addition of a 5,000-foot-long west parallel runway constructed to C-II standards at 100 feet wide – *complete*; *constructed to B-II standards at 75 feet wide*
- Relocation of taxiway connectors A2 and A6 to improve access to the new runway – *complete*
- Realignment of Taxiway Bravo and removal of direct access taxiways between the apron and runways – *partially complete*
- Roadway capacity improvements on Airport Road and Underwood Road – *not started*
- Improvements to the Hickory Creek bridge crossing – *not started*
- A new access road to connect Tom Cole Road to Jim Christal Road, allowing western airport access – *not started*

AERONAUTICAL ACTIVITY

At airports that primarily serve general aviation activity, the numbers of based aircraft and operations (takeoffs and landings) are key aeronautical activity measures. These indicators will be used in subsequent analyses in this master plan to project future aeronautical activity and determine future facility requirements.

ANNUAL OPERATIONS

Aircraft operational statistics at DTO are recorded by the airport traffic control tower (ATCT). The ATCT is owned by the city and operated by an FAA contractor every day from 6:00 a.m. to 10:00 p.m. Among other duties, the ATCT counts aircraft operations, which are defined as either a takeoff or landing. Aircraft operations are classified as either local or itinerant. Local operations are those that stay within an airport's traffic pattern, such as flight training or touch-and-go operations, while itinerant operations are those with origins or destinations at other airports. Aircraft operations are further separated into four general categories:

- **Air Carrier** – Air carrier operations are performed by commercial airline aircraft with more than 60 seats. Another commercial airline indicator is the amount of air cargo shipped, which is typically recorded in annual enplaned pounds or tons.
- **Air Taxi** – Air taxi operations are associated with commuter aircraft with 60 or fewer passenger seats, but also include for-hire general aviation aircraft.

- **Military** – Military operations are conducted by airplanes and helicopters with military identification.
- **General Aviation** – General aviation operations include all other aviation activity, from small ultralights to large business jets.

Table 1D provides a summary of operational statistics since 2004, including the breakdown of itinerant and local operations and the categories of operations. Operations at DTO have steadily increased throughout the years, with periods of stagnation or declining operations from 2009-2010 and 2016-2017, likely due to the economic recessions that occurred during those times. Operations dropped in 2019, likely due to the impacts of constructing the parallel runway and associated taxiways. DTO exceeded 200,000 annual operations in 2023 and is currently on pace (as of June 2024) to exceed the previous year's total. A Runway 18L-36R reconstruction project closed the runway from July 8 through August 17, 2024, which limited activity at DTO for that period.

TABLE 1D | DTO Operations History

Calendar Year	Itinerant Operations					Local Operations			Total Operations
	Air Carrier	Air Taxi	General Aviation	Military	Total Itinerant	General Aviation	Military	Total Local	
2004	0	566	22,175	14	22,755	34,855	2	34,857	57,612
2005	1	1,094	34,081	35	35,211	51,423	168	51,591	86,802
2006	199	849	30,853	22	31,923	56,901	8	56,909	88,832
2007	23	726	30,576	66	31,391	68,119	224	68,343	99,734
2008	7	1,130	40,041	117	41,295	85,373	2	85,375	126,670
2009	0	392	46,911	175	47,478	94,602	24	94,626	142,104
2010	0	685	49,236	256	50,177	91,911	24	91,935	142,112
2011	4	756	64,380	130	65,270	82,735	26	82,761	148,031
2012	39	1,103	65,446	202	66,790	91,164	32	91,196	157,986
2013	12	1,473	68,676	227	70,388	90,298	54	90,352	160,740
2014	38	1,919	70,351	178	72,486	85,708	16	85,724	158,210
2015	54	1,457	73,215	169	74,895	89,852	50	89,902	164,797
2016	5	1,665	61,514	189	63,373	73,279	4	73,283	136,656
2017	16	1,932	60,504	158	62,610	62,949	49	62,998	125,608
2018	35	1,440	61,535	50	63,060	84,703	14	84,717	147,777
2019	10	1,337	63,098	125	64,570	71,166	8	71,174	135,744
2020	15	963	64,154	31	65,163	71,463	4	71,467	136,630
2021	24	1,572	58,357	60	60,013	78,672	18	78,690	138,703
2022	17	2,574	71,679	50	74,320	99,426	12	99,438	173,758
2023	10	1,590	89,063	76	90,739	114,054	4	114,058	204,797

Source: FAA Operations Network (OPSNET)

Based Aircraft

Identifying the current number of based aircraft is important to master plan analysis but can be challenging because of the transient nature of aircraft storage. The airport maintains a record of aircraft based on the airport. Historical based aircraft levels at DTO are shown in **Table 1E**.

TABLE 1E | DTO Based Aircraft History

Year	DTO Based Aircraft Inventory	FAA-Validated Based Aircraft
2015	387	379
2016	369	364
2017	455	451
2018	365	362
2019	342	311
2020	323	288
2021	306	301
2022	432	398
2023	482	445
2024	426	412

Sources: Airport Records; National Based Aircraft Inventory Program

As of 2024, there were 426 based aircraft at DTO; however, according to the FAA's validation process, DTO has 412 validated based aircraft. This means that 14 of the 426 aircraft in DTO's based aircraft inventory are already validated at other airports, are not operational or airworthy, or do not have current registrations with the FAA. For the purposes of the master plan and forecasting of aviation demand, only validated aircraft will be used as the baseline count. The 412 validated based aircraft include 306 single-engine piston aircraft, 58 multi-engine aircraft (pistons and turboprops), 34 jets, and 14 helicopters.

CAPITAL IMPROVEMENT HISTORY

To assist in ongoing capital improvements, the FAA and TxDOT Aviation Division provide funding to DTO through the Airport Improvement Program (AIP). Texas is a member of the FAA's Block Grant Program, which gives TxDOT the responsibility of administering AIP grants to reliever and general aviation airports, including DTO. The State of Texas also offers the following funding opportunities for which DTO is eligible:

- **Routine Airport Maintenance Program (RAMP)** – For FY 2024, TxDOT matches local government grants up to $100,000 for basic improvements, such as parking lots, fencing, and other airside and landside needs.
- **Federal Aviation Grants** – These grants provide federal and state grant funding for maintenance and improvement projects to airports that are included in the NPIAS.

Table 1F summarizes TxDOT grant data of airport capital improvement, maintenance, and planning projects that have been undertaken at DTO between 1972 and 2020 and were funded from federal, state, and local sources. During this period, the airport has been awarded more than $30.2 million dollars in state and federal grants.

TABLE 1F | Historical Capital Improvement Projects – from TxDOT Records

Year	TxDOT Project #	Description	Federal Total	State Total	Local Total
1972	–	AMP; Shimek, Roming, Jacobs & Finklea	$6,133	$0	$0
1974	–	Install VASI	$0	$3,450	$0
1975	–	Install VASI-2 on both ends of RW 17-35	$18,679	$0	$0
1975	–	Land	$12,000	$0	$0
1976	–	Acquire land	$210,000	$0	$0
1976	–	Joint with FAA 76-03 Project	$0	$20,000	$0
1977	–	Phase I: extend RW (4150' x 150' to 5000' x 150'), including glide slope grading; extend TW; install RW lighting, lighted wind cone, and segmented circle; relocate N VASI-2 and convert to VASI-4; RW and TW markings	$53,650	$0	$0
1977	–	Relocate road, including incidental drainage and fencing; clearing; adjust, mark, and light powerline	$120,000	$0	$0
1978	–	Joint with FAA 78-05 Project	$0	$25,000	$0
1978	–	Phase II: extend RW (4150' x 150' to 5000' x 150'), including glide slope grading; construct and mark TW extension; install RW lighting, lighted wind cone, and segmented circle; marking; relocate VASI-2 and convert to VASI-4	$289,650	$0	$0
1979	–	Overlay RW (approx. 5000' x 150') and associated TWs; marking	$651,200	$0	$0
1984	–	Construct apron; construct and mark connecting TW; improve drainage at north end; install two lighted supplemental windcones	$468,500	$0	$0
1985	–	AMP Update and EIA Report; Charles Willis	$34,691	$0	$0
1986	–	Construct and mark T-hangar TWs 'H', 'I', and 'J'; construct holding apron RW 17; construct and mark helipad and connecting TW	$226,450	$0	$0
1992	–	Acquire land for north and south RPZ (5.7 ac)	$113,760	$0	$0
1992	–	Conduct Master Plan Study	$135,000	$0	$0
1992	–	Overlay RW 17-35, rehabilitate TWs and apron	$1,175,000	$0	$0
1997	–	Improve safety areas RW 17-35/clear trees, regrade/improve drainage system/ realign approach lights, install fence along terminal apron (1000 lf); update ALP	$1,319,882	$0	$146,653
1998	–	Install 2-electronic security gates	$0	$10,055	$10,055
2001	0118DNTON	Airport master plan	$165,150	$0	$16,515
2001	0018DNTON	Engineering/design for FY 2002 construction-rehab & MITLs; security fencing; signage	$101,610	$0	$11,290
2002	0218DNTON	Rehabilitate RW 17-35, hangar access TWs (21-24) & midfield, joint concrete sealing north hangar access (1890 lf), south FBO apron (330 x 145), south parking apron (18,700 sy), parallel TW (6200 x 50); recon n. parallel TW (1100 x 50), recon north apron (174 x 415); upgrade RW signage; install security fencing (6133 lf) & 5 gates; install MITLs & reflectors on stub TWs	$1,854,392	$0	$211,458

Continues on next page

TABLE 1F | Historical Capital Improvement Projects – from TxDOT Records (continued)

Year	TxDOT Project #	Description	Federal Total	State Total	Local Total
2002	0218DENTN	Reimbursement grant Construct GA automobile parking (5100 sf) Construct air traffic control tower Construct GA terminal building (4000 sf)	$150,000	$419,286	$435,953
2003	M318DNTOX	RAMP: Miscellaneous projects contracted by sponsor	$0	$14,546	$14,546
2004	0418DNTON	Engineering/design to construct parallel taxiway, construct stub taxiway to north general apron and pave 2 grass islands, construct corporate apron, install MITL with separate circuits and regulator	$181,607	$0	$20,179
2004	0418DENTN	Purchase and install radio equipment; construction services associate with the terminal building (PROJECT WAS COMBINED WITH 0218DENTN)	$0	$0	$0
2004	M418DNTON	RAMP: TxDOT herbicide, resurface airport access road, paving material for repair AMA's, maintenance shed, airport entrance landscaping, concrete spillway for fuel storage area, beacon and tower removal	$0	$22,366	$22,366
2005	0518DNTON	ALP and Engineering/Design for construction project 0918DNTON runway extension. reimbursement for 32 acres	$790,931	$0	$51,216
2005	0518DENTO	Construct parallel TW on new alignment (4000 x 50), Construct corporate apron (150 x 360) & stub TW (100 x 370), Install MITL & guidance signs w/separate circuits & regulator (7,200 lf), Drainage improvements	$4,343,764	$0	$482,640
2005	M518DNTON	RAMP: City to repair and resurface airport roads, contract for ATC maintenance, relocate electrical utilities	$0	$23,522	$23,522
2006	M618DNTON	RAMP: Sponsor to contract for repair/resurface Sabre Lande, Aeronca, taxiway Charlie, flatwork for maintenance yard pad site, professional services for DTO SPCC, construction of maintenance building, maintenance for MIRRA recorder, tower equipment, purchase FOD Boss sweeper	$0	$15,890	$15,890
2007	M718DNTON	RAMP: Sponsor to contract for resurfacing Sabre Lane, repair and crack sealing South Ramp, taxiway and street repair	$0	$49,412	$49,412
2008	0818DNTON	Engineering/Design to Construct hangar access TW #2 (1,000 x 35); Construct hangar access TW #4 (790 X 35); Construct hangar access TW #3 (975 X 35); Construct hangar access TW #1 (479 X 50) Construct holding pad (100 x 100)	$107,556	$0	$11,951
2008	M818DNTON	RAMP: Purchase of materials for Sky Lane sewer extension, air traffic control tower maint. agreement, professional services for SWPPP update and inspection.	$0	$49,787	$49,787
2009	0918DENTO	Acquire land for RW extension/ RSA/MALSR (23 ac) discretionary 2006	$770,256	$0	$85,583

Continues on next page

TABLE 1F | Historical Capital Improvement Projects – from TxDOT Records (continued)

Year	TxDOT Project #	Description	Federal Total	State Total	Local Total
2009	0918DENTN	Conduct Airport Business Plan	$0	$50,000	$52,975
2009	0918DENNT	Contingency, Admin. fees, RPR, testing, etc.; Construct hangar access TW #2 (1,000 x 35); Construct hangar access TW #4 (790 X 35); Construct hangar access TW #3 (975 X 35); Construct hangar access TW #1 (479 X 50) Alt. bid ($471,430); Construct holding pad (100 x 100)	$1,295,949	$0	$221,962
2009	0918DNTON	MOA with FAA; Fencing (18,000 lf) & install 3 security gates (12 ft. width); Earthwork for south RSA/ displace threshold 500 ft. Relocate glide slope/localizer antenna (FAA discretionary); Mark RW 17-35 (91,791 sf); Upgrade/relocate PAPI-4 RW 17; Extend MITLs (1300 lf); Seeding (20 ac); Earthwork for north RSA Extend RW 17 (1001x 150); Expand run-up area (100 x 50); Mobilization; Extend parallel TW (1300 x 50); Extend MIRL (1001 lf w/ disp. threshold); Upgrade/ relocate MALSR; Erosion/sedimentation control (north & south RSA); Distance remaining signs; Replace VASI with PAPI-4 RW 35	$4,919,746	$1,379,962	$738,771
2009	M918DNTON	RAMP: Entrance & vehicle access paving. sec. gate maint., light pole relocation & tower ent. gate access. G/D- airside & landslide drainage imp.; tower radio maint; herbicide/pesticide appls. A#1 fiber/connectivity; tower radio maint.; signs; house removal	$0	$49,999	$49,999
2010	M018DNTON	RAMP: pavement improvements/repairs; drainage improvements; chemical applications; radio and gate repairs/maintenance; airport signage; and security lighting. A#1 - Security assessment and corrective measures.	$0	$49,836	$49,836
2011	1118DNTON	Engineering/Design to Install apron lighting/ fencing; Demolition of pavement & utilities; Drainage improvements; Expand apron north of terminal building (5700 sy); Contingency, admin. fees, RPR, etc.; Install tiedowns & mark apron	$76,141	$0	$8,460
2011-2015	M118DNTON M1418DNTO M1518DNTO M218DNTON M318DNTON	RAMP: Sponsor to perform airport general maintenance.	$0	$243,615	$243,615
2012	12MPDNTON	Airport Master Plan update including infrastructure/drainage study	$399,636	$0	$226,989
2012	1218DENTN	Conduct Wildlife Assessment	$78,418	$0	$9,713

Continues on next page

TABLE 1F | Historical Capital Improvement Projects – from TxDOT Records (continued)

Year	TxDOT Project #	Description	Federal Total	State Total	Local Total
2012	1218DNTON	Demolition of pavement & utilities; Drainage improvements; Expand apron north of terminal building (5700 sy); Contingency, admin. fees, RPR, etc.; Install tiedowns & mark apron; Install apron lighting/fencing	$989,244	$0	$109,916
2014	14TBDNTON	Engineering/design for terminal expansion. PROJECT WAS CANCELLED AND CITY PAID 100% OF DESIGN FEES	$0	$0	$68,225
2015	15TBDNTON	Contingency, RPR, admin on terminal expansion; Construct GA automobile parking (8450 sf); Drainage GA Automobile Parking; Construct terminal public meeting room. ($200K max State participation, this includes the design costs) PROJECT WAS CANCELLED AFTER BIDS WERE OPENED. NO GRANT EXECUTED. ADVERTISING COSTS ONLY	$0	$775	$775
2015	1518DENTN	Obstruction Evaluation; MOA with FAA or PDRA for ILS impacts; Engineering/design	$490,245	$0	$65,634
2016-2021	M1618DNTO M1718DNTO M1818DNTO M1918DNTO M2018DNTO M2118DNTO	RAMP: Sponsor to perform airport general maintenance.	$0	$299,995	$326,698
2017	1718DENTN	Construct West Parallel RWY (4500 x 75); Construct Additional Pavement for a Final 5000 x 100 RWY (Sponsor 100% Share); Contingency, admin fees, RPR, mobilization, etc.; Relocate ASOS (FAA equipment); Install PAPIs on West Parallel RWY; Construct & mark connecting TW from primary RWY to new RWY 17R (800 x 35); Construct & mark connecting TW from primary RWY to new RWY 35L (800 x 35)	$4,976,436	$0	$1,797,423
2018	1818DNTON	Engineering and Design for Runway Reconstruct, Taxiway Alpha2 and Bravo relocation (NPE '16 '17)	$177,960	$0	$19,773
2019	1918DENTN	Engineering and design for west parallel runway lighting (NPE '18)	$62,392	$0	$11,010
2020	2018DENTN	Replace airfield guidance signs for 18L/36R 18R/36L; Install new electrical vault for west side RW; Install MIRLs west RW (4500 lf) & electrical vault; Contingencies, RPR, Admin, Fees, etc for MIRL and electrical improvements West RWY; Install MIRLs West RWY (500 lf) (100% Sponsor Share); Night Work administration and costs; Relocate/protect utilities	$713,866	$0	$139,583
Totals			**$27,479,894**	**$2,727,496**	**$5,800,373**

Source: TxDOT Historic Projects List

14 CFR PART 139 CERTIFICATION

An airport must have an Airport Operating Certificate (AOC) if it serves scheduled air carrier aircraft with more than nine passenger seats or unscheduled air carrier aircraft with more than 30 passenger seats. Title 14 Code of Federal Regulations (CFR) Part 139 describes the requirements for obtaining and maintaining an AOC, which include meeting various Federal Aviation Regulations (FARs) that are now codified under the CFR.

Airports are classified in the following categories based on the types of air carrier operations they serve:

- **Class I Airport** – an airport that is certificated to serve scheduled operations of large air carrier aircraft and can also serve unscheduled passenger operations of large air carrier aircraft and/or scheduled operations of small air carrier aircraft
- **Class II Airport** – an airport that is certificated to serve scheduled operations of small air carrier aircraft 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 that is 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 that is certificated to serve unscheduled passenger operations of large air carrier aircraft; a Class IV airport cannot serve scheduled air carrier aircraft regulated under CFR Part 121

DTO is not currently a Part 139 certificated airport but is considering options that may be available with an AOC. Part 139 certification supports the regularly or irregularly scheduled/unscheduled operations of large and/or small air carrier aircraft conducting charter services at the airport. Pursuing this designation would allow the airport to accommodate aircraft charter services for the University of North Texas (UNT), Texas Woman's University (TWU), and the Texas Motor Speedway (TMS), as well as potential future scheduled commercial operations.

Part 139 regulations, which implemented provisions of the *Airport and Airway Development Act of 1970* (as amended on November 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).

The ACM is a required document that defines the procedures to be followed in the routine operation of the airport and in response to emergency situations. The ACM is a working document that is updated annually, as necessary. It reflects the current condition and operation of the airport and establishes responsibility, authority, and procedures, as required. Sections of the ACM that cover administrative and procedural details are required. The ACM includes the following information:

- General Information
- Organization and Management
- Airport Information
- Maintenance and Inspection Program
- Operational Safety
- Hazardous Materials
- Aircraft Rescue and Firefighting
- Snow and Ice Control
- Airport Emergency Plan
- Wildlife Hazard Management
- Maintenance of Certification Manual

Airports operating under Part 139 face associated financial costs including:

- Maintenance and upgrades: ongoing costs for maintaining airport facilities, including regular inspections and upgrades to comply with Part 139 safety regulations.
- Personnel expenses: hiring and training of staff, including aircraft rescue and firefighting (ARFF) and operations personnel, to meet regulatory requirements.
- Equipment: investments in new ARFF equipment and storage spaces.
- Compliance costs: expenses related to ensuring compliance with Part 139 requirements, including audits, reporting, and safety training.
- Insurance premiums: potentially higher costs due to the increased liability associated with operating a Part 139 airport.
- Security measures: costs related to security personnel, systems, badging, fencing, and technologies to comply with Part 139 security requirements.

AIRSIDE FACILITIES

Airside facilities include runways, taxiways, airfield lighting, and navigational aids. These facilities are identified on **Exhibit 1C** and descriptions of each are included in the following sections. Runway 18L-36R is the primary runway and Runway 18R-36L serves as a secondary parallel runway. Both runways are oriented north-south. Information pertaining to each runway is described below and summarized on the exhibit.

DTO Airfield

RUNWAYS

Primary Runway 18L-36R

Runway 18L-36R is 7,002 feet long and 150 feet wide and is oriented north-south. The runway surface is constructed of asphalt. This runway serves as the airport's primary runway because it is the longest runway and is equipped with an instrument landing system (ILS) approach procedure. The Runway 36R threshold is displaced by 100 feet. Runway 18L is marked with precision markings, including the runway designation, centerline, threshold stripes, aiming point, touchdown zone, and edge markings. Runway 36R has the same markings, except for the touchdown zone markings. The runway slopes down from north to south with an elevation change of 12.3 feet, resulting in a runway gradient of 0.18 percent. The primary runway is equipped with medium intensity runway edge lighting (MIRL) to illuminate the runway edges at night and/or during poor meteorological conditions. Runway 18L utilizes a standard left-hand traffic pattern, while Runway 36R utilizes a right-hand traffic pattern.

Runway 18L-36R has a pavement strength rating of 70,000 pounds single wheel loading (SWL), which refers to the design of certain aircraft landing gear with a single-wheel main landing gear strut. The runway pavement strength increases to 100,000 pounds dual wheel loading (DWL).

Runway 18L
(Source: Google Earth, imagery date March 2023)

Runway 36R
(Source: Google Earth, imagery date March 2023)

Parallel Runway 18R-36L

Also oriented north-south, Runway 18R-36L is 5,003 feet long and 75 feet wide and is located approximately 840 feet from Runway 18L-36R, centerline to centerline. Runway 18R-36L was constructed in 2019 and is in excellent condition. The runway pavement has a strength rating of 30,000 pounds SWL. The runway has non-precision markings, which include the runway designation, threshold stripes, and aiming points. The runway markings are in good condition. The runway slopes

WEATHER AND NAVIGATIONAL AIDS
Airport Traffic Control Tower (ATCT)
Automated Surface Observation System (ASOS)
Lighted Wind Cone / Segmented Circle
Rotating Beacon

Airport Rd
Westcourt Rd
Springside Dr
Masch Branch Rd
Segmented Circle/ Lighted Windcone
Holding Apron
Holding Apron
Holding Apron
MALSR
PAPI-4
Helipad
Localizer
400'
Runway 18L/36R (7,002' x 150')
Glide Slope Antenna & ASOS
PAPI-4
PAPI-4
Runway 18R/36L (5,003' x 75')
PAPI-4
Jim Christal Rd
Tom Cole Road
Tom Cole Road
1515
Tom Cole Road
A1 A2 A3 A4 A5 A6 A7
A B C D E F G H J K L M N O P
N
0 800
SCALE IN FEET
Photo: Google Earth 03/2023

LEGEND
- Airport Property Line
- A Taxiway Designator

RUNWAY CHARACTERISTICS		
Runway Designation	18L/36R	18R/36L
Length (feet)	7,002	5,003
Width (feet)	150	75
Surface & Condition	Asphalt/Excellent	Asphalt/Excellent
Load Bearing Strength (pounds)		
Single Wheel Bearing (SWL)	70,000	30,000
Dual Wheel Bearing (DWL)	100,000	50,000
Markings	Precision	Nonprecision
Lighting	MIRL	MIRL
Visual Approach Aids	PAPI-4	PAPI-4
Instrument Approach Procedures	ILS & RNAV (GPS) - ½-Mile	RNAV (GPS) - ¾-Mile
Traffic Pattern	18L - Left | 36R - Right	18R - Right | 36L - Left

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down from north to south with an elevation change of 15.4 feet from end to end, resulting in a gradient of 0.31 percent. A standard left-hand traffic pattern is applied to Runway 36L, and a right-hand traffic pattern is applied to Runway 18R. The runway is equipped with MIRL.

Runway 18R
(Source: Google Earth, imagery date March 2023)

Runway 36L
(Source: Google Earth, imagery date March 2023)

Crosswind Coverage

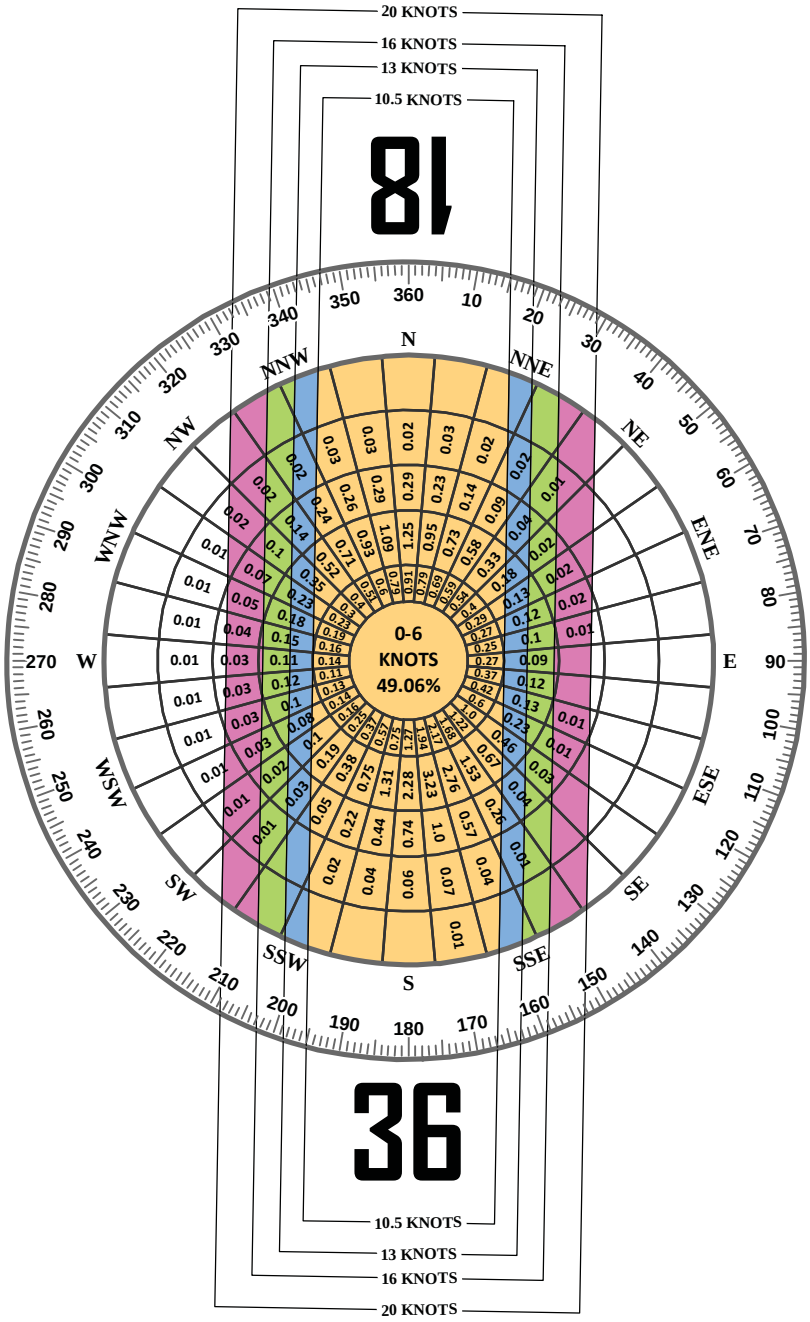
Prevailing winds are winds that blow predominantly in a given direction. At an airport, the direction of prevailing winds determines the desired alignment, configuration, and usage of a runway. Aircraft can only tolerate limited crosswinds, which are components of wind that blow perpendicular to the runway centerline. Ideally, runways are configured to allow aircraft to take off and land into the wind 100 percent of the time. Because winds change direction, FAA planning standards indicate that an airport's primary runway should be capable of operating under allowable wind conditions at least 95 percent of the time. If a runway does not meet this 95 percent coverage, FAA funding assistance for the development of a crosswind runway may be advisable.

The 95 percent wind coverage is computed on the basis of the crosswind component not exceeding 10.5 knots (12 miles per hour [mph]) for ARC A-I and B-I; 13 knots (15 mph) for ARC A-II and B-II; 16 knots (18 mph) for ARC A-III, B-III, and C-I through D-II; and 20 knots (23 mph) for ARC C-III through D-IV.

Exhibit 1D presents the all-weather wind rose for the airport. Wind data for the previous 10 years were obtained from the on-airport automated weather observation station (AWOS) and have been analyzed to identify wind coverage provided by the existing runway orientations. At DTO, the north-south orientation of the parallel runways provides 96.35 percent coverage for the 10.5-knot component, 98.27 percent coverage for the 13-knot component, and greater than 99 percent coverage for the 16- and 20-knot components. The IFR wind rose (presented on the reverse side of **Exhibit 1D**) shows a similar distribution of crosswind components for the parallel runways; thus, the current runway orientation at DTO provides adequate wind coverage for all-weather and IFR conditions.

ALL WEATHER WIND COVERAGE

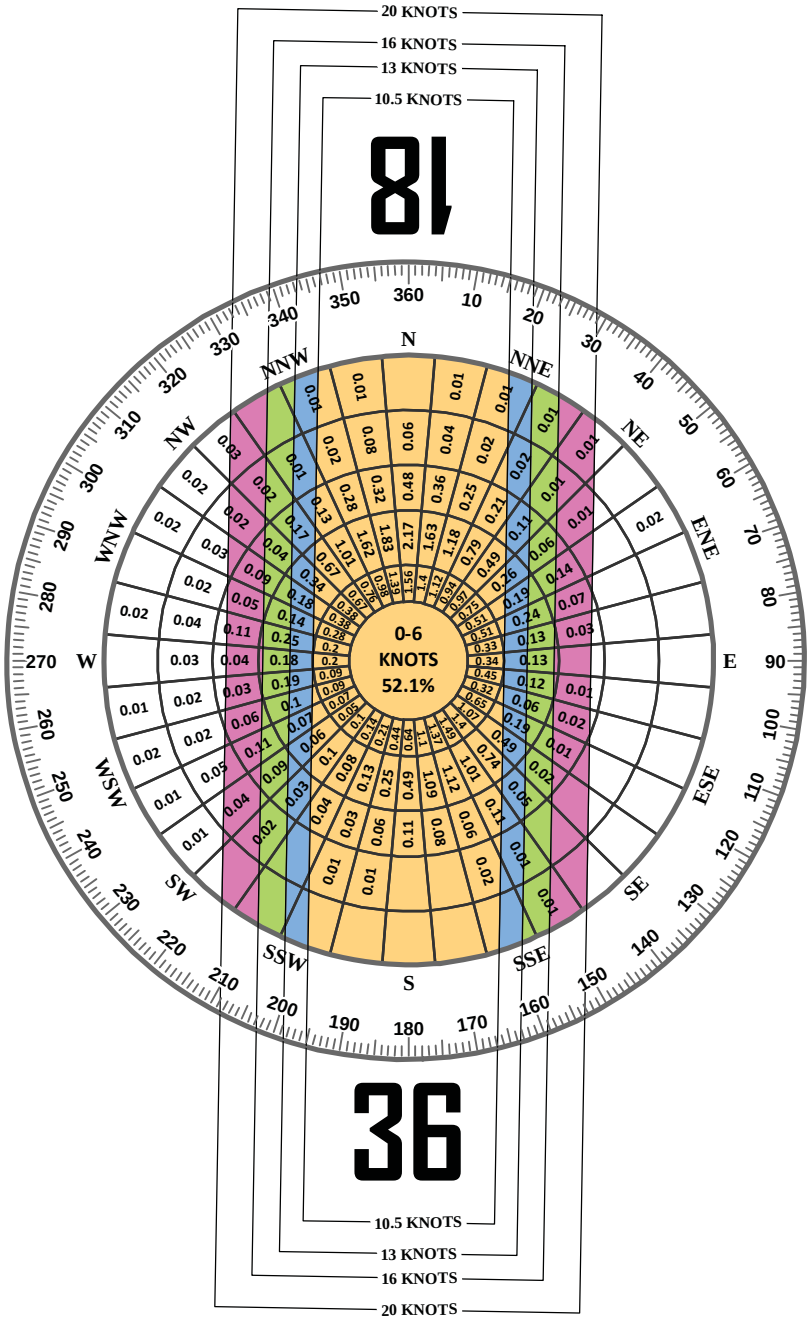
Runways	10.5 Knots	13 Knots	16 Knots	20 Knots
Runway 18-36	96.35%	98.27%	99.46%	99.85%



SOURCE:
NOAA National Climatic Center
Asheville, North Carolina
Denton Enterprise Airport
Denton, TX

OBSERVATIONS:
105,976 All Weather Observations
Jan. 1, 2014 - Dec, 31 2023

IFR WIND COVERAGE				
Runways	10.5 Knots	13 Knots	16 Knots	20 Knots
Runway 18-36	95.17%	97.25%	98.74%	99.50%

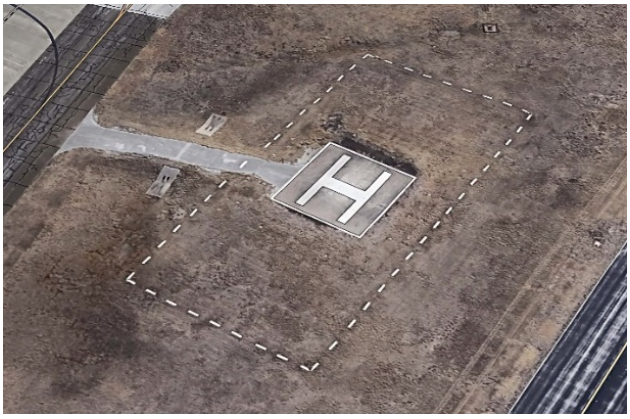


SOURCE:
NOAA National Climatic Center
Asheville, North Carolina
Denton Enterprise Airport
Denton, TX

OBSERVATIONS:
12,335 IFR Observations
Jan. 1, 2014 - Dec, 31 2023

HELIPAD

DTO has one helipad, which is located between Runway 18L-36R and Taxiway B near the midpoint of the airfield. The helipad measures 50 feet by 50 feet and is constructed of concrete. The helipad is marked with unpaved final approach and liftoff area (FATO) perimeter markings that measure 100 feet wide and 200 feet long.



Helipad
(Source: Google Earth, imagery date March 2023)

TAXIWAYS

A taxiway is a defined path established for the taxiing of aircraft from one part of an airport to another. The taxiway system at DTO consists of parallel, connector, and entrance/exit taxiways that are constructed of asphalt. Taxiway widths range between 40 and 50 feet. All taxiways have blue medium intensity taxiway lighting (MITL) and yellow centerline markings.

DTO has one primary taxiway, Taxiway A, which is a full-length parallel taxiway that provides access to both ends of Runway 18L-36R. It is 50 feet wide and is located 400 feet east of the runway, centerline to centerline. Seven entrance/exit taxiways connect Taxiway A to the runway and are designated A1, A2, A3, A4, A5, A6, and A7. Two taxiway connectors, A2 and A6, provide access to both ends of the secondary runway, Runway 18R-36L, which connects from the primary runway. Taxiways A2 and A6 measure 40 feet in width.

Table 1G summarizes details for each taxiway at the airport.

TABLE 1G | Taxiway Characteristics

Designation	Width (feet)	Description
A	50	Primary taxiway; full-length parallel taxiway serving Runway 18L-36R
B	50	Partial parallel taxiway serving Taxiway A, terminal ramp, and aircraft hangars
A1	50	Connector taxiway from Runway 18L-36R to Runway 18L-36R
A2	50	Connector taxiway from Runway 18L-36R to Taxiway A
A2	40	Connector taxiway from Runway 18R-36L to Taxiway A
A3	50	Connector taxiway from Runway 18L-36R to Taxiway A
A4	50	Connector taxiway from Runway 18L-36R to Taxiway A
A5	50	Connector taxiway from Runway 18L-36R to Taxiway A
A6	50	Connector taxiway from Runway 18L-36R to Taxiway A
A6	40	Connector taxiway from Runway 18L-36R to Runway 18L-36R
A7	50	Connector taxiway from Runway 18L-36R to Taxiway A

Source: Coffman Associates analysis

TAXILANES

A taxilane is a defined path designed for low speed and precise maneuvering of aircraft. Taxilanes provide access from a taxiway to aircraft parking positions, hangars, and other terminal areas. DTO has 15 taxilanes, which are designated C, D, E, F, G, H, J, K, L, M, N, O, P, and Q. Each taxilane measures between 20 and 50 feet wide. The width of each taxilane varies based on aircraft design and usage. A summary of taxilane characteristics is provided in **Table 1H**.

Taxilane L

Taxilane F

TABLE 1H | Taxilane Characteristics

Designation	Width (feet)	Description
C	20	Taxilane from Taxiway A to executive hangars
D	30	Taxilane from Taxilane B to executive hangars
E	20	Taxilane from Taxilane B to corporate hangar
F	30	Taxilane from Taxilane B to executive, conventional, and corporate hangars and general aviation apron
G	N/A	Taxilane from Taxilane B to FBO, corporate hangars, and terminal ramp
H	45	Taxilane from Taxilane B to FBO, aircraft hangars, and general aviation aprons
J	30	Taxilane from Taxilane B to aircraft and corporate hangars and Civil Air Patrol
K	30	Taxilane from Taxilane B to aircraft and corporate hangars
L	50	Taxilane from Taxilane B to aircraft and corporate hangars
M	30	Partial parallel taxilane serving Taxilanes L, N, and O
N	25	Taxilane from Taxilane M to T-hangars
O	25	Taxilane from Taxilane M to T-hangars
P	35	Taxilane from Taxilane M to T-hangars
Q	35	Taxilane from Taxilane P to T-hangars and corporate hangars

N/A = not applicable

Source: Coffman Associates analysis

PAVEMENT CONDITION

On behalf of the TxDOT Aviation Division, the Texas A&M Transportation Institute conducted a survey of DTO operational pavements in May 2019, including the runway (Runway 18R-36L was not yet constructed), taxiways, and aprons. The inspection evaluated the airfield pavement to provide a

pavement condition index (PCI) rating. PCI ratings are determined through visual assessments, in accordance with FAA Advisory Circular (AC) 150/5380-6, and range from 0 (failed) to 100 (excellent). The purpose of the report is to provide the airport sponsor with pavement condition information to guide pavement maintenance schedules and ensure airfield surfaces are preserved in good working order.

The results of the 2019 PCI survey are depicted on **Exhibit 1E**. This pavement condition report is now five years old, so the PCI values have likely declined due to routine wear and tear. As stated earlier, Runway 18L-36R underwent rehabilitation during the summer of 2024, so its PCI value is likely at or near 100. Several pavement sections on the airport, including portions of the terminal apron and several connectors from the runway to Taxiway A were reported to have PCI values in the 70s and are likely to be in Fair to Poor condition today.

AIRFIELD LIGHTING, SIGNAGE, AND MARKING

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

Airport Identification Lighting

The location of the airport is universally identified by a rotating beacon at night. The rotating beacon projects two beams of light, one white and one green, 180 degrees apart. The beacon operates from sunset to sunrise and is located on top of the ATCT.

Pavement Edge Lighting

Pavement edge lighting defines the lateral limits of the pavement to ensure safe operations during the night and/or low-visibility times. This maintains safe and efficient access to and from the runway and aircraft parking areas. As stated previously, both Runway 18L-36R and Runway 18R-36L are equipped with MIRL. Runway 18R-36L is equipped with LED lighting and Runway 18L-36R is equipped with a conventional incandescent lighting system. Each runway end is equipped with threshold lights that emit green light outward from the runway and red light toward the runway. Green lights indicate the landing threshold for arriving aircraft, while red lights indicate the end of the runway for departing aircraft.

The entirety of the taxiway system at DTO is equipped with elevated blue MITL.

Visual Approach Aids

Visual glideslope approach aids provide visual cues to pilots, alerting them as to whether they are on the correct glide path to landing. Both ends of each runway are outfitted with four-light precision approach path indicator lights (PAPI) with 3.00-degree standard glide paths. Pilots interpret the system of red and white lights, which gives an indication of a pilot's position above, below, or on the designated descent path to the runway.

LEGEND

Airport Property Line

A Taxiway Designation

PAVEMENT CONDITION

PCI*	Category
100-70	Good
69-55	Fair
54-0	Poor
Not Assessed**	N/A

*PCI - Pavement Condition Index

**The pavement condition study was performed prior to the constrction of Runway 18R-36L.

Source: TxDOT, Aviation Division, DTO Pavement Maintenance/Management Program, May 2, 2019.

Airport Rd

Westcourt Rd

Masch Branch Rd

Tom Cole Road

A A1 A2 A3 A4 A5 A6 A7

B C D E F G H J K K K L M N O P Q

Runway 18L/36R (7,002' x 150')

Runway 18R/36L (5,003' x 75')

N

0 500

SCALE IN FEET

Photo: Google Earth 03/2023

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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 ILS, in order to provide lower visibility minimums. Runway 18L is equipped with a medium intensity approach lighting system with runway alignment (MALSR), which supports a Category I precision instrument approach. The full MALSR system extends for a length of 2,200 feet from the end of the runway and includes a combination of threshold lamps and steady-burning light bars and flashers. This system provides pilots with visual cues concerning aircraft alignment, roll, height, and position relative to the threshold. The MALSR is owned and maintained by the FAA.

Airfield Signage

Airfield identification signs assist pilots in identifying runways, taxiway routes, and critical areas. The airfield at DTO is equipped with lighted location, directional, and mandatory instruction signs.

Pavement Markings

Pavement markings aid in the safe and efficient movement of aircraft along airport surfaces and identify closed or hazardous areas on the airport. DTO provides and maintains marking systems in accordance with FAA AC 150/5340-1M, *Standards for Airport Marking*, and AC 150/5300-13B, *Airport Design*.

As detailed previously, Runway 18L has precision markings, while Runways 36R and 18R-36L have non-precision instrument markings. Runway and taxiway markings at the airport indicate thresholds, holding positions, and centerlines. Taxiway markings include centerlines, leadoff lines on normally used exits, and continuous-type edge markings along paved shoulders. A dashed-type edge marking is situated approximately 65 feet from the Taxiway B centerline to designate the boundary of the taxiway object free area (TOFA) on the adjoining apron areas.

Instrument Landing System (ILS) Equipment

Airports offering full ILS approaches are equipped with both a glideslope antenna and localizer antenna array. The glideslope antenna provides vertical guidance to landing aircraft and can be located on either side of the runway; however, it is best to locate the glideslope antenna on the side of the runway with the lowest possibility of signal reflections from buildings, power lines, aircraft, etc. The glideslope antenna for Runway 18L is located on the west side of the runway, 1,030 feet from the threshold.

The localizer antenna array provides horizontal guidance and is used to establish and maintain the position of an approaching aircraft relative to the runway centerline until visual contact confirms the runway alignment and location. Typically, the localizer antenna array is situated on the extended runway centerline, between 600 and 2,000 feet from the end of the runway. The localizer antenna array for Runway 18L is located beyond the Runway 36R end, approximately 500 feet off the end of the runway. The equipment shelter, which houses electric equipment, is located approximately 280 feet east of the runway centerline.

After-Hours Lighting

During the times the ATCT is not active (10:00 p.m. to 6:00 a.m.), certain airport lights are programmed to operate continuously. For example, the MIRL systems on Runway 18L-36R and Runway 18R-36L are preset to low intensity. Pilots can utilize the common traffic advisory frequency (CTAF) to increase the intensity of the MIRLs and to activate the MALSR and PAPIs.

HOLDING BAYS

A holding bay is a designated area on the airfield that is typically located at the end of a taxiway near a runway end. The ATCT may instruct aircraft to hold on the apron until it is safe for the aircraft to proceed to the runway for takeoff. Pilots may also request to utilize holding bays to conduct final preflight checks prior to takeoff.

There are three designated holding bays on the airfield. There are two holding bays on the north end of Taxiway A that are approximately 2,600 square yards (sy) and 3,000 sy. The holding bay at the south end of Taxiway A is approximately 3,400 sy. All holding areas can accommodate multiple aircraft at one time.

WEATHER AND COMMUNICATION AIDS

Automated Surface Observing System (ASOS)

DTO is equipped with an ASOS, which provides aviation weather observations 24 hours per day. The system updates weather observations every minute, continuously reporting significant weather changes as they occur. Pilots can obtain the weather information via frequency 119.325 megahertz (MHz) or by calling (940) 383-8457. The ASOS reports cloud ceiling visibility, temperature, dew point, wind direction and speed, altimeter setting (barometric pressure), and density altitude (airfield elevation adjusted for temperature). The ASOS equipment is located adjacent to the glideslope antenna.

Wind Cone and Segmented Circle

DTO has a lighted wind cone and segmented circle, which are located near mid-field between the parallel runways . The wind cone informs pilots of the wind direction and speed, while the segmented circle indicates aircraft traffic pattern information.

Common Traffic Advisory Frequency (CTAF)

When the ATCT is closed (10:00 p.m. to 6:00 a.m.), pilots are instructed to utilize the CTAF. This radio frequency (119.95 MHz) is used by pilots in the vicinity of the airport to communicate with each other about approaches to or departures from the airport. In addition, a UNICOM frequency, which is infrequently used, is also available (122.95 MHz), through which a pilot can obtain information pertaining to the airport.

AREA AIRSPACE AND AIR TRAFFIC CONTROL

The *Federal Aviation Administration Act of 1958* established the FAA as the responsible agency for the control and use of navigable airspace within the United States. The FAA has established the National Airspace System (NAS) to protect persons and property on the ground and to establish 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.

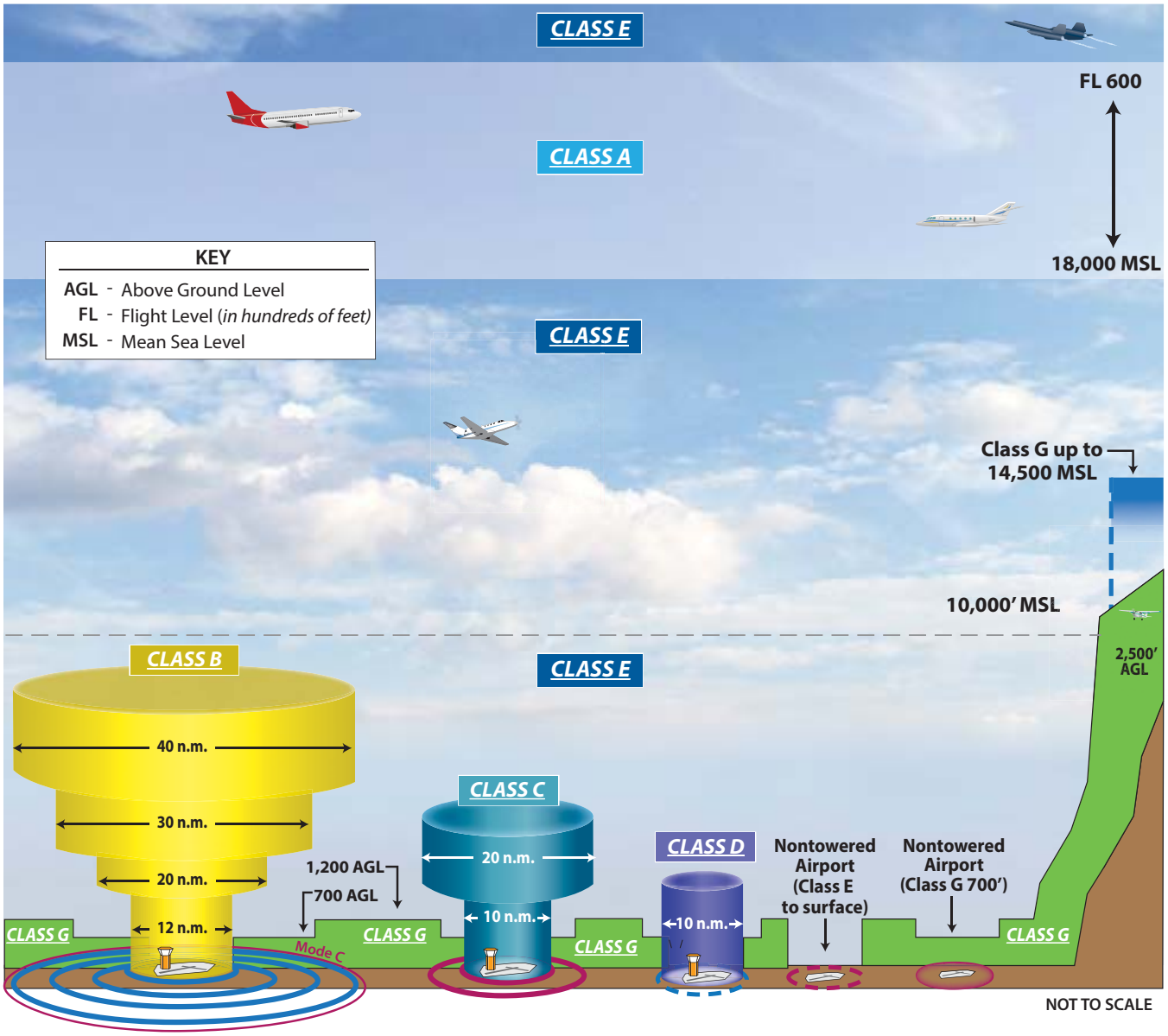
AIRSPACE STRUCTURE

Airspace within the United States is broadly classified as either controlled or uncontrolled. The difference relates primarily to requirements for pilot qualifications, ground-to-air communications, navigation and air traffic services, and weather conditions. Six classes of airspace have been designated in the United States, as shown on **Exhibit 1F**. 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.

Class A | Class A is controlled airspace and includes all airspace from 18,000 feet MSL to flight level 600 (approximately 60,000 feet MSL). This airspace is designated in FAR Part 71.193 for positive control of aircraft. The positive control area (PCA) allows only flights governed under IFR operations. An aircraft must have special radio and navigational equipment, and the pilot must obtain clearance from an air traffic control (ATC) facility to enter Class A airspace. Additionally, the pilot must possess an instrument rating to operate in Class A airspace.

Class B | Class B is controlled airspace surrounding high-activity commercial service airports. Class B airspace is designed to regulate the flow of uncontrolled traffic above, around, and below the arrival and departure airspace required for high-performance passenger-carrying aircraft at major airports. To fly within Class B airspace, an aircraft must be equipped with special radio and navigation equipment and must obtain clearance from air traffic control. A pilot is required to have at least a private pilot certificate or be a student pilot who has met the requirements of FAR Part 61.95, which requires special ground and flight training for Class B airspace. Aircraft are also required to utilize a Mode C transponder within a 30-nautical-mile (nm) range of the center of the Class B airspace. A Mode C transponder allows air traffic control to track the location and altitude of the aircraft. DTO lies below the Dallas-Fort Worth International Airport (DFW) Class B airspace. The Class B airspace over DTO begins at 4,000 feet MSL and extends up to a ceiling of 11,000 feet MSL. A Class B ring beginning approximately 1.8 nm south/southeast of DTO has a floor of 3,000 feet MSL and a ceiling of 11,000 feet MSL.

Class C | Class C is controlled airspace surrounding lower-activity commercial service and some military airports. The FAA has established Class C airspace at 120 airports around the country as a means of regulating air traffic in these areas. Class C airspace is designed to regulate the flow of uncontrolled traffic above, around, and below the arrival and departure airspace required for high-performance passenger-carrying aircraft at major airports. To operate inside Class C airspace, an aircraft must be equipped with a two-way radio and an encoding transponder, and the pilot must have established communication with ATC.



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: www.faa.gov/regulations_policies/handbooks_manuals/aviation/phak/media/15_phak_ch15.pdf

Class D | Class D is controlled airspace surrounding most airports with an operating ATCT and not classified under B or C airspace designations. Class D airspace typically constitutes a cylinder with a horizontal radius of four or five nm from the airport extending from the surface up to a designated vertical limit, which is typically set at approximately 2,500 feet above the airport elevation. If an airport has an instrument approach or departure, the Class D airspace sometimes extends along the approach or departure path.

DTO is located within Class D airspace that underlies the DFW Class B airspace, as shown on **Exhibit 1G**. DTO's Class D airspace extends from the surface to 2,500 feet above ground level (AGL) and has a radius of four nm with north and south extensions accommodating instrument approaches. Pilots planning to operate within DTO's Class D airspace are required to contact DTO air traffic control prior to entering or departing DTO airspace and must remain in contact while within the controlled airspace. When the control tower is closed (10:00 p.m. to 6:00 a.m.), the airspace reverts to Class G airspace from the surface up to 700 feet AGL with Class E airspace extending from 700 feet to 18,000 feet MSL.

Class E | Class E is controlled airspace surrounding an airport that encompasses all instrument approach procedures and low-altitude federal airways. Only aircraft conducting instrument flights are required to be in contact with the appropriate ATC facility when operating in Class E airspace. While aircraft conducting visual flights 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.

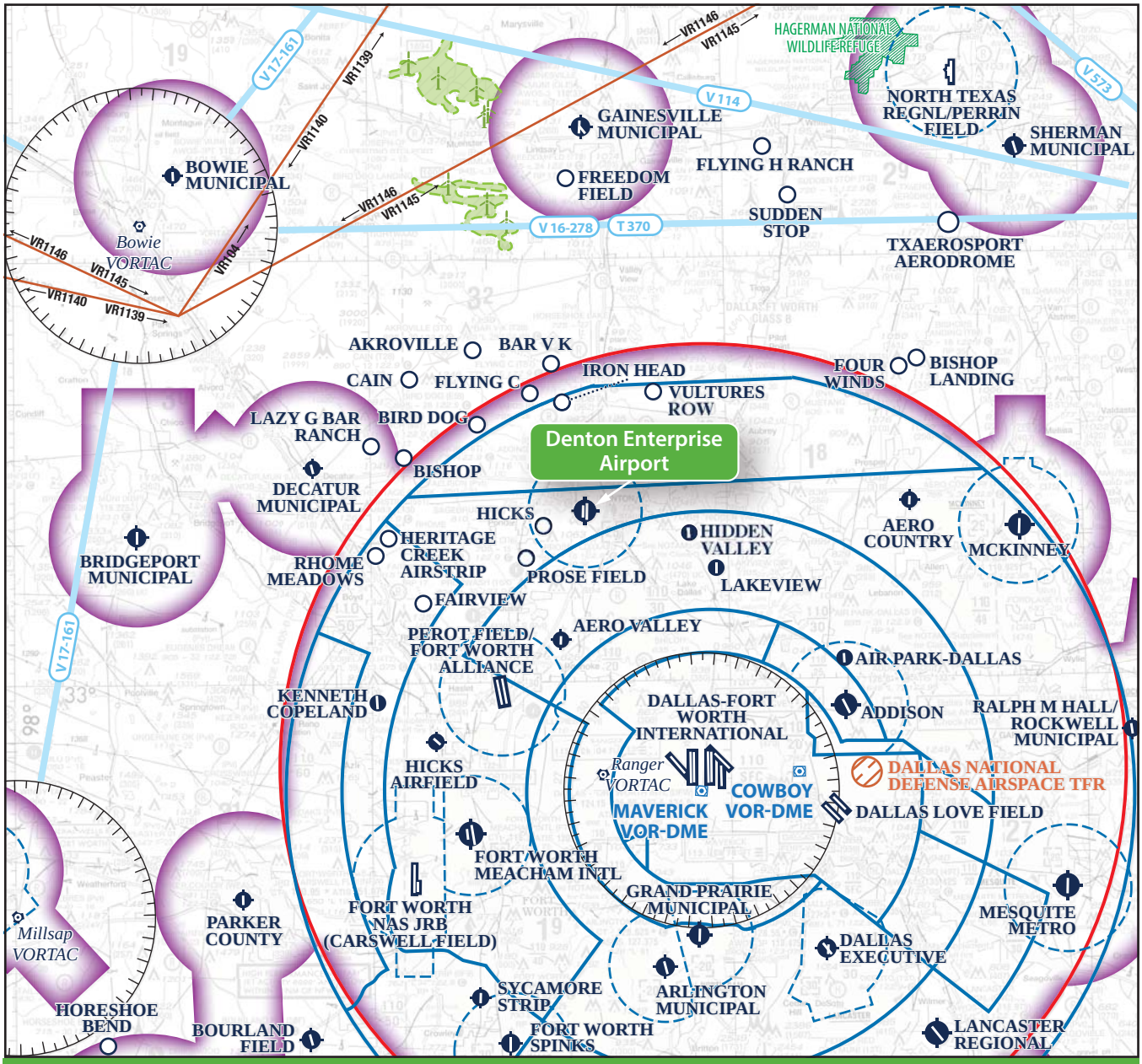
Class G | Class G is uncontrolled airspace that is typically found in rural areas and does not require communication with an ATC facility. Class G airspace lies between the surface and the overlying Class E airspace (700 to 1,200 feet AGL). While aircraft may technically operate within Class G airspace without any contact with ATC, it is unlikely that many aircraft will operate this low to the ground. Furthermore, FAR Part 91.119, *Minimum Safe Altitudes*, specifies minimum altitudes for flight.

SPECIAL USE AIRSPACE

Special use airspace is defined as airspace in which activities must be confined because of their nature, or in which limitations are imposed on aircraft not taking part in those activities. Special use airspace identifies for other users the areas in which these non-standard operations may be occurring by outlining active times and/or altitudes to provide separation information for the areas. Most special use airspace is designated on FAA aeronautical charts. The special use airspace in the vicinity of DTO is depicted on **Exhibit 1G**.

Victor Airways | Victor airways are a system of federal airways established for aircraft arriving or departing a regional area and navigating by using very high frequency omnidirectional range (VOR) facilities. Victor airways are corridors of airspace eight miles wide that extend upward from 12,000 feet AGL to 18,000 feet MSL and extend between VOR facilities. The Victor airways in the regional area are identified with blue lines marked with a "V" preceding a designation number on **Exhibit 1G**.

Military Operations Areas | A military operations area (MOA) is an area of airspace designated for military training use. An MOA is not restricted airspace; however, pilots who use this airspace should be on alert for the possibility of military traffic. A pilot may need to be aware that military aircraft can be



LEGEND

- Airport with hard-surfaced runways 1,500' to 8,069' in length
- Airports with hard-surfaced runways greater than 8,069' or some multiple runways less than 8,069'
- Airport with other than hard-surfaced runway
- Compass Rose
- VORTAC
- VOR-DME
- Wind Turbine Farm
- Class B Airspace
- Class D Airspace
- Class E (sfc) Airspace with floor 700 ft. above surface that laterally abuts 1200 ft. or higher Class E airspace
- Mode C
- Victor Airways
- Military Training Routes
- Wildlife Refuge

NORTH

NOT TO SCALE

Source:
Dallas-Fort Worth Sectional Chart, US Department of Commerce, National Oceanic and Atmospheric Administration, May 16, 2024

present in high concentrations, conducting aerobatic maneuvers and possibly operating at high speeds and/or at lower elevations. The nearest MOA to DTO is the Sheppard 2 MOA, which is approximately 50 nm northwest of the airport. Each MOA will have its own designated airspace block and hours of operation. The activity status of an MOA is advertised by a Notice to Air Missions (NOTAM) and notated on sectional charts. The Sheppard 2 MOA is controlled by the Fort Worth Air Route Traffic Control Center (ARTCC). Active military aircraft operate in the Sheppard 2 MOA from 8,000 feet MSL to (but not including) 18,000 feet MSL. This MOA is operated Monday through Friday from one hour before sunrise to one hour after sunset.

Restricted Airspace | Restricted airspace is an area (volume) of airspace, typically used by the military, in which the local controlling authorities have determined that air traffic must be restricted (if not continually prohibited) for safety or security concerns. Restricted airspace is depicted on aeronautical charts with the letter "R" followed by a serial number. Restricted areas denote the existence of unusual and often invisible hazards to aircraft, such as artillery firing, aerial gunnery, or guided missiles. Penetration of restricted areas without authorization from the using or controlling agency may be extremely hazardous to the penetrating aircraft and its occupants. Restricted airspace zones may not always be active; in such cases, schedules of local dates and times, specifying when the zone is active, are typically available to aviators. At other times, the airspace is subject to normal operation for the applicable airspace class. There are no restricted areas in the vicinity of DTO.

Alert Areas | Alert areas are depicted on aeronautical charts to inform non-participating pilots of areas that may contain a high volume of pilot training or an unusual type of aerial activity, such as military operations. Pilots should be particularly alert when flying in these areas. Military activities or other flight training activities in these areas typically operate at lower altitudes and may occur at any time of the day or night. General aviation flights are not restricted within these areas, but pilots are strongly cautioned to be alert for high-speed military training aircraft. There are no alert areas in the vicinity of DTO.

Military Training Routes | Military training routes (MTRs) are designated airspace established for use by high-performance military aircraft to train below 10,000 feet AGL and at speeds exceeding 250 knots. There are visual (VR) and instrument (IR) designated MTRs; MTRs with no segment above 1,500 feet AGL will be designated with 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 designation, followed by a three-digit number. The arrows on the route show the direction of travel. MTRs in the vicinity of DTO are depicted on **Exhibit 1G** using brown lines with their identifying number(s).

AIRSPACE CONTROL

The FAA has established 21 ARTCCs throughout the continental United States to control aircraft operating under IFR within controlled airspace and while en route. An ARTCC assigns specific routes and altitudes along federal airways to maintain separation and orderly traffic flow. The Fort Worth ARTCC controls IFR air traffic en route to and from DTO.

Flight Service Station (FSS)

A flight service station is an air traffic facility that provides pilot briefings, flight plan processing, in-flight radio communications, search and rescue (SAR) services, and assistance to lost aircraft in emergency situations. FSS facilities also relay ATC clearances, process NOTAMs, broadcast aviation meteorological and aeronautical information, and notify Customs and Border Protection of trans-border flights. The Fort Worth Flight Service Station is the nearest FSS to DTO.

Air Traffic Control Tower (ATCT)

The DTO ATCT operates daily from 6:00 a.m. to 10:00 p.m. The ATCT is located on the east side of the airfield, immediately southwest of the terminal, and is accessible via Airport Road. Tower employees utilize the employee parking lot adjacent to the tower.

The primary responsibilities for tower controllers are to sequence and separate local arriving and departing traffic and to provide ground control direction to aircraft taxiing on the ground. Tower radio frequencies are 119.95 MHz for Denton Tower and 123.95 MHz for Denton Ground. Clearance delivery is provided on 123.95 MHz, while regional approach and departure services are provided on 118.1 MHz. For clearance delivery when the ATCT is closed, pilots can contact regional approach at (972) 615-2799.

Airport Traffic Control Tower

NAVIGATIONAL AIDS

Navigational aids are electronic devices that transmit radio frequencies, which 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/from DTO include a VOR facility and global positioning system (GPS).

The VOR provides azimuth readings to pilots of properly equipped aircraft by transmitting a radio signal at every degree to provide 360 individual navigational courses. Distance measuring equipment (DME) is frequently combined with VOR (VOR-DME) to provide distance, as well as direction, information to pilots. Military tactical air navigation aids (TACANs) and civil VORs are commonly combined to form VORTACs. A VORTAC provides distance and direction information to both civil and military pilots. The Ranger VORTAC is the closest to DTO and is located 18.8 nm south of the airport.

GPS was initially developed by the United States Department of Defense for military navigation around the world; however, GPS is now used extensively for a wide variety of civilian uses, including civil aircraft navigation. GPS uses satellites placed in orbit around the earth to transmit electronic radio signals, which pilots of properly equipped aircraft can use to determine altitude, speed, and other navigational information. This provides more freedom in flight planning and allows for more direct routing to destinations. GPS provides en route navigation and non-precision instrument area navigation approaches to both runways at DTO.

FLIGHT PROCEDURES

Flight procedures are a set of predetermined maneuvers established by the FAA that use electronic or visual navigational aids to assist pilots in locating, landing at, or departing from an airport. Flight procedures at DTO include standard terminal arrivals (STARs), instrument approach procedures, and departure procedures.

Standard Terminal Arrivals (STARs)

A STAR is a preplanned, coded ATC IFR arrival route established for application to arriving IFR aircraft that are destined for certain airports. STARs simplify clearance delivery procedures and facilitate transition between en route and instrument approach procedures. There are currently eight published STAR procedures into DTO.

Instrument Approach Procedures

Instrument approach procedures assist pilots in locating and landing at an airport during low visibility and cloud ceiling conditions. They are categorized as precision, approach with vertical guidance (APV), or non-precision.

Precision instrument approaches provide an exact course alignment and vertical descent path for an aircraft on final approach to a runway with a height above touchdown (HAT) lower than 250 feet and visibility lower than ¾-mile. Examples of precision approaches include an ILS and ground-based augmentation system (GBAS) landing system (GLS). Runway 18L is equipped with a precision ILS approach.

APVs also provide course alignment and vertical descent path guidance but have HATs of 200 feet or more and visibility minimums of ½-mile or greater. Examples include vertical navigation (VNAV), localizer performance with vertical guidance (LPV), or area navigation (RNAV)/required navigation performance (RNP). Each runway end at DTO is equipped with APVs.

Non-precision instrument approach aids provide only course alignment information with no vertical component. Non-precision approaches have HATs of 250 feet or more and visibility minimums of ½-mile or greater. Examples include VOR, RNAV, lateral navigation (LNAV), localizer performance (LP), and localizer (LOC) approaches. Each runway end at DTO is equipped with non-precision approaches.

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

There are currently five published instrument approach procedures at DTO, as detailed in **Table 1J**.

TABLE 1J | Instrument Approach Procedures

Approach	Category	Minimums by Aircraft Approach Category (Example: 200'-½ = 200' decision altitude and ½-mile visibility minimums)			
		A	B	C	D
ILS or LOC – Runway 18L	S-ILS 18L	200'-½			
	S-LOC 18L	518'-½		518'-1	
	Sidestep 18R	617'-1		617'-1¾	617'-2
	Circling	617'-1		737'-2	737'-2¼
RNAV GPS – Runway 18L	LPV DA	200'-½			
	LNAV/VNAV DA	308'-½			
	LNAV MDA	378'-½		378'-¾	
	Sidestep 18R	457'-1		457'-1½	457'-2
	Circling	457'-1	617'-1	737'-2	737'-2¼
RNAV GPS – Runway 18R	LPV DA	250'-¾			
	LNAV/VNAV DA	283'-⅞			
	LNAV MDA	457'-1		457'-1⅜	
	Sidestep 18L	458'-1¼		458'-1¾	458'-2¼
	Circling	457'-1	617'-1	737'-2	737'-2¼
RNAV GPS – Runway 36L	LPV DA	250'-¾			
	LNAV/VNAV DA	351'-1			
	LNAV MDA	359'-1			
	Sidestep 36R	401'-1		401'-1½	401'-2
	Circling	457'-1	617'-1	737'-2	737'-2¼
RNAV GPS – Runway 36R	LPV DA	200'-¾			
	LNAV/VNAV DA	325'-1			
	LNAV MDA	401'-1		401'-1⅜	
	Sidestep 36L	399'-1		399'-1½	399'-2
	Circling	457'-1	617'-1	737'-2	737'-2¼

Source: FAA Instrument Flight Procedures Gateway, procedures valid from July 11, 2024, through August 8, 2024

Departure Procedures

Like a STAR, a departure procedure is a preplanned procedure for pilots to follow during departure in IFR conditions. These charted routes provide for obstacle clearance and a transition from the terminal area to the appropriate en route structure. There are nine published departure procedures at DTO.

RUNWAY USE AND TRAFFIC PATTERNS

The traffic pattern at the airport is maintained to provide the safest and most effective use of the airspace. At DTO, Runways 18L and 36L have left-hand traffic patterns, which means aircraft make left turns when in the pattern for landing. Runways 18R and 36R have right-hand traffic patterns, so aircraft make right turns when in the pattern for landing. These patterns ensure the parallel runways can be used simultaneously without overlapping traffic patterns. Runway 18L and Runway 18R are designated as calm wind runways.

FAA automatic dependent surveillance-broadcast (ADS-B) data for DTO operations in 2023 indicate that Runway 18L is the most frequently used runway, accommodating 63.6 percent of aircraft departures and 61.8 percent of aircraft arrivals. Runway 36R accommodates 28.0 percent of departures and 26.6 percent of arrivals; Runway 18R accommodates 6.0 percent of departures and 8.4 percent of arrivals; and Runway 36L accommodates the remaining 2.4 percent of departures and 3.2 percent of arrivals.

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

REGIONAL AIRPORTS

A review of other public-use airports with at least one paved runway within a 30-nm radius of DTO was conducted to identify and distinguish the types of air service provided in the region. It is important to consider the capabilities and limitations of these airports when planning for future changes or improvements to DTO. **Table 1K** provides basic information on these airports. It should be noted that only public-use airports with at least 4,000 feet of runway length have been included in the comparison.

TABLE 1K | Regional Airports within 30 Nautical Miles – Denton Enterprise Airport

Airport	Nautical Miles/ Direction from DTO[1]	FAA Service Level[2]	Towered[3]	Based Aircraft[3]	2023 Annual Operations[4]	Longest Runway[3]	Visibility Minimum[1]
Denton Enterprise Airport (DTO)	–	Reliever	Yes	412[5]	204,797	7,002'	½-mile
Fort Worth Alliance Airport (AFW)	14.1 nm SSW	Reliever	Yes	16	111,778	11,125'	½-mile
Decatur Municipal Airport (LUD)	19.4 nm W	GA	No	39	36,500[3]	4,200'	1-mile
Kenneth Copeland Airport (4T2)	20.0 nm SW	–	No	5	2,700[3]	5,943'	1-mile
Dallas-Fort Worth International Airport (DFW)	20.0 nm SSE	Primary	Yes	0	689,569	13,401'	½ mile
Aero Country Airport (T31)	23.0 nm E	–	No	255	2,100[3]	4,352'	–
Addison Airport (ADS)	23.0 nm SE	Reliever	Yes	598	119,149	7,203'	¾-mile
Fort Worth Meacham Airport (FTW)	24.4 nm SSW	Reliever	Yes	290	181,712	7,502'	½-mile
Gainesville Municipal Airport (GLE)	27.0 nm N	GA	No	114	70,000[3]	6,000'	¾-mile
Dallas Love Field Airport (DAL)	27.6 nm SE	Primary	Yes	307	251,988	8,800'	½-mile

Notes: GA = General Aviation
nm = nautical mile

Sources:
[1]Airnav.com
[2]FAA, National Plan of Integrated Airports System (NPIAS)
[3]FAA, Airport Data and Information Portal (ADIP) or National Based Aircraft Inventory Program
[4]Annual operations are derived from FAA OPSNET unless otherwise noted.
[5]DTO based aircraft count only includes validated aircraft.

LANDSIDE FACILITIES

Landside facilities are those that support the aircraft and pilot/passenger handling functions, as well as other non-aviation facilities that typically provide a revenue stream to the airport. These facilities include the general aviation facilities, automobile parking, and other non-aviation businesses located at the airport. All landside facilities at DTO are identified on **Exhibit 1H**.

Landside Facilities – View from North

Landside Facilities – View from South

TERMINAL/GENERAL AVIATION ADMINISTRATION BUILDING

The airport's terminal – designated the GA Administration Building – was constructed in 2007 and is an approximately 4,800-square-foot (sf) facility that includes offices, a pilot briefing and flight planning area, a pilots' lounge, and restrooms. The terminal is located near midfield and is directly accessible via the main airport access road, Airport Road. The building is open daily from 6:00 a.m. to 10:00 p.m. and the airport administrative office is open Monday through Friday from 8:00 a.m. to 5:00 p.m.

GA Administration Building

Existing Landside Facilities			
Bldg. #	Operating Business	Land Lease Tenant	Size
1	DSR-Cherokee 180, LLC dba In the Pattern	-	7,000'
2	DSR-Cherokee 180, LLC dba In the Pattern	-	5,100'
3	Private Hangar	First Financial Resources	8,100'
4	Private Hangar	-	6100'
5	DSR-Cherokee 180, LLC dba In the Pattern	-	5,700'
6	DSR-Cherokee 180, LLC dba In the Pattern	-	3,600'
7	CFD Integration, LLC dba CFDI Aero	-	12,200'
8	DSR-Cherokee 180, LLC dba In the Pattern	Ezell Aviation	10,000'
9	CFD Integration, LLC dba CFDI Aero	Ezell Aviation	9,900'
10	Precision Aircraft Maintenance	Ezell Aviation	9,900'
11	Sheltair Aviation Denton, LLC	-	6,500'
12	Marklyn Jet Spares	Ezell Aviation	14,500'
13	Sheltair Aviation Denton, LLC	-	9,400'
14	Sheltair Aviation Denton, LLC	-	5,100'
15	Sheltair Aviation Denton, LLC	-	60,000'
16	Sheltair Aviation Denton, LLC	-	25,500'
17	City of Denton - Airport Terminal	-	4,800'
18	Sykes-Vaughan Investments, LLC	Sheltair Aviation Denton, LLC	20,500'
19	Avitech Aircraft Maintenance & Paint, LLC	Sheltair Aviation Denton, LLC	12,700'

Existing Landside Facilities			
Bldg. #	Operating Business	Land Lease Tenant	Size
20	Shared Corporate Hangar	Sheltair Aviation Denton, LLC	13,200'
21	Roberts and Roberts Maintenance/ Assent Aeronautics, LLC	Sheltair Aviation Denton, LLC	9,200'
22	H5 T-Hangar (24 units)	Sheltair Aviation Denton, LLC	25,000'
23	H6 T-Hangar (24 units)	Sheltair Aviation Denton, LLC	22,600'
24	Shared Corporate Hangar	Sheltair Aviation Denton, LLC	23,800'
25	Shared Corporate Hangar	Sheltair Aviation Denton, LLC	12,200'
26	Shared Corporate Hangar	Sheltair Aviation Denton, LLC	12,600'
27	Aerospace Instrument Support	Sheltair Aviation Denton, LLC	15,000'
28	Sykes-Vaughan Investments, LLC	Sheltair Aviation Denton, LLC	12,900'
29	Corporte hangars (2units)	Sheltair Aviation Denton, LLC	13,000'
30	Sykes-Vaughan Investments, LLC	Sheltair Aviation Denton, LLC	13,500'
31	Civil Air Patrol	RWDW Investments	6,000'
32	Vinrose dba US Sport Planes	Samsev, LLC	5,100'
33	Shared Corporate Hangar	Derafi Technology, LLC	5,800'
34	Sykes-Vaughan Investments, LLC	-	13,000'
35	Private Hangar - Storage	-	5,700'
36	Private Hangar - Storage	-	6,500'
37	Sykes-Vaughan Investments, LLC	Sheltair Aviation Denton, LLC	14,400'
38	Sykes-Vaughan Investments, LLC	Sheltair Aviation Denton, LLC	14,400'

Existing Landside Facilities			
Bldg. #	Operating Business	Land Lease Tenant	Size
39	Sykes-Vaughan Investments, LLC,	-	14,200'
40	Box hangar (4 units)	Mark Hicks Transport, LLC	12,500'
41	T-hangar (8 units)	Mark Hicks Transport, LLC	12,400'
42	T-hangar (8 units)	Mark Hicks Transport, LLC	12,400'
43	T-hangar (8 units)	Mark Hicks Transport, LLC	10,800'
44	T-hangar (8 units)	Mark Hicks Transport, LLC	10,800'
45	Corporate Hangar	Mark Hicks Transport, LLC	16,100'
46	ATP Flight School	GKY Holdings 1, LLC	20,000'
47	Corporate Hangar	US Trinity Holdings, LLC	10,400'
48	Private Hangar - Storage	-	3,000'
49	Private Hangar - Storage	-	3,500'
50	Corporate Hangar	MPM Enterprises	4,100'
51	Private Hangar - Storage	HangarsPlus, Inc.	2,500'
52	Corporate Hangar	KPD, Inc	3,800'
53	Box Hangar (3 units)	4845 Lockheeds Assoc., LTD	10,700'
54	Corporate Hangar	Polygon Enterprises, Inc.	10,000'
55	Box hangar (6 units)	Mark Hicks Transport, LLC	21,600'
56	Box Hangar (3 units)	Mark Hicks Transport, LLC	10,800'
57	Private Hangar - Storage	HangarsPlus, Inc.	3,400'

Existing Landside Facilities			
Bldg. #	Operating Business	Land Lease Tenant	Size
58	Private Hangar - Storage	-	2,300'
59	Private Hangar - Storage	-	1,100'
60	Private Hangar - Storage	HangarsPlus, Inc.	1,100'
61	Private Hangar - Storage	-	1,100'
62	Private Hangar - Storage	HangarsPlus, Inc.	1,600'
63	T-Hangars (12 Units)	Douglas C. Weyer	13,700'
64	T-Hangars (12 Units)	Douglas C. Weyer	13,700'
65	Global Maritime Supply Management, LLC	Global Maritime Supply Management, LLC	9,100'
66	Corporate Hangar	Mark Hicks Transport, LLC	15,500'
67	Denton Med-Trans	THP Air, LLC	31,500'
68	Box Hangar (3 units)	City of Denton	3,861'
69	T-hangars (5 units)	City of Denton	5,909'
70	T-hangars (5 units)	City of Denton	6,200'
71	T-hangars (5 units)	City of Denton	6,200'
72	Box Hangar (3 units)	City of Denton	4,200'
73	Box Hangar (3 units)	City of Denton	4,200'
74	Box Hangar (3 units)	City of Denton	4,200'

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AIRPORT BUSINESSES

Fixed Base Operators (FBOs)

FBOs are airport service centers that are responsible for aircraft services, such as passenger handling, aircraft fueling, parking, maintenance, aircraft towing and storage, and other related services. DTO currently has one full-service FBO: Sheltair Aviation Denton, LLC. Sheltair operates out of Buildings 13, 14, 15, and 16 and leases space in several other hangars on the airport.

Sheltair Hangar

SASOs and Other Businesses

A number of specialty aviation service operators (SASOs) and other businesses are located at the airport, including air charter operators, flight schools, and aircraft maintenance providers. **Exhibit 1H** includes information about the operating businesses and land lease tenants located on the airfield.

AIRCRAFT HANGAR FACILITIES

Existing hangar facilities at DTO consist of conventional-style hangars utilized by the various FBOs/SASOs on the airport, mid-sized corporate/box hangars, and T-hangars that are designed to accommodate smaller aircraft. Conventional hangars typically offer more than 10,000 sf of storage space, while corporate/box hangars usually range in size from 2,500 sf to 10,000 sf. Conventional and corporate/box hangars make up the majority of hangars at DTO. Hangars at DTO are identified on **Exhibit 1H**.

Approximate total square footages of the existing hangar types are:

- Conventional hangars – 434,950 sf
- Corporate/box hangars – 141,061 sf
- T-hangars – 160,709 sf

Conventional Hangar

Corporate Hangars

Box Hangars and T-Hangars

Box Hangars

T-Hangars

AIRCRAFT PARKING APRONS

Aircraft aprons are pavement areas that are sufficiently removed from aircraft taxiways and movement areas to facilitate the safe and efficient transition of passengers from the airside elements (runways and taxiways) to the landside elements. Aprons provide access to the terminal facility, FBO/SASOs, and hangars and provide for short- and long-term aircraft parking. DTO has five distinct apron areas, which offer approximately 60,175 sy of combined apron space. The five apron areas at DTO are described below and identified on **Exhibit 1H**.

- The terminal apron comprises approximately 33,375 sy and is the main area for transient aircraft parking at the terminal and Sheltair facilities.
- Apron 1 comprises approximately 6,400 sy and is located north of the terminal. This apron is primarily utilized for transient aircraft parking.
- Aprons 2 and 3 provide approximately 9,200 sy and 6,700 sy of pavement, respectively. These aprons are leased by U.S. Aviation to support its flight training operations and are not available for public use.
- Apron 4 comprises 4,500 sy of pavement and is utilized primarily by locally based aircraft.

Terminal Apron

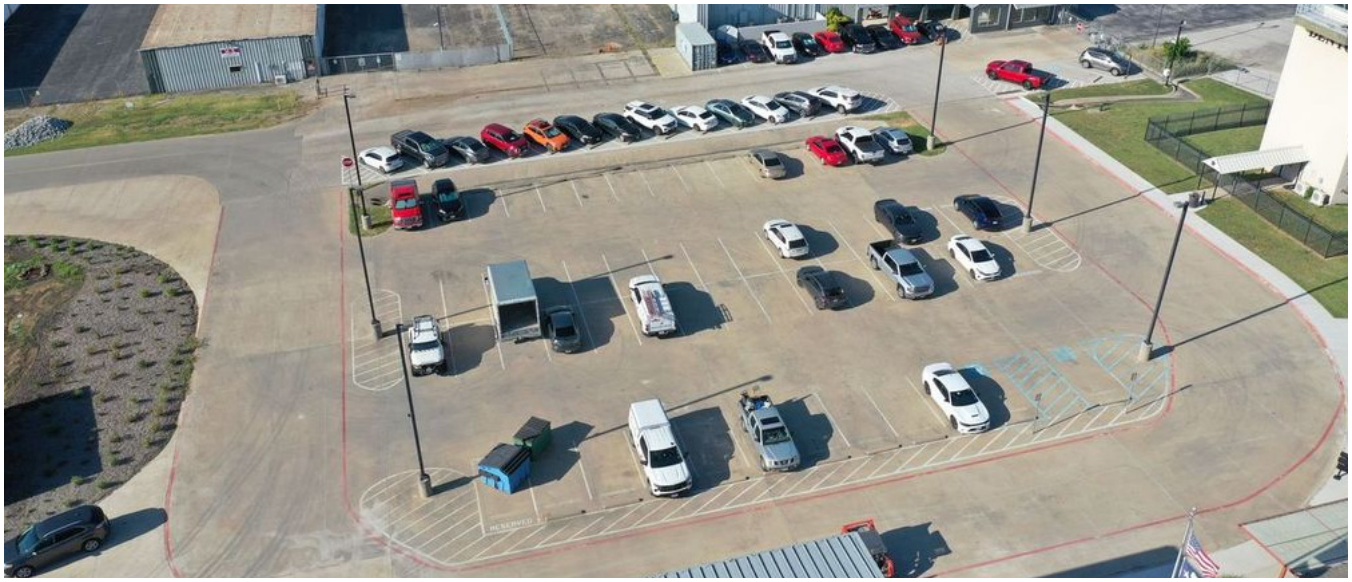
Apron 1

Aprons 2 and 3

Apron 4

VEHICLE PARKING

There are approximately 730 marked, publicly accessible vehicle parking spaces to support facilities at the airport, including accessible parking spaces. These do not include private parking spaces at businesses within the fenced airport property. The terminal building has a primary parking area with approximately 87 spaces. The contract tower and the FBO have their own designated parking areas. Marked vehicle parking spaces outside the airport security fencing are identified on **Exhibit 1J**. The airport also has 244 temporary unpaved parking spaces available on the east end of the airport.



Terminal Parking Lot

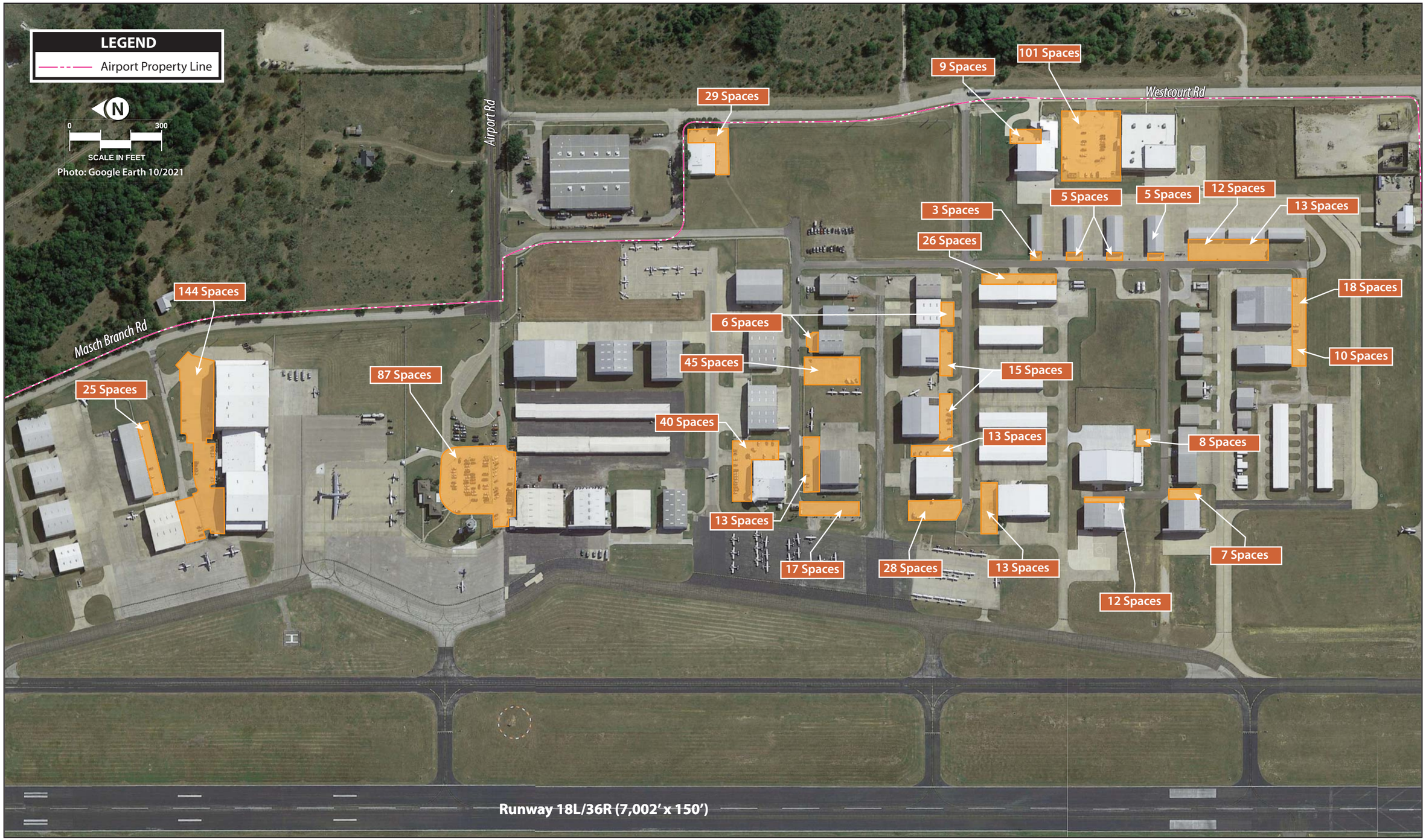
SUPPORT FACILITIES

AIRCRAFT RESCUE AND FIREFIGHTING (ARFF) SERVICES

DTO is not currently a Part 139 certificated airport, so it is not required to have on-site ARFF facilities/equipment; however, previous planning has explored pursuing a Part 139 AOC. Part 139 airports are required to provide ARFF services during air carrier operations. Each certificated airport maintains equipment and personnel based on an ARFF index that is established according to the length of aircraft and scheduled daily flight frequency. There are five ARFF indices: A through E. Index A is applicable to the smallest aircraft and Index E is applicable to the largest aircraft, based on aircraft length.

Although DTO does not experience scheduled air service, but as a reliever airport, DTO can provide FAA Index A upon request. Prior permission is required 48 hours in advance of any air carrier operations to ensure availability of ARFF 15 minutes before and after an air carrier arrival and departure.

An on-site fire station (Station #9) was completed in July 2024 and has response duties for the airport and the western portion of Denton. Station #9 is equipped with one ARFF vehicle, a 2021 Oshkosh Striker 3000 6x6, with 3,000 gallons of water, 420 gallons of aqueous film forming foam (AFFF), 460 pounds of Halotron, and 500 pounds of Purple K dry chemical.


LEGEND
Airport Property Line
N
0
300
SCALE IN FEET
Photo: Google Earth 10/2021
Airport Rd
Westcourt Rd
Masch Branch Rd
9 Spaces
101 Spaces
29 Spaces
5 Spaces
5 Spaces
12 Spaces
13 Spaces
3 Spaces
26 Spaces
18 Spaces
144 Spaces
6 Spaces
10 Spaces
45 Spaces
15 Spaces
25 Spaces
87 Spaces
40 Spaces
13 Spaces
8 Spaces
13 Spaces
7 Spaces
17 Spaces
28 Spaces
13 Spaces
12 Spaces
Runway 18L/36R (7,002′ x 150′)

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Denton Fire Department ARFF Vehicle

Fire Station #9

FUEL STORAGE

Aviation fuel services at DTO are offered by Sheltair, which owns or leases all fuel storage facilities on the airport. Seven above ground fuel storage tanks are located along Skylane near the intersection with Lockheed Lane and at the east ends of Taxilanes K and L. Fuel storage tanks consist of one 12,340-gallon tank for 100LL, one 12,340 gallon tank for Jet A, two 12,000-gallon tanks for 100LL, two 12,000-gallon tanks for Jet A, and one 1,000-gallon tank for 100LL. Additionally, the airport has several mobile fuel trucks including two 5,000-gallon Jet A trucks, one 3,000-gallon Jet A truck, two 1,200-gallon 100LL trucks, one 1,000-gallon 100LL truck, and one 200-gallon Jet A truck.

Fuel flowage records by fiscal year indicate that the airport averages approximately 409,000 gallons of 100LL flowage and 1.3 million gallons of Jet A flowage annually. Fuel flowage history is provided in **Table 1L**.

Fuel Storage Tanks

TABLE 1L | Fuel Flowage History

Fiscal Year	100LL (gallons)	Jet A (gallons)
2014	435,123	1,121,151
2015	489,480	1,447,476
2016	429,867	1,389,623
2017	409,560	1,432,064
2018	341,425	1,309,775
2019	390,617	1,106,665
2020	405,458	945,765
2021	339,541	1,203,011
2022	377,901	1,522,258
2023	476,312	1,344,331
2024*	406,591	875,418

Note: Fiscal year runs from October to September.
*2024 data are through June.

Source: DTO records

AIRPORT MAINTENANCE FACILITIES

The airport has an airport maintenance facility that is located on the south end of the field and is accessible via the perimeter service road. Maintenance equipment, such as movers, runway sweepers, portable generators, tractors, and a deicing storage tank are stored in this building.

Maintenance Shop

PERIMETER ACCESS ROAD AND FENCING

Ground vehicles authorized by the airport to operate on movement and safety areas are limited to vehicles that are necessary for airport operations. These include airport maintenance vehicles, police patrol vehicles, fire and rescue vehicles, aircraft fuel and service vehicles, and others authorized by the airport, such as FBO vehicles, construction vehicles, FAA vehicles, and airport operations staff vehicles.

A perimeter service road provides access to areas of the airfield that are not accessible from public roadways. The perimeter road is accessed by a security gate from Westcourt Road and starts as a paved road before turning south as an unpaved/gravel road. This perimeter road wraps around the southern end of Runway 36R, passing around the localizer equipment and then around Runway 36L. The perimeter

road runs parallel to Tom Cole Road on the west side of the airfield, providing access to two natural gas wells located on airport property, and meanders around the north side of Runways 18R and 18L, where it ends at a security gate accessible from Masch Branch Road. An additional natural gas well site can is accessible from the perimeter road at its intersection with Westcourt Road.

The perimeter of the airport is enclosed with security fencing; however, some existing fencing gaps are currently being addressed. The main fencing around the airport is a six-foot-high chain-link security fence with three-strand barbed wire. The north and south ends of the airfield are supplemented with 10-foot-high game fencing. Signs prohibiting unauthorized entry are displayed on all gates and in other prominent locations to control inadvertent entry to the airfield. Gates located at various points on the airfield allow access to movement and non-movement areas and are locked either electronically or with padlocks.

The perimeter access road and fencing are identified on **Exhibit 1K**.

MOBILITY PLAN

On March 22, 2022, the Denton City Council adopted the *2022 Mobility Plan*, which is a multimodal transportation master plan for the City of Denton. Of key importance to this master plan is the planned roadway infrastructure in the vicinity of the airport. As shown on **Exhibit 1L**, the city plans to construct a future extension of the US 288 loop from Interstate 35 to FM 2449, along with several new primary and secondary arterial roadways that would provide new access points to the airport. In particular, the new arterials have the potential to provide greater accessibility to the west side of the airport to support new landside developments.

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 FAA 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 defines 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.

DTO is in Denton County, Texas, which is in nonattainment for eight-hour ozone (severe-15 [2008 standard]) and eight-hour ozone (serious [2015 standard]), as of June 30, 2024.[2]

BIOLOGICAL RESOURCES

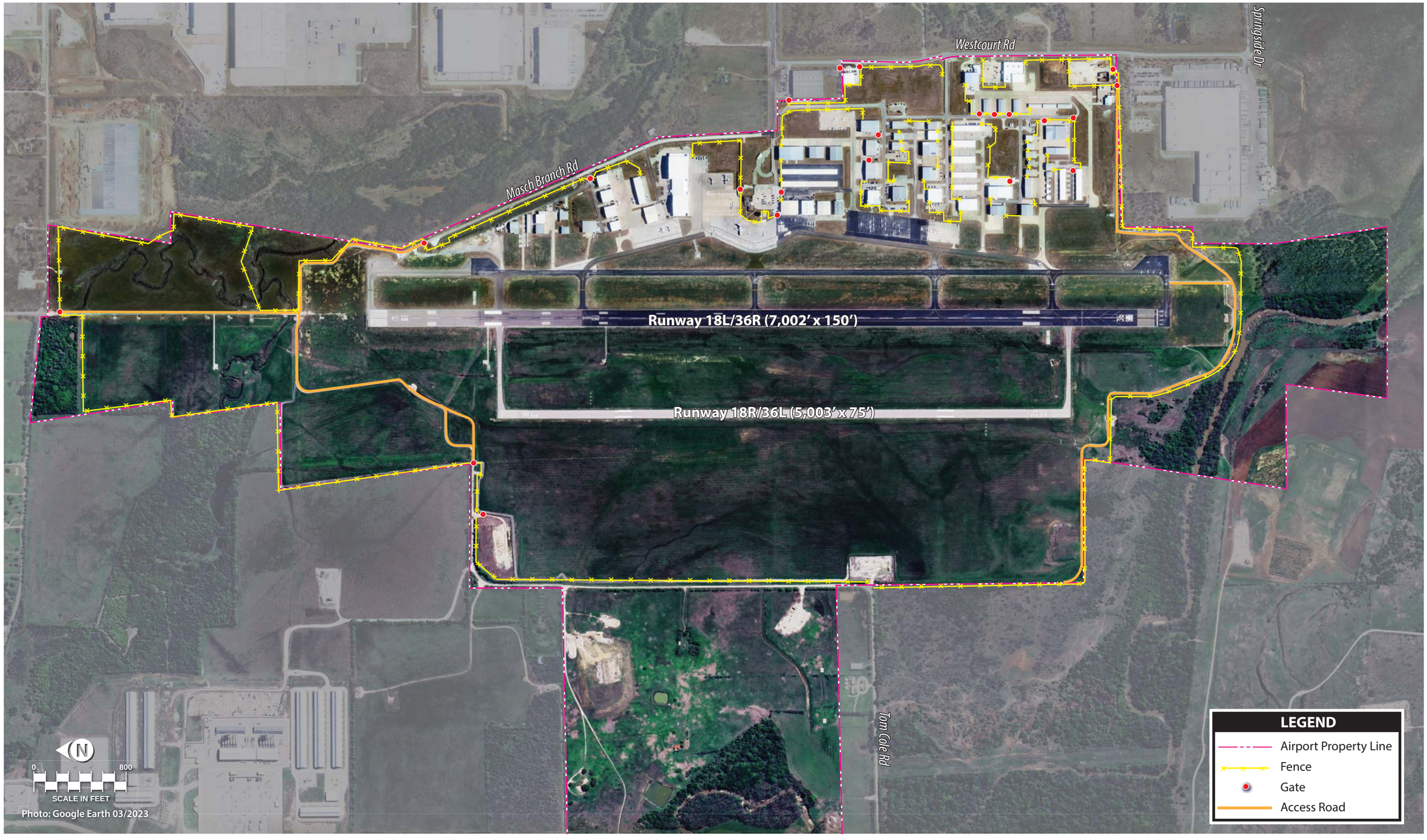
Biological resources include the various types of plants and animals that are present in an area. The term also applies to rivers, lakes, wetlands, forests, and other habitat types that support plants and animals. The airport is flat with elevations ranging from roughly 615 to 670 feet above MSL. Habitat includes ruderal vegetation and grasses. There are no trees, except those used in landscaping within the developed landside areas of the airport.

The U.S. Fish and Wildlife Service (USFWS) is charged with overseeing the requirements set forth in 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 on protected species will result from 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 Information for Planning and Consultation (IPaC) resource list describes species and habitats protected under the ESA within the vicinity of the airport (**Table 1M**).

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 specific species. There are no critical habitat areas at or near the airport.

The federal *Migratory Bird Treaty Act* (MBTA) protects migratory birds and their eggs, nests, and feathers. Potential impacts to species protected under the MBTA are evaluated by the USFWS in consultation with other federal agencies. Habitat for migratory birds may occur if bushes or other ground nesting substrate is present. The typical breeding season for the migratory birds that would be present is from February through October.

[2] U.S. EPA – Green Book – Texas Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants (https://www3.epa.gov/airquality/greenbook/anayo_tx.html)


Westcourt Rd
Springside Dr
Masch Branch Rd
Runway 18L/36R (7,002' x 150')
Runway 18R/36L (5,003' x 75')
Tom Cole Rd
N
0
800
SCALE IN FEET
Photo: Google Earth 03/2023
LEGEND
Airport Property Line
Fence
Gate
Access Road

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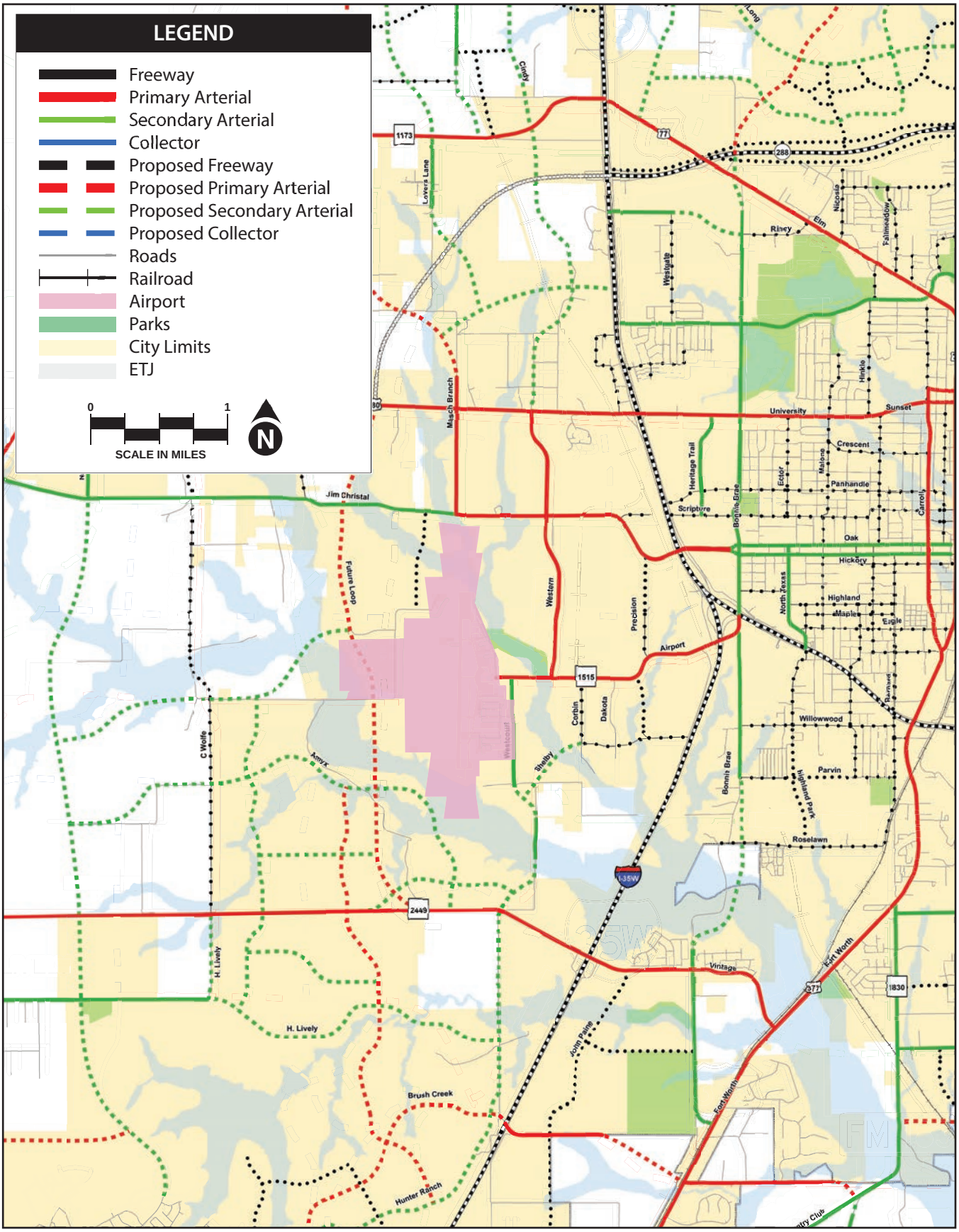


Source: City of Denton 2022 Thoroughfare Plan

Based on the City of Denton's wildlife corridor map, shown on **Exhibit 1M**, areas to the east of DTO have been identified as a wildlife corridor.[3]

TABLE 1M | Federally Endangered, Threatened, and Candidate Species to be Considered for Airport Development Actions at DTO

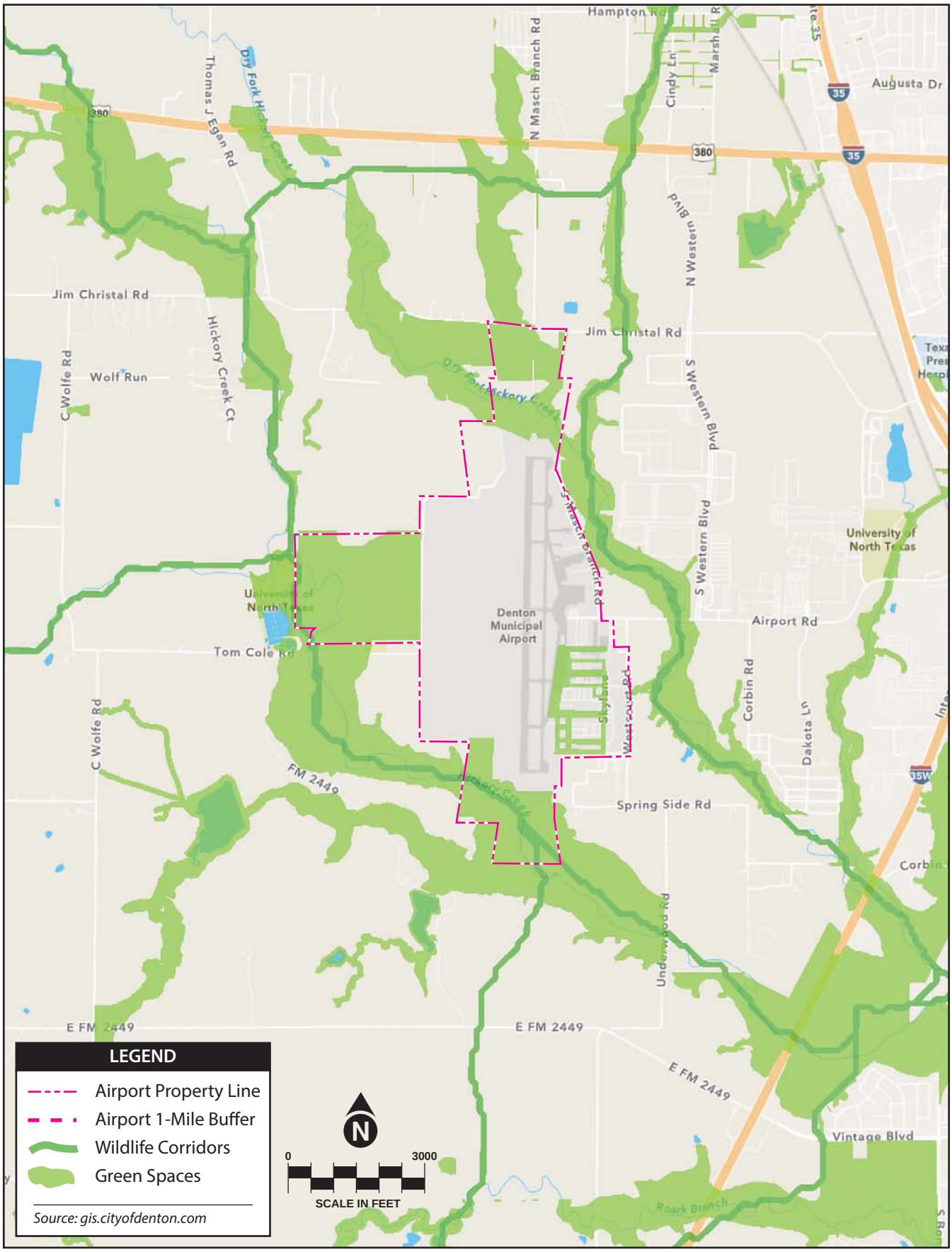
Common Name (*Scientific Name*)	Federal/State Status	Habitat and Range	Potential for Occurrence
Mammals			
tricolored bat (*Perimyotis subflavus*)	Federal Proposed Endangered	Tricolored bats spend the winter hibernating in caves and mines. In the southern U.S., where caves are sparse, tricolored bats often hibernate in culverts and sometimes hibernate in tree cavities and abandoned water wells. During the spring, summer, and fall, tricolored bats primarily roost among leaf clusters of live or recently dead deciduous hardwood trees. Tricolored bats have been observed roosting during summer within artificial roosts, like barns, as well as beneath porch roofs, bridges, and concrete bunkers.	**May occur.** The airport and land in proximity to the airport contain trees that could be used for roosting habitat. Additionally, there are human-made structures on airport property and nearby residences that could be used as artificial roosts by this species.
Birds			
piping plover (*Charadrius melodus*)	Federal Threatened/ State Threatened	This species lives on beaches, sandflats, and dunes along the Gulf Coast beaches and adjacent offshore islands.	**Not likely to occur.** The airport is over 300 miles from the coastline of the Gulf of Mexico.
rufa red knot (*Calidris canutus rufa*)	Federal Threatened/ State Threatened	This species prefers sandy beaches and mudflats. In general, nests are found in sparsely vegetated, dry, sunny, slightly elevated tundra locations, often on windswept ridges or slopes with low cover.	**Not likely to occur.** The airport does not contain suitable habitat for this species.
whooping crane (*Grus americana*)	Federal Endangered/ State Endangered	Whooping cranes reside in wetlands, marshes, mudflats, wet prairies, and fields. This species spends winters in Texas in the coastal marshes of Aransas, Calhoun, and Refugio Counties.	**May occur.** The airport contains freshwater emergent wetlands along the western portion of the airport.
Reptiles			
alligator snapping turtle (*Macrochelys temminckii*)	Federal Proposed Threatened	The alligator snapping turtle prefers river systems, lakes, and wetlands. This species is almost exclusively aquatic, tends to stay away from land (except for egg-laying), and is found throughout the United States from northern Florida to eastern Texas.	**May occur.** The southern boundary of the airport traverses Hickory Creek, which could provide habitat for alligator snapping turtles.
Insects			
monarch butterfly (*Danaus plexippus)*	Federal Candidate	The monarch butterfly is a migratory species found in a variety of habitats. This species requires milkweed (*Asclepias* spp.) for breeding. Migrating monarch butterflies often occur near water sources (e.g., rivers, creeks, riparian corridors, roadside ditches, and irrigated gardens).	**May occur.** The airport is surrounded by agricultural fields that could provide habitat for foraging.

*USFWS Status Definitions for Federally Listed Species

- Endangered = an animal or plant species in danger of extinction throughout all or a significant portion of its range
- Threatened = an animal or plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range
- Candidate = an animal or plant species for which the USFWS has sufficient information on biological vulnerability and threats to support proposals to list the species as endangered or threatened under the ESA, but the development of a proposed listing regulation is precluded by other higher priority listing activities; candidate species are not protected by the take prohibitions of Section 9 of the ESA

Sources: USFWS, IPaC (https://ipac.ecosphere.fws.gov/); Texas Parks & Wildlife Department, Annotated County Lists of Rare Species (Nueces County) (https://tpwd.texas.gov/gis/rtest/)

[3] City of Denton, Wildlife Corridor Map, (https://gis.cityofdenton.com:9002/mapviewer/#)


Hampton Rd
Thomas J Egan Rd
Dry Fork Hickory Creek
N Masch Branch Rd
Cindy Ln
Marsha Ln
Augusta Dr
380
35
N Western Blvd
Jim Christal Rd
C Wolfe Rd
Wolf Run
Hickory Creek Ct
S Western Blvd
University of North Texas
Denton Municipal Airport
Airport Rd
Tom Cole Rd
Corbin Rd
Dakota Ln
FM 2449
Spring Side Rd
Underwood Rd
E FM 2449
Vintage Blvd
Roark Branch
LEGEND
Airport Property Line
Airport 1-Mile Buffer
Wildlife Corridors
Green Spaces
Source: gis.cityofdenton.com
N
0
3000
SCALE IN FEET

Terrestrial and avian species identified for Denton County on the Texas Parks & Wildlife Department's (TPWD) *Annotated County Lists of Rare Species*[4] that are state listed, but not federally listed, are identified below. No aquatic habitat at the airport is suitable to support marine mammals or fish listed by the TPWD for Denton County.

Birds

- black rail (*Laterallus jamaicensis*) – state threatened
- white-faced ibis (*Plegadis chihi*) – state threatened

Reptiles

- Texas horned lizard (*Phrynosoma cornutum*) – state threatened

CLIMATE

Increasing concentrations of greenhouse gases (GHGs) 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 (human-made). Research has established a direct correlation between fuel combustion and GHG emissions. GHGs from anthropogenic sources include CO_2, CH_4, N_2O, hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6). 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 1990-2021* shows a two percent decrease in total U.S. GHG emissions from 1990 to 2021, down from a high 15.8 percent above 1990 levels in 2007. During 2020 to 2021, the U.S. experienced an increase in economic activity driven by businesses and persons rebounding after the COVID-19 pandemic. This resulted in an increase in total U.S. GHG emissions, of which CO_2 emissions accounted for the majority.

In 2021, the transportation sector and power generation accounted for 79.3 percent of total CO_2 emissions; however, the overall aviation industry has shown a decrease in CO_2 emissions by 18 percent between 1990 and 2021.[5] Commercial aircraft emissions have highly fluctuated over the past thirty years, with a 27 percent increase between 1990 and 2007, a two percent decrease from 2007 to 2019, and a 33 percent decrease from 2019 to 2020, followed by a 23 percent increase from 2020 to 2021. This represents an overall eight percent difference between 1990 and 2021 commercial aircraft emissions. Between 1990 and 2021, emissions from military aircraft decreased by 65 percent.

[4] Texas Parks & Wildlife Department, Annotated County Lists of Rare Species (Nueces County) (https://tpwd.texas.gov/gis/rtest/)

[5] U.S EPA, Inventory of U.S. Greenhouse Gases, Chapter 3: Energy (https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021); includes consumption of jet fuel and aviation gasoline but does not include emissions from international aviation, i.e., international bunker fuels (https://unfccc.int/topics/mitigation/workstreams/emissions-from-international-transport-bunker-fuels)

Texas does not have a statewide climate adaptation or action plan; however, the City of Denton has adopted *Simply Sustainable – A Framework for Denton's Future*, which sets a goal of completing GHG emission inventories to set target reduction goals for the city to meet.[6] Based on the *City of Denton 2019 Inventory of Community and Government GHG Emissions*, the largest contributor to GHG emissions is the transportation sector. The city is currently working on updating this report for the calendar year 2022.

On April 19, 2022, the Denton City Council passed Ordinance 22-746, which outlines the need to reduce community emissions by 46.3 percent from 2018 to 2030 and ultimately achieve net zero emissions by 2050.[7]

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[8] and is over 300 miles inland from the Gulf of Mexico. The nearest National Marine Sanctuary is Flower Garden Banks National Marine Sanctuary, located 150 miles away from the airport.[9]

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 Title 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.

There are no potential Section 4(f) resources within one mile of the airport.

The nearest historic feature and district listed on the National Register of Historic Places (NRHP) are the Denton County Courthouse at the intersection of E McKinney Street and Jannie Street and the Denton County Courthouse Square Historic District, both of which are over three miles away from the airport.[10]

The nearest waterfowl and wildlife refuge, wilderness area, and national recreation area are:

- Wildlife/Waterfowl Refuge – Hagerman National Wildlife Refuge (40 miles from the airport)
- Wilderness Area – Wichita Mountains Wilderness (135 miles from the airport)
- National Recreation Area – Chickasaw National Recreation Area (85 miles from the airport)

[6] City of Denton, Simply Sustainable – A Framework for Denton's Future (https://www.cityofdenton.com/232/Sustainable-Denton)
[7] City of Denton 2019 Inventory of Community and Government GHG Emissions (https://www.cityofdenton.com/DocumentCenter/View/6939/2019-Greenhouse-Gas-Inventory-Update)
[8] Texas Coastal Zone (www.glo.texas.gov/coast/coastal-management/forms/files/CoastalBoundaryMap.pdf)
[9] Google Earth Aerial Imagery, National Marine Sanctuary (https://sanctuaries.noaa.gov/about/maps.html)
[10] 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)

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, consider appropriate alternative actions that could lessen adverse effects, and ensure that such federal programs are (to the extent practicable) compatible with state or local government programs and policies to protect farmland. The FPPA guidelines were developed by the U.S. Department of Agriculture (USDA) and apply to farmland classified as prime, unique, or of statewide or local importance, as determined by the appropriate government agency with concurrence by the Secretary of Agriculture.

The USDA Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey shows the types of soils and their farmland classifications on and adjacent to the airport (**Exhibit 1N**). The airport is located outside of a census-designated urbanized area[11] and might be subject to the FPPA because it contains soils with prime farmland rating.

The airport has three types of farmland classification: *all areas are prime farmland*, *farmland of statewide importance*, and *not prime farmland*. Most of the land within the airport is recognized as prime farmland (**Table 1N**). The area of the airport to the northeast of the airfield and the areas south of the airfield have been designated as *not prime farmland*.

Exhibit 1N also shows the soil ratings for the area within one mile of the airport. Much of this land is farmed and is rated as either prime farmland or farmland of statewide importance.

TABLE 1N | Farmland Classification – Summary Map Unit – Denton County, Texas (TX121)

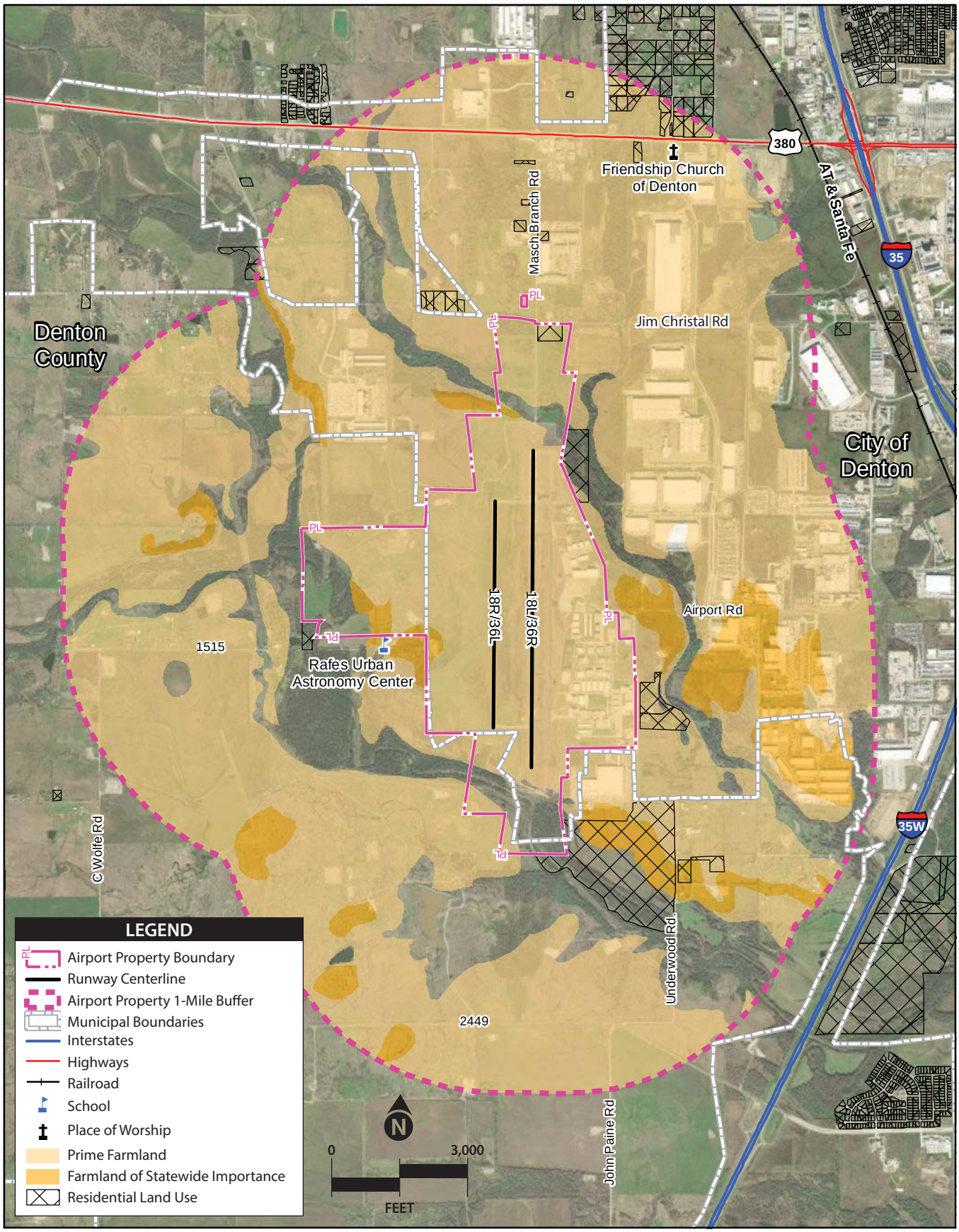
Web Soil Survey Symbol	Soil Type	Farmland Rating
2	Altoga silty clay, 2 to 5 percent slopes	Farmland of statewide importance
7	Arents, hilly, occasionally flooded	Not prime farmland
21	Burleson clay, 0 to 1 percent slopes	All areas are prime farmland
22	Burleson clay, 1 to 3 percent slopes	All areas are prime farmland
34	Frio clay loam, 0 to 1 clay percent slopes, frequently flooded	Not prime farmland
40	Gowen clay loam, frequently flooded	Not prime farmland
46	Justin fine sandy loam, 1 to 3 percent slopes	All areas are prime farmland
53	Lewisville clay loam, 3 to 5 percent slopes	All areas are prime farmland
54	Lindale clay loam, 1 to 3 percent slopes	All areas are prime farmland
66	Ponder loam, 1 to 3 percent slopes	All areas are prime farmland
67	Sanger clay, 1 to 3 percent slopes	All areas are prime farmland
83	Wilson clay loam, 0 to 1 percent slopes	Farmland of statewide importance
84	Wilson clay loam, 1 to 3 percent slopes	Farmland of statewide importance

Source: USDA-NRCS, 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 usage, storage, transportation, and disposal. These laws may extend to past and future landowners of properties containing these materials. Disrupting sites that contain hazardous materials or contaminants may cause significant impacts to soil, surface water, groundwater, air quality, and the organisms using these resources.

[11] U.S. EPA, EJScreen (Version 2.2), Boundaries – Urban Areas (https://ejscreen.epa.gov/mapper/)


Denton County
City of Denton
Friendship Church of Denton
Masch Branch Rd
Jim Christal Rd
Airport Rd
Rafes Urban Astronomy Center
1515
2449
18R/36L
18L/36R
C Wolfe Rd
Underwood Rd.
John Paine Rd
AT & Santa Fe
380
35
35W
PL
LEGEND
Airport Property Boundary
Runway Centerline
Airport Property 1-Mile Buffer
Municipal Boundaries
Interstates
Highways
Railroad
School
Place of Worship
Prime Farmland
Farmland of Statewide Importance
Residential Land Use
N
0
3,000
FEET

The two statutes of most importance to airport projects are the *Resource Conservation Recovery Act* (RCRA), as amended by the *Federal Facilities Compliance Act of 1992*, and the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), as amended (also known as Superfund). The RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. The CERCLA provides for the cleanup of any release of a hazardous substance that may endanger public health or the environment. Locations identified as Superfund sites are listed on the National Priorities List (NPL). According to the U.S. EPA's EJScreen online tool, there are no Superfund or brownfield sites within one mile of the airport.[12]

Based on the Texas Commission on Environmental Quality's (TCEQ) database, a leaking petroleum storage tank was present at the airport in the past; however, this case was closed in 1999.[13]

The airport has four fuel farms and multiple fuel trucks that can be utilized by its visitors. Spill prevention, control, and countermeasure (SPCC) plans are required for these facilities, per U.S. EPA regulations.

National Pollutant Discharge Elimination System (NPDES) permits outline the regulatory requirements of municipal stormwater management programs and establish requirements to help protect the beneficial uses of receiving waters. The program requires 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. In Texas, the Texas Pollutant Discharge Elimination System (TPDES) program has federal regulatory authority over discharges of pollutants to Texas surface waters.[14] This program is administered by the TCEQ, except for permits associated with oil, gas, and geothermal exploration, which are regulated by the Railroad Commission of Texas. The TPDES Stormwater Multi-Sector General Permit (MSGP), is a common permit administered by TCEQ, for the discharge of stormwater associated with industrial activity. This permit can be applied to airports under Sector S of Industrial Activity – Air Transportation Facilities. To obtain coverage for any materials storage or handling areas at an airport, the permittee must develop and implement a stormwater pollution prevention plan (SWPPP). The SWPPP should include the following[15]:

- A list of pollutants that may be present at the airport and have the potential to be exposed to precipitation or runoff.
- A map providing the location of all the material storage and handling areas that would be included under the MSGP authorization.
- A description of best management practices (BMPs) and how they would be implemented to address any material that might be exposed to rainfall or runoff.

[12] U.S. EPA, EJScreen (Version 2.2), EJScreen Community Report (https://ejscreen.epa.gov/mapper/)
[13] Texas Open Data Portal, TCEQ Leaking Petroleum Storage Tank Sites (https://data.texas.gov/dataset/Texas-Commission-on-Environmental-Quality-Leaking-/hedz-nn4q/data_preview)
[14] TCEQ, Wastewater and Stormwater, What Is the "Texas Pollutant Discharge Elimination System (TPDES)"? (https://www.tceq.texas.gov/permitting/wastewater/pretreatment/tpdes_definition.html)
[15] Texas Commission on Environmental Quality, Assistance Tools for Industrial Stormwater General Permit, (https://www.tceq.texas.gov/assistance/water/stormwater/sw-industrial.html)

The TCEQ also administers Title 30 Texas Administrative Code (TAC) Part 1, Chapter 330, *Municipal Solid Waste*, which regulates waste management. The closest landfill to the airport is the City of Denton Landfill, which is located at the intersection of Treatment Plant Road and Landfill Road, more than six miles east of the airport. This landfill accepts most types of construction waste that are not considered commercial hazardous waste.

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 of 1966* (NHPA), as amended, the *Archaeological and Historic Preservation Act of 1974* (AHPA), the *Archaeological Resources Protection Act* (ARPA), and the *Native American Graves Protection and Repatriation Act of 1990* (NAGPRA). The *Antiquities Act of 1906*, the *Historic Sites Act of 1935*, and the *American Indian Religious Freedom Act of 1978* also protect historic, architectural, archaeological, and cultural resources. Impacts may occur when a proposed project causes an adverse effect on a resource that has been identified (or is identified after being unearthed during construction) as having historic, architectural, archaeological, or cultural significance.

From the information available at the time this report was prepared, no systematic airport-wide cultural surveys have been conducted. Much of the airport has been developed or disturbed by construction; however, there is still a chance that intact cultural resources may be present on the ground surface or subsurface.

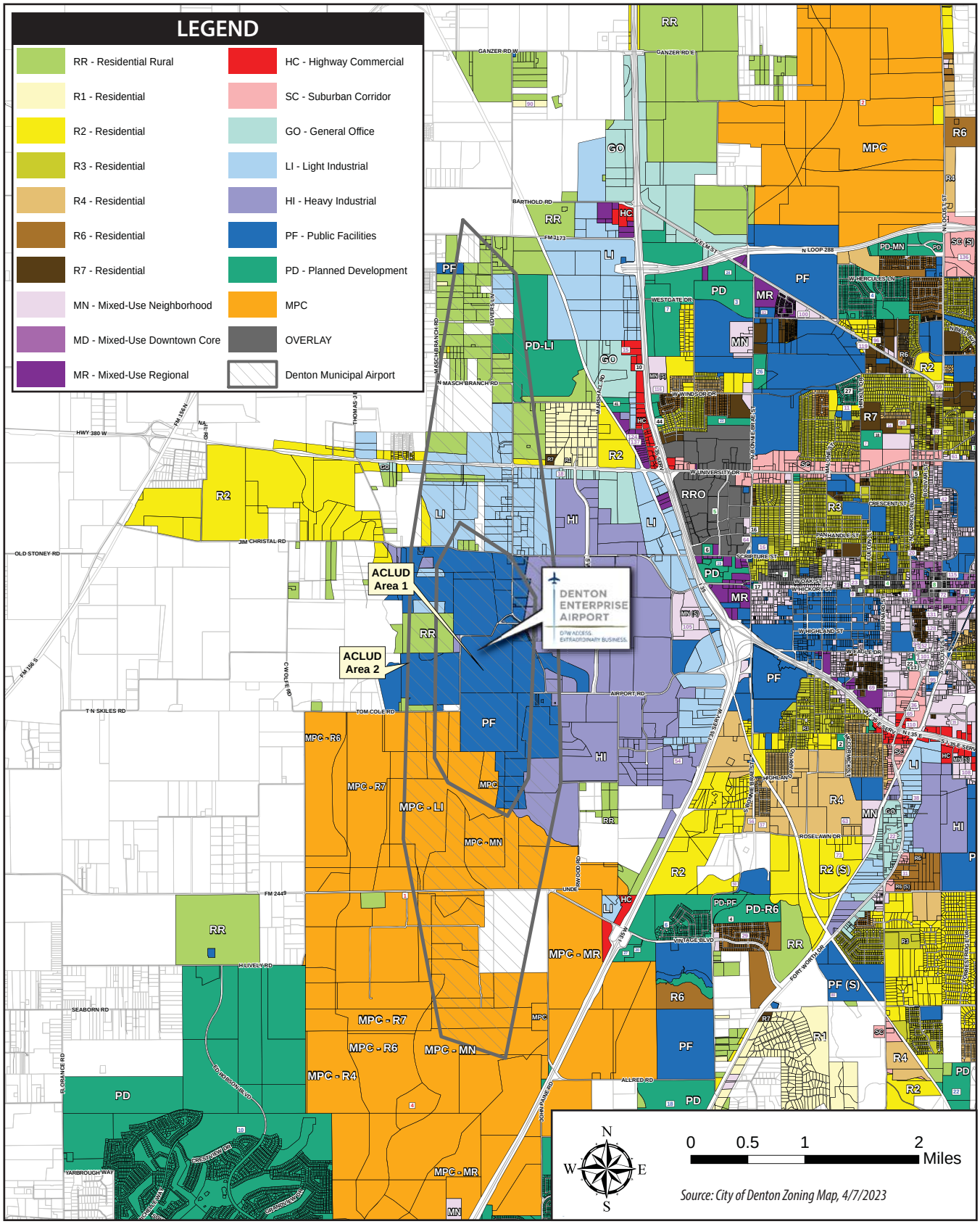
The airport was opened to the public in December 1946; based upon airport records there are buildings at the airport that are of historic age (i.e., 50 years or older), however, these buildings are not considered historically significant.

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.

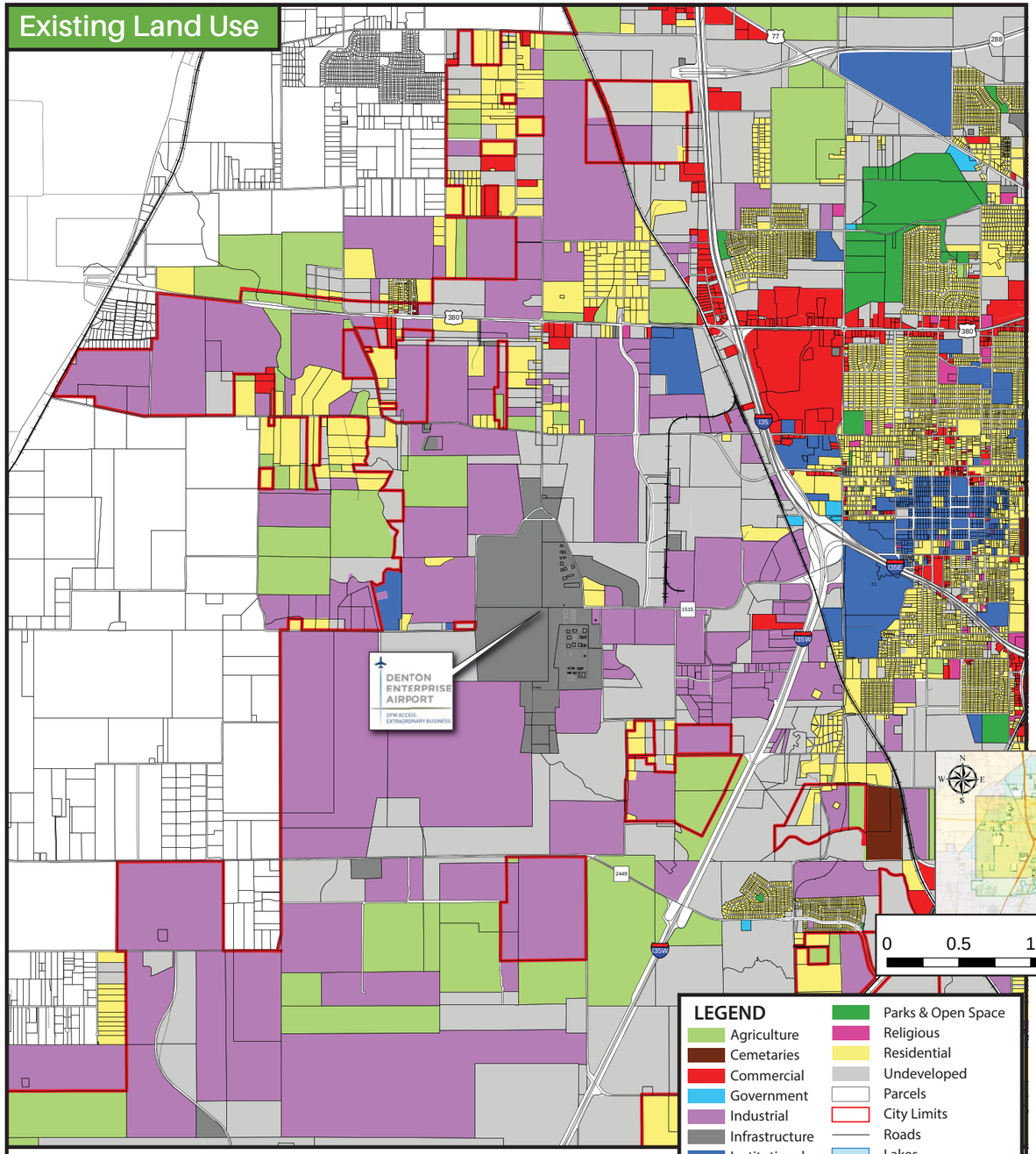
According to the City of Denton's zoning map, shown on **Exhibit 1P**, the airport is zoned as PF (public facilities). Based on the city's development code, a PF zoning designation is intended to provide land for public and quasi-public community uses and services, such as fire stations, schools, libraries, community centers, hospitals, civic buildings, open space, parks, utilities, and other public-related facilities.

The airport is currently surrounded by industrial land uses to the east of the airport and undeveloped land to the west, north, and south. Existing and future general land uses within one mile of the airport – including those that could be sensitive to airport noise or other effects – are identified on **Exhibit 1Q**. Future land use is mapped as industrial commerce for the land surrounding the airport to the east and west. A master planned community is shown south of the airport, along with low-density residential use.



This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. Although every effort was made to ensure the accuracy of this data, no such guarantee is given or implied. Utilization of this map indicates the understanding that there is no guarantee to the accuracy of this data.

Existing Land Use



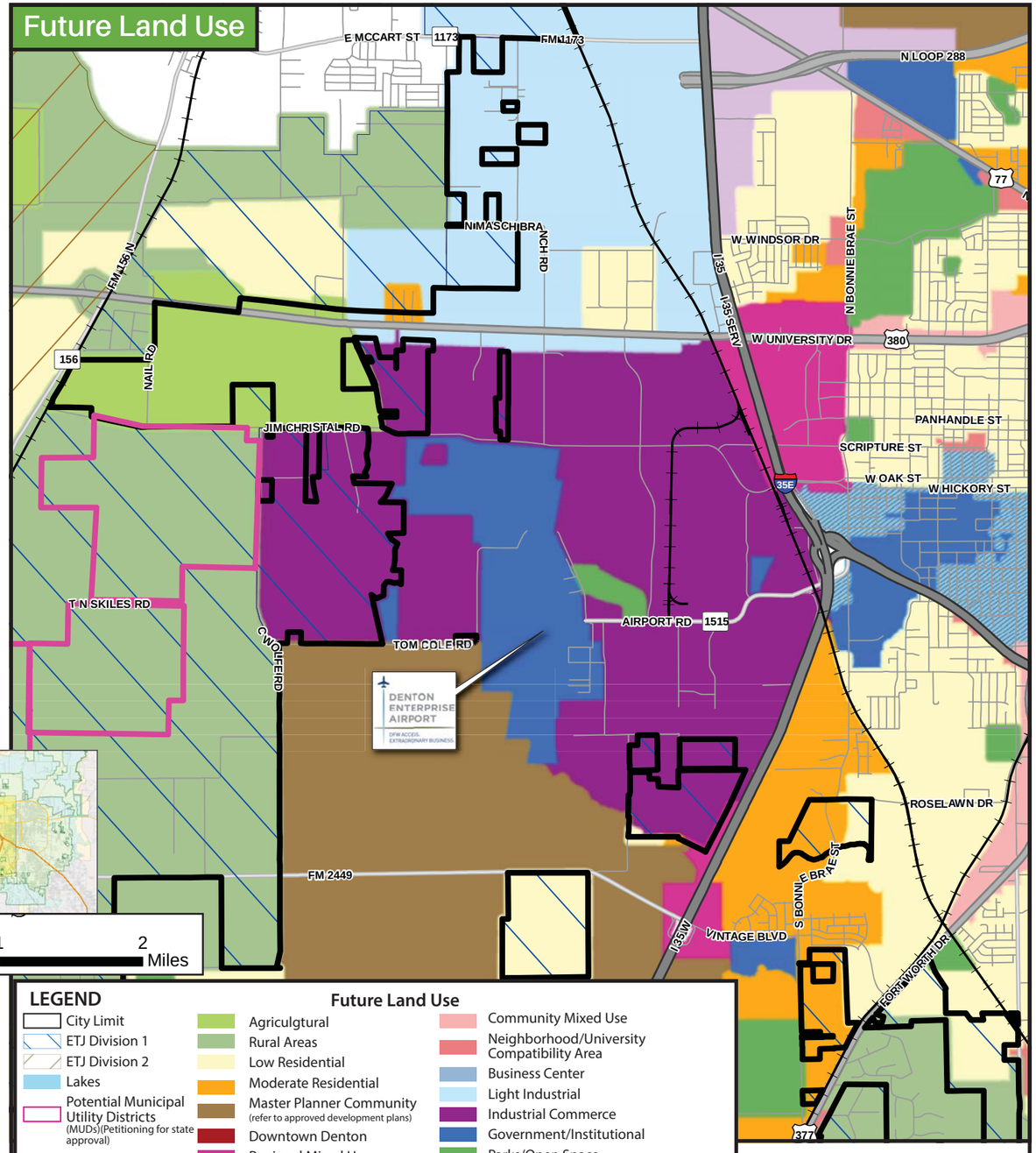
LEGEND

- Agriculture
- Cemeteries
- Commercial
- Government
- Industrial
- Infrastructure
- Institutional
- Parks & Open Space
- Religious
- Residential
- Undeveloped
- Parcels
- City Limits
- Roads
- Lakes

Source: City of Denton, 8/26/2016

The City of Denton has prepared maps for departmental use. These are not official maps of the City of Denton and should not be used for legal, engineering or surveying purposes but rather for reference purposes. These maps are the property of the City of Denton and have been made available to the public based on the Public Information Act. The City of Denton makes every effort to produce and publish the most current and accurate information possible. No warranties, expressed or implied, are provided for the data herein, its use, or its interpretation. Utilization of this map indicates understanding and acceptance of this statement.

Future Land Use



LEGEND

Future Land Use

- City Limit
- ETJ Division 1
- ETJ Division 2
- Lakes
- Potential Municipal Utility Districts (MUDs)(Petitioning for state approval)
- Agriculgtural
- Rural Areas
- Low Residential
- Moderate Residential
- Master Planner Community (refer to approved development plans)
- Downtown Denton
- Regional Mixed Use
- Community Mixed Use
- Neighborhood/University Compatibility Area
- Business Center
- Light Industrial
- Industrial Commerce
- Government/Institutional
- Parks/Open Space

Source: City of Denton, 4/1/2022

This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries. Although every effort was made to ensure the accuracy of this data, no such guarantee is given or implied. Utilization of this map indicates the understanding that there is no guarantee to the accuracy of this data.

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The *Denton 2040 Comprehensive Plan* was adopted in 2022. Outlined in the comprehensive plan are a list of policies and actions that have been designed to protect the airport as an economic asset,[16] including:

- Recruit new businesses to DTO;
- Utilize economic incentives to direct financial investments into the airport; and
- Coordinate with freight operations when planning for the future of the airport.

NATURAL RESOURCES AND ENERGY SUPPLY

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.

The City of Denton has four ecological habitats that have been identified as environmentally sensitive: floodplains, riparian buffers, water-related habitats, and cross-timbers upland habitat.[17] Based on a review of the City's Environmentally Sensitive Area's Mapper, there may be riparian habitat present at DTO.

Water for the City of Denton is provided by the City of Denton Water Utilities, which provides water, and wastewater services.[18] Drainage services are provided by the city's Public Works Department.

Texas has a deregulated electricity market, so there are numerous electricity providers throughout the state. Over 30 percent of the energy produced in Texas is from renewable sources, such as wind and solar energy, and most Texas energy providers include about 20 percent green energy in their mix of energy sources.[19] Electricity is provided to the City of Denton through Denton Municipal Electric.[20]

NOISE AND NOISE-COMPATIBLE LAND USE

Federal land use compatibility guidelines are established under 14 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). 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 such structures. 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.[21]

16 City of Denton, Denton 2040 Comprehensive Plan (https://www.cityofdenton.com/256/Land-Development)
17 City of Denton, Environmentally Sensitive Areas, (https://www.cityofdenton.com/244/Environmentally-Sensitive-Areas#:~:text=The%20City%20of%20Denton%20has,ways%20and%20are%20environmentally%20sensitive.),
18 City of Denton, Texas, Waste & Wastewater (https://www.cityofdenton.com/383/Water-Wastewater)
19 Texas Electricity Ratings – Corpus Christi Electricity Rates, Plans & Supplies (https://www.texaselectricityratings.com/electricity-rates/texas/corpus-christi)
20 City of Denton, Texas, Denton Municipal Electric (DME) (https://www.cityofdenton.com/331/Denton-Municipal-Electric-DME)
21 49 U.S. Code § 47141, Compatible Land Use Planning and Projects by State and Local Governments

There are no hospitals or live-in medical care facilities within one mile of the airport. Only one place of worship is located within one mile of the airport. (See **Table 1P** and **Exhibit 1N**.) The closest residents live southeast of the airport boundaries along Underwood Road, roughly 0.4 miles from the airport. In addition to this, planned residential development to the south of the airport situated along Interstate 35W and Robson Ranch Road, known as the Cole-Hunter Ranch Project, is set to occur in the near future.[22]

TABLE 1P | Noise-Sensitive Land Uses Within One Mile of the Airport

Facility	Location	Distance from Airport Boundary (miles)	Direction from Airport
Places of Worship			
Friendship Church of Denton	3818 W University Dr.	0.95 miles	Northeast
School			
Rafes Urban Astronomy Center	2350 Tom Cole Rd.	0.10 miles	West

Source: Google Earth Aerial Imagery, June 2024

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 or alternative(s).Potential impacts of airport projects on the human environment will be evaluated in more detail in the Environmental Overview, which will be included as part of Chapter Five later in this study.

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.[23]

[22] Hillwood, Hillwood Announces New Denton Residential, Mixed-Use Development, (https://www.hillwood.com/newsroom/press-releases/hillwood-announces-new-denton-residential-mixed-use-development/)
[23] U.S. EPA website, Environmental Justice (https://www.epa.gov/environmentaljustice)

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 described previously under *Noise and Noise-Compatible Land Use*, the closest residents live southeast of the airport boundaries along Underwood Road and are surrounded primarily with undeveloped parcels of land to the west, east, and south and light industrial land uses to the north.

According to the five-year 2017-2021 American Community Survey (ACS), the population within one mile of the airport is estimated at 150 persons, of which 53 percent of the population is considered low-income and 28 percent are people of color (which can include Hispanic populations of any race). Approximately 14 percent of the population has identified as Hispanic (**Table 1Q**).

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

Characteristic	
Total Population	150
Population by Race[1]	
White	72%
Black	12%
American Indian	0%
Asian	1%
Pacific Islander	0%
Some Other Race	0%
Population Reporting Two or More Races	1%
Total Hispanic Population (of any race)	14%

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

Source: U.S. EPA, EJScreen ACS Summary Report (5-Year, 2017-2021) (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 environmental health and safety risks that may disproportionately impact children. Such risks include those that are attributable to products or substances a child is likely to encounter or ingest (i.e., air, food, and water, including drinking water) or to which they may be exposed.

According to the 2017-2021 ACS estimates, 10 percent of the population within one mile of the airport is between the ages of one and 18 years old (roughly 15 children). No elementary schools, middle schools, high schools, parks, or other recreational facilities are located 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 its zoning ordinances and general plan.

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 interfere with normal activities. Section 7.11 of the city's unified development code, *Development Code of the City of Denton, Texas*, contains outdoor lighting design requirements to ensure that direct light emissions are not visible from adjacent areas.

Airfield lighting at the airport includes medium intensity runway edge lights (MIRL), medium intensity taxiway edge lights (MITL), and lighted guidance signs. Navigation lights include a rotating beacon, which emits flashes of white and green light, and four-light precision approach path indicator lights (PAPI-4) on Runways 18 and 36. (For further information, see the discussion of existing airfield lighting and visual navigational aids earlier in the inventory.) Landside outdoor lighting includes building and parking lot security lighting.

The airport is not surrounded by land uses (such as residential neighborhoods) that would be sensitive to light pollution. The closest residential neighborhoods are located 0.44 miles southeast of the airport boundary, where single-family homes are located along Underwood Road.

Visual Resources and Visual Character

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, highly developed and densely populated areas generally have a visual character that could be defined as urban, whereas less developed areas may 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 human-made 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).

The airport is primarily within an agricultural area with pockets of residential, commercial, and industrial land uses scattered within one mile of its borders. Visually, the airport is characterized by dense airport development along the eastern airport boundary and flat open land on the western airport boundary. Dry Fork Hickory Creek and Hickory Creek border the airport to the northeast and south. Views of the airport are accessible from surrounding roadways; long-range views of the airport are not readily available from off airport property due to the relatively flat topography of the airport environs.

There are no national scenic byways in Texas;[24] however, the State of Texas has a state scenic byways program, the *Texas Scenic Byways Program*, which includes 30 potential state scenic byways. None of these byways are located near the airport; the closest designated Texas Scenic Byway is a segment of

[24] U.S. Department of Transportation, Federal Highways Administration, National Scenic Byways & All-American Roads (https://fhwaapps.fhwa.dot.gov/bywaysp/States/Show/TX), April 2024

Texas State Highway 16, southeast of the airport.[25] No scenic corridors are identified in the *Denton 2040 Comprehensive Plan*, which was adopted in 2022; instead, the plan emphasizes identifying and protecting scenic open spaces.

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 wetlands with continuous surface connections to traditional navigable waters, under Section 404 of the *Clean Water Act* (CWA). Wetlands are defined in E.O. 11990, *Protection of Wetlands.* 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); the soil has a population of plants that are able to tolerate various degrees of flooding or frequent saturation (hydrophytes); and the soil is saturated enough to develop anaerobic (absent of air or oxygen) conditions during the growing season (hydric).

The USFWS manages the National Wetlands Inventory (NWI), which identifies surface waters and wetlands in the nation at a macro level via aerial photography.[26] Based on the NWI and Google Earth aerial maps, there are freshwater emergent wetlands associated with Hickory Creek on the eastern portion of the airport (**Exhibit 1R**). Hickory Creek ultimately connects to Lewisville Lake; therefore, the on-airport wetlands might be considered a jurisdictional water under Section 404 of the CWA.

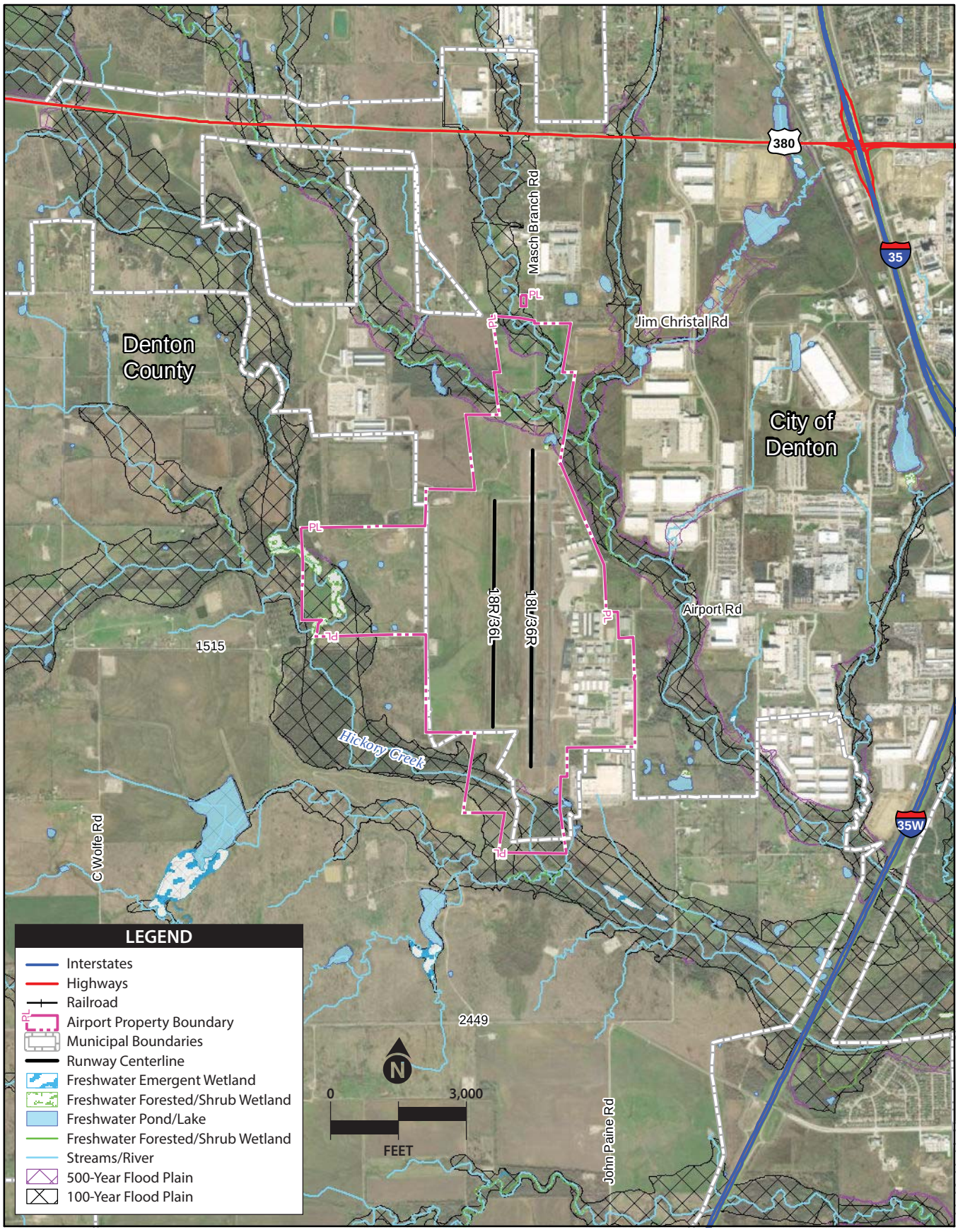
Based on a review of the city's environmentally sensitive areas (ESA) mapper, there are ESAs located on the northern, western, and southwestern portion on the airport (See **Exhibit 1S**).[27] If airport development were to occur on portions of the airport that contains ESAs, field assessments would be required prior to development to determine the existence and condition of the habitat within the ESA area.[28]

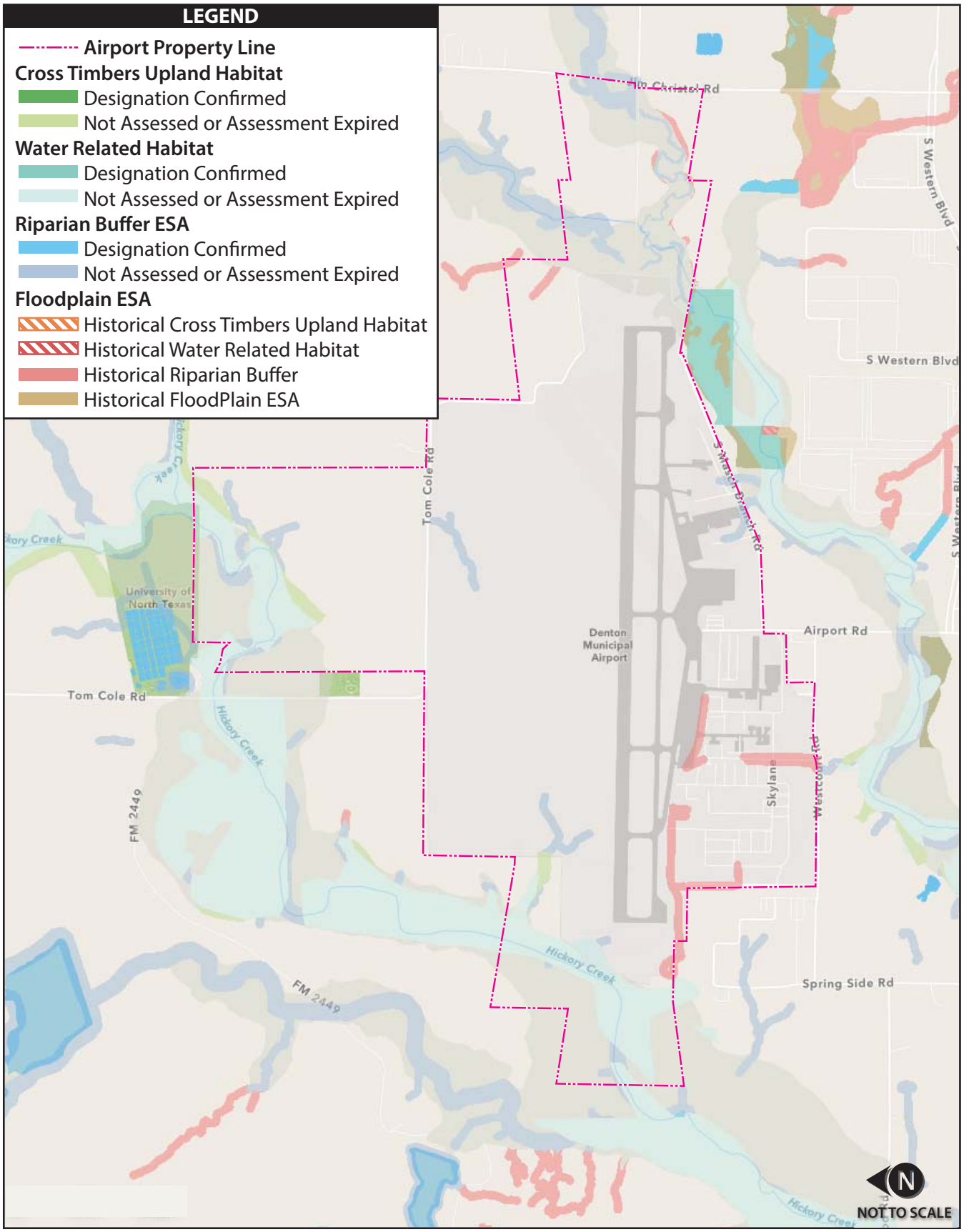
Floodplains

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. U.S. Department of Transportation (DOT) Order 5650.2, *Floodplain Management and Protection*, implements the guidelines contained in E.O. 11988.

E.O. 14030, Climate-Related Financial Risk, was established on May 25, 2021. Section 5(e) of E.O. 14030 reinstates E.O. 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input (originally set forth on January 30, 2015). E.O. 13690

[25] Scenic Texas, State Scenic Byway Program (https://www.scenictexas.org/state-scenic-byway-program), April 2024
[26] National Wetlands Inventory (https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/)
[27] City of Denton, (https://gis.cityofdenton.com:9002/mapviewer/)
[28] Denton Development Code, (https://tx-denton.civicplus.com/DocumentCenter/View/427/Denton-Development-Code-PDF), 2019 Edition


380
35
35W
Masch Branch Rd
Jim Christal Rd
Denton County
City of Denton
PL
18R/36L
18L/36R
Airport Rd
1515
Hickory Creek
C Wolfe Rd
2449
John Paine Rd
N
0
3,000
FEET
LEGEND
Interstates
Highways
Railroad
Airport Property Boundary
Municipal Boundaries
Runway Centerline
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond/Lake
Freshwater Forested/Shrub Wetland
Streams/River
500-Year Flood Plain
100-Year Flood Plain



Source: City of Denton, ArcGIS Mapper, (https://gis.cityofdenton.com:9002/arcgis/rest/services/MapViewer/ESAs/MapServer)

amends E.O. 11988 and mandates the creation of a Federal Flood Risk Management Standard (FFRMS). One of the primary purposes of the FFRMS is to expand the management of floodplains from a base flood evaluation to include a higher vertical elevation (and the corresponding floodplain) to protect against future flood risks for federally funded projects.

Under E.O. 13690 and its guidelines, one of several approaches should be used to identify floodplains and their risks to critical[29] or noncritical federally funded actions:

- Climate-Informed Science Approach (CISA) – the elevation and flood hazard area (i.e., 100-year floodplain) using data that integrate climate science with an emphasis on possible future effects on critical actions;
- Freeboard Value Approach – the elevation and flood hazard area and an additional two or three feet above the base flood elevation, depending on whether the proposed federal action is critical or noncritical;
- 500-Year Floodplain Approach – all areas subject to the 0.2 percent annual chance flood; or
- Other methods resulting from updates to the FFRMS.

Of the four approaches listed above, federal departments and agencies should use the CISA approach when data to support such an analysis are available.

The Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) panel number 48121C0355G, effective April 18, 2011, indicates that the majority of the airport is in Zone X, an area of minimal flood hazard; however, there are both 100-year and 500-year floodplains along the northern, western, eastern, and southern portions of the airport boundaries (**Exhibit 1R**).[30]

Surface Waters

The CWA establishes water quality standards, controls discharges, 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, U.S. Congress has mandated the NPDES under the CWA.

As previously discussed under *Hazardous Materials, Solid Waste, and Pollution Prevention*, the TPDES program has federal regulatory authority over discharges of pollutants to Texas surface waters. The airport is in the Upper Hickory Creek Watershed.[31] There are no reported impaired waterbodies within this watershed.

[29] A critical action is defined in E.O. 13690 and the 2015 Guidelines for Implementing E.O. 11988 as any activity for which even a slight change of flooding is too great.
[30] FEMA Flood Map Service Center (https://msc.fema.gov/portal/search?AddressQuery=denton%20municipal%20airport)
[31] U.S. EPA, How's My Waterway (https://mywaterway.epa.gov/community/denton%20municipal%20airport/overview)

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/recharge area due to new impervious surfaces.

The U.S. EPA's Sole Source Aquifer (SSA) program was established under Section 1424(e) of the *Safe Drinking Water Act* (SDWA). Since 1977, the program has been used by communities to help prevent contamination of groundwater by federally funded projects and 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."*[32]

According to the U.S. EPA *Sole Source Aquifers for Drinking Water* website, no sole source aquifers are located within airport boundaries. The nearest sole source aquifer is the Arbuckle-Simpson Aquifer, located 80 miles away from the airport.[33]

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 is a list of over 3,400 rivers or river segments that appear to meet the minimum eligibility requirements of the *National Wild and Scenic Rivers Act*, based on their free-flowing status and resource values. The development of the Nationwide River Inventory resulted from Section 5(d)(1) in the *National Wild and Scenic Rivers Act*, which directs 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 more than 185 miles from the airport.[34] The nearest Nationwide River Inventory feature is the Brazos River, located 55 miles away from the airport.[35]

[32] 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)
[33] U.S. EPA, Sole Source Aquifers (https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b)
[34] U.S. Department of the Interior, National Park Service, National Wild and Scenic River System in the U.S. (https://nps.maps.arcgis.com/apps/MapJournal/index.html?appid=ba6debd907c7431ea765071e9502d5ac#)
[35] U.S. Department of the Interior, National Park Service, Nationwide River Inventory (https://www.nps.gov/maps/full.html?mapId=8adbe798-0d7e-40fb-bd48-225513d64977)