Inventory

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

Information provided in this chapter serves as 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.

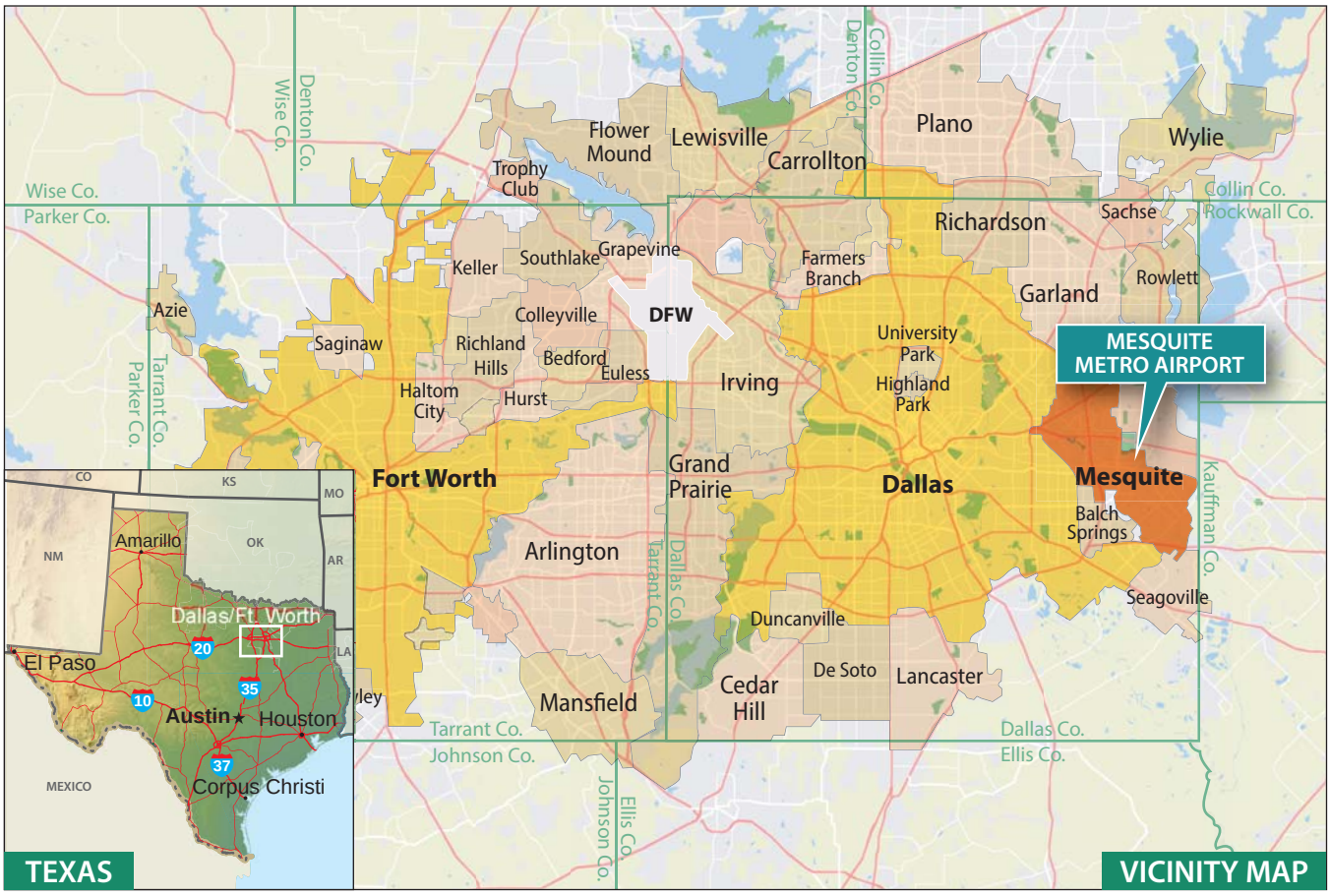
Airport Entry Signage

AIRPORT SETTING

LOCATION AND ACCESS

HQZ is situated on 436 acres of land located approximately three miles southeast of the central business district of the City of Mesquite. Mesquite is located on the east side of the greater Dallas/Fort Worth Metroplex within Dallas and Kaufman Counties. Neighboring communities include Garland to the north, Sunnyvale to the northeast, Balch Springs to the south, and Dallas to the west. **Exhibit 1A** depicts the regional setting.

The airport is located between two major east/west highways: U.S. Highway 80 is approximately 1.5 miles to the north and Interstate Highway 20 is approximately 2.6 miles to the south. Surface roads near the airport include Lawson Road, which runs to the airport's south and east; Berry Road to the south


Wise Co.
Denton Co.
Collin Co.
Parker Co.
Tarrant Co.
Rockwall Co.
Kaufman Co.
Dallas Co.
Johnson Co.
Ellis Co.
Flower Mound
Lewisville
Carrollton
Plano
Wylie
Trophy Club
Richardson
Sachse
Grapevine
Southlake
Keller
Farmers Branch
Garland
Rowlett
Azie
Colleyville
DFW
Saginaw
Richland Hills
Bedford
Euless
University Park
Highland Park
Irving
Haltom City
Hurst
MESQUITE METRO AIRPORT
Fort Worth
Grand Prairie
Dallas
Mesquite
Balch Springs
Arlington
Seagoville
Duncanville
De Soto
Lancaster
Cedar Hill
Mansfield
CO
KS
MO
NM
OK
AR
LA
Amarillo
Dallas/Ft. Worth
El Paso
Austin
Houston
Corpus Christi
MEXICO
20
10
35
37
TEXAS
VICINITY MAP


Mckinzie Road
Clay Boulevard
80
740
MESQUITE METRO AIRPORT
Lawson Road
E Scyene Road
Pioneer Road
635
Mesquite
E Cartwright Road
College Avenue
S Beltline Road
Lawson Road
Walnut Lane
20
LOCATION MAP

west; and Scyene Road to the north. Direct airport access is provided by Airport Boulevard, which connects from Scyene Road at the northwest corner of the airport property. Airport Boulevard was resurfaced earlier in 2023. The Mesquite Airport Logistics Center neighbors the airport to the west and includes several large distribution centers.

AIRPORT ADMINISTRATION

HQZ is owned and operated by the City of Mesquite. The airport was originally directed by an Airport Advisory Board which had advisory and oversight responsibilities; however, the Airport Advisory Board was abolished in 1983. The city employs a full-time airport manager/airport director and a full-time executive secretary. In addition to day-to-day oversight of the airport, the airport manager directs, manages, supervises, and coordinates programs and services at the airport, including FBO fuel sales and aircraft services. Other responsibilities include coordination with other city departments, divisions, and outside agencies and providing highly responsible and complex administrative support to the Mesquite City Council. **Figure 1A** depicts the HQZ organizational chart.

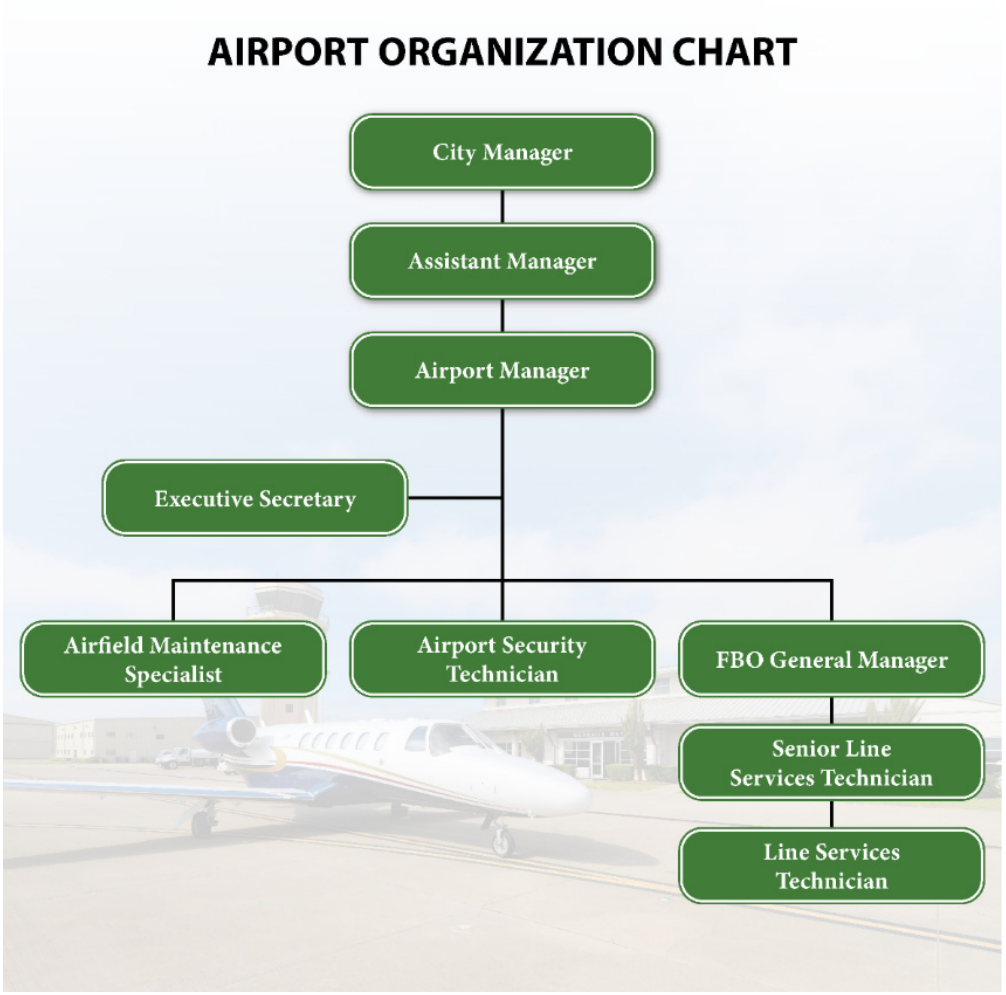


Figure 1A – Airport Organizational Structure

CLIMATE

Climate and local weather conditions are an important consideration 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; predominant winds dictate primary runway orientation; and cloud coverages and frequency of inclement weather 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.

Mesquite experiences hot and muggy summers, with an average high temperature in August of 97.1 degrees Fahrenheit (°F). Winters are generally mild, with January being the coldest month with an average low temperature of 37.9 °F. According to the Köppen Climate Classification System, Mesquite has a humid subtropical climate with no significant precipitation difference between seasons. The area receives a total of 41.46 inches of precipitation during an average year, with May being the rainiest month. **Exhibit 1B** summarizes weather and wind patterns at the airport.

Table 1A indicates that visual meteorological conditions (VMC) occur 92.80% of the time. When under VMC conditions, 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 conditions that still allow for aircraft to safely operate under instrument flight rules (IFR). Under IFR, pilots rely on instruments in aircraft to accomplish navigation. IMC conditions occur 4.79% of the time. Less than IMC – or poor visibility conditions (PVC) – are present 2.41% of the time. These weather conditions can reach visibility levels that are lower than instrument approach minimums. In such cases, when visibility minimums are below ¾-mile, the airport can become inaccessible to air traffic.

TABLE 1A | Weather Conditions

Condition	Cloud Ceiling	Visibility	% of Total
VMC	≥ 1,000' AGL	≥ 3 statute miles	92.80%
IMC	≥ 500' AGL and < 1,000' AGL	≥ 1 to < 3 statute miles	4.79%
PVC	< 500' AGL	< 1 statute mile	2.41%

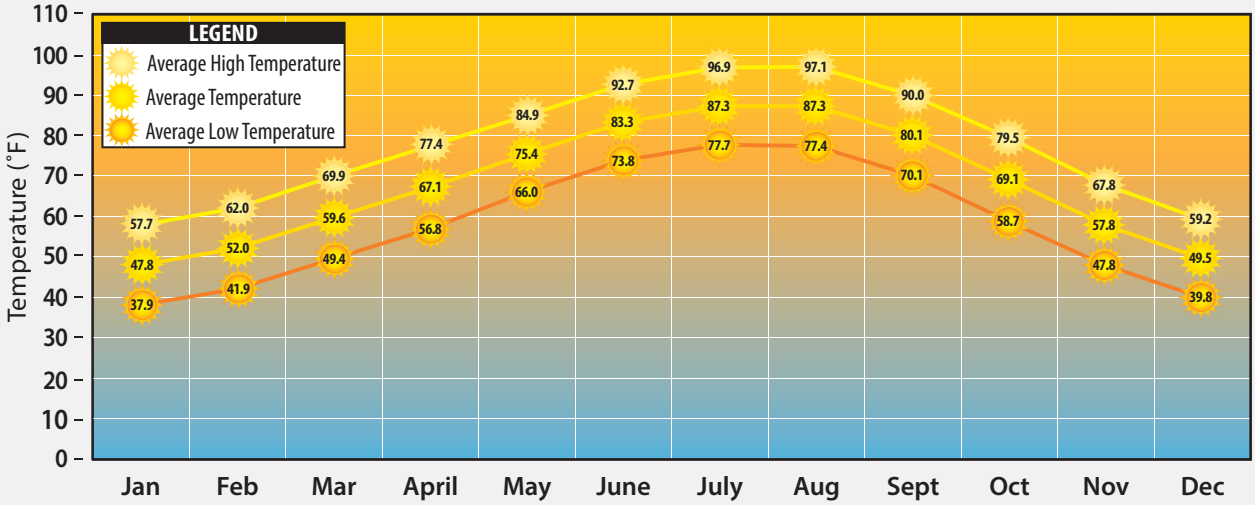
VMC = Visual Meteorological Conditions
IMC = Instrument Meteorological Conditions
PVC = Poor Visibility Conditions
AGL = Above Ground Level

Source: Mesquite Metro Airport, AZ Station ID72029153970, observations from 1/1/2013 through 12/31/2022

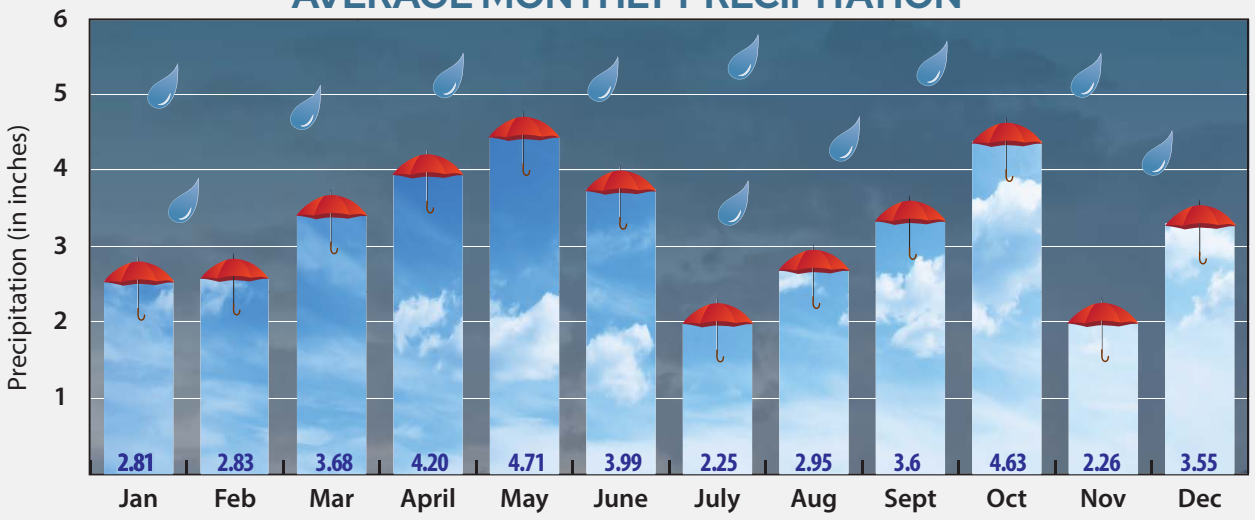
AIRPORT HISTORY

The original Mesquite Metro Airport was built by the Hudson Family in 1975. The privately owned airport was known as the Phil L. Hudson Municipal Airport and featured a single 4,000-by-50-foot asphalt runway and connecting taxiways. Other amenities included three 20-unit T-hangar facilities, underground storage for Avgas fuel, and aircraft tie-down areas.

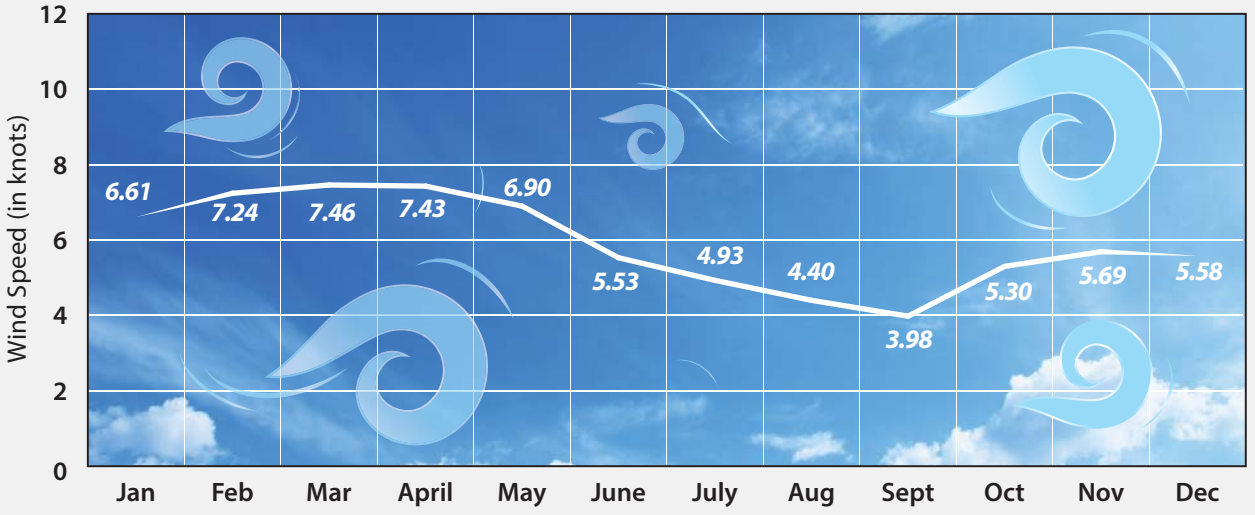
AVERAGE MONTHLY TEMPERATURES



AVERAGE MONTHLY PRECIPITATION



AVERAGE MONTHLY WIND DATA



Source: NOAA National Centers for Environmental Information Climate Normals, 1991-2020 -- Station: Dallas Love Field & Mesquite 2.3 N, TX

In 1981, the City of Mesquite began the acquisition of the airport from the Hudson family by conducting an environmental assessment (EA) of the airport grounds. In 1983, the City of Mesquite received federal grant-in-aid to acquire the airport from the Hudson family. In 1985, the city received additional federal grants which funded several projects, including:

- Reconstruction of the runway, replacing the asphalt with concrete and extending the runway to 5,000 feet;
- Widening of the runway from 50 feet to 100 feet;
- Extending the parallel taxiway 1,300 feet;
- Conducting an airport master plan study; and
- Acquiring additional property.

In 1992, both the runway and taxiway were extended an additional 1,000 feet, bringing the total paved runway length to nearly 6,000 feet. Additionally, during that time, the city officially opened the airport's FBO. A new, updated master plan was undertaken in 1997. The airport's 5,000-square-foot (sf) terminal building and parking lot were dedicated in 2004. The following year, HQZ was named the 2005 "Reliever Airport of the Year" by TxDOT. In 2013, the airport added the 80-foot-tall air traffic control tower.

AIRPORT SYSTEM PLANNING ROLE

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

- **Local |** HQZ's most recent airport master plan was prepared in 2006 and approved in 2007. One pen and ink revision to the airport layout plan (ALP) has occurred since then, in 2019.
- **State |** HQZ is included within the 2010 Texas Airport System Plan (TASP). The current TASP is undergoing a comprehensive update with an anticipated completion date in late 2023.
- **National |** HQZ is included in the National Plan of Integrated Airport Systems (NPIAS), which categorizes overall airport roles and responsibilities based on input from local and state planning efforts (i.e., master plans and state system plans).

LOCAL AIRPORT PLANNING

***2006 Airport Master Plan* |** The *2006 Airport Master Plan* provided a 20-year airport development vision based on aviation demand forecasts for activity levels. The study used 2004 data for its aviation forecasts baseline. The primary recommendations from the *2006 Airport Master Plan* included an extension of the runway (Runway 17-35 at the time) to 7,370 feet; increasing taxiway widths to 50 feet; increasing runway-to-taxiway centerline separation distance to 400 feet; property acquisition for approach protection; improved instrument approach procedures; and acquisition of property to the west of the airfield for additional landside facilities (aprons/taxilanes/hangars). The plan also included a temporary east side parallel taxiway to serve as a temporary runway when the primary runway is closed for major rehabilitation/reconstruction, ensuring the airport remains operational.

2019 Airport Layout Plan Update **|** Updates to the ALP drawing set were prepared in 2019 to reflect as-built conditions at the airport. This included the addition of new hangars on the west side of the airfield and a new airport traffic control tower (ATCT). The ALP update also included changes/additions to the future development concept that were presented in the previous master plan, including the addition of new airport property and landside development on the east side and changes to the apron and hangar concept on the west side.

STATE AIRPORT PLANNING

The current *Texas Airport System Plan* (TASP) is undergoing a comprehensive update, which is planned to be completed in late 2023. 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.

HQZ is classified as a reliever airport in the TASP and is one of 24 within the State of Texas, and one of 11 in the Dallas-Fort Worth area. 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 population centers of 250,000 or more. These airports generally relieve commercial service airports operating at 60% capacity, all with at least 250,000 annual passenger enplanements. The TASP does not identify specific design standards for reliever airports; however, typical reliever airport reference codes (ARCs) are C-II and D-II. For comparison purposes, **Table 1B** compares the state standards for business/corporate airports and existing conditions at HQZ.

TABLE 1B | TASP Minimum Design Standards Comparison

	General Aviation	HQZ
Role	Business/Corporate	Reliever
ARC[1]	ARC B-II through D-IV	ARC C-II
Runway Length	5,000’	6,000’
Runway Width	100’	100’
Runway Strength	30,000 lb.	100,000 lb.
Edge Lighting	MIRL	MIRL
Taxiway	Full Parallel	Full Parallel
Approach Type	Non-precision	Vertically Guided
Visibility Minimums	250’ – ¾-mile LPV	250’ – ¾-mile LPV
Services Available	Terminal, Restrooms, Telephone, Avgas, Jet A; attended 18 hrs.	Terminal, Restrooms, Telephone, Jet A, Avgas, Airframe, Powerplant

ARC = Airport Reference Code
LPV = Localizer Performance with Vertical Guidance
MIRL = Medium Intensity Runway Lighting

Source: Texas Airport System Plan, 2010; HQZ Airport Layout Drawing, 2019

FEDERAL AIRPORT PLANNING

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

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

The current plan is the *NPIAS 2023-2027*, which identified 3,287 existing public-use airports and eight proposed nonprimary airports anticipated to open by 2027 that are deemed important to national air transportation. The plan estimates that approximately $62.4 billion in AIP-eligible airport projects will require financial assistance between 2023 and 2027, which is an increase of almost $19 billion from the previous NPIAS report.

HQZ is classified in the NPIAS as a reliever airport. Reliever airports are designated by the FAA to relieve congestion at commercial service airports and provide more general aviation access to their overall communities. Within this airport designation, there are four different airport categories: National, Regional, Local, and Basic. HQZ is classified within the Regional category. Regional airports serve to support regional economies with interstate and some long-distance flying. Regional airports have high levels of activity, including jets and multi-engine propeller aircraft. To qualify as a National airport, airports must experience 5,000 or more annual instrument operations; 11 or more based jets; and either 20 or more international flights or 500 or more interstate departures. The forecast chapter of the master plan will explore whether HQZ may qualify as a National airport at some point in the future.

CAPITAL IMPROVEMENT HISTORY

To assist in ongoing capital improvements, the FAA and Texas Department of Transportation – Aviation Division (TxDOT) provide funding to HQZ through the AIP. Texas is a member of the FAA's Block Grant Program, giving TxDOT the responsibility – among other things – of administering AIP grants to reliever and general aviation airports, including HQZ. The State of Texas also offers funding opportunities for which HQZ is eligible, which are listed below.

Routine Airport Maintenance Program (RAMP) | TxDOT matches local government grants up to $50,000 for basic improvements, such as parking lots, fencing, and other airside and landside needs. The local match for this program is 50%. **Beginning in fiscal year 2024, TxDOT is increasing the total amount available to airports to $100,000 and reducing the local match to 10%**.

Terminal Building Grants | TxDOT has funded terminal building construction on a 50/50 basis, up to $1.0 million total project costs, though consideration has recently been given to upgrading the total cost allowance on a case-by-case basis.

Airport Traffic Control Tower (ATCT) Grants | TxDOT funds the construction of up to two ATCTs statewide each year. ATCT funding could be provided on a 90/10 basis, up to a total construction cost of $1.67 million.

Federal Aviation Grants | These provide federal and state grant funding for maintenance and improvement projects to airports included in the NPIAS.

Table 1C summarizes airport capital improvement projects and maintenance undertaken since 1980, with funding from federal, state, and local sources. During this period, the airport has been awarded almost $20.3 million in state and federal grants.

TABLE 1C | Airport Capital Improvement Project History

FY	Agency	Local ($)	State ($)	Federal ($)	Project Description
1980	FAA	–	–	$38,157	AMP; Lockwood, Andrews, & Newman, Inc./Charles Willis & Associates
1981	FAA	–	–	$339,000	Phase I: acquire privately owned airport
1982	TAC	–	$65,000	–	Reconstruction entrance road and hangar TW
1983	TAC	–	$125,000	–	Reconstruction entrance road and hangar TW
1983	FAA	–	–	$425,000	Acquire portion of existing airport
1983	FAA	–	–	$410,000	Acquire remaining portion of existing airport
1984	FAA	–	–	$1,450,000	Reconstruct, widen, mark and light RW 17-35; reconstruct, widen, and mark parallel TW; construct and mark connecting TWs; install new circuit to wind cone
1985	FAA	–	–	$437,274	Extend/light RW (1,000' x 75'); extend parallel TW (1,300'x40')
1985	FAA	–	–		Amendment #1 (A#1): add clearing in south approach area
1985	FAA	–	–	$613,137	Acquiring land for reliever airport – fee simple title
1985	FAA	–	–	$29,700	AMP Update; Cress & Associates
1988	FAA	–	–	$340,000	Construct aircraft parking apron (approx. 15,000 square yards[sy])
1989	FAA	–	–	$147,634	Acquire land for approaches
1992	FAA	–	–	$1,344,934	Extend RW 17-35 & parallel TW with holding apron (1,000 linear feet [lf]); site preparation for extension; construct apron; MIRL for extension; environmental assessment (reimbursement)
1997	TxDOT	$27,514	–	$155,988	Engineering/design for RSA; expand apron; PAPI-4; REIL; electrical vault; land reimbursement
1998	TxDOT	$11,666	–	$105,000	Prepare airport master plan & land reimbursement
2000	TxDOT	$300,000	$300,000	–	Design & construct terminal building
2001	TxDOT	$16,022	–	$144,207	Engineering/design for RSA; expand apron; PAPI-4; REIL; electrical vault; land reimbursement
2001	TxDOT	21,695	–	$77,774	Install AWOS
2002	TxDOT	$110,250	$110,250		Design & construct terminal building parking lot
2002	FAA	$707,675	–	$4,968,275	Reimburse land (Parcel 14, 34.4 ac); design & extend entrance road (600 x 24); reconstruct north apron (4,444 sy), hangar access TWs (4333 sy); construct hangar access TW (500 sy); hangar access TWs (13,869 sy); RSA improvements; install electrical vault & RCO; lead-in lights (RW 17-35); PAPI-4 (RW 17-35); security fencing (17,600 lf); replace lighted wind cone & segmented circle; expand south apron (590 x 22); mark RW 17-35; repair culverts
2002	TxDOT	$10,000	–	$90,000	Engineering/design for hangar access TWs/land reimbursement
2003	TxDOT	$12,626	$12,626	–	RAMP: paint hangar; purchase herbicide and GCO; AWOS fees
2004	TxDOT	$21,030	$12,030	–	RAMP: AWOS and NADIN fees; herbicide application; purchase GCO; fencing; hangar painting

(Continues)

TABLE 1C | Airport Capital Improvement Project History (continued)

FY	Agency	Local ($)	State ($)	Federal ($)	Project Description
2005	TxDOT	$17,808	$17,808	–	RAMP: sponsor to contract for NADIN monthly fee; AWOS repairs; A#1 – herbicide by TxDOT district, hangar repair, landscape, and irrigation system for new terminal
2005	TxDOT	$16,665	–	$166,649	Prepare airport master plan; NPE 2004-145, 484; NPE 2005 4, 500
2007	TxDOT	$23,212	$23,212	–	RAMP: sponsor to contract for NADIN interface; AWOS repairs/parts replacement; A#1 sponsor to contract for utility and security gates to be completed at the airport
2008	TxDOT	$210	$210	–	RAMP: TxDOT to contract for AWOS maintenance; sponsor to contract for AWOS AviMet Data Link; AWOS repairs/parts replacement; other projects to be determined and added by amendment
2009	TxDOT	$20,386	$20,386	–	RAMP: TxDOT to contract for AWOS maint.; sponsor to contract for AWOS AviMet Data Link; AWOS repairs/parts replacement; herbicide application; A#1-MISC TxDOT to contract for herbicide application; sponsor to contract for hangar and nav aid repair; pavement markings
2010	TxDOT	$17,616	–	$158,543	Engineering/design; seeding/sodding; install 4'-wide coded-entry pedestrian security gate; contingency/admin., mobilization; repair four existing sliding gates; install 20' sliding gate (Bid Alt.1); install 6' chain link fence (3550 lf)
2010	TxDOT	$21,997	$21,997	–	RAMP: pavements – sponsor to contract for crack sealing and miscellaneous pavement repairs/maint.; pavement markings – sponsor to contract for airfield pavement markings; MISC-TxDOT to contract for AWOS maint./rep. and Data Link; A#1 sponsor to contract for airfield lighting and fuel system repairs; environmental compliance issues
2011	TxDOT	$21,295	$69,578	$212,078	Environmental assessment for ATCT; Memorandum of Agreement (FAA); design air traffic control tower
2011	TxDOT	$272,663	–	$2,453,971	Land reimbursement for RPZ RW 35 (8.077 ac); land reimbursement for airside development area (21.8 ac)
2011	TxDOT	$7,163	–	$64,466	Design to construct service road to glideslope/AWOS; stabilize PAPI units (RW 17 & 35); construct HAT (3,750 sy) for 280' x 50' nested hangar; install new localizer shelter (equip. vault)
2011	TxDOT	$17,312	$17,312	–	RAMP: TxDOT contract for AWOS maint.; sponsor to perform airport general maintenance
2012	TxDOT	$818,979	–	$1,724,424	Construct ATCT
2012	TxDOT	$9,990	–	$89,909	Prepare airport business plan
2012	TxDOT	$30,113	$30,113	–	RAMP: TxDOT to contract for AWOS maintenance; sponsor to contract for airport general maintenance
2013	TxDOT	$123,098	–	$736,436	Install new localizer shelter (equip. vault); stabilize PAPI units (RW 17 & 35); construct HAT (3,750 sy) for 280' x 50' nested hangar; contingency/testing/mobilization/RPR; construct localizer access road; construct service road to glideslope/AWOS
2013	TxDOT	$12,626	$12,626	–	RAMP: TxDOT contract for AWOS maint.; sponsor to perform airport general maintenance
2014	TxDOT	$45,003	$45,003	–	RAMP: TxDOT contract for AWOS maint.; sponsor to perform airport general maint.
2015	TxDOT	$18,487	$18,487	–	RAMP: sponsor to perform airport general maint.
2016	TxDOT	$6,800	–	$61,200	Conduct wildlife hazard assessment (FAA grant)
2016	TxDOT	$19,172	–	$172,546	Engineering/design/installation of auxiliary power generator; rehab. & mark RW 18-36; joint crack seal; repair asphalt shoulders (RW 18-36 & TW A & stub TWs); install drainage improvements – safety end treatments; install drainages flume between TW A & apron; reconstruct city-owned box hangar apron (2,650 sy); replace MIRL (6,000 lf); install new MITL; install auxiliary power generator
2016	TxDOT	$23,729	$23,729	–	RAMP: sponsor to perform airport general maintenance
2017	TxDOT	$258,354	–	$2,217,183	Replace airfield guidance signs; install others; repair asphalt shoulders (RW 18-36 & TW A and stub TWs); rehab. & mark RW 18-36; joint crack seal; install drainage improvements – safety end treatments; replace/repair trench drain on airside of terminal building (147 lf); repair RW 18-36 ends & resurvey to 6,000'; reconstruct city-owned box hangar apron (2,650 sy); contingency; install drainage flume between TW A & apron; replace MIRL (6,000 lf); install new MITL (7,370 lf); install auxiliary power generator

(Continues)

TABLE 1C | Airport Capital Improvement Project History (continued)

FY	Agency	Local ($)	State ($)	Federal ($)	Project Description
2018	TxDOT	$50,000	$50,000	–	RAMP: sponsor to perform airport general maintenance
2019	TxDOT	$50,000	$50,000	–	RAMP: sponsor to perform airport general maintenance
2020	TxDOT	$50,000	$50,000	–	RAMP: sponsor to perform airport general maintenance
2021	TxDOT	$50,000	$50,000	–	RAMP: sponsor to perform airport general maintenance
Totals		**$3,241,156**	**$1,125,367**	**$19,173,485**	

Source: TxDOT Airport Project History

ECONOMIC IMPACT

In 2018, TxDOT conducted a study of Texas airports' impact on and relationship with the statewide economy. Impact types include: direct impacts, which account for activities by on-airport businesses and visitors who spend at locations such as hotels and restaurants; indirect impact, which includes 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 1D** and **Figure 1B** summarize the annual economic impact of HQZ. This study is now five years old, so it is likely that HQZ's economic impact has grown over time. It is anticipated that TxDOT will update this study in the near future.

TABLE 1D | Aviation Economic Impact

	HQZ	All Texas System Airports
Total Economic Impact	$22.7 million	$94.3 billion
Total Payroll	$8.6 million	$30.1 billion
Total Jobs	281	778,995

Source: Texas Aviation Economic Impact Study, TxDOT (2018)

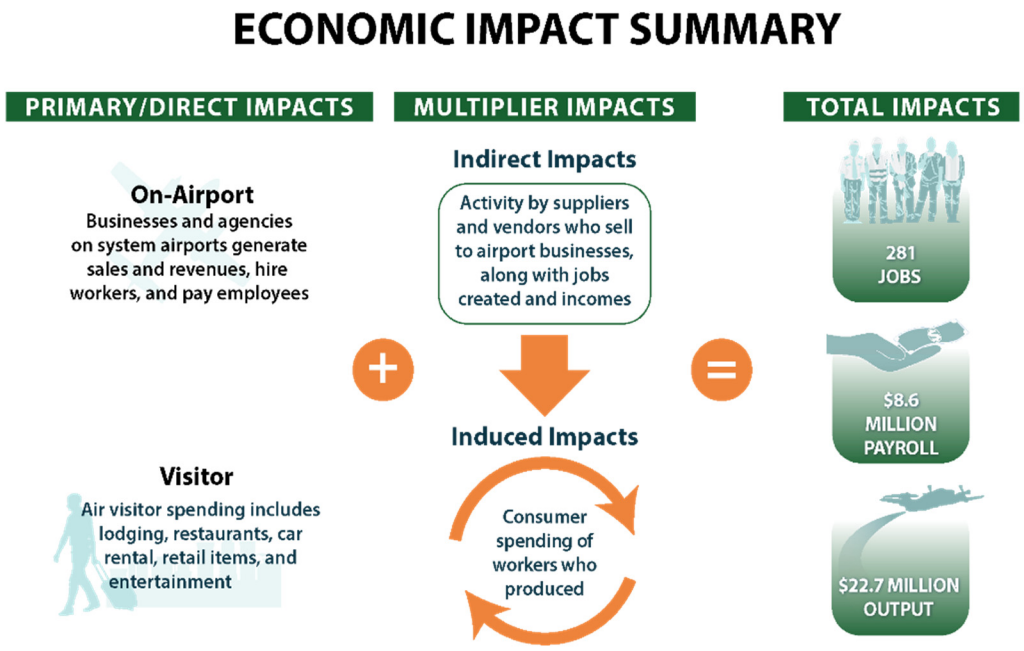


Figure 1B – Economic Impact of HQZ

AERONAUTICAL ACTIVITY

At airports primarily serving general aviation activity, the number 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 HQZ are recorded by the airport traffic control tower (ATCT), which was opened in 2013 and became operational in 2014. The ATCT is owned by the City of Mesquite and is operated by RVA Robinson Aviation, Inc every day between the hours of 7:00 a.m. and 9:00 p.m. Among other duties, the ATCT counts aircraft operations, which are defined as either a takeoff or a landing. Aircraft operations are classified as either local or itinerant. Local operations are those which stay within an airport's traffic pattern, such as flight training or touch-and-go operations, while itinerant operations are those which have an origin or destination at another airport. Aircraft operations are further separated into four general categories:

- **Air Carrier:** Operations defined as those conducted commercially by aircraft with a seating capacity of 60 or more seats and a cargo payload capacity of more than 18,000 pounds. HQZ is not regularly utilized by air carrier operators.

- **Air Taxi:** Operations associated with aircraft originally designed to have fewer than 60 passenger seats or a cargo payload of less than 18,000 pounds, carrying cargo or mail on either a scheduled or charter basis and/or carrying passengers on an on-demand basis or limited scheduled basis.

- **Military Operations:** Operations conducted by fixed-wing aircraft and helicopters with military identification.

- **General Aviation (GA):** Civil aviation operators other than scheduled air services and non-scheduled air transport operations for hire. Most operations at HQZ are classified as general aviation.

Table 1E provides a summary of operational statistics since 2014 (the year the ATCT at HQZ opened), including the breakdown of itinerant and local operations and the category of operations. Data for the full 2023 calendar year are not yet available, so 2023 data represent the most recent 12-calendar-month period ending September 2023. This operational history shows that HQZ experienced a significant increase in operations between 2019 and 2020, during the height of the COVID-19 pandemic. The bulk of the increase was in local GA operations, which reflects an increase in flight training activity. Local GA operations have remained higher in recent years as flight schools seek to train pilots to replace those aging out or selecting early retirement from airlines.

TABLE 1E | Operations History

	Itinerant Operations					Local Operations			
Calendar Year	Air Carrier	Air Taxi	General Aviation	Military	Total Itinerant	General Aviation	Military	Total Local	Total Operations
2014	55	199	20,993	20	21,267	39,755	4	39,759	61,026
2015	0	66	31,459	35	31,560	39,205	144	39,349	70,909
2016	2	545	34,497	63	35,107	40,906	14	40,920	76,027
2017	0	675	30,422	21	31,118	33,911	14	33,925	65,043
2018	8	1,386	20,694	31	22,119	29,940	22	29,962	52,081
2019	0	1,063	21,981	42	23,086	46,300	18	46,318	69,404
2020	0	1,821	23,065	105	24,991	66,192	20	66,212	91,203
2021	0	1,639	26,868	111	28,618	73,835	50	73,885	102,503
2022	2	1,678	26,022	80	27,782	80,095	180	80,275	108,057
2023*	2	1,124	25,985	73	27,184	82,375	58	82,433	109,617

*2023 data represent 12 months ending September 2023

Source: FAA Operations Network (OPSNET)

Based Aircraft

The airport maintains an up-to-date inventory of based aircraft utilizing the National Based Aircraft Inventory Program (basedaircraft.com). Currently, the validated based aircraft count is 181 aircraft. It is important to note that while 181 aircraft are validated, the airport reports 213 total aircraft stored at HQZ, which includes aircraft that may not meet the airworthiness requirements to be considered valid based aircraft or aircraft that are already validated at other airports. For the purposes of this study, the validated count must be used as the baseline figure for forecasting purposes; however, facility requirements will consider the fact that additional aircraft are housed at HQZ.

The current based aircraft count at HQZ consists of 151 single-engine piston aircraft, 19 multi-engines (pistons and turboprops), 10 jets, and one helicopter. Based aircraft and fleet mix records at HQZ since 2014 are shown in **Table 1F**.

TABLE 1F | Based Aircraft History

Year	Single-Engine	Multi-Engine	Jet	Helicopter	Based Aircraft
2014	158	18	1	5	182
2015	154	18	1	5	178
2016	153	18	1	5	177
2017	149	15	1	5	170
2018	146	14	2	5	167
2019	165	20	5	1	191
2020	153	20	6	1	180
2021	154	22	7	2	185
2022	155	21	9	1	186
2023	151	19	10	1	181
2014-2023 CAGR	**-0.5%**	**0.6%**	**29.2%**	**-16.4%**	**-0.1%**

CAGR = compound annual growth rate

Sources: National Based Aircraft Inventory Program (2014-2023)

AIRSIDE FACILITIES AND SERVICES

There are three broad categories of facilities and services at the airport: airfield, landside, and support.

- **Airfield facilities:** Facilities directly associated with aircraft operations, including runways, taxiways, lighting, marking, navigational aids, and weather reporting equipment.
- **Landside facilities:** Facilities necessary to provide a safe transition from surface to air transportation, and which support aircraft parking, servicing, storage, maintenance, and operational safety.
- **Support facilities:** Serve as a critical link to provide the necessary efficiency to aircraft ground operations, such as fuel storage, airport maintenance, firefighting, and fencing.

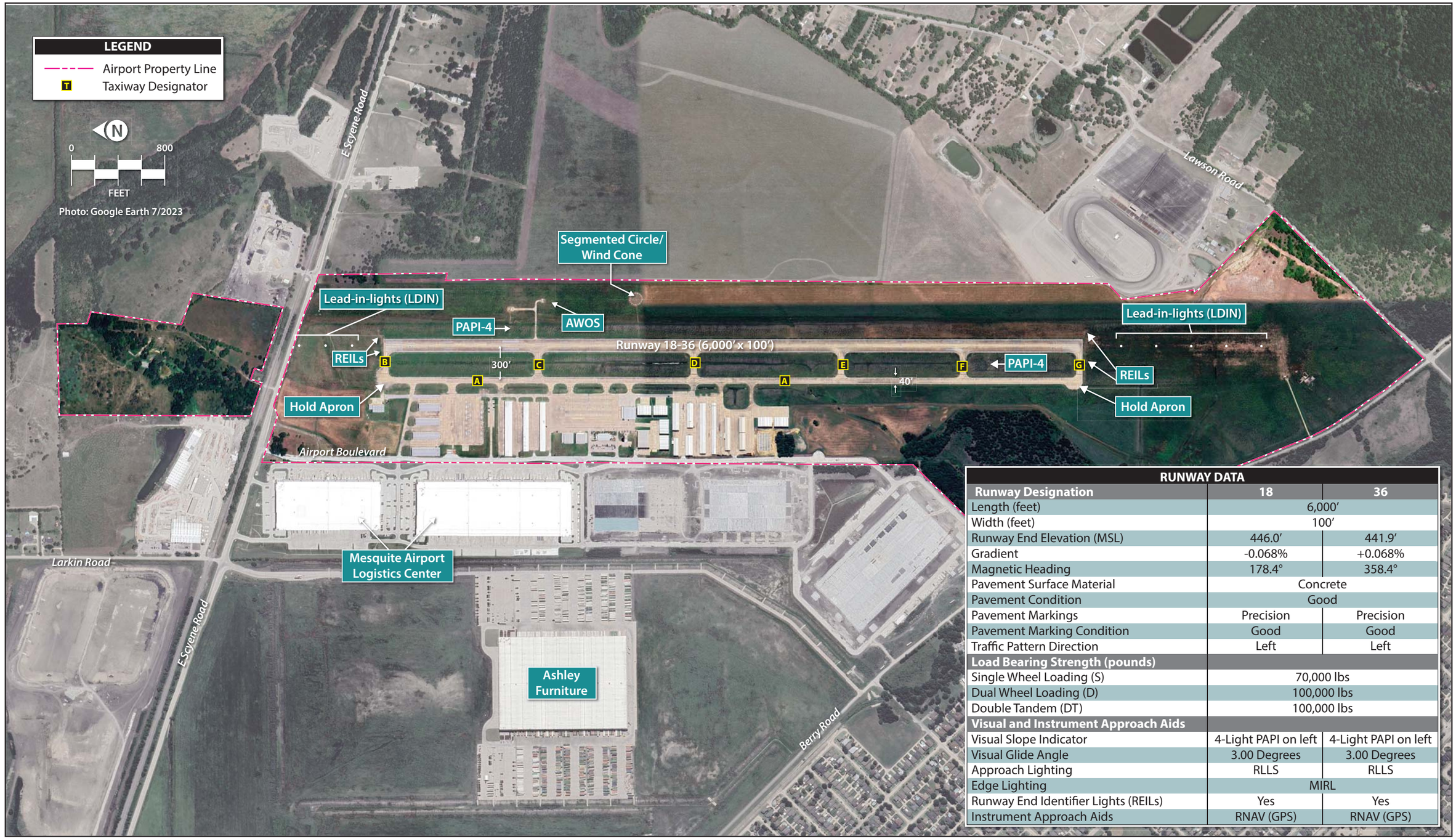
AIRFIELD FACILITIES

Existing airfield facilities are identified on **Exhibit 1C** and described in the sections below.

RUNWAYS

HQZ has a single north/south runway, Runway 18-36. The runway is constructed of concrete and measures 6,000 feet long and 100 feet wide. The runway has a weight-bearing capacity of 70,000 pounds single wheel loading (S)/100,000 pounds dual wheel loading (D) and dual-tandem wheel loading (DT).

Runways 18 and 36
Source: Google Earth



RUNWAY DATA		
Runway Designation	**18**	**36**
Length (feet)	6,000′	
Width (feet)	100′	
Runway End Elevation (MSL)	446.0′	441.9′
Gradient	-0.068%	+0.068%
Magnetic Heading	178.4°	358.4°
Pavement Surface Material	Concrete	
Pavement Condition	Good	
Pavement Markings	Precision	Precision
Pavement Marking Condition	Good	Good
Traffic Pattern Direction	Left	Left
Load Bearing Strength (pounds)		
Single Wheel Loading (S)	70,000 lbs	
Dual Wheel Loading (D)	100,000 lbs	
Double Tandem (DT)	100,000 lbs	
Visual and Instrument Approach Aids		
Visual Slope Indicator	4-Light PAPI on left	4-Light PAPI on left
Visual Glide Angle	3.00 Degrees	3.00 Degrees
Approach Lighting	RLLS	RLLS
Edge Lighting	MIRL	
Runway End Identifier Lights (REILs)	Yes	Yes
Instrument Approach Aids	RNAV (GPS)	RNAV (GPS)

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The runway is equipped with precision markings, which are in good condition and include a threshold bar; runway designations; centerline; threshold stripes; aiming point; touchdown zone; and edge markings. The runway slopes down from the north end at a gradient of 0.068%. The runway is equipped with white medium intensity edge lighting (MIRL) to illuminate the runway edges at night and/or during poor meteorological conditions. Standard left-hand traffic patterns are used for each runway end.

Taxiway A

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 HQZ consists of a full-length parallel taxiway with six taxiway connectors, each of which has a width of 40 feet of concrete. Taxiway A serves as the full-length parallel taxiway, with a 300-foot separation from the runway centerline. All taxiways are equipped with blue medium intensity edge lights (MITL). **Table 1G** provides information for each taxiway at HQZ.

TABLE 1G | Taxiway Data Table

Designation	Width (feet)	Description
A	40'	Full-Length Parallel
B	40'	Entrance/Connector to RWY 18 Threshold
C	40'	Connector between RWY 18-36 and TWY A; 1,330' south of RWY 18 end
D	40'	Connector between RWY 18-36 and TWY A; 2,660' south of RWY 18 end
E	40'	Connector between RWY 18-36 and TWY A; 2,080' north of RWY 36 end
F	40'	Connector between RWY 18-36 and TWY A; 1,450' north of RWY 36 end
G	40'	Entrance/Connector to RWY 36 Threshold

Source: HQZ Airport Layout Drawing

HOLDING BAYS

Holding bays are designated areas on the airfield that are typically located at the end of a taxiway near the 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 two designated holding bays on the airfield. The holding apron on the north end of Taxiway A is approximately 142 square yards and the holding apron at the south end of Taxiway A is approximately 120 square yards in size. All holding areas can accommodate multiple aircraft at one time.

PAVEMENT CONDITIONS

Pavement condition management and improvement is critical due to the hazard poor pavement may pose to aircraft operational safety. Cracked and broken pavement may damage aircraft tires and/or landing gear or become dislodged due to prop and jet wash, creating dangerous foreign object debris (FOD) on the airfield. TxDOT has a pavement management program in place for state airports, which evaluates airfield pavement and provides a plan for the replacement and repair of pavement surfaces in poor condition. Pavement conditions are analyzed by calculating a pavement condition index (PCI) for areas of pavement with similar properties (type, dimensions, and construction date). The PCI uses a scale from 0 to 100 to identify the pavement condition, where 0 indicates a failed pavement and 100 is a newly constructed pavement. These ratings consider the distress type, quantity, and severity to calculate a single PCI value.

HQZ's PCI indices were established during an evaluation conducted in May 2017 and are depicted on **Exhibit 1D**. Runway 18-36 was found to have a PCI of 100 with no predominant distress. It should be noted that the pavement section that was identified as being in poor condition (orange) was recently repaved and is now in excellent condition. The majority of pavement at HQZ was in very good to excellent condition; however, it is likely that some degree of degradation has occurred since 2017.

AIRFIELD LIGHTING, SIGNAGE, AND MARKING

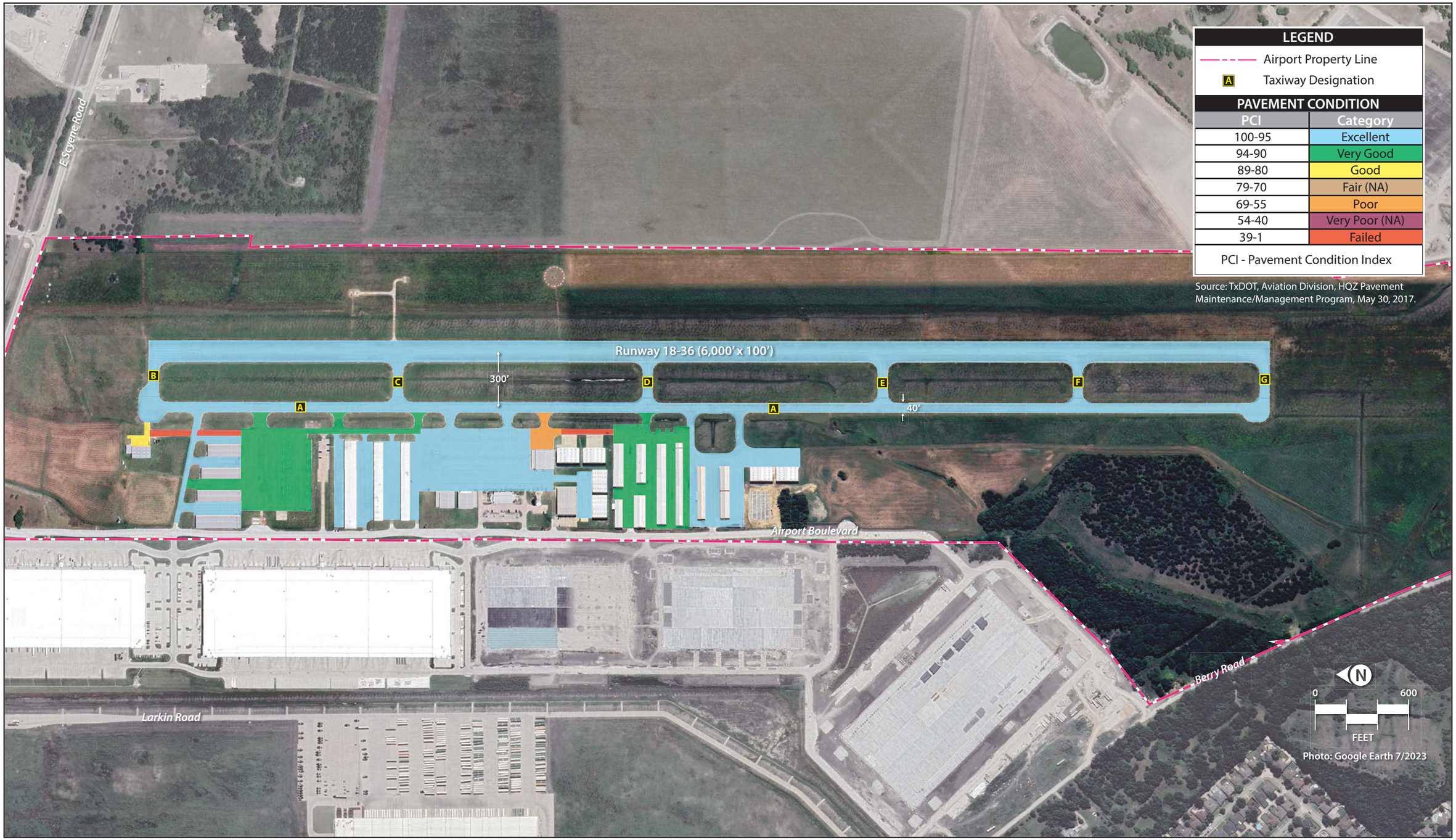
Airfield lighting systems extend an airport's usefulness into periods of darkness and/or poor visibility. A variety of lighting systems are installed at the airport for this purpose. These lighting systems – categorized by function – are summarized as follows.

Airport Identification Lighting

The location of the airport at night is universally identified by a rotating beacon. 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 airport traffic control tower (ATC) on the south end of the south apron.

Pavement Edge Lighting

Pavement edge lighting defines the lateral limits of the pavement to ensure safe operations during night and/or low visibility times, maintaining safe and efficient access to and from the runway and aircraft parking areas. Runway 18-36 is equipped with medium intensity runway lighting (MIRL). Each runway end is equipped with threshold lights, which emit green light outward from the runway and emit red light toward the runway. Green lights indicate the landing threshold to arriving aircraft and red lights



LEGEND

Airport Property Line

A Taxiway Designation

PAVEMENT CONDITION

PCI	Category
100-95	Excellent
94-90	Very Good
89-80	Good
79-70	Fair (NA)
69-55	Poor
54-40	Very Poor (NA)
39-1	Failed

PCI - Pavement Condition Index

Source: TxDOT, Aviation Division, HQZ Pavement Maintenance/Management Program, May 30, 2017.

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indicate the end of the runway for departing aircraft. The entirety of the taxiway system at HQZ isequipped with elevated blue medium intensity taxiway lighting (MITL).

Medium Intensity Taxiway Lighting (MITL)

Visual Approach Aids

Visual glide slope approach aids provide a visual cue to pilots, alerting them as to whether they are on the correct glide path to landing. Each end of both runways is outfitted with four-light precision approach path indicator (PAPI) lights with a 3.00-degree standard glide path. The pilot interprets the system of red and white lights for an indication of positioning above, below, or on the designated descent path to the runway. The airport recently replaced the existing PAPIs on Runway 18 with an LED system.

Runway end identification lights (REILs) provide a visual identification of the runway end for landing aircraft. The REILs consist of two synchronized flashing lights which are located laterally on each side of the runway end, facing the approaching aircraft. These flashing lights can be seen during the day or night for up to 20 miles, depending on visibility conditions. Both runway ends are equipped with REILs. The locations of the PAPIs and REILs are identified on **Exhibit 1C**.

Runway End Identifier Light (REIL)

Precision Approach Path Indicator (PAPI) Visual Approach Lights

Approach Lighting System (ALS)

An ALS is a configuration of lights positioned symmetrically along the extended runway centerline to supplement navigational aids – such as an instrument landing system (ILS) – to provide lower visibility minimums or enhance nighttime approaches under visual flight rule conditions. The approach lighting system provides a pilot with visual cues concerning aircraft alignment, roll, height, and position relative to the threshold. Both ends of Runway 18-36 are equipped with lead-in light systems (LDIN). This system provides positive visual guidance to landing aircraft by displaying flashing lead-in lights in sequence toward the runway. The LDIN on the Runway 18 end consists of three lights that extend approximately 715 feet from the end of the runway. The LDIN on the Runway 36 end consists of a series of five lights that extend approximately 1,530 feet from the end of the runway.

Airfield Signage

Airfield identification signs assist pilots in identifying runways, taxiway routes, and critical areas. The presence of runway/taxiway signage is an essential component of a surface movement guidance control system and is necessary for the safe and efficient operation of the airport. The airfield at HQZ is equipped with lighted location, directional, and mandatory instruction signs.

Airfield Location Signage

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. HQZ provides and maintains marking systems in accordance with Part 139.311(a) and FAA Advisory Circular (AC) 150/5340-1, *Standards for Airport Marking*, and AC 150/5300-13B, *Airport Design*.

As detailed previously, both runway ends are equipped with precision markings that include designation, centerline, threshold, aiming point, touchdown, and side stripe markings. All taxiways at the airport are marked with a yellow centerline, holding position markings, and leadoff lines on regularly used exits. Centerline markings assist pilots with maintaining proper clearance from pavement edges and objects near taxiway edges. Aircraft holding positions are marked at each runway/taxiway intersection. Holding positions are located 250 feet from the centerline on Runway 18-36.

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 localizer antenna array provides horizontal guidance and is used to establish and maintain an approaching aircraft's position 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.

HQZ is equipped with an ILS system; however, it was recently decommissioned, and the equipment is planned to be donated to Sugarland Airport. The glideslope antenna for Runway 18 is located on the east side of the runway, roughly 1,100 feet from the threshold. The localizer antenna array for Runway 18 is located 1,700 feet south of the Runway 36 end.

After-Hours Lighting

During the times that the ATCT is not active (9:00 p.m. to 7:00 a.m.), certain airport lights are programmed to operate continuously. For example, the MIRL on Runway 18-36 is preset to low intensity. Pilots can utilize the common traffic advisory frequency (CTAF) to increase the intensity of the MIRL, as well as the REILs and PAPIs serving the runway.

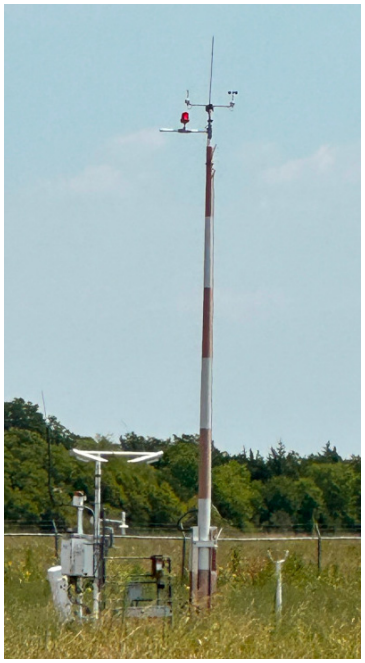
Emergency Generators

To ensure a reliable source of power for airfield lighting, the airport maintains three generators on the south side of the airfield to support the localizer, REILs, PAPIs, and glideslope.

WEATHER AND COMMUNICATION AIDS

Automated Weather Observing System (AWOS)

HQZ is equipped with an AWOS-3, which measures and reports wind direction and speed; visibility; temperature and dew point; altimeter setting (barometric pressure) and density altitude; cloud height; and precipitation type and intensity. The AWOS-3 updates observations every minute for 24 hours a day and transmits the information to pilots at and near the airport by a very high frequency (VHF) ground-to-air radio transmitter via frequency 118.175 MHz. Pilots can also receive the weather report by calling a local telephone number (972-222-7631). The AWOS equipment is located approximately 1,400 feet south of the Runway 18 threshold on the east side of the airfield. The airport is currently undergoing an AWOS reconstruction project.



Automated Weather Observation System (AWOS)

Wind Cone

HQZ also has a lighted wind cone and segmented circle, which are located approximately 300 feet east of Runway 18-36, centered between the Taxiway C and D connector. The wind cone informs pilots of the wind direction and speed, while the segmented circle communicates aircraft traffic pattern information.

Weather Radar Tower

In 2016, the City of Mesquite installed a Collaborative Adapting Sensing of the Atmosphere (CASA) radar tower at HQZ. The radar in Mesquite is the seventh radar in the region's network and allows the National Weather Service to receive better detection of storm cell development in the area by transmitting data every minute. CASA operates at a short range and scans the lower atmosphere, which improves the resolution, sensitivity, accuracy, and timeliness of readings. The weather radar is located north of the airfield, approximately 300 feet west of the Texas Department of Public Safety building.

Collaborative Adapting Sensing of the Atmosphere (CASA) Radar

Common Traffic Advisory Frequency (CTAF)

When the ATCT is closed (9:00 p.m. to 7:00 a.m.), pilots can utilize the CTAF. This radio frequency (120.3 MHz) is used by pilots in the vicinity of the airport to communicate with each other about approaches to or departures from the airport. A UNICOM frequency (123.05 MHz) is also available for pilots to 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

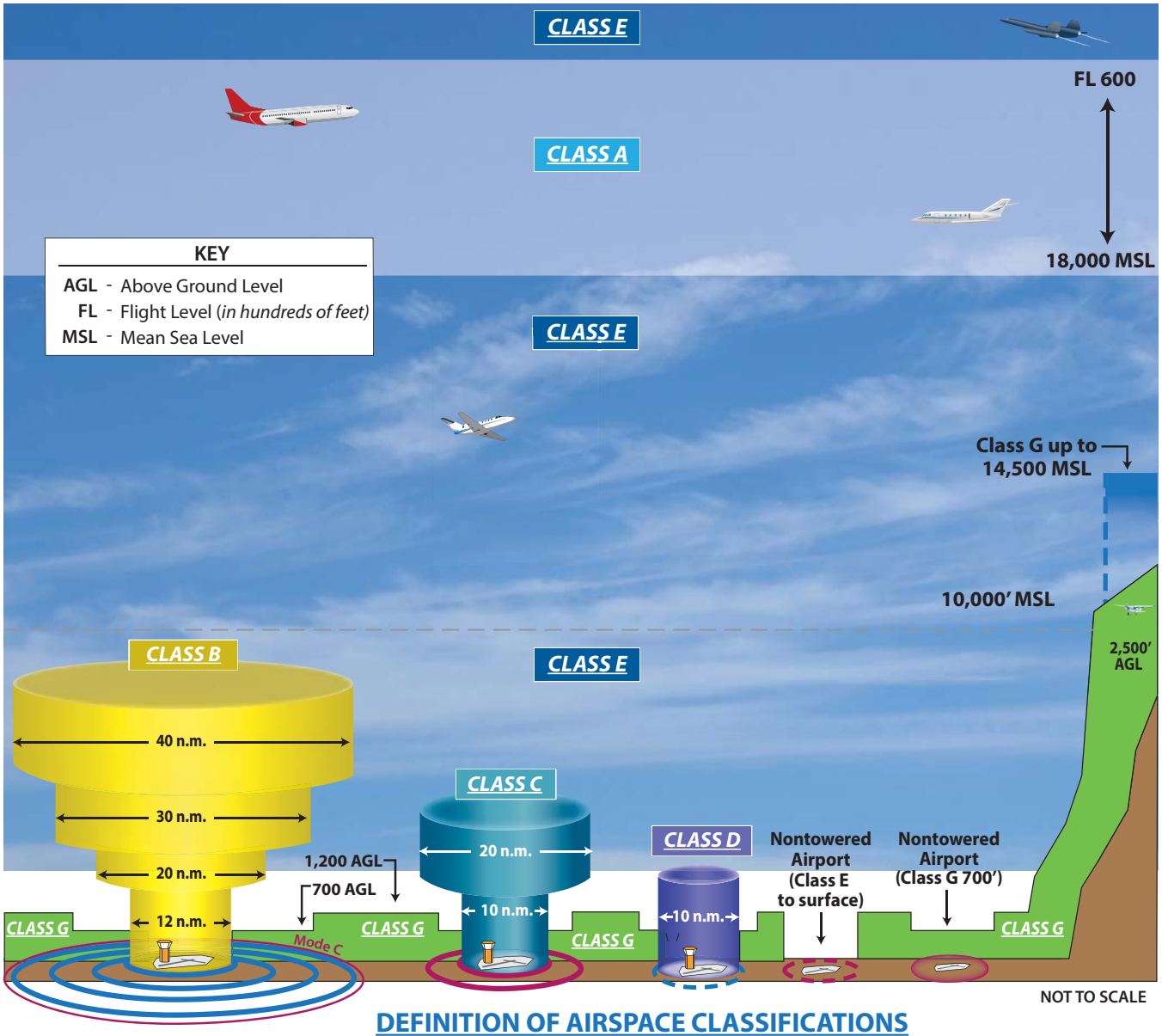
Airspace within the United States is broadly classified as either controlled or uncontrolled. The difference primarily relates to requirements for pilot qualifications; ground-to-air communications; navigation and air traffic services; and weather conditions. Six classes of airspace have been designated in the United States, as shown on **Exhibit 1E**. 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 mean sea level (MSL) to Flight Level 600 (approximately 60,000 feet MSL). This airspace is designated in Federal Aviation Regulation (FAR) Part 71.193 for positive control of aircraft. The positive control area (PCA) allows flights governed only under instrument flight rules (IFR) operations. The 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.

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. The nearest Class B airspace is Dallas/Fort Worth International Airport (DFW). HQZ falls under the outer ring of DFW's Class B airspace, which extends from a floor of 4,000 feet up to 11,000 feet MSL. Approximately two nm west of HQZ, the floor of the Class B airspace drops down to 3,000 feet MSL, and approximately 11 nm west of HQZ, the DFW Class B airspace has a floor at ground level.

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, aircraft must be equipped with a two-way radio and an encoding transponder, and the pilot must have established communication with ATC. Examples of Class C airspace include Abilene Regional Airport (ABI) and Dyess Air Force Base (DYS).

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. HQZ is located within Class D airspace that underlies the DFW Class B airspace, as shown on **Exhibit 1F**.



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.

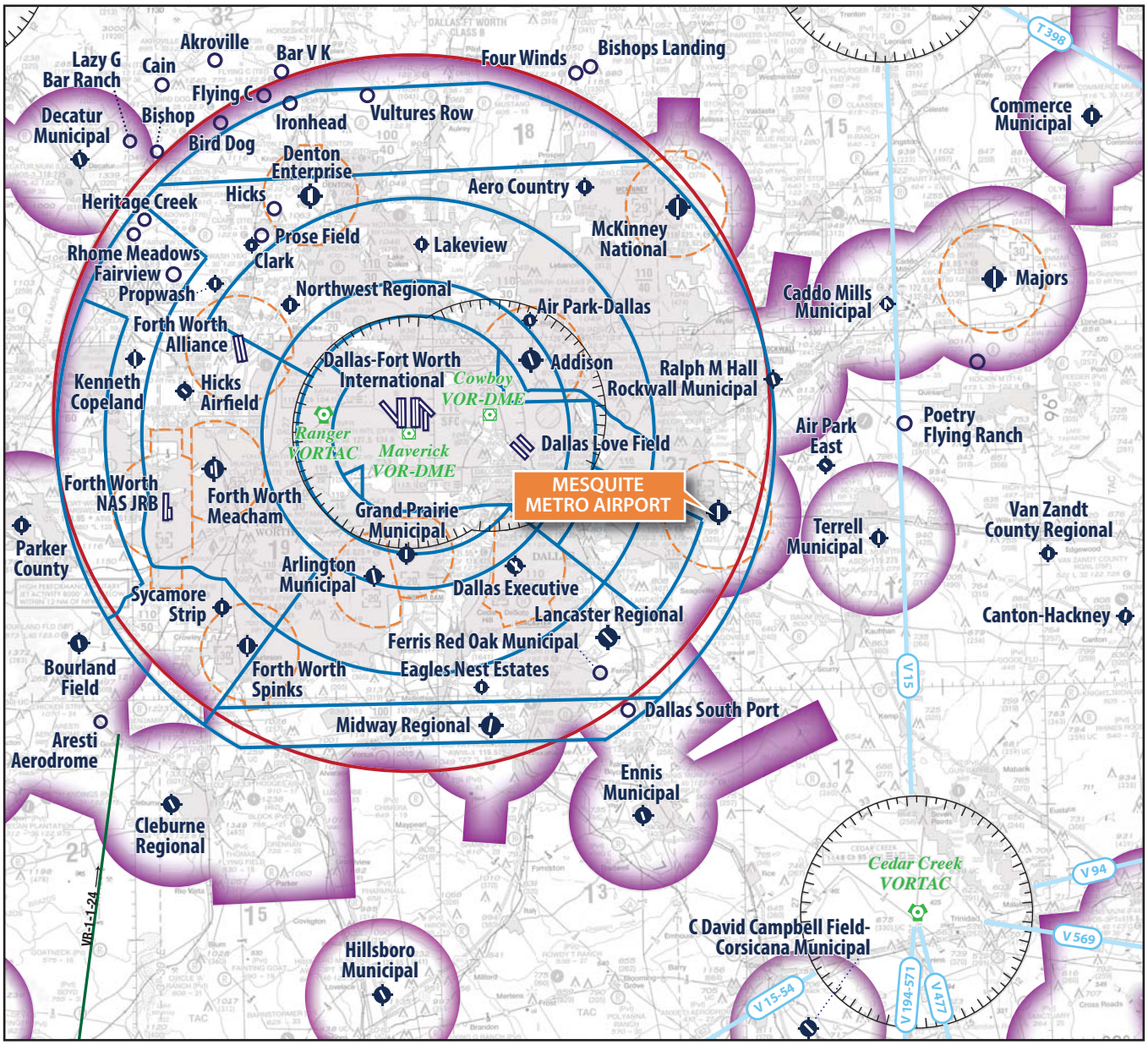
CLASS C Think C - Mode C. Mode C transponder required. ATC communication required. Generally airspace from the surface to 4,000 feet AGL surrounding towered airports with service by radar approach control.

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



LEGEND

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

Source:
Dallas_Ft Worth Sectional Chart I US Department of Commerce National Oceanic and AtmosphericAdministration I June 15, 2023

HQZ Class D airspace extends from the surface up to (but less than) 2,000 feet AGL and spans around the airport at a radius of 4.5 nm. Pilots planning to operate within Class D airspace are required to contact HQZ air traffic control prior to entering or departing HQZ airspace and must remain in contact while within the controlled airspace. When the control tower is closed (9:00 p.m. to 7:00 a.m.), the airspace becomes Class G airspace.

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 air traffic control 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 air traffic control 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 air traffic control facility. Class G airspace lies between the surface and the overlaying 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 where activities must be confined because of their nature, or where limitations are imposed on aircraft not taking part in those activities. Special use airspace identifies for other users the areas where these non-standard operations may be occurring by outlining active times and/or altitudes to provide separation information in the area. Most special use airspace is designated on FAA aeronautical charts. The special use airspace in the vicinity of HQZ is also depicted on **Exhibit 1F**.

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

Military Operations Area | A military operations area (MOA) is an area (volume) of airspace designated for military training use. This 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 found in high concentrations, conducting aerobatic maneuvers, and possibly operating at high speeds and/or at lower elevations. There are no MOAs within the vicinity of the airport.

Restricted Airspace | Restricted airspace is an area 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. It is depicted on aeronautical charts with the letter "R" followed by a serial number. Restricted areas denote the existence of unusual, 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 aircraft and its occupants. Restricted airspace zones may not always be active; in such cases, there are typically schedules of local dates and times available to aviators which specify when a zone is active, and at other times, the airspace is subject to normal operation for the applicable airspace class. There are no restricted airspace areas in the vicinity of the airport.

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 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.

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 the VR or IR label 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 HQZ are depicted on **Exhibit 1F** using an orange line and associated with their identifying number.

AIRSPACE CONTROL

The FAA has established 21 Air Route Traffic Control Centers (ARTCCs) throughout the continental United States to control aircraft operating under IFR within controlled airspace and while enroute. An ARTCC assigns specific routes and altitudes along federal airways to maintain separation and orderly traffic flow. The Fort Worth ARTCC controls IFR air traffic enroute to and from HQZ.

Flight Service Station

Flight service stations (FSS) are air traffic facilities that provide 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 notices to airmen (NOTAMs); broadcast aviation metrological and aeronautical information; and notify Customs and Border Protection of trans-border flights. The Fort Worth Flight Service Station is the nearest FSS to HQZ.

Airport Traffic Control Tower (ATCT)

The HQZ ATCT operates from 7:00 a.m. to 9:00 p.m. every day. The ATCT is located on the south apron, south of the terminal, and is accessible via Airport Boulevard Road. The ATCT is part of the FAA's contract tower program and is operated by RVA Robinson Aviation, Inc. The City of Mesquite is in the process of acquiring a Standard Terminal Automation Replacement System (STARS) display for the tower, which is used for identifying aircraft, maintaining identity of aircraft, and performing handoffs of aircraft between controllers.

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 120.3 MHz for Mesquite Tower and 118.85 Mesquite Ground. Approach and departure services are provided at 125.2 MHz. For clearance delivery when the HQZ ATCT is closed, pilots can contact Regional Approach at 125.2 MHz or by phone at 972-615-2799.

Airport Traffic Control Tower

NAVIGATIONAL AIDS

Navigational aids are electronic devices which transmit radio frequencies that pilots of properly equipped aircraft can translate into point-to-point guidance and position information. The types of electronic navigational aids available for aircraft flying to and from HQZ include a very high frequency omnidirectional range (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 a VOR facility (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 a VORTAC. The VORTAC provides distance and direction information to both civil and military pilots. The Cowboy VOR-DME is located 20.7 nm west of the airport and the Maverick VOR-DME is located 26.7 nm west of the airport. The Ranger VORTAC is located 33.8 nm west of the airport and the Cedar Creek VORTAC is located 37.2 nautical miles southeast 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 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 enroute navigation and non-precision instrument area navigation (RNAV) approaches to both runway ends at HQZ.

FLIGHT PROCEDURES

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

Standard Terminal Arrivals (STARs)

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

Departure Procedures

Similar to 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 enroute structure. There are nine published departure procedures at HQZ.

Instrument Approach Procedures

Instrument approach procedures assist pilots in locating and landing at an airport during low visibility and cloud ceiling conditions. They are defined as either precision with vertical guidance (APV) or non-precision. Precision instrument approach aids provide an exact course alignment and vertical descent path for an aircraft on final approach to a runway with a height above threshold (HAT) lower than 250 feet and visibility lower than ¾-mile. Examples of a precision approach include a Category (CAT) I instrument landing system (ILS) and a ground-based augmentation system (GBAS) landing system (GLS). APVs also provide course alignment and vertical descent path guidance with HATs of 200 feet or more and visibility minimums of ¾-mile or greater. Example APV approaches include vertical navigation (VNAV) and localizer performance with vertical guidance (LPV). Non-precision instrument approaches (NPAs) provide only course alignment information with no vertical component. NPAs can have visibility minimums down to ½-mile or greater and have HATs of no lower than 250 feet. Examples of NPAs include VOR, non-directional beacon (NDB), area navigation (RNAV), lateral navigation (LNAV), localizer performance (LP), and localizer (LOC) approaches.

Instrument approach minimums are published for different aircraft categories and consist 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 two published instrument approach procedures at HQZ. Runway 18 and Runway 36 both have RNAV-GPS approaches, as detailed in **Table 1H**.

TABLE 1H | Instrument Approach Procedures

	Approach Category			
	A	B	C	D
Runway 18 RNAV (GPS) - LPV	250′ DA; ¾-mile VM			Not Available
Runway 18 RNAV (GPS) - LNAV MDA	413′ DA; 1-mile VM		413′ DA; 1⅛-mile VM	Not Available
Runway 18 RNAV (GPS) - Circling	513′ DA; 1-mile VM		713′ DA; 2-mile VM	Not Available
Runway 36 RNAV (GPS) - LPV	250′ DA; ⅞-mile VM			Not Available
Runway 36 RNAV (GPS) - LNAV MDA	317′ DA; 1-mile VM			Not Available
Runway 36 RNAV (GPS) - Circling	513′ DA; 1-mile VM		713′ DA; 2-mile VM	Not Available

DA = Decision Altitude
LPV = Localizer Performance with Vertical Guidance
LNAV = Lateral Navigation
RNAV = Area Navigation
VM = Visibility Minimum

Source: Airnav.com

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 HQZ, both runways have standard left-handed traffic patterns, which means aircraft make left turns when in the pattern for landing. In 2022, Runway 18 was utilized for 71.2% of departures and 70.0% of arrivals, with the remainder utilizing Runway 36.

HQZ is situated at 447 feet MSL. The standard traffic pattern altitude is 1,000 feet above the elevation of the airport surface (1,447 feet MSL). The traffic pattern for heavy and turbine aircraft is 1,500 feet above the airfield elevation (1,947 feet MSL), while rotorcraft and ultralight aircraft should maintain an altitude of 947 feet MSL.

Helicopter traffic generally utilizes Taxiway A and the south apron. Additionally, helicopters can land via Airport Boulevard and enter eastbound toward Gate B and onto the south apron. A similar flight procedure is made when departing the airport, with the exception of taking off westbound.

HQZ 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 to accept all civilian and military aircraft that can be safely accommodated.

LANDSIDE FACILITIES

Landside facilities are those that support the aircraft and pilot/passenger handling functions, as well as other non-aviation facilities which typically provide a revenue stream to the airport. These facilities include the passenger terminal/FBO complex, general aviation facilities, automobile parking, and other non-aviation business located at the airport.

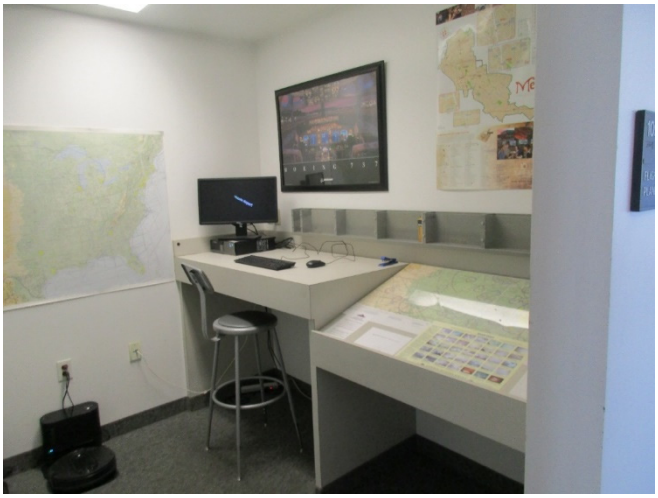
Terminal Building – Landside

Terminal Building – Airside

Terminal Building – Entrance

Terminal Building – Lobby and Entrance

Terminal Building – Lounge



Terminal Building – Flight Planning Area

TERMINAL/FBO COMPLEX

Constructed in 2004, the terminal/fixed base operator (FBO) building at HQZ is a 5,000-square-foot (sf) facility that includes offices; a pilot briefing and flight planning area; a pilot's lounge; restrooms; a public lobby; a line service counter; a conference room; a public meeting area; and administrative offices. An FBO is an airport service center responsible for a variety of aviation services, such as passenger handling; aircraft fuel; parking; maintenance; aircraft towing and storage; and other related services. The City of Mesquite manages the only FBO at HQZ. As depicted on **Exhibit 1G**, the terminal/FBO building is located on the west side of the south apron and is accessible via Airport Boulevard. The building is open daily from 8:00 a.m. to 8:00 p.m. seven days a week.

The airport also has a separate pilot's lounge and restrooms located at the east end of building 1520. The facility is accessible via a keypad and provides a location for based aircraft operators or transient pilots to use outside of the terminal building.

Terminal Building – Pilot's Lounge

Pilot's Lounge and Restrooms in Building 1520

LEGEND

Airport Property Line

N

0 300

FEET

Photo: Google Earth 7/2023

Inset

0 100

FEET

Jet A and Avgas

Runway 18-36 (6,000' x 100')

FACILITY KEY					
Building #	Name	Area (sf)	Building #	Name	Area (sf)
900	Executive Hangar	7,800	1433	Mesquite Aircraft Sales & Services	10,000
910	Conventional Hangar	15,000	1434	Executive Hangar	9,600
920	10-Unit T-Hangar	12,000	1436	Executive Hangar	10,000
930	9-Unit T-Hangar	11,000	1440	Executive Hangar	6,000
940	7-Unit T-Hangar	9,500	1442	Conventional Hangar	11,500
1130 #100	19-Unit T-Hangar	32,900	1510	7-Unit T-Hangar	10,200
1130 #200	20-Unit T-Hangar	21,000	1512	10-Unit T-Hangar	10,500
1130 #300	20-Unit T-Hangar	21,000	1520	19-Unit T-Hangar	21,500
1280	Michels Aviation	10,000	1530	13-Unit T-Hangar	17,600
1290	ATP	10,000	1630	T-Hangar	12,300
1340	Terminal/FBO	5,000	1650	T-Hangar	15,200
1350	Mesquite Aircraft Sales & Services	13,200	1660	Conventional Hangar	15,000
1370	Mesquite Aircraft Sales & Services	10,000	1670	Executive Hangar	9,800
1432	Bumper Man	14,800	1680	Executive Hangar	9,800

Mesquite Aviation

CAP Black Sheep Squadron

Pilot's Lounge and Restrooms

Auxilary Parking

Barr Air Patrol

South Apron

Electrical Vault

900

940

930

North Apron

920

910

Inset

CASA Radar

Airport Boulevard

Security Gate

Wash Rack

1130 #100

1130 #200

1130 #300

Security Gate

1340

1280

1290

1350

1370

1433

1442

1436

1434

1440

1512

1510

1520

1530

1630

1650

1670

1680

1660

1432

ATCT with Rotating Beacon

Security Gate

Ultimate Transportation

Wing Bird Aviation

Mequite Airport Logistics Center

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AIRPORT BUSINESSES

There are several specialty aviation service operators (SASOs) and other non-aviation related businesses operating at HQZ. SASOs are companies that offer one or more specialized aviation services, such as flight instruction or aircraft maintenance and repair. The aviation-related businesses operating at the airport at the time of publication include:

- **Mesquite Aviation –** occupies the offices facing the airfield in T-hangar 1130 #100. Mesquite Aviation is primarily a flight school; however, it does offer additional services, such as aircraft rental, aerial photography, tours, and discovery flights. Mesquite Aviation has a fleet of five aircraft, all of which are Cessna 172s.
- **Mesquite Aircraft Sales and Service –** is located in hangars 1350, 1370, 1433, and 1434. Mesquite Aircraft Sales and Service provides general aviation services and maintenance, as well as the availability of hangar storage, to both private and corporate jet and turboprop owners.
- **Michels Aviation LLC –** located in hangar 1280, Michels Aviation LLC provides professional management solutions to businesses utilizing aircraft.
- **Wing Bird Aviation –** occupies one of the T-hangars in building 1520 Office 6 and provides multi-engine flight training and time building.
- **Civil Air Patrol –** Black Sheep Squadron is in T-hangar 1130 #300, west of Taxiway A. The Black Sheep Composite Squadron cadet and adult members support three civil air patrol missions: Cadet Programs, Aerospace Education, and Emergency Services. They are members of Group III of the Texas Wing Civil Air Patrol and meet every Tuesday evening at HQZ.
- **Bumper Man –** operates out of hangar 1432, south of the ATCT, and provides mobile automotive repair services to cater specifically to the needs of dealerships and fleet companies.
- **Barr Air Patrol –** operates out of the conventional hangar 1442 on the south end of the airport. Barr Air Patrol provides aerial pipeline patrol, right of way video services, LiDAR, aerial imagery, Talon360 imagery, and methane leak detection.
- **Ultimate Transportation –** offers specialized deliveries for refrigerated or dry vans and flatbeds all over the county. Ultimate Transportation is located in hangar 1510 #2.

AIRCRAFT HANGAR FACILITIES

Existing hangar facilities at HQZ consist of large, conventional-style hangars utilized by the various SASOs on the airport; mid-sized executive hangars; and T-hangars that are designed to accommodate smaller aircraft. Conventional hangars typically offer more than 10,000 sf of storage space, while the smaller executive hangars usually range in size from 2,500 sf to 10,000 sf. Conventional and executive hangars make up the bulk of hangars at HQZ. Hangars at HQZ are identified on **Exhibit 1G** along with their approximate square footage.

Approximate total square footages of the existing hangar types are:

- Conventional hangars – 54,500 square feet
- Executive hangars – 83,400 square feet
- T-hangars – 194,700 square feet
- Maintenance hangars – 10,000 square feet

Aircraft Hangars

Executive Hangar - Building 900

Conventional Hangars - Buildings 1280 and 1290

Conventional Hangar – Building 1350

Executive Hangars – Buildings 1670 and 1680

AIRCRAFT PARKING APRONS

Aircraft aprons are pavement areas that are sufficiently removed from aircraft taxiways and movement areas and facilitate the safe and efficient transition of passengers from the airside element (runways and taxiways) to the landside element. Aprons provide access to the terminal and hangars and provide for short- and long-term aircraft parking. There are two primary apron areas at HQZ which are utilized for public aircraft parking and tie-downs. The north apron measures approximately 13,400 square yards and has 38 marked tie-down positions. The south apron measures approximately 20,000 square yards and has three marked tie-down positions,

South Apron

as well as transient ramp space. In addition, there is one helicopter parking position located east of hangar 900. The apron and aircraft parking positions are identified on **Figure 1C**. The pavement condition of the various apron areas was previously detailed on **Exhibit 1D**.

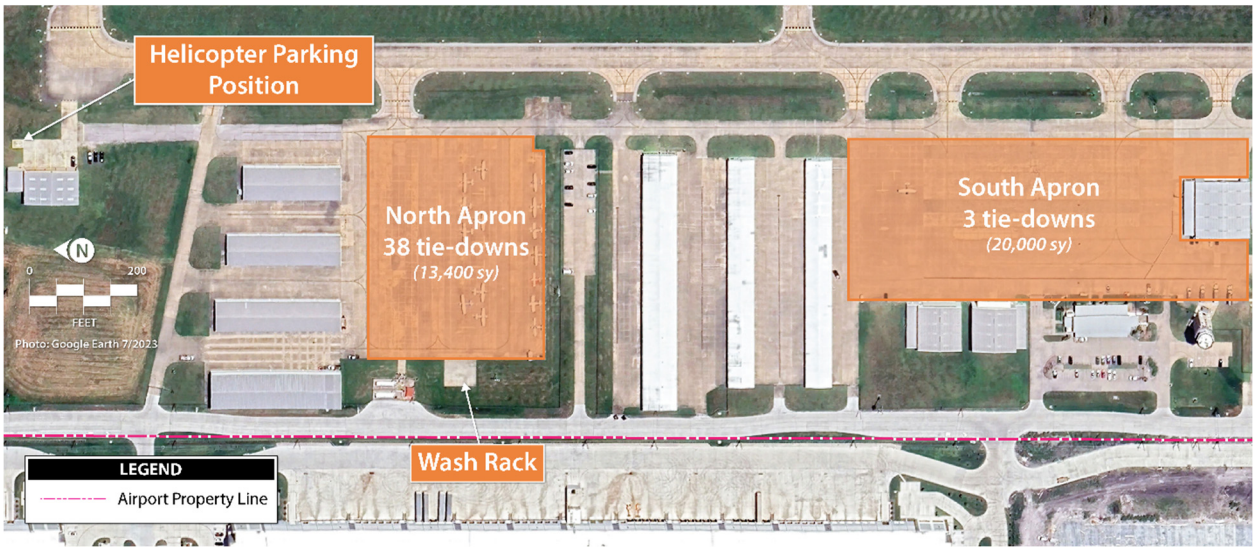


Figure 1C – Aircraft Parking Apron

VEHICLE PARKING

There are more than 100 marked and publicly accessible vehicle parking spaces to support facilities at the airport, including handicap-accessible spaces. The terminal building has a public parking area with approximately 36 spaces, including two handicap spaces, and four spaces on the north side of the building for airport staff. The tower has its own designated parking area with seven marked spaces, including two handicap spaces. There is an additional parking lot north of hangar 1130 #100 which can accommodate 44 vehicles. This lot is generally used by Mesquite Aviation. Vehicle parking lots at HQZ are identified on **Figure 1D**.

Terminal Parking Lot

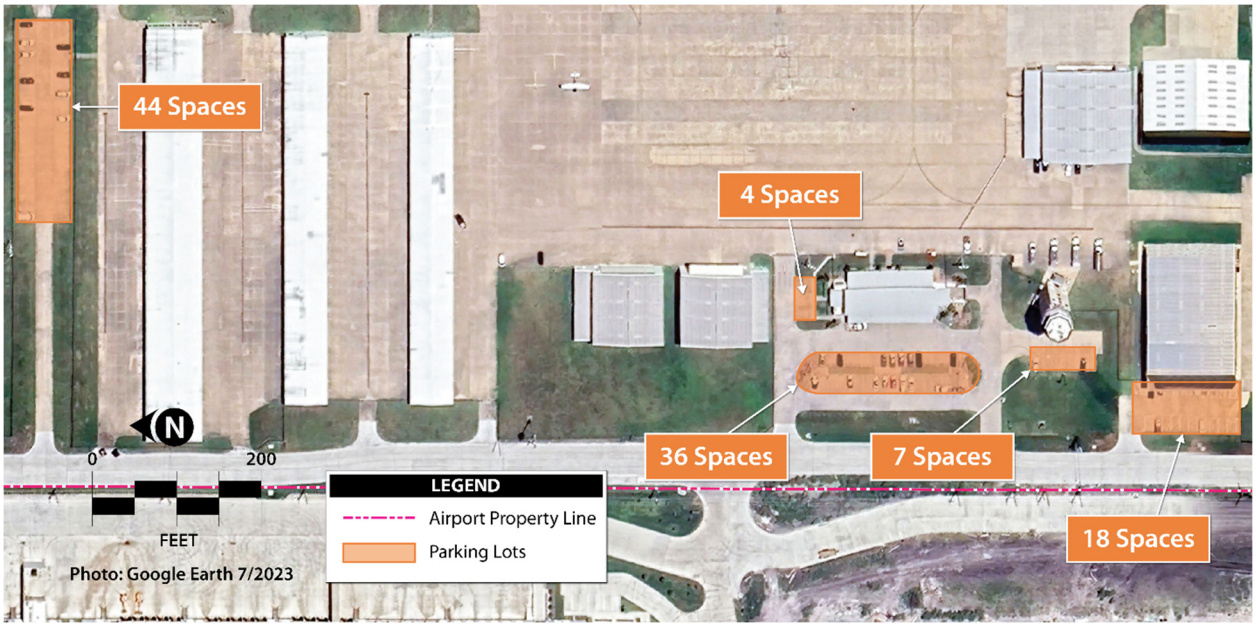


Figure 1D – Vehicle Parking

SUPPORT FACILITIES

AIRCRAFT RESCUE & FIREFIGHTING (ARFF)

As a general aviation airport, HQZ is not required to maintain on-site aircraft rescue and firefighting (ARFF) equipment or services. Firefighting services are provided by the City of Mesquite Fire Department (Station 7), which is located at 1850 Clay Mathis Road and is two miles from the airport. Station 7 is the largest City of Mesquite fire station in square footage and houses an engine, a light and air truck, a brush truck, an ambulance, and several pieces of reserve equipment.

Jet A and 100LL Fuel Storage Tanks

FUEL STORAGE

Fuel storage facilities at HQZ are located on the north apron, as shown on **Exhibit 1G**. There are currently two aboveground tanks, one for 100LL fuel and one for Jet A. Both tanks have a 12,000-gallon capacity and are owned by the city. The fuel farm is served by a service road extending from Airport Boulevard. 100LL and Jet A fuel are dispensed via a self-service pump equipped with a credit card reader. In addition, the FBO provides full service and contracts three fuel trucks through Titan Aviation Fuels.

Self-Service Fuel Terminal

Monthly fuel flowage records for Jet A and Avgas, dating back to October 2020, are charted in **Figure 1E**. Average monthly fuel flowage for both fuel types over this period is 22,577 gallons of Jet A and 9,664 gallons of Avgas.

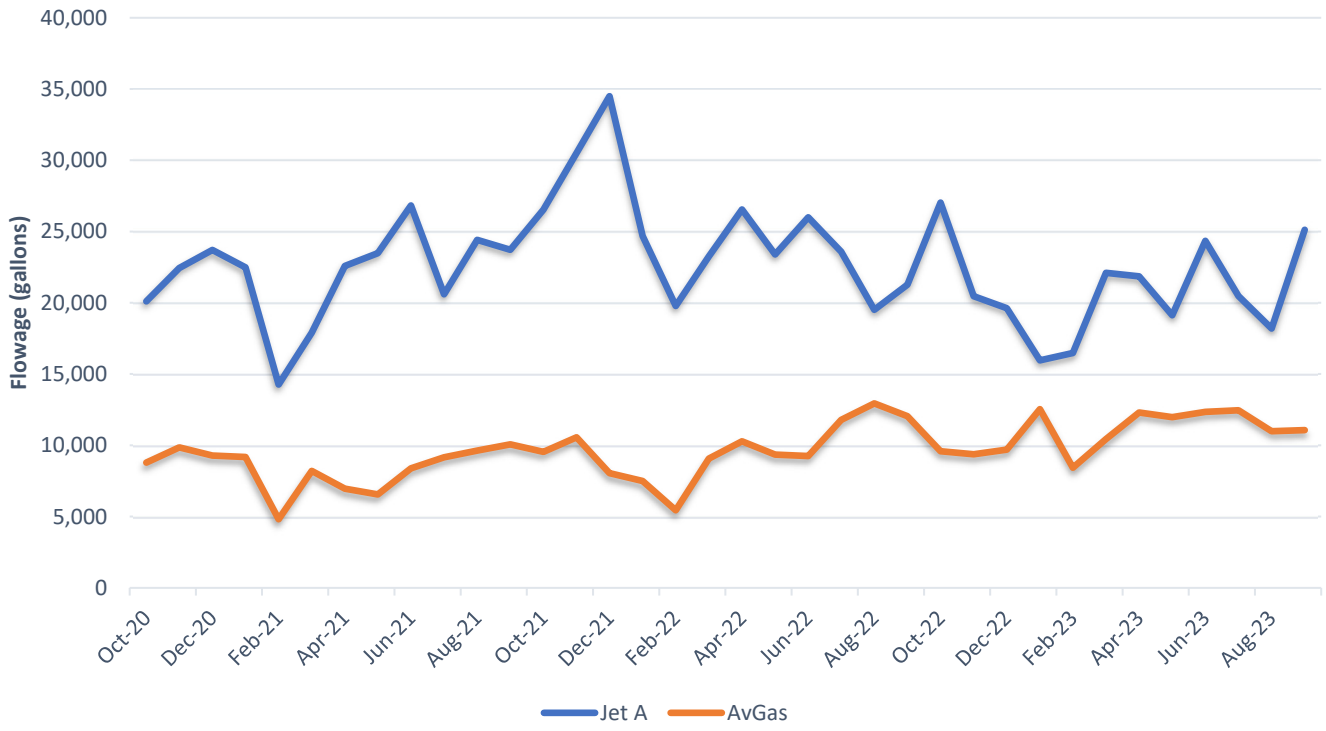


Figure 1E – Fuel Flowage History

VEHICLE AIRFIELD ACCESS AND PERIMETER 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 patrols; fire and rescue vehicles; aircraft fuel and service vehicles; and others authorized by the airport, such as airline/FBO, construction, FAA, and airport staff vehicles. There is no service road on airport property.

The entire perimeter of the airport is enclosed with six-foot chain link security fencing. Four gates with padlocks and three electronic gates (A, B, and C) are located at various points on the airfield, allowing access to movement and non-movement areas. Signs prohibiting unauthorized entry are displayed on the electronic gates and in other prominent locations to control inadvertent entry to the airfield.

UTILITIES

The availability and capacity of the utilities serving the airport are factors in determining the development potential of the airport property, as well as the land immediately adjacent to the facility. Of primary concern in the inventory investigation is the availability of water, gas, sewer, and power sources. Providers are detailed below:

- Energy (electric) – Oncor Electric Delivery
- Natural gas – Atmos Energy
- Water/sewer – Public Works
- Trash – Republic Services
- Communication (phone and internet) – AT&T

REGIONAL AIRPORTS

A review of other public-use airports with at least one paved runway within a 30-nautical-mile radius of HQZ 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 HQZ. **Table 1J** provides basic information on these airports. It should be noted that only public-use airports with at least 5,000 feet of runway length have been included in the comparison.

TABLE 1J | Regional Airports within 30 Nautical Miles of Mesquite Metro Airport

Airport	NM/Direction from HQZ[1]	FAA Service Level[2]	Towered	Based Aircraft[3]	2022 Annual Operations[4]	Longest Runway[1]	Visibility Minimum[1]
Mesquite Metro Airport (HQZ)	–	Reliever	Yes	187	108,057	6,000′	¾-mile
Terrell Municipal Airport (TRL)	13.5 nm E	GA	No	81	33,650[1]	5,006′	¾-mile
Lancaster Regional Airport (LNC)	13.9 nm SW	Reliever	No	69	67,100[1]	6,500′	¾-mile
Dallas Love Field Airport (DAL)	17.2 nm WNW	Primary	Yes	283	230,529	8,800′	½-mile
Dallas Executive Airport (RBD)	17.5 WSW	Reliever	Yes	360	88,466	7,136′	¾-mile
Addison Airport (ADS)	20.4 nm NW	Reliever	Yes	573	120,256	7,203′	1-mile
Mid-Way Regional Airport (JWY)	25.9 nm SW	GA	No	80	49,700[1]	6,500′	¾-mile
McKinney International Airport (TKI)	26.0 nm N	Reliever	Yes	210	142,001	7,002′	½-mile
Dallas-Fort Worth Airport (DFW)	27.1 nm WNW	Primary	Yes	0	656,676	13,401′	½ mile
Arlington Municipal Airport (GKY)	28.9 nm W	Reliever	Yes	200	133,301	6,080′	¾-mile

GA = General Aviation
nm = nautical mile

Sources:
[1] Airnav.com; FAA Form 5010, Airport Master Record
[2] FAA NPIAS
[3] basedaircraft.com; FAA-validated counts
[4] Annual operations are derived from FAA OPSNET unless otherwise noted

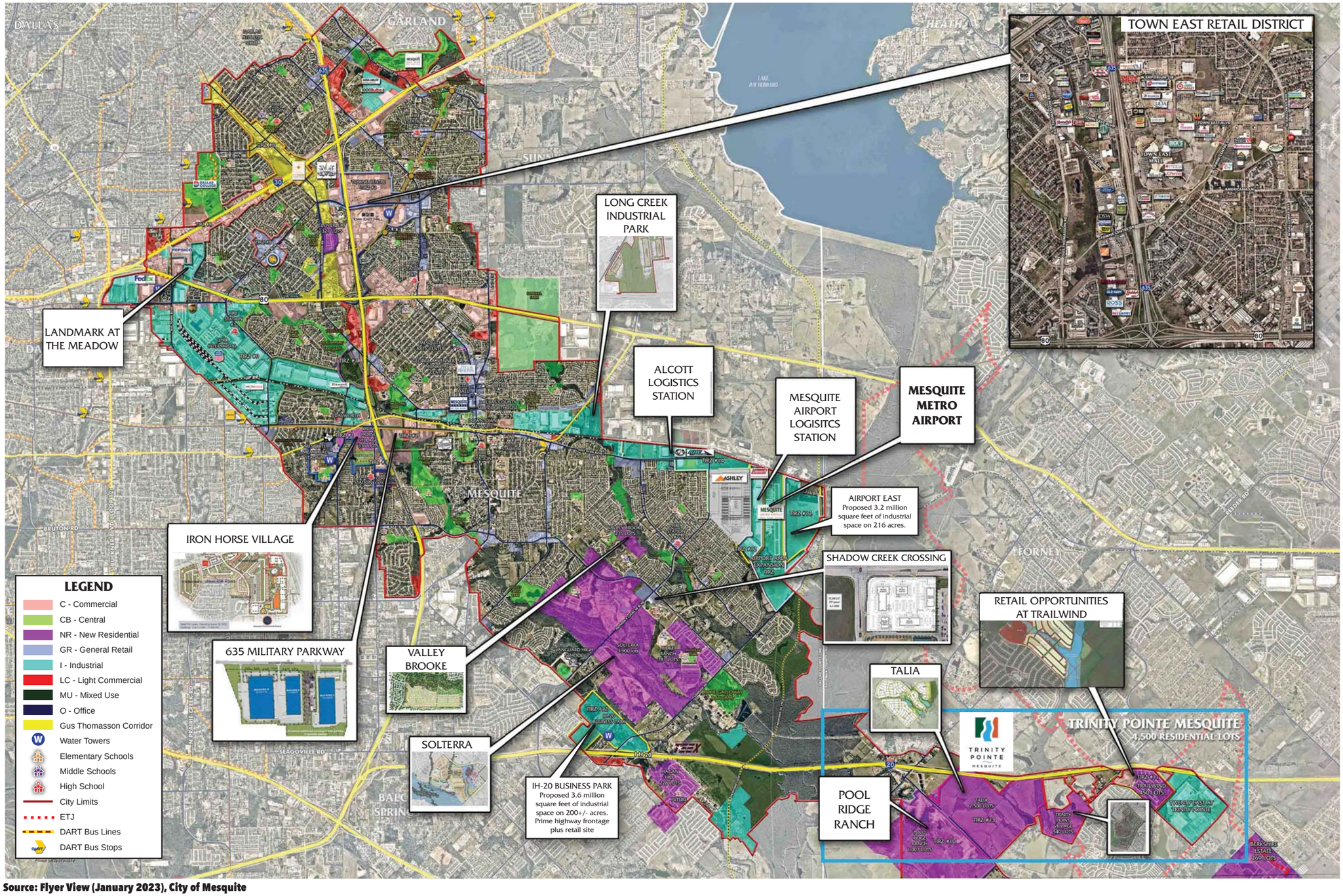
ECONOMIC DEVELOPMENT

The City of Mesquite recently finished its first Economic Development Strategic Plan at the end of 2022. As mentioned previously, the city is situated within the Dallas-Fort Worth Metroplex and has experienced recent growth in development and business expansion. This growth was due to forward-thinking investments in infrastructure; the adoption of the strategic plan (completed in 2019); and a strong marketing and branding approach. The strategic plan aimed to provide a methodical and actionable roadmap to guide the community into the future and through the next phase of economic growth. It includes recommendations for programs, initiatives, and decisions that optimize real estate investment and income opportunity. **Exhibit 1H** shows the visual representation of the Economic Development Aerial Map, which identifies the future opportunities and developments, as well as diverse land uses, for the City of Mesquite.

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 Noise-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)



Source: Flyer View (January 2023), City of Mesquite

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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.

The airport is in west Dallas County, Texas, on the eastern edge of the City of Mesquite, three miles east of the central business district of Mesquite. The portion of Dallas County that contains the airport is in nonattainment for 8-Hour Ozone (2008) (Severe 15 [area has a design value of 0.113 up to – but not including – 0.119 ppm]), and 8-Hour Ozone (2015) (Moderate).[1]

BIOLOGICAL RESOURCES

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

The U.S. Fish and Wildlife Service (USFWS) is charged with overseeing the requirements contained within Section 7 of the *Endangered Species Act* (ESA). The ESA provides a framework to conserve and protect animal or plant species whose populations are threatened by human activities. The FAA and USFWS review projects to determine if a significant impact to protected species will result during 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 1K**).

Section 3 of the ESA is used to protect critical habitat areas. Designated critical habitat areas are geographically defined and have been determined to be essential to the recovery of a specific species. There is no federally designated critical habitat at the airport.

[1] Texas Nonattainment / Maintenance Status for Each County by Year for All Criteria Pollutants, May 31, 2023 (https://www3.epa.gov/airquality/greenbook/anayo_tx.html)

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

Common Name (*Scientific Name*)	Federal Status	Habitat and Range	Potential for Occurrence
MAMMALS			
tricolored bat (*Perimyotis subflavus)*	Proposed Endangered	Tricolored bats spend the winter hibernating in caves and mines; however, in the southern U.S., where caves are sparse, tricolored bats often hibernate in road-associated culverts, and occasionally in tree cavities and abandoned water wells. During the spring, summer, and fall, tricolored bats primarily roost among live and dead leaf clusters of deciduous hardwood trees. In the southern and northern portions of the range, tricolored bats will roost in Spanish moss (*Tillandsia usneoides*) and lichen (*Usnea trichodea*). Additionally, tricolored bats have been observed roosting during summer among pine needles and eastern red cedar; within artificial roosts like barns; beneath porch roofs and bridges; in concrete bunkers; and (rarely) within caves. This species can be found in the eastern, southwestern, and midwestern portions of the U.S.	**Potential to occur.** The airport is in proximity to a variety of trees and contains manmade structures that could provide habitat for the tricolored bat.
BIRDS			
golden-cheeked warbler (*Setophaga chrysoparia*)	Endangered	This species only nests in central Texas and can be found inhabiting woodlands with tall Ashe Juniper, oak, and other hardwood trees.	Unlikely to occur. The airport does not contain suitable habitat for this species.
piping plover (*Charadrius melodus*)	Threatened	A migratory species that uses a variety of habitats corresponding with the local weather and tidal conditions. Primary foraging habitats can include sandy mud flats, ephemeral pools, and seasonally emergent seagrass beds with abundant invertebrates.	Unlikely to occur. The airport does not contain suitable habitat for this species.
red knot (*Calidris canutus rufa*)	Threatened	A migratory species that can be found in a variety of habitats. During the winter months, habitats include high-energy ocean, bayfront areas, and tidal flats in more sheltered bays and lagoons. Its preferred migration habitats are muddy or sandy coastal areas, bays, estuaries, tidal flats, and unimproved tidal inlets. During the migratory periods, red knots are typically found in areas that have seasonally abundant food resources. During the summer, red knots nest in dry, slightly elevated tundra locations and windswept slopes with little vegetation.	Unlikely to occur. The airport does not contain suitable habitat for this species.
whooping crane (*Grus americana*)	Endangered	A migratory species that can be found in habitats including coastal marshes and estuaries, lakes, open ponds, shallow bays, salt marsh, and sand or tidal flats.	Unlikely to occur. The airport does not contain suitable habitat for this species.
REPTILES			
alligator snapping turtle (*Macrochelys temminckii*)	Proposed Threatened	This species can be found inhabiting rivers, lakes, backwater swamps, and other water systems (i.e., mixtures of fresh and salt water). The alligator snapping turtle ranges from Florida to Texas and north to Illinois.	Unlikely to occur. No perennial water, cienegas, or stock tanks are present at the airport or in the adjacent vicinity.
CLAMS			
Texas fawnsfoot (*Truncilla macrodon*)	Proposed Threatened	This species can be found in flowing medium to large streams with substrates of mud, gravel, and sand. It can also be found in bank habitats or backwater during high water events.	Unlikely to occur. No perennial water is present at the airport or in the adjacent vicinity.

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

Common Name (*Scientific Name*)	Federal Status	Habitat and Range	Potential for Occurrence
INSECTS			
monarch butterfly (*Danaus plexippus*)	Candidate	A migratory species found in a variety of habitats. The monarch butterfly requires milkweed (*Asclepias* spp.) for breeding.	**Potential to occur.** The airport is surrounded by vegetation (including flowering plants) and milkweed has been observed in this part of Texas.

USFWS Status Definitions:

Candidate = a 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; however, these proposed rules have not yet been issued because such actions are precluded at present by other listing activity.

Endangered = an animal or plant species that is in danger of extinction throughout all or a significant portion of its habitat range.

Threatened = an animal or plant species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Proposed Endangered = any species that the USFWS has determined is in danger of extinction throughout all or a significant portion of its range and for which the USFWS has proposed a draft rule to list as endangered.

Sources: USFWS IPaC (https://ipac.ecosphere.fws.gov/); USFWS IPaC Listing Status (https://ipac.ecosphere.fws.gov/status/list); USFWS Species (https://www.fws.gov/species); Texas Parks & Wildlife (https://tpwd.texas.gov/); National Wildlife Federation (https://www.nwf.org/)

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 ozone (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 2% decrease in total U.S. emissions from 1990 to 2021, down from a high 15.8% above 1990 levels in 2007. From 2020 to 2021, the U.S. saw 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% of total CO_2 emissions. However, the overall aviation industry (excluding international bunkers) has shown a decrease in CO_2 emissions by 18% between 1990 and 2021.[2] Commercial aircraft emissions have highly fluctuated over the past 30 years, with a 27% increase between 1990 and 2007, a 2% decrease from 2007 to 2019, and

[2] U.S. EPA, Inventory of U.S. Greenhouse Gasses: Chapter 3 Energy (https://www.epa.gov/ghgemissions/draft-inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021)

a 33% decrease from 2019 to 2020, followed by a 23% increase from 2020 to 2021. Overall, this represents an 8% difference between 1990 and 2021 commercial aircraft emissions. Between 1990 and 2021, emissions from military aircraft decreased 65%.

Information regarding the climate for the airport and surrounding environments – including wind, temperature, and precipitation – can be found earlier in this airport master plan.

The State of Texas does not currently have a statewide recognized climate adaptation plan.[3]

COASTAL RESOURCES

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

The airport is not located within a coastal zone. The closest National Marine Sanctuary is the Flower Garden Banks National Marine Sanctuary, located more than 365 miles away.[4]

DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(f)

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

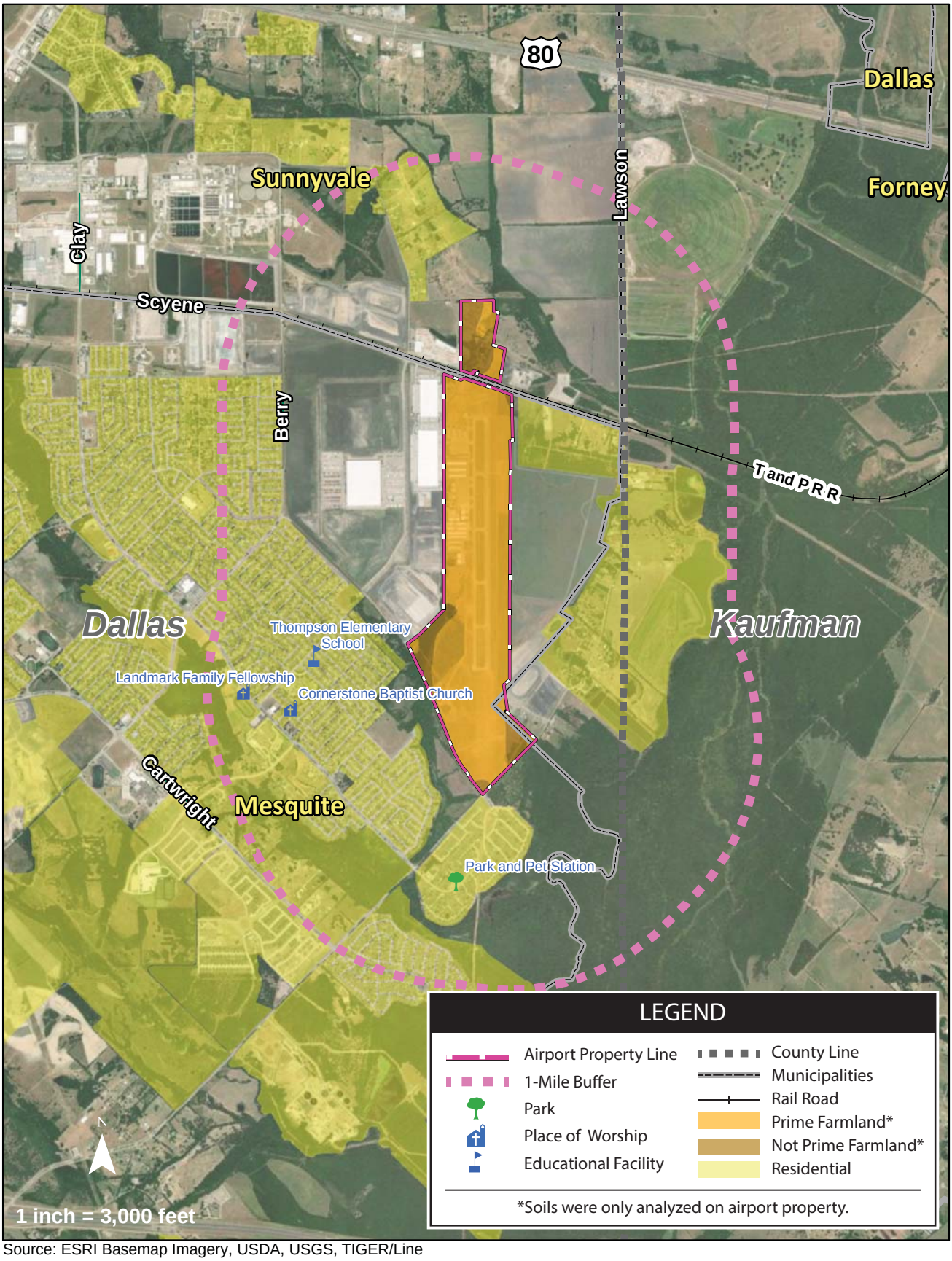
Exhibit 1J identifies potential Section 4(f) resources within one mile of the airport. A school playground or athletic field may be considered a Section 4(f) resource if the recreational facilities at the school are readily available to the public. There are no parks or other public recreational facilities within one mile of the airport, other than Thompson Elementary School – which may have public access to its playground – and a small 0.5-acre "Pet and Park Station" on Clay Mathis Road. Adjacent to the airport on the southeast corner of Runway 36 lies Devil's Bowl Speedway; while this property contains recreational uses, it is not protected by Section 4(f) as it is considered commercial property.

There are no National Register of Historic Places (NRHP)-listed resources within one mile of the airport.

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

- Nearest wilderness area: Big Slough Wilderness (118 miles from airport)
- Nearest national recreation area: Chickasaw National Recreation Area (117 miles from airport)

[3] Center for Climate and Energy Solutions - U.S. State Climate Action Plans (https://www.c2es.org/document/climate-action-plans/)
[4] Google Earth Aerial Imagery (June 2023); National Marine Sanctuary System (https://sanctuaries.noaa.gov/)
[5] 49 U.S. Code § 303 - Policy on lands, wildlife and waterfowl refuges, and historic sites



Source: ESRI Basemap Imagery, USDA, USGS, TIGER/Line

FARMLANDS

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

The U.S. Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey shows the types of soils and their farmland classifications on and adjacent to the airport. The airport is not within urbanized area boundaries.[6] The airport is primarily classified as "All areas are prime farmland" with small portions on the southwest and northeast classified as "Not prime farmland" (**Exhibit 1J**); however, the airport is not irrigated or farmed. **Table 1L** describes the farmland classification based on the soil within the airport's boundaries.

TABLE 1L| Farmland Classification – Summary by Map Unit – Dallas County, Texas (TX113)

Web Soil Survey Symbol	Soil Type	Farmland Rating
17	Branyon clay, 0 to 1% slopes	All areas are prime farmland
34	Ferris-Heiden complex, 5 to 12% slopes	Not prime farmland
42	Heiden clay, 2 to 5% slopes, moderately eroded	Not prime farmland
44	Houston Black clay, 1 to 3% slopes	All areas are prime farmland

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

The closest recycling center is the Mesquite Recycling/Waste Facility, located more than two miles south of the airport. The closest landfill is the City of Mesquite Transfer Station Facility, located more than three miles northwest of airport property boundaries.

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 the 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 (MEP). The NPDES program manages wastewater, construction, stormwater, and pretreatment.

[6] EPA EJScreen (https://ejscreen.epa.gov/mapper/) (December 2022)

The Texas Pollutant Discharge Elimination System (TPDES) permit is specific to Texas.[7] TPDES permits are required for all stormwater discharges that enter Texas surface waters, except for discharges associated with oil, gas, and geothermal exploration/development activities that are regulated by the Railroad Commission of Texas.

HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

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

To our knowledge, no cultural surveys have been conducted at the airport. Based on a review of historical aerial imagery of the airport, there appear to be no historic structures located within airport property. While the airport was initially opened in 1975, most development at the airport occurred between the early 1990s and 2010s, thereby decreasing the chance of NRHP listing-eligible historic buildings located on airport property; however, if any buildings that were initially built when the airport opened in 1975 are still standing, a historic building survey may be warranted prior to development.

There are no NRHP-listed resources within one mile of the airport.

The nearest tribal land to Mesquite Metro Airport is the Osage Reservation, located more than 230 miles north of the airport on the eastern border of Interstate 75.[8]

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.

Based on the City of Mesquite's *Interactive Zoning Map*, the airport is primarily zoned as industrial land use, with a small portion of land zoned as commercial on the north side of the airport along E. Scyene Road. East of the airport on the western side of Faithon P. Lucas Sr. Boulevard, land uses are zoned for industrial use. Similarly, to the west of the airport, parcels of land are classified as industrial land uses.

[7] Texas Commission on Environmental Quality (https://www.tceq.texas.gov/permitting/wastewater/pretreatment/tpdes_definition.html)
[8] EPA EJScreen (https://ejscreen.epa.gov/mapper/)

Southwest of the airport along Berry Road, land uses are zoned as agricultural and single-family residential. Southeast of the airport along Lawson Road, the parcels of land have been zoned for mixed-use land uses[9] (**Exhibit 1K**).

The City of Mesquite's *2019 Existing Land Use Map* identifies airport property as a public/semi-public land use. Land immediately adjacent to the airport on the east side is primarily vacant. This is due to a significant portion of the city being located within flood hazard areas, making it unsuitable for development.[10] To the west, land is identified as industrial. Land to the south is classified as single-family residential. Land to the north of the airport is located outside city limits and has scattered large lot residential development along Larkin Road (**Exhibit 1L**).

As of October 7, 2019, the City of Mesquite, Texas, has adopted the *Mesquite Comprehensive Plan Connecting the Community*. Land surrounding the airport has been designated light industrial for future land uses (**Exhibit 1L**). Under this land use designation, refining or manufacturing facilities (with no outdoor activity), indoor warehouse/storage facilities, and industrial business parks may be built in this area. Supporting uses that are possible in this land use designation are office and commercial land uses.

NATURAL RESOURCES AND ENERGY SUPPLY

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

NOISE AND NOISE COMPATIBLE LAND USE

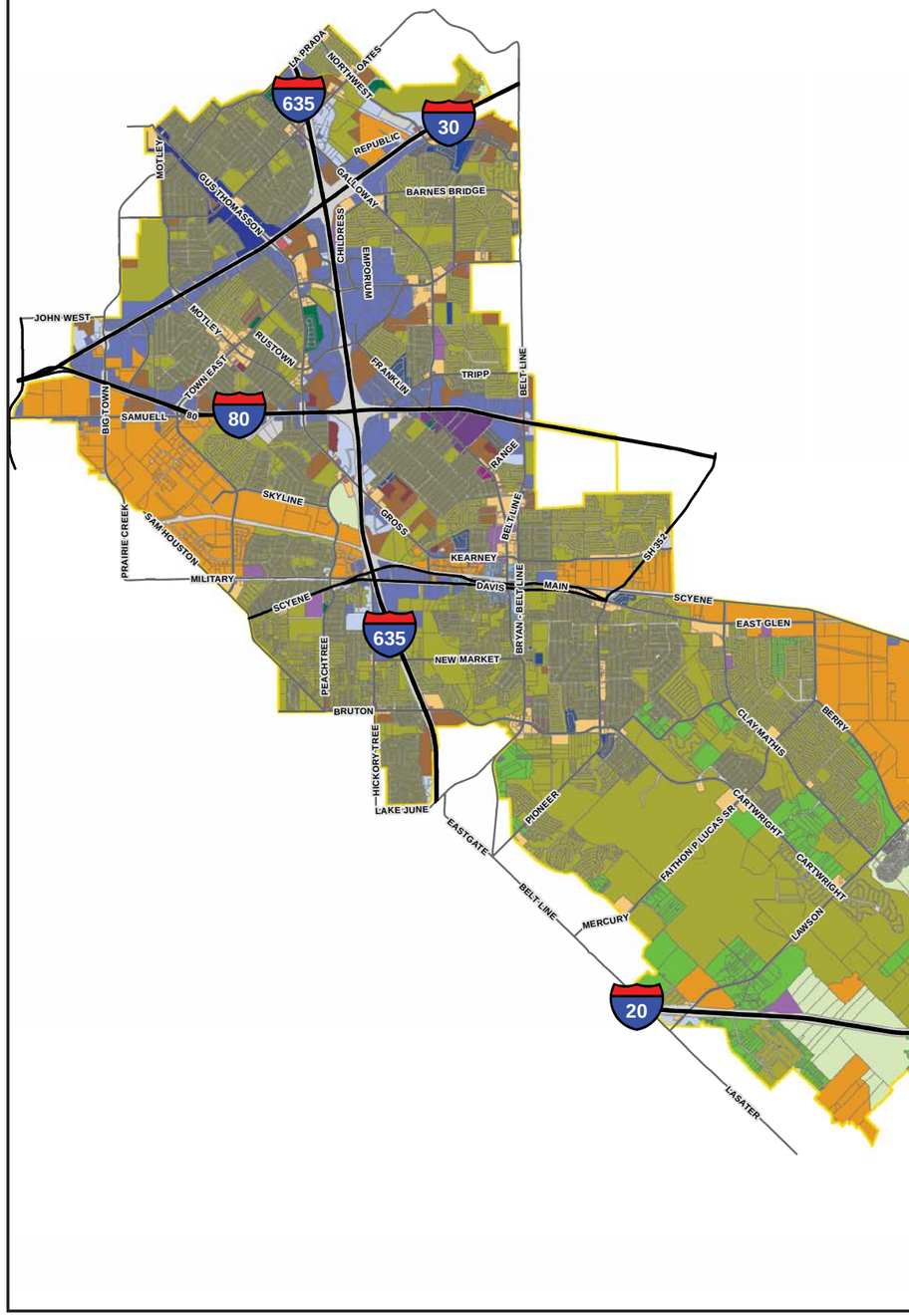
Federal land use compatibility guidelines are established under 14 Code of Federal Regulations (CFR) Part 150, *Airport Noise Compatibility Planning*. According to 14 CFR Part 150, residences and schools are noise-sensitive land uses that are not considered compatible with a 65 decibel (dB) Day-Night Average Sound Level (Ldn or DNL).[11] Other noise-sensitive land uses (such as religious facilities, hospitals, or nursing homes) located within a 65 dB DNL contour are generally compatible when an interior noise level reduction of 25 dB is incorporated into the design and construction of the structure. Special consideration should also be given to noise-sensitive areas within Section 4(f) properties where the land use compatibility guidelines in 14 CFR Part 150 do not account for the value, significance, and enjoyment of the area in question.[12]

[9] Mesquite Texas – Online Interactive Map – Zoning Parcels (https://gisservice.cityofmesquite.com/portal/apps/webappviewer/index.html?id=dde392944ab64d1699b4f18bd9c04f02)

[10] Mesquite Comprehensive Plan Connecting the Community, 2019

[11] DNL accounts for the increased sensitivity to noise at night (10:00 p.m. to 7:00 a.m.) and is the metric preferred by the FAA, the U.S. EPA, and the U.S. Department of Housing and Urban Development as an appropriate measure of cumulative noise exposure.

[12] 49 U.S. Code § 47141 - Compatible land use planning and projects by state and local governments



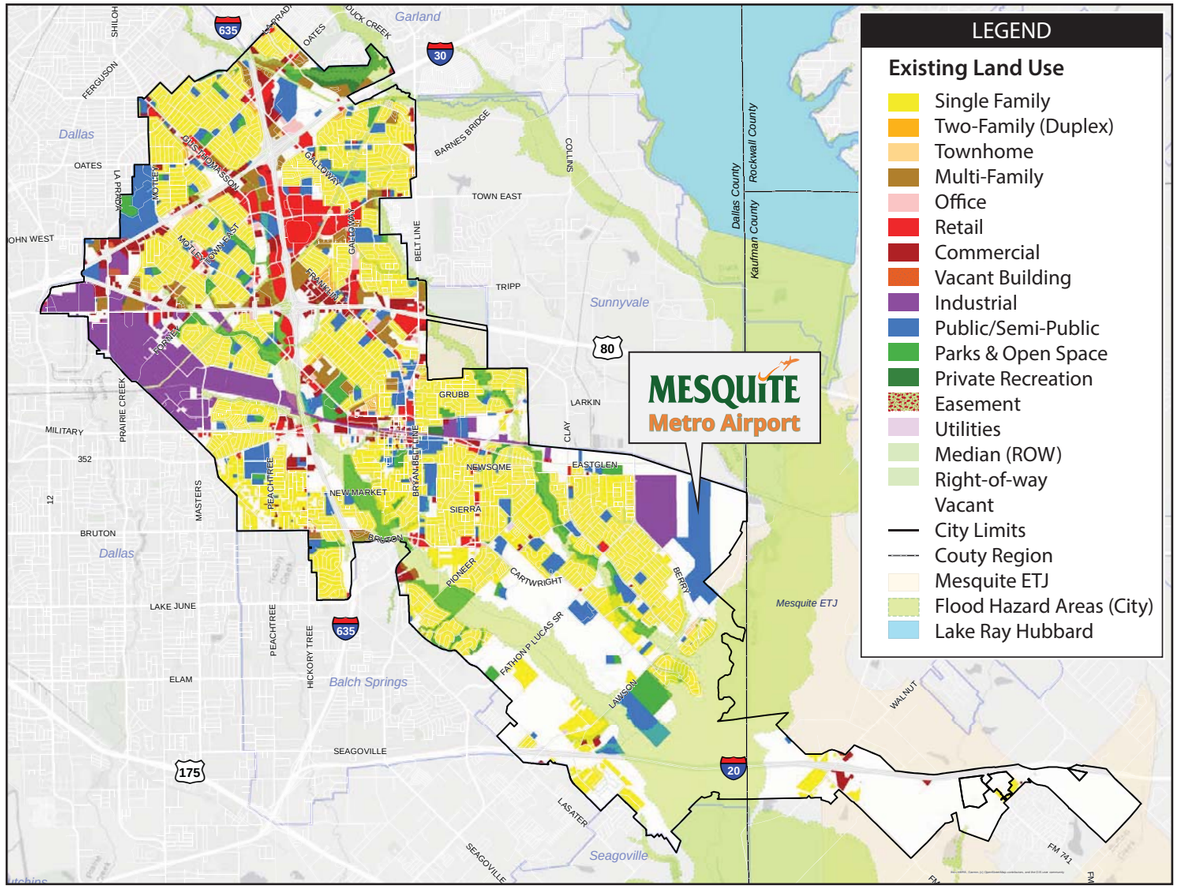
LEGEND

Zoning Districts

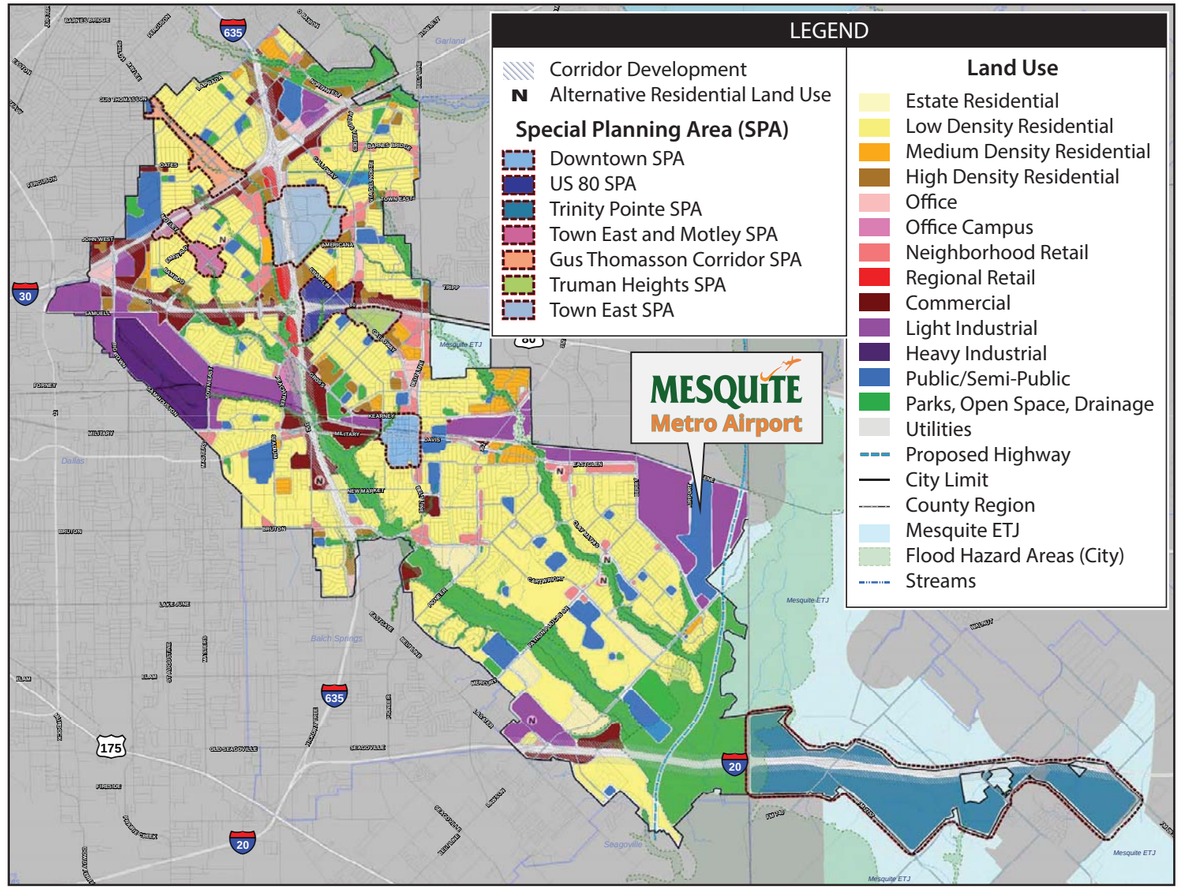
- Agricultural
- Central Business
- Civic
- Commercial
- Duplex Residential
- General Retail
- Industrial
- Light Commercial
- Mixed Use
- Multifamily Residential
- North Gus Thomasson Corridor
- Office
- Service Station
- Single Family Residential
- Traditional Neighborhood Mixed Residential
- Townhomes
- Truman Heights Neighborhood

Drawn by: GIS Group, Date: 9/10/2021

EXISTING LAND USE



FUTURE LAND USE



Source: City of Mesquite. 2019, Mesquite Comprehensive Plan Connecting the Community, October (final draft).

Table 1M below identifies noise-sensitive land uses within one mile of the airport. These land uses are also shown on **Exhibit 1J**. The closest residential areas are located east of the airport, across Lawson Road; however, the most densely populated areas are west of the airport past Berry Road and Faithon P. Lucas Sr. Boulevard.

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

Facility	Location	Distance from Airport	Direction from Airport
SCHOOLS			
Thompson Elementary School	2525 Helen Lane	0.70 miles	West
PLACES OF WORSHIP			
Landmark Family Fellowship	2523 Clay Mathis Road	0.90 miles	West
Cornerstone Baptist Church	2829 Clay Mathis Road	0.80 miles	West

Sources: EPA EJScreen (https://ejscreen.epa.gov/mapper/); Google Earth Aerial Imagery (August 2023)

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

Socioeconomics | *Socioeconomics* is an umbrella term used to describe aspects of a project that are either social or economic in nature. A socioeconomic analysis evaluates how elements of the human environment – such as population, employment, housing, and public services – might be affected by the proposed action and alternative(s). Socioeconomic characteristics also help to derive an understanding of the dynamics of growth near the airport. This information is essential in determining aviation demand level requirements, as most general aviation demand is related to the socioeconomic condition of the surrounding region. Statistical analysis of population, employment, income, and gross regional product (GRP) trends provides a picture of the economic strength of the region, as well as the ability of the area to sustain a strong economic base into the future. Additional socioeconomic data will be used in the forecast chapter; however, the information provided in this chapter will introduce socioeconomic trends in the study area.

Historical and forecast socioeconomic data for Dallas and Kaufman Counties was obtained from Woods & Poole Economics - *Complete Economic and Demographic Data Source, 2023*. Woods & Poole utilizes information from the U.S. Census Bureau, as well as other national and state organizations, for historical data to project future conditions. The information is presented on **Exhibit 1M**.

Dallas County data show that population has grown over the past 10 years at a compound annual growth rate (CAGR) of 0.5%, with a total estimated population of 2,619,839 in 2023. Projections indicate that Dallas County's population will increase to 2,920,566 by 2043. Employment has grown at a faster CAGR than population over the same period (2.32% CAGR) and is expected to continue to outpace population growth. Through 2043, employment is projected to increase from 2,511,168 in 2023 to 3,342,879 in 2043 (2.03% CAGR). The top industries in Dallas County are professional and technical services; finance and insurance; administrative and waste services; and healthcare. A selection of the top employers in the county is listed on **Exhibit 1M**. Individual income – measured as per capita personal income (PCPI) – in Dallas County averages $65,181 in 2023 and is projected to reach $97,314 by 2043.

Kaufman County data show that total population is estimated at 175,872 in 2023 and is projected to grow to 253,560 by 2043, resulting in a CAGR of 1.85%. Employment in the county is projected to climb from 175,872 in 2023 to 253,560 in 2043 (1.72% CAGR). The largest industries in Kaufman County are government, retail, and construction. A selection of the top employers in the county is listed on the exhibit. PCPI in Kaufman County is projected to grow from $36,314 in 2023 to $46,759 by 2043.

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

Would the proposed action...

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

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

Meaningful involvement ensures that:

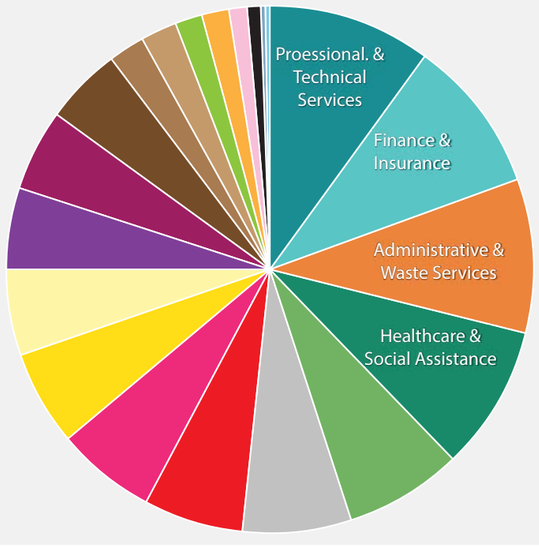
- People have an opportunity to participate in decisions about activities that may affect their environment and/or health;
- The public's contribution can influence the regulatory agency's decision;
- Their concerns will be considered in the decision-making process; and
- The decision-makers seek out and facilitate the involvement of those potentially affected.[13]

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

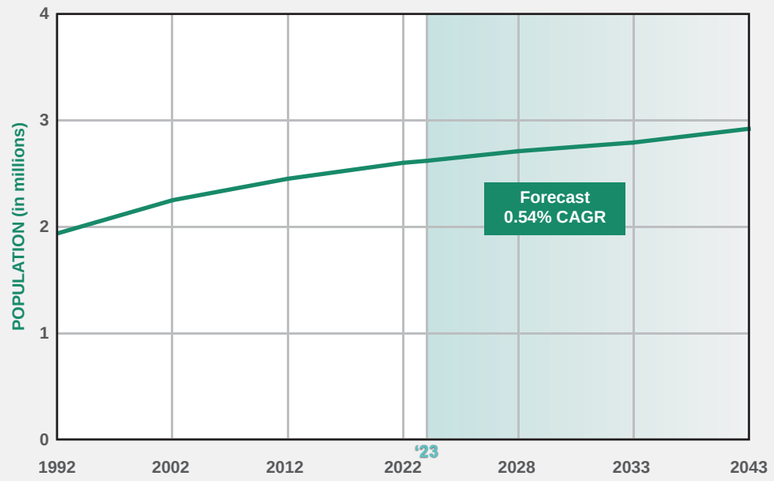
DALLAS COUNTY

INDUSTRIES

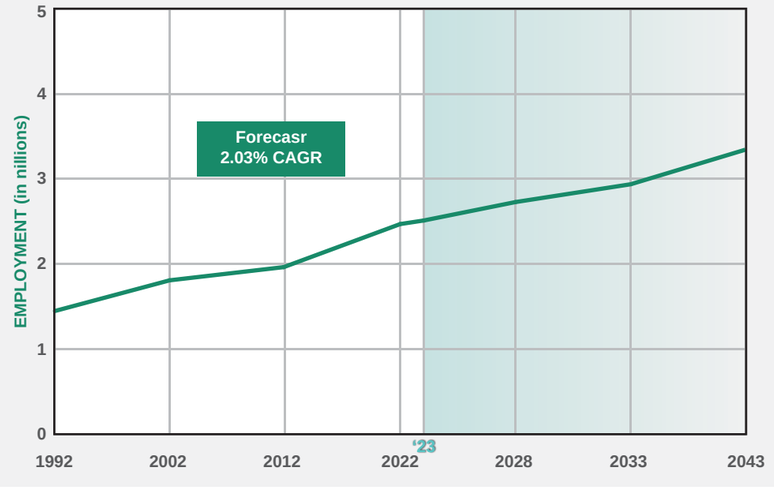
10.1%	Professional & Technical Services
9.5%	Finance & Insurance
9.4%	Administrative & Waste Services
8.9%	Health Care & Social Assistance
7.1%	Retail Trade
6.8%	Accomodation & Food Services
6.2%	State & Local Government
6.1%	Transportation & Warehousing
5.8%	Construction
5.3%	Real Estate & Rental and Lease
4.9%	Manufacturing
4.9%	Other Services, Except Public Administration
4.8%	Wholesale Trade
2.4%	Management of Companies & Enterprises
2.1%	Information
1.8%	Educational Services
1.6%	Arts, Entertainment, & Recreation
1.0%	Federal Civilian Government
0.9%	Mining
0.2%	Utilities
0.2%	Federal Military



POPULATION



EMPLOYMENT

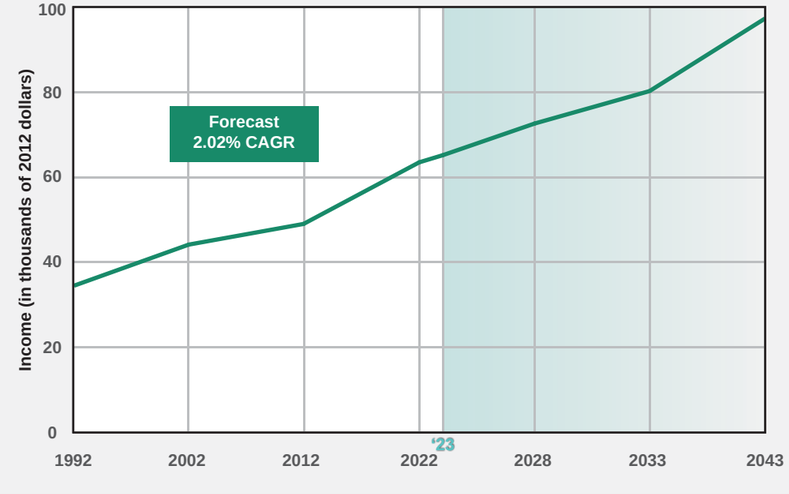


MAJOR EMPLOYERS

(Transportation, Retail Trade, Manufacturing, Professional Services, Healthcare, Finance/Insurance/Real Estate, Government)

1. American Airlines
2. AT&T
3. Bank of America
4. Baylor Scott & Wahite Health
5. HCA North Texas
6. JP Morgan Chase
7. Kroger
8. Lockheed Martin
9. Medical City
10. Naval Air Station

PER CAPITA PERSONAL INCOME (PCPI)



Sources: Woods & Poole Complete Economic and Demographic Data Source (CEDDS) 2023

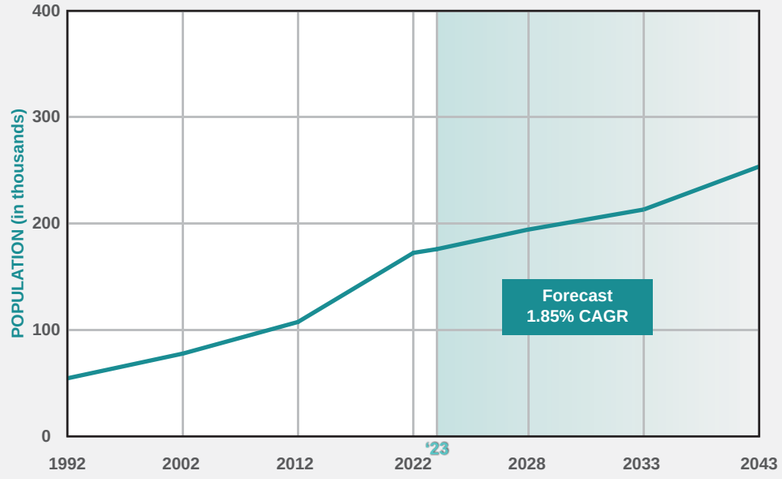
KAUFMAN COUNTY

MAJOR EMPLOYERS

(Retail Trade, Education, Professional Services, Healthcare, Finance/Insurance/Real Estate)

1. Walmart
2. Forney Independent School Dist.
3. AT&T
4. Terrell State Hospital
5. Texas Health Resources
6. Mesquite Independent School Dist.
7. Dallas Independent School Dist.
8. Baylor Scott & Wahite Health
9. Crandall Inc.
10. Bank of America Corp.

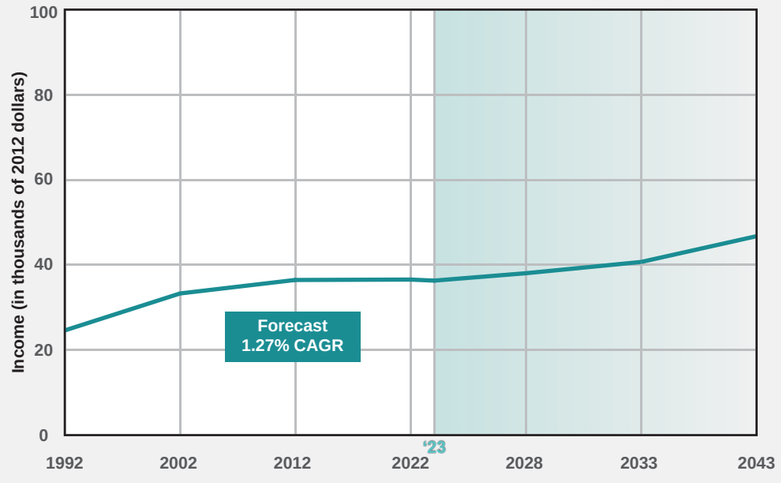
POPULATION



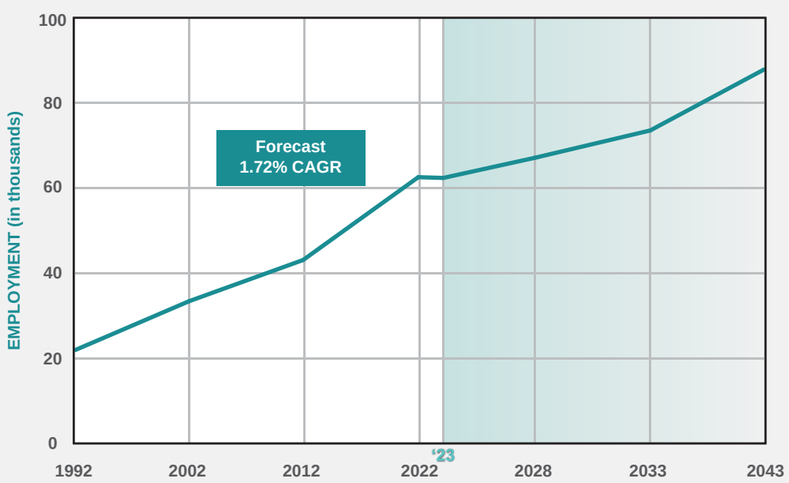
INDUSTRIES

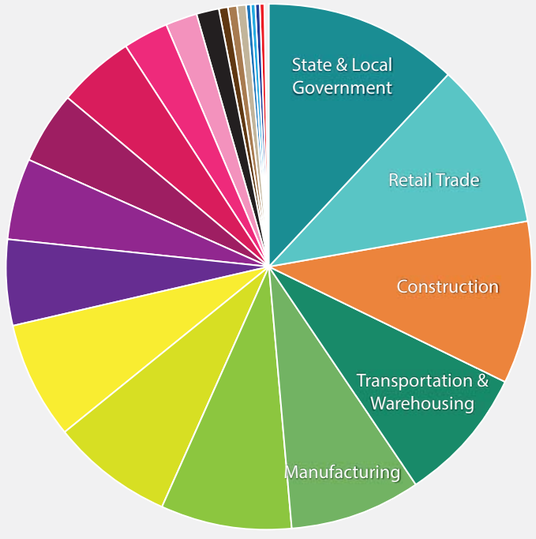
11.5%	State & Local Government
10.1%	Retail Trade
9.4%	Construction
8.1%	Transportation & Warehousing
7.8%	Manufacturing
7.8%	Other Services, Except Public Administration
7.1%	Health Care & Social Assistance
6.9%	Accomodation & Food Services
5.1%	Administrative & Waste Services
4.8%	Farm
4.5%	Finance & Insurance
4.5%	Professional & Technical Services
3.6%	Real Estate & Rental and Lease
2.7%	Wholesale Trade
1.7%	Arts, Entertainment, & Recreation
1.3%	Educational Services
0.6%	Information
0.5%	Federal Military
0.5%	Utilities
0.4%	Foresting, Fishing, & Related Activities and other
0.3%	Mining
0.3%	Management of Companies & Enterprises
0.3%	Federal Civilian Government

PER CAPITA PERSONAL INCOME (PCPI)



EMPLOYMENT





Sources: Woods & Poole Complete Economic and Demographic Data Source (CEDDS) 2023

The closest residential areas are located east of the airport, across Lawson Road. According to the five-year *2016-2020 American Community Survey* (ACS) estimates, the population within one mile of the airport is 8,566, of which 17% of the population is considered low-income and 74% are people of color. Indicated in **Table 1N**, approximately 33% of the population identifies as Hispanic or Latino.

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

Characteristic	
Total Population	8,566
Population by Race[1]	
White Alone	26%
Black Alone	36%
American Indian Alone	0%
Asian Alone	2%
Pacific Islander Alone	0%
Some Other Race Alone	0%
Population Reporting Two or More Races Alone	3%
Total Hispanic Population **(of any race)**	33%

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

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

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

According to the 2016-2020 ACS estimates, 32% of the population within one mile of the airport is age 17 or under, which equates to 2,716 children.

VISUAL EFFECTS

Visual effects deal broadly with the extent to which a proposed action or alternative 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 typically addresses 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 resulting from a source would create annoyance for people or would interfere with normal activities. Generally, a local jurisdiction will include ordinances in the local code which address outdoor illumination to reduce the impact of light on surrounding properties.

Airfield lighting at the airport includes a rotating beacon; medium intensity runway lighting (MIRL) at Runway 18-36; threshold lights at each runway end; medium intensity taxiway lighting (MITL); four-light precision approach path indicator (PAPI) lights at each runway end; and runway end identification lights (REILs) at each side of the runway end. The airfield lights utilize an approach lighting system (ALS), which provides pilots with visual cues concerning aircraft. For further information, see the discussion of the types of airfield lighting and visual approach aids earlier in the inventory.

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, locations near densely populated areas generally have a visual character that could be defined as urban, whereas less developed areas could have a visual character defined by the surrounding landscape features (such as open grass fields, forests, mountains, deserts, etc.).

Visual resources include buildings, sites, traditional cultural properties, and other natural or 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 visually characterized primarily by trees and vegetated open areas. Views of the airport are accessible from Berry Road near the southern end of the airport. Long-range views are not readily available due to the relatively flat topography of the airport environs. South and east of the airport are single-family residential land uses along Lawson Road and Berry Road.

The State of Texas has no national scenic byways.[14] Texas has a State Scenic Byways Program which aids in the preservation of landscapes and nature; however, there are no state scenic byways near the airport.

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 a continuous surface connection to a traditional navigable water – under Section 404 of the *Clean Water Act* (CWA). Wetlands are defined in E.O. 11990, *Protection of Wetlands*, as "those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction." Wetlands can include swamps, marshes, bogs, sloughs, potholes, wet meadows, river overflows, mudflats, natural ponds, estuarine areas, tidal overflows, and shallow lakes and ponds with emergent vegetation. Wetlands exhibit three characteristics: (1) has soil that is inundated or saturated to the surface at some time during the growing season (hydrology); (2) has a population of plants able to tolerate various degrees of flooding or frequent saturation (hydrophytes); and (3) has soils that are saturated enough to develop anaerobic (absent of air or oxygen) conditions during the growing season (hydric).

[14] Scenic Texas (https://www.scenictexas.org/state-scenic-byway-program)

The USFWS manages the National Wetlands Inventory (NWI) on behalf of all federal agencies. The NWI identifies surface waters and wetlands in the nation. There are no wetlands or other water features within airport boundaries.[15] East of the airport, there are extensive freshwater emergent and freshwater forested/shrub wetlands along the East Fork of the Trinity River, as well as several freshwater ponds. The NWI also identifies a riverine which traverses the airport near the southwestern end of the airport. Wetlands near the airport are identified on **Exhibit 1N**.

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 January 30, 2015). E.O. 13690 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[16] or non-critical 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 non-critical;
- 500-Year Floodplain Approach – all areas subject to the 0.2% 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.

A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) – panel numbers 48113C0395K and 48113C0535K (effective July 7, 2014) – indicates that the airport is in Zone X (shaded), an area of minimal flood hazard.[17] The airport is outside the 100-year and 500-year floodplain. Floodplains near the airport are depicted on **Exhibit 1N**.

[15] National Wetlands Inventory (https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/)
[16] 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.
[17] FEMA Flood Map (https://msc.fema.gov/portal/search?AddressQuery=Payson%20Municipal%20Airport#searchresultsanchor0)

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 involve the potential for surface runoff and soil erosion, as well as the storage and handling of fuel, petroleum products, solvents, etc. Additionally, Congress has mandated the NPDES under the CWA.

Mesquite Metro Airport is in the North Mesquite Creek-East Fork Trinity River watershed. There is one impaired waterbody in this watershed (East Fork Trinity River), located one mile east of the airport.[18] To the north of the airport is Long Creek, 0.5 miles away from the nearest airport property line. Surface waters from the airport flow southeast into the East Fork Trinity River.

Groundwater | Groundwater is subsurface water that occupies the space between sand, clay, and rock formations. The term aquifer is used to describe the geologic layers that store or transmit groundwater, such as wells, springs, and other water sources. Examples of direct impacts to groundwater could include withdrawal of groundwater for operational purposes, or reduction of infiltration or recharge area due to new impervious surfaces.[19]

According to the Texas Water Development Board (TWBD) Groundwater Database (GWDB), there are no wells located on the airport. However, there are two wells located within one mile of the airport.[20] Additionally, the airport is located in Groundwater Management Area 8, a management area created to assist groundwater conservation districts in proactively planning for the future of groundwater management; however, while the airport is located in a management area, it has not been designated as part of a groundwater conservation district.

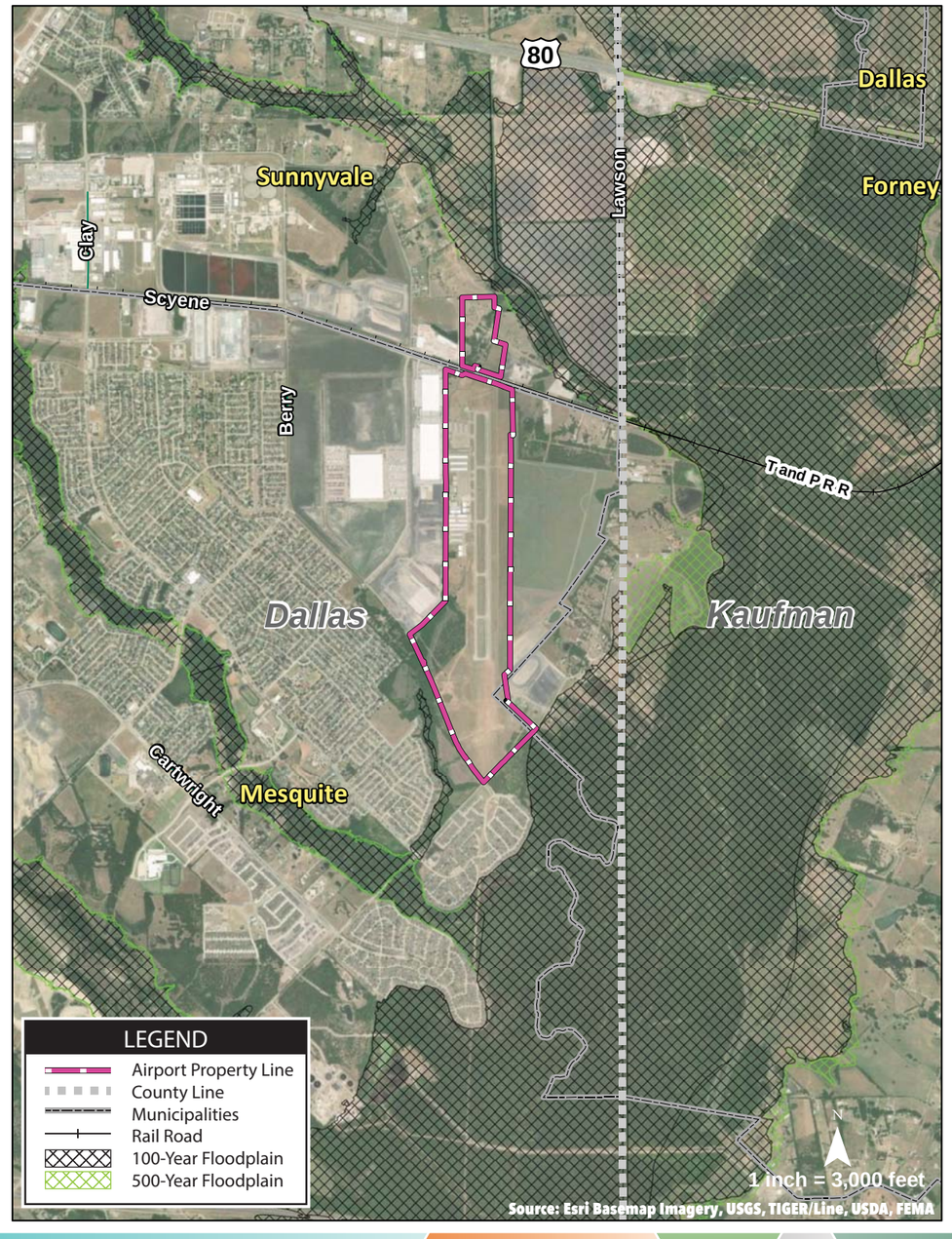
The U.S. EPA's Sole Source Aquifer (SSA) program was established under Section 1424(e) of the *Safe Drinking Water Act* (SDWA). Since 1977, it has been used by communities to help prevent contamination of groundwater by federally funded projects. It has increased public awareness of the vulnerability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

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

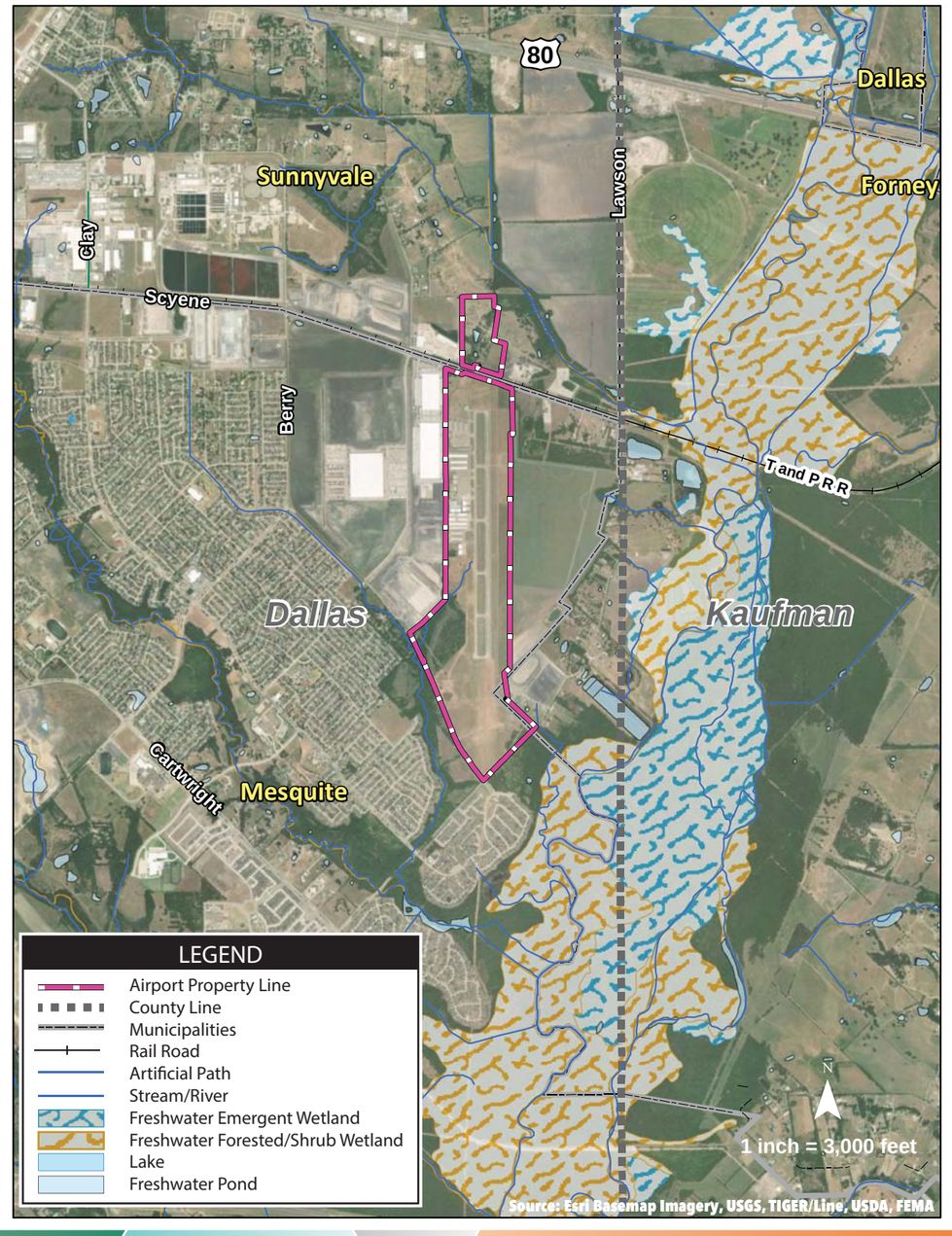
According to the U.S. EPA's *Sole Source Aquifer for Drinking Water* website, there are no sole source aquifers located within airport boundaries. The nearest sole source aquifer is the Arbuckle-Simpson Aquifer SSA – Recharge Zone, located more than 110 miles away from the airport.[22]

[18] U.S. EPA - How's My Waterway (https://mywaterway.epa.gov/community/1340%20Airport%20Blvd,%20Mesquite,%20TX%2075181/overview)
[19] United States Geological Survey - What is Groundwater? (https://www.usgs.gov/faqs/what-groundwater)
[20] Texas Water Development Board - Water Data Interactive (https://www3.twdb.texas.gov/apps/WaterDataInteractive/GroundwaterDataViewer/?map=gwdb)
[21] U.S. EPA - Overview of the Drinking Water Sole Source Aquifer Program (https://www.epa.gov/dwssa/overview-drinking-water-sole-source-aquifer-program#Authority)
[22] Sole Source Aquifers (https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b)

Floodplains



Wetlands



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

The closest designated national wild and scenic river identified is the Cossatot River, located 171 miles from the airport.[23] The nearest NRI feature is Brazos River, located 75 miles from the airport.[24]

[23] National Wild and Scenic River System in the U.S. (https://nps.maps.arcgis.com/apps/MapJournal/index.html?appid=ba6debd907c7431ea765071e9502d5ac#)
[24] Nationwide Rivers Inventory (https://www.nps.gov/maps/full.html?mapId=8adbe798-0d7e-40fb-bd48-225513d64977)