CHAPTER ONE - INVENTORY

The inventory of existing conditions is the initial step in the preparation of the Dallas Executive Airport Master Plan Update. Information has been gathered for the airport as well as the region it serves. The inventory of existing conditions at Dallas Executive Airport will serve as an overview of the airport, its facilities, its role in the regional and national aviation systems, and the relationship to development which has occurred around the airport in the past.

The update of this Master Plan requires a comprehensive collection and evaluation of information relating to the airport including airport history, physical inventories of facilities and services currently provided at the airport, as well as a review of regional airspace, air traffic control, and airport operating procedures.

The information outlined in this chapter was obtained through on-site inspections of the airport, including interviews with airport management, airport tenants, and representatives of various government agencies. Additional information and documents were provided by the Federal Aviation Administration (FAA), Texas Department of Transportation – Aviation Division (TxDOT), and the City of Dallas – Aviation Department.

This chapter will begin with an overview of the existing conditions at Dallas Executive Airport consisting of descriptions of the airport facilities, regional airspace, air traffic activity, and the airport's role in regional, state, and national aviation systems. This will be followed by background information regarding the airport and surrounding area including airport location, history, regional climate, and adjacent land use. Finally, information regarding the area's socioeconomic profile and an inventory of environmental conditions will be presented.

AIRPORT FACILITIES

This section provides a description of the existing facilities at Dallas Executive Airport. These facilities can be divided into two distinct categories: airside and landside. Airside facilities include those directly associated with aircraft operation such as runways, taxiways, lighting and marking, and navigational aids. Landside facilities include those necessary to provide a safe transition from surface to air transportation and support aircraft servicing, storage, maintenance, and operational safety on the ground.

AIRSIDE FACILITIES

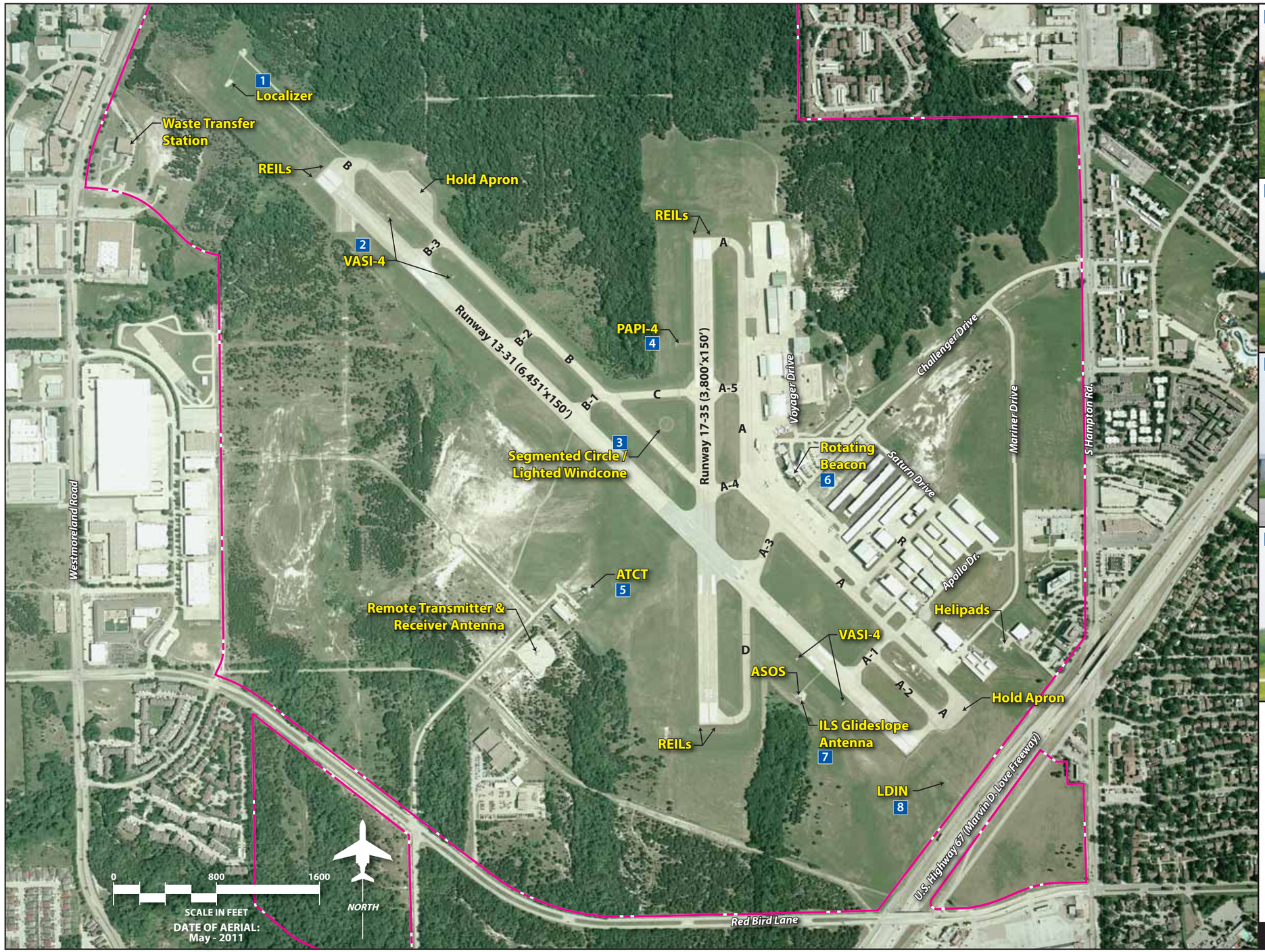
Airside facilities are depicted on **Exhibit 1A**. These facilities include runways, taxiways, airfield lighting and marking aids, and navigational aids. Airside facility data is discussed in detail in the following sections.

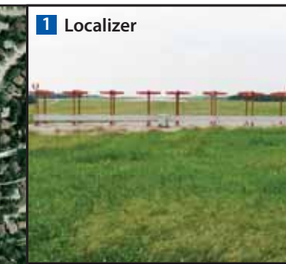
Runways

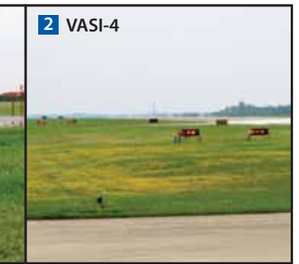
Dallas Executive Airport is served by two active runways: Runway 13-31 and Runway 17-35. Primary Runway 13-31 is 6,451 feet long by 150 feet wide and orientated northwest to southeast. Crosswind Runway 17-35 measures 3,800 feet long by 150 feet wide and is orientated north to south.

City of Dallas

Dallas Executive Airport







LEGEND

Airport Property Line

KEY

ATCT - Airport Traffic Control Tower
ASOS - Automated Surface Observation System
ILS - Instrument Landing System
LDIN - Lead-In Lights
PAPI - Precision Approach Path Indicator
VASI - Visual Approach Slope Indicator
REIL - Runway End Identification Light

Exhibit 1A: EXISTING AIRSIDE FACILITIES

Exhibit 1B presents data specific to each runway. Other than the lengths and widths of each surface, the following items are included as detailed.

- *Pavement type* – Indicates the surface material type.
- *Pavement condition* – FAA's current rating of runway pavement material.
- *Pavement strength* – Based on the construction of the pavement, a runway can provide differing load bearing capacities. Single wheel gear loading (SWL) refers to having one wheel per landing gear strut. Dual wheel loading (DWL) and dual tandem wheel loading (DTWL) include the design of aircraft landing gear with additional wheels on each landing gear strut, which distributes the aircraft weight across more of the pavement surface; thus, the surface itself can support a greater total aircraft weight.
- *Pavement markings* – Pavement markings aid in the movement of aircraft along airport surfaces and identify closed or hazardous areas on the airport. Runway markings provide pilots with designation and centerline stripes in basic form, while precision markings add threshold bars, edges, touchdown zone, and aiming points.
- *Lighting* – Runway lighting is placed near the pavement edge to define the lateral limits of the pavement surface. Medium intensity runway lighting (MIRL) is typical of general aviation airports. Runway end lights also demark end of pavements.

Exhibit 1B: ACTIVE RUNWAY AND TAXIWAY DATA

RUNWAY 13-31

DATA

Length: 6,451'

Width: 150'

Pavement Type: Asphalt/Concrete

Pavement Condition: Good

Pavement Strength: 35,000 lbs SWL
60,000 lbs DWL
110,000 lbs DTWL

Markings: Precision - Runway 31
Non-Precision - Runway 13

Lighting: MIRL

Elevation: 655' MSL (13), 646' MSL (31)

Gradient: 0.1%

Traffic Pattern: Standard Left

RUNWAY 17-35

DATA

Length: 3,800'

Width: 150'

Pavement Type: Asphalt/Concrete

Pavement Condition: Good

Pavement Strength: 35,000 lbs SWL
60,000 lbs DWL
110,000 lbs DTWL

Markings: Non-Precision

Lighting: MIRL

Elevation: 651' MSL (17), 659' MSL (35)

Gradient: 0.2%

Traffic Pattern: Standard Left

TAXIWAYS

DATA

Taxiway	Length	Width
A	5,130'	60'
A-1	530'	60'
A-2	700'	60'
A-3	530'	60'
A-4	300'	60'
A-5	300'	60'
B	3,900'	60'
B-1	300'	60'
B-2	300'	60'
B-3	300'	60'
C	700'	60'
D	1,200'	60'
R	900'	60'

KEY

SWL - Single Wheel Loading
DWL - Dual Wheel Loading
DTWL - Dual Tandem Wheel Loading
MIRL - Medium Intensity Runway Lighting
MSL - Mean Sea Level

- *Elevation* – Each runway end is situated at a specific point above mean sea level (MSL). Those listed on the exhibit identify the MSL location of each runway end.
- *Gradient* – Runway gradient describes the effective slope of a runway surface. Runway pavement should be moderately sloped to allow for effective drainage, but not so as to reduce visibility from end to end.
- *Traffic Pattern* – Runway traffic patterns are established to control movements in the immediate vicinity of the airport area. Left-hand patterns are standard and allow the pilot to make left-hand turns throughout the traffic pattern.

Taxiways

The taxiway system at Dallas Executive Airport includes parallel taxiways serving both runways as well as entrance/exit, access, and connector taxiways.

Taxiway B serves as the partial parallel taxiway serving primary Runway 13-31 from the Runway 13 threshold to its intersection with Runway 17-35. Taxiway B is located 300 feet northeast of the Runway 13-31 centerline. There are seven entrance/exit taxiways linking the parallel taxiways with Runway 13-31 and are designated as B, B-3, B-2, B-1, A-3, A-1, and A (as one moves from northwest to southeast).

Taxiway A serves as the partial parallel taxiway for the southern portion of Runway 13-31 and the northern portion of Runway 17-35. It is separated from Runway 13-31 by 530 feet and from Runway 17-35 by 300 feet (centerlines to centerlines). Taxiway A also serves as a terminal area access taxiway as it runs along the outer edge of the primary terminal apron. Taxiway A-2 is located at the southeast end of the runway and serves as a by-pass taxiway connecting Taxiways A and A-1. It is located 300 feet northeast of the runway centerline.

Taxiway D serves as a partial parallel taxiway for the southern portion of Runway 17-35 and is separated from the runway by 300 feet. There are four entrance/exit taxiways on the east side of Runway 17-35 designated as A, A-5, A-4, and D moving north to south. Taxiways B and C connect to the west side of Runway 17-35, providing access to the Runway 13 threshold located on the northwest side of the airport.

All active taxiways with their associated dimensions are listed on **Exhibit 1B**. There are several other taxiways and taxilanes that serve more remote areas of the airfield such as hangar complexes and aircraft parking aprons. In addition, hold aprons are available at each end of Runway 13-31. The hold aprons allow pilots to perform flight checks, including engine run-ups and a location where airport traffic control tower (ATCT) personnel can instruct pilots to wait for clearance to enter the runway.

Taxiway and taxilane centerline markings are provided to assist pilots in maintaining proper clearance from pavement edges and objects near the taxiways/taxilanes. Taxiway markings also include aircraft hold lines located on the entrance/exit taxiways. For Runway 13-31, the hold lines are marked 250 feet from the runway centerline. The hold lines associated with Runway 17-35 are located 200 feet from the runway centerline.

Helipads

Four helipads are located on the east side of the airport approximately 1,800 feet northeast of the Runway 31 threshold. The helipads are utilized by the City of Dallas Police Department's helicopter operations. Transient civilian helicopters operate from the aircraft parking aprons farther north and west adjacent to the airport terminal building and other aviation-related facilities.

Airfield Lighting 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 Dallas Executive Airport for this purpose. These lighting systems at the airport, categorized by function, are summarized as follows.

Identification Lighting

The location of an airport at night is universally indicated by a rotating beacon which projects two beams of light, one white and one green, 180 degrees apart. The rotating beacon at Dallas Executive Airport is located atop the terminal building.

Runway and Taxiway Lighting

Runway and taxiway edge lighting utilizes light fixtures placed near the edge of the pavement to define the lateral limits of the pavement. This lighting is essential for maintaining safe operations at night and/or during times of poor visibility in order to maintain safe and efficient access from the runway and aircraft parking areas. Runways 13-31 and 17-35 are equipped with medium intensity runway lighting (MIRL). Medium intensity taxiway lighting (MITL) has been installed on all taxiways.

All runway ends are equipped with threshold lighting to identify the landing threshold. Threshold lighting consists of specially designed light fixtures that are red on one half of the lens and green on the other half of the lens. The green portion of the lights are turned towards the approach surface and intended to be seen from landing aircraft, while the red portion is visible to aircraft on the runway surface.

Airfield Signage

Airfield identification signs assist pilots in identifying their location on the airfield and directing them to their desired location. The presence of runway/taxiway signage is an essential component of a surface movement guidance control system necessary for the safe and efficient operation of the airport. The lighted signage

system installed at Dallas Executive Airport includes runway and taxiway designations, holding positions, routing/directional, and runway exits.

Visual Approach Lighting

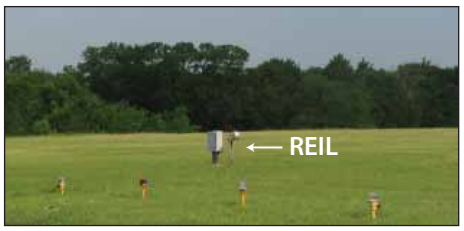
A four-box visual approach slope indicator (VASI-4) is located on the left side serving each end of Runway 13-31. The VASI-4 consists of two sets of two boxed units that are located approximately 650 feet and 1,150 feet

from each runway threshold. A four-box precision approach path indicator (PAPI-4) is located on the right side serving Runway 17. The PAPI-4 consists of a series of four lights that are located approximately 800 feet from the runway threshold. When interpreted

by pilots, the VASI and PAPI systems give an indication of being above, below, or on the designated descent path to the runway. Both systems have a range of five miles during the day and up to 20 miles at night.

Runway End Identification Lights

Runway end identification lights (REILs) provide rapid and positive identification of the approach end of a runway. A REIL system has been installed on Runway 13 and on each end of Runway 17-35. A REIL consists of two synchronized flashing lights, located laterally on each side of the runway threshold, facing the approaching aircraft.



Approach Lighting System

Runway 31 is equipped with a lead-in lighting (LDIN) system consisting of three flashing lights leading to the runway threshold. This system provides visual guidance to landing aircraft by radiating beams in a direction pattern so the pilot can align the aircraft with the extended centerline of the runway. This system enhances the

safety of operations at the airport, especially during inclement weather or nighttime activity. The LDIN extends approximately 600 feet beyond the Runway 31 threshold.

Pilot-Controlled Lighting

The airport's lighting system is connected to a pilot-controlled lighting

(PCL) system. This PCL system allows pilots to increase the intensity of the runway lighting, LDIN, and VASI-4s from the aircraft with the use of the aircraft's radio transmitter. The PCL at Dallas Executive Airport can be accessed on the common traffic advisory frequency (CTAF) 127.25 MHz.

Weather Facilities

Dallas Executive Airport is equipped with a lighted wind cone and segmented circle which provides pilots information about wind conditions and traffic pattern usage. These facilities are located approximately 800 feet northwest of the intersection of Runways 13-31 and 17-35 in a desirable midfield location.

An automated surface observation system (ASOS) is located at the airport. The ASOS automatically records weather conditions such as wind speed, wind gusts, wind direction, temperature, dew point, altimeter setting, density altitude, visibility, precipitation, sky condition, and cloud height. This information is then transmitted at regular intervals on the automated terminal information service (ATIS). The ASOS is located approximately 1,000 feet northwest of the approach end of Runway 31 as depicted on **Exhibit 1A**.

Air Traffic Control

Dallas Executive Airport has an operational ATCT. It is located approximately 1,000 feet southwest of the intersection of Runways 13-31 and 17-35. The ATCT is operated daily from 7:00 a.m. to 9:00 p.m. local time by an FAA licensed private contractor, RVA, Inc. The ATCT provides an array of control services, including ground control (119.475 MHz) and ATIS information (126.35 MHz). Outside these times, there are no formal air traffic control services available at the airport. When the ATCT is closed, air traffic advisories are made using the CTAF, which is the same frequency as the tower (127.25 MHz).

The ATCT located at the airport controls air traffic within the Class D airspace that surrounds Dallas Executive Airport. Approach and departure control services for arriving and departing aircraft on an instrument flight plan are provided by Fort Worth Center, which controls aircraft in a large multi-state area.

Navigational Aids

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

The NDB transmits non-directional radio signals whereby the pilot of an aircraft equipped with direction-finding equipment can determine their bearing to or from the NDB facility in order to track to the beacon station. The Lancaster NDB is located approximately ten nautical miles to the southeast of Dallas Executive Airport and serves as an initial approach fix (IAF) for the precision approach to Runway 31.

The VOR, in general, provides azimuth readings to pilots of properly equipped aircraft by transmitting a radio signal at every degree to provide 360 individual navigational courses. Frequently, distance measuring equipment (DME) is combined with a VOR facility (VOR/DME) to provide distance as well as directional information to the pilot. 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. There are three VOR facilities located within 20 nautical miles of Dallas Executive Airport. The Cowboy and Maverick VOR/DMEs are located approximately 13 and 14 miles, respectively, northwest of the airport and the Ranger VORTAC is located approximately 20 nautical miles northwest of the airport.

GPS was initially developed by the United States Department of Defense for military navigation around the

world and is currently being utilized more and more in civilian aircraft. GPS differs from an NDB or VOR in that pilots are not required to navigate using a specific ground-based facility. 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. The FAA is proceeding with a program to gradually replace all traditional enroute navigational aids with GPS over the next 20 years.

A localizer and glideslope antenna are located on the airport and provide the necessary components for an instrument landing system (ILS) serving Runway 31. The localizer antenna emits signals that provide the pilot with course deviation left or right of the runway centerline and the degree of deviation. The glideslope antenna provides a signal indicating whether the aircraft is above or below the desired glide path. At Dallas Executive Airport, the localizer is situated 1,000 feet northwest of the Runway 13 threshold. The glideslope antenna is located approximately 1,000 feet northwest of the approach end of Runway 31. Airfield lighting and marking, weather, and navigational aids are summarized in **Table 1A**.

Instrument Approach Procedures

Instrument approach procedures are a series of predetermined maneuvers established by the FAA which utilize electronic navigational aids (such as those discussed in the previous section) to assist pilots in locating and landing at an airport during low visibility and cloud ceiling conditions. The capability of an instrument approach is defined by the visibility and cloud ceiling minimums associated with the approach. Visibility minimums define the horizontal distance that the pilot must be able to see to complete the approach. Cloud ceilings define the lowest level a cloud layer (defined in feet above the ground) can be situated for a pilot to complete the approach. If the observed visibility or cloud ceilings are below the minimums prescribed for the approach, the pilot cannot complete the instrument approach.

There are six approved instrument approach procedures for Dallas Executive Airport. Runway 31 is served by a precision ILS approach, which provides both course guidance and vertical descent information to pilots. The ILS system consists of the localizer and glideslope antenna previously discussed. The ILS approach to Runway 31 provides the lowest minimums available at the airport, allowing for landings when cloud ceilings are as low as 200 feet above ground level (AGL) and the visibility is restricted to ¾-mile. This type of approach provides enhanced safety for users of the airport during poor weather. Runway 31 is also served by an area navigation (RNAV) GPS approach. The localizer performance with vertical guidance (LPV) approach minimum provides both course and vertical guidance to a pilot. The lateral navigation (LNAV) / vertical navigation (VNAV) approach minimums provide for course or vertical guidance. A VOR approach is also available on Runway 31 providing course guidance to pilots.

Each end of Runway 17-35 is also served by non-precision instrument approach procedures providing course

Table 1A: AIRSIDE FACILITY DATA

	Runway 13-31	Runway 17-35
Runway Lighting	MIRL	MIRL
Taxiway Lighting	MITL	MITL
Visual Approach Aids:		
Approach Slope Indicators	VASI-4 (13 & 31)	PAPI-4 (17)
REILs	Yes (13)	Yes (17 & 35)
Approach Lighting	LDIN (31)	None
Instrument Approach Aids	ILS/LOC (31) RNAV/GPS (31) VOR (31)	RNAV/GPS (17) VOR/DME (17) RNAV/GPS (35)
Weather Navigational Aids	ASOS, ATCT, GPS, VOR, ILS, NDB	
Visual Aids	Segmented Circle, Lighted Wind Cone, Rotating Beacon	

MIRL - Medium Intensity Runway Lighting
MITL - Medium Intensity Taxiway Lighting
PAPI - Precision Approach Path Indicator
VASI - Visual Approach Slope Indicator
LDIN - Lead-In Lights
ILS - Instrument Landing System
LOC - Localizer
GPS - Global Positioning System
VOR - Very High Frequency Omnidirectional Range
DME - Distance Measuring Equipment
RNAV - Area Navigation
ASOS - Automated Surface Observation System
ATCT - Airport Traffic Control Tower
NDB - Non-Directional Beacon

Source: Airport Facility Directory - South Central U.S. (June 2011); FAA Form 5010-1, Airport Master Record

guidance. An RNAV (GPS) approach is implemented on each end of Runway 17-35 and a VOR/DME approach is also available on Runway 17.

Each approach also has circling minimums. Circling minimums allow pilots to land on any active runway at the airport. While providing flexibility for the pilot to land on the runway most closely aligned with the prevailing wind at that time, a circling approach will have higher visibility and cloud ceiling minimums than other straight-in instrument approaches in order to provide pilots with sufficient visibility and ground clearance to navigate visually from the approach to the desired runway end for landing. **Table 1B** summarizes the approach capabilities at Dallas Executive Airport.

Arrival and Departure Procedures

Because of the heavily used airspace over the greater Dallas/Fort Worth Metroplex, the FAA has established four standard terminal arrival routes (STARs) and eight standard instrument departures (SIDs). Once assigned by air traffic control, aircraft arriving or departing Dallas Executive Airport under an instrument flight

Table 1B: INSTRUMENT APPROACH DATA

	Weather Minimums by Aircraft Type							
	Category A		Category B		Category C		Category D	
	Cloud Height (feet AGL)	Visibility (miles)	Cloud Height (feet AGL)	Visibility (miles)	Cloud Height (feet AGL)	Visibility (miles)	Cloud Height (feet AGL)	Visibility (miles)
ILS or LOC Runway 31								
Straight ILS	200	0.75	200	0.75	200	0.75	200	0.75
Straight LOC	442	1	442	1	442	1.25	442	1.5
Circling	500	1	500	1	500	1.5	680	2.25
RNAV (GPS) Runway 31								
LPV DA	250	1	250	1	250	1	250	1
LNAV/VNAV DA	415	1.5	415	1.5	415	1.5	415	1.5
LNAV MDA	422	1	422	1	422	1.25	422	1.25
Circling	500	1.5	500	1.5	500	1.5	680	2.25
VOR Runway 31								
Straight	622	1	622	1	622	1.75	622	2
Circling	620	1	620	1	620	1.75	680	2.25
RNAV (GPS) Runway 17								
LNAV MDA	442	1	442	1	442	1.25	442	1.5
Circling	500	1	500	1	500	1.5	680	2.25
VOR/DME Runway 17								
Straight	422	1	422	1	422	1.25	422	1.25
Circling	500	1	500	1	500	1.5	680	2.25
RNAV (GPS) Runway 35								
LNAV MDA	621	1	621	1	621	1.75	621	2
Circling	620	1	620	1	620	1.75	680	2.25

Aircraft categories are established based on 1.3 times the aircraft's stall speed in landing configuration as follows:

Category A: 0-90 knots
Category B: 91-120 knots
Category C: 121-140 knots
Category D: 141-166 knots
AGL - Above Ground Level
ILS - Instrument Landing System
LOC - Localizer
RNAV - Area Navigation
GPS - Global Positioning System
LPV - Localizer Performance with Vertical Guidance
LNAV - Lateral Navigation
VNAV - Vertical Navigation
DA - Decision Altitude
MDA - Minimum Descent Altitude
VOR - Very High Frequency Omnidirectional Range
DME - Distance Measuring Equipment

Source: U.S. Terminal Procedures SC-2 (June 2011)

plan utilize these STARs and SIDs to transition to/from the airport to their desired flight path.

Local Operating Procedures

Dallas Executive Airport is situated at 660 feet mean sea level (MSL). The traffic pattern at the airport is maintained to provide the safest and most efficient use of the airspace surrounding the airport. A standard left-hand traffic pattern is published for all runway ends at the airport. In doing so, the approach to landing is made using a series of left turns. Discussions with ATCT personnel reveal that aircraft may utilize a left or right-hand traffic pattern depending on the direction from which they are entering the airport. Wind conditions warrant the use of a southerly aircraft flow approximately 70 percent of the time. According to ATCT personnel, approximately 75 percent of all aircraft operations utilize Runway 17-35, with the remaining 25 percent operating on Runway 13-31. Given the length of Runway 13-31, a large majority of jet aircraft utilize this runway, while smaller general aviation aircraft utilize the shorter Runway 17-35.

LANDSIDE FACILITIES

Landside facilities are the ground-based facilities that support the aircraft and pilot/passenger handling functions. At a general aviation facility such as Dallas Executive Airport, these typically include a terminal building, fixed base operators (FBOs), aircraft storage hangars, aircraft maintenance hangars, aircraft parking aprons, and support facilities such as fuel storage, automobile parking, utilities, and aircraft rescue and firefighting (ARFF). Landside facilities at Dallas Executive Airport are identified on **Exhibit 1C**.

Airport Terminal Building and Conference Center

The airport terminal building and conference center were built in 2005, replacing a terminal facility that was originally constructed in 1962. The terminal building houses airport administration, a waiting lobby, a flight planning area, restroom facilities, and a restaurant. Adjacent to the east side of the terminal building is the conference center which contains a large multi-media meeting room and restroom facilities. Combined, these two state-of-the-art facilities total approximately 11,900 square feet. The terminal area is centrally located on the east side of the airfield adjacent to abundant aircraft parking apron space.

Aircraft Hangar Facilities

Hangar facilities at Dallas Executive Airport are comprised of conventional hangars, executive hangars, T-hangars, and linear box hangars. Conventional hangars provide a large open space, free from roof support structures, and have the capability to store several aircraft simultaneously. Often, conventional hangars are utilized by airport businesses such as FBOs and large aircraft maintenance providers. Conventional hangars are typically 10,000 square feet or larger.

Executive hangars provide the same type of aircraft storage as conventional hangars in that the structure is free from roof supports, but are typically smaller than 10,000 square feet. These hangars are normally utilized by individual owners to store several aircraft or by smaller airport businesses. This type of hangar is becoming much more popular at general aviation airports and often is included in a larger contiguous facility that contains several separate hangar areas.

T-hangars and linear box hangars provide for separate storage facilities within a larger hangar complex. These hangars typically provide space for only one aircraft and are used for private storage only.

As shown on **Exhibit 1C**, there are 32 separate hangar facilities at Dallas Executive Airport providing more than 500,000 square feet of hangar, maintenance, and office space. Conventional hangar space at the

No.	Hangar Type (Number of Units)	Building Size in Square Feet	Leasehold	Tenant / Service Provided
1	Executive (3)	19,500	Jet Center of Dallas	Aircraft storage
2	Executive (1)	8,500	Jet Center of Dallas	North American AeroTech Academy
3	Executive (3)	24,500	Ambassador Aviation	Hurn's Aircraft Maintenance
4	Linear Box (5)	12,600	Jet Center of Dallas	Aircraft storage
5	Conventional (1)	14,000	Jet Center of Dallas	We Fly Ads; H&W Products
6	Conventional (1)	19,600	Jet Center of Dallas	AeroMech, Inc.
7	Conventional (1)	41,500	Jet Center of Dallas	AAT Aircraft Maintenance
8	Conventional (1)	25,500	Jet Center of Dallas	AAT Aircraft Maintenance
9	T-hangars (26)	32,400	Ambassador Aviation	AeroParts & Supply; Aircraft storage
10	T-hangars (11)	29,400	Ambassador Aviation	Redbird Electronics; Aircraft storage
11	T-hangars (32)	34,000	Ambassador Aviation	Aircraft storage
12	T-hangars (16)	20,900	Ambassador Aviation	Avcessories; Aircraft storage
13	Conventional (1)	20,400	Ambassador Aviation	Ambassador Jet Center FBO
14	Conventional (1)	13,400	Ambassador Aviation	Aircraft storage
15	Executive (1)	4,100	Ambassador Aviation	Aircraft storage
16	Executive (1)	4,100	Ambassador Aviation	Aircraft storage
17	Conventional (1)	15,000	Jet Center of Dallas	Aircraft storage
18	Executive (2)	9,200	Jet Center of Dallas	Avionics 1st
19	Executive (1)	6,000	Jet Center of Dallas	Aircraft storage
20	Executive (1)	6,000	Jet Center of Dallas	Aircraft storage
21	Executive (1)	3,600	J.G. Moore	Aircraft storage
22	Conventional (1)	13,500	Jet Center of Dallas	Aircraft storage
23	Conventional (1)	13,500	Jet Center of Dallas	Aircraft storage
24	Linear Box (3)	9,600	JC Aviation	Aircraft storage
25	Linear Box (4)	10,000	JC Aviation	Aircraft storage
26	Linear Box (2)	7,200	JC Aviation	Aircraft storage
27	Linear Box (4)	10,200	JC Aviation	Aircraft storage
28	T-hangars (14)	17,000	JC Aviation	Aircraft storage
29	Executive (2)	16,000	JC Aviation	Aircraft storage
30	Linear Box (3)	9,500	JC Aviation	Aircraft storage
31	Conventional (1)	21,000	Jet Center of Dallas	Jet Center of Dallas FBO
32	Conventional (1)	10,100	City of Dallas	Police Department - Helicopters

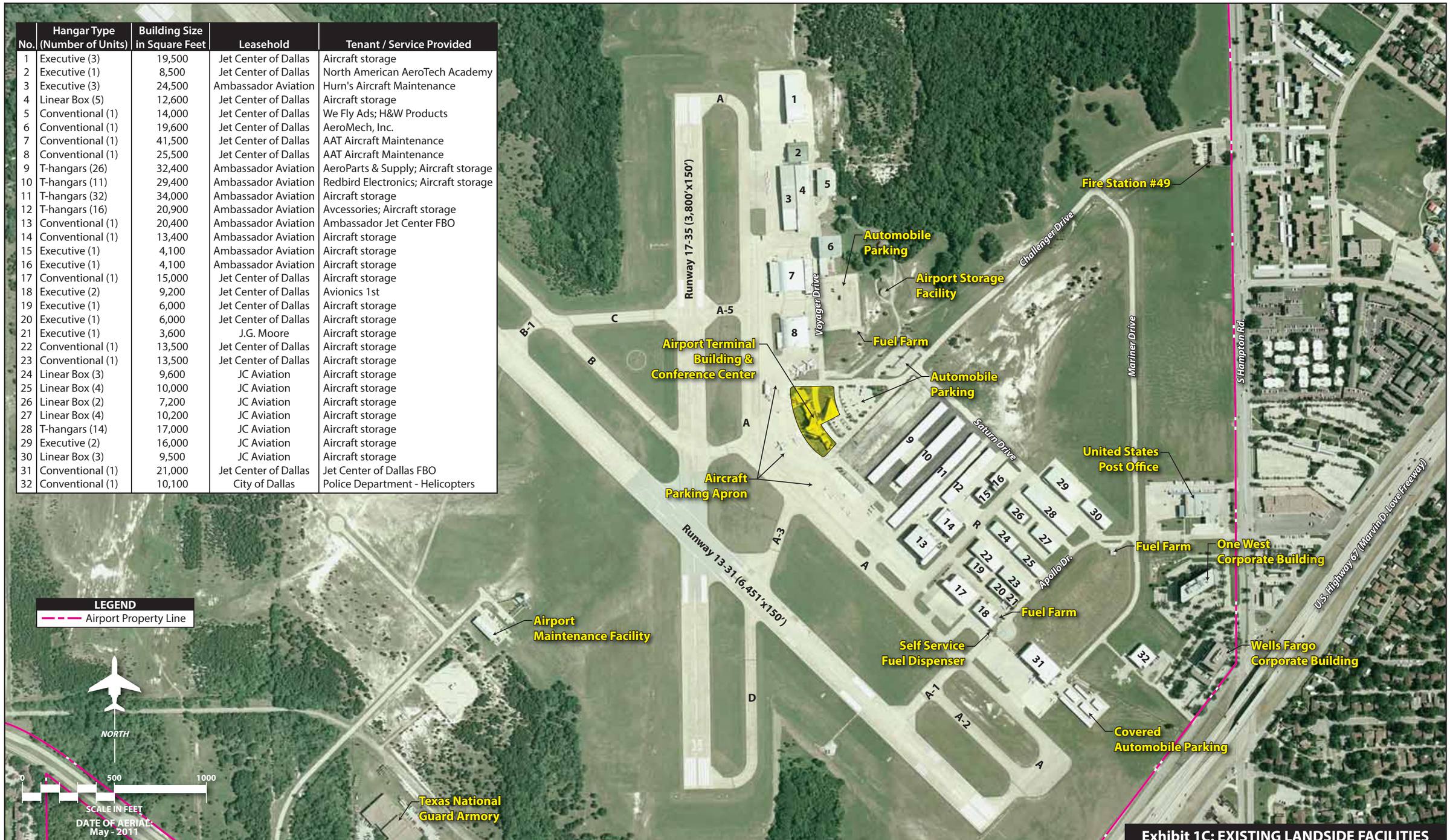


Exhibit 1C: EXISTING LANDSIDE FACILITIES

airport totals approximately 207,500 square feet in 11 separate hangars. There are 16 individual executive hangars totaling approximately 101,500 square feet. Finally, 11 separate T-hangars/linear box hangar facilities are on the airport and provide 120 separate storage units comprising approximately 192,800 square feet.

Aircraft Parking Aprons

There are several designated aircraft parking apron areas at Dallas Executive Airport totaling approximately 50,000 square yards. The primary apron area extends approximately 1,600 feet along the east side of Taxiway A and contains marked tiedowns for smaller general aviation aircraft and ample space for larger aircraft. North of the terminal area, there are several dedicated parking aprons adjacent to specialty

operators that conduct aviation activity in these areas. Farther south, there are large parking aprons and associated tiedowns adjacent to the FBO hangars. There are additional parking apron areas located throughout the airport in close proximity to conventional, executive, T-hangar, and linear box hangars.

General Aviation Services

An array of general aviation services is available at Dallas Executive Airport. This includes aircraft rental, flight training, aircraft maintenance, aircraft avionics, aircraft charter, aircraft fueling, hangar rental, pilot supplies, and many other services. There are currently two FBOs on the airfield that provide aviation fueling services: Ambassador Jet Center and Jet Center of Dallas.

Ambassador Jet Center is a full-service FBO at the airport that provides a variety of general aviation services. While maintaining several hangar facilities at the airport, it operates its major FBO activities from a 20,400 square-foot

facility that provides hangar space, offices, a conference room, flight planning, and a pilot's lounge, among other amenities. Full service Jet A and 100LL fuel are provided from 6:00 a.m. to 10:00 p.m., seven days per week.

Jet Center of Dallas conducts FBO activities at Dallas Executive Airport providing for an array of general aviation services. Several hangar facilities at the airport are under the direct control of Dallas Jet Center. Its FBO operations are conducted from a 21,000 square-foot facility that provides hangar space, offices, a conference room, flight planning, and a pilot's lounge, among other amenities. Full service Jet A and 100LL fuel and self-service 100LL are provided 24 hours per day, seven days per week.

There is a full range of specialty aviation businesses located throughout the airport that provide aviation services including those previously mentioned. The City of Dallas – Aviation Department provides airport management and oversees the day-to-day operations at the airport.

Automobile Parking

There are several automobile parking lots available for vehicle use at Dallas Executive Airport. A designated parking area for automobiles adjacent to the east side of the terminal building and conference center is accessible via Challenger Drive. A total of 61 parking spaces are included in this area, with 48 being labeled for "Terminal" parking and another ten labeled for "Restaurant" parking. Northeast of this parking area are 75 additional marked spaces for "Conference Center" parking. In all, the terminal area offers 136 vehicle parking spots plus overflow parking in an unmarked gravel lot.

Other public parking areas on the airport are located adjacent to aircraft hangars and aviation-related businesses on the east side of the airport. In order to access these parking areas, airport users must enter through one of the controlled-access gates located in various locations on the airfield. These more remote parking areas contain a large number of marked parking spaces, approximately 400 total. In addition, the ATCT and airport

maintenance facility on the west side of the airfield contain controlled-access parking spaces for their personnel. All totaled, there are approximately 550 marked automobile parking spaces and additional unmarked vehicle parking areas at Dallas Executive Airport.

Fuel Facilities

There are three fuel farms located on the airport that store aviation fuels. One fuel farm is located northeast of the terminal area and contains two underground fuel storage tanks: one 10,000-gallon capacity tank is dedicated for the storage of Jet A fuel, and one 10,000-gallon capacity tank is dedicated for 100LL. The two remaining fuel farms are located farther southeast adjacent to Apollo Drive. The fuel farm situated nearest to the self-service fuel dispenser consists of two underground fuel storage tanks, one capable of storing 12,000 gallons of Jet A fuel and the other having a 10,000-gallon capacity for 100LL. It should be noted that the self-service fuel dispenser is directly connected to the 100LL storage tank. Finally, two aboveground fuel storage tanks make up the third fuel farm at the airport. One 12,000-gallon capacity tank is dedicated for the storage of Jet A fuel and the other 12,000-gallon capacity tank is dedicated for 100LL. Total fuel storage capacity at Dallas Executive Airport consists of 66,000 gallons:

34,000 gallons dedicated to Jet A fuel and 32,000 gallons dedicated to 100LL. All three fuel farms are enclosed with chain link fence to prevent inadvertent access and improved security.

Non-Aviation Services

There are non-aviation related activities contained on airport property, mainly in areas that are not provided aircraft access. Three commercial buildings are located on the east side of the airport adjacent to South Hampton Drive. One is utilized as a United States Post Office and the other two contain corporate office space. On the west side of the airport, approximately ten acres of land is dedicated to activities related to the Texas National Guard Armory. The City of Dallas also operates a waste transfer station located on the northwest side of the airport adjacent to Westmoreland Road.

Aircraft Rescue Firefighting

The City of Dallas Fire-Rescue Station #49 is located on the east side of the airport at the corner of South Hampton Road and Challenger Drive. It is designed to provide emergency and rescue services to the airport and surrounding area. Fire department personnel are present at the facility 24 hours per day, seven days per week. Fire Station #49 is also ARFF certified and operates a variety of equipment that is capable of handling fire and rescue operations specific to aircraft emergencies.

The primary response ARFF vehicle includes a 1998 Oshkosh TI-3000 capable of carrying 3,000 gallons of water, 420 gallons of aqueous film forming foam (AFFF), and 500 pounds

of Purple K dry chemical. In addition, a 1999 Quality Fire Engine, 2000 Quality Ladder Truck, and 1998 Ford fire/rescue vehicle are based at Fire Station #49. Fire department personnel at Fire Station #49 have a direct communication line with airport operations and ATCT personnel, allowing immediate emergency services when needed.

Security Fencing / Gates

Dallas Executive Airport's operations areas are completely enclosed with chain link fence topped by three-strand barbed wire to prevent the inadvertent access onto the airport by vehicles and pedestrians. The fence does not always follow the legal boundary due to the layout of physical features and infrastructure development.

There are several functioning controlled-access gates serving different areas on the airfield. In addition, there are manual gates on airport property that are controlled by Dallas Executive Airport personnel as well as private airport tenants.

Utilities

The availability and capacity of the utilities serving the airport are factors in determining the development potential of the airport, as well as the land immediately adjacent to the facility. Utility availability is a critical

element when considering future expansion capabilities for both airside and landside components.

The airport is supplied with electricity, natural gas, water, and sanitary sewer. Electric service is provided by TXU. Atmos Energy provides natural gas. Water and sanitary sewer services are provided by the City of Dallas.

VICINITY AIRSPACE

To ensure a safe and efficient airspace environment for all aspects of aviation, the FAA has established an airspace structure that regulates and establishes procedures for aircraft using the national airspace system. The U.S. airspace structure provides for two basic categories of airspace, controlled and uncontrolled, and identifies them as Classes A, B, C, D, E, and G as described below.

- Class A airspace is controlled airspace and includes all airspace from 18,000 feet MSL to Flight Level 600 (approximately 60,000 feet MSL).

- Class B airspace is controlled airspace surrounding high capacity commercial service airports (i.e., Dallas/Fort Worth International Airport and Dallas Love Field).

- Class C airspace is controlled airspace surrounding lower activity commercial service airports and some military airports.

- Class D airspace is controlled airspace surrounding airports with an ATCT and not classified under Class B or C airspace designations (i.e., Dallas Executive Airport).

All aircraft operating within Classes A, B, C, and D airspace must be in contact with the air traffic control facility responsible for that particular airspace.

- Class E is controlled airspace that encompasses all instrument approach procedures and low altitude federal airways. Only aircraft conducting instrument flights are required to be in contact with air traffic control when operating within Class E airspace. While aircraft conducting visual flights in Class E airspace are not required to be in radio communications with air traffic control facilities, visual flights can only be conducted if minimum visibility and cloud ceilings exist.

- Class G airspace is uncontrolled airspace that does not require contact with an air traffic control facility.

Airspace within the vicinity of Dallas Executive Airport is depicted on **Exhibit 1D**. Due to the presence of the ATCT, the airspace around the airport is Class D. Typically, Class D airspace is sized to encompass an approximate five-mile radius around an airport. Given the adjacent airspace structure to include Class B airspace associated with Dallas/Fort Worth International Airport and Dallas Love Field and the existence of Class D airspace associated with Arlington Municipal and Grand Prairie Municipal Airports to the west, the Class D airspace for Dallas Executive Airport extends approximately one nautical mile to the west of the airport and four nautical miles to the northeast of the airport. Class D airspace begins at the surface and extends to an elevation of 3,000 feet MSL. When the ATCT is closed, Class D airspace reverts to Class E airspace.

SPECIAL USE AIRSPACE

Special use airspace is defined as airspace where activities must be confined because of their nature and where limitations are imposed on aircraft not taking part in those activities. These areas are depicted on **Exhibit 1D**. Victor Airways are designated navigational routes extending between VOR facilities. They are corridors of airspace eight miles wide that extend upward from 1,200 feet AGL to 18,000 feet MSL. V369, the closest Victor Airway, is located approximately six nautical miles west of the airport and extends to the south from the Maverick VOR/DME.

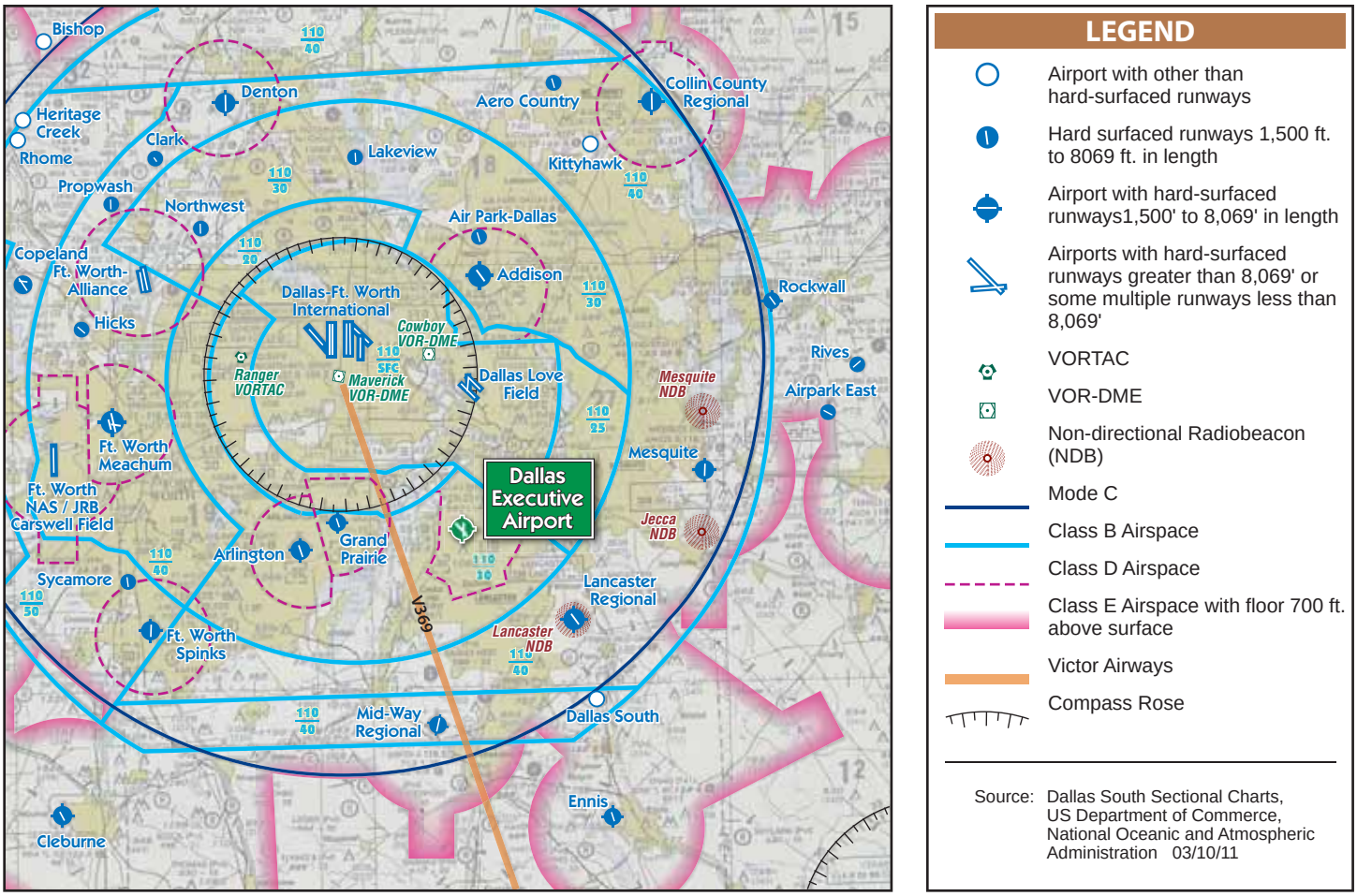
Other special use airspaces include military operations areas (MOAs) and military training routes. Due to the large amount of civilian aircraft activity over the Dallas/Fort Worth Metroplex, there are no dedicated areas for specific military activities.

VICINITY AIRPORTS

There are several other airports of various sizes, capacities, and functions within the vicinity of Dallas Executive Airport. It is important to consider the capabilities and limitations of these airports when planning for future changes and improvements at Dallas Executive Airport. **Exhibit 1E** provides information on public use airports within 20 nautical miles of Dallas Executive Airport. Information pertaining to each airport was obtained from FAA Form 5010-1, *Airport Master Record*.

From this analysis of public use airports in the region, it is evident that there are several facilities serving the needs of general aviation; however,

Exhibit 1D: VICINITY AIRSPACE



Dallas Executive Airport is positioned well due to the array of services and facilities it has to offer in addition to its ideal location being only minutes from downtown Dallas. The vicinity airports each have unique qualities that may serve a specific segment of general aviation. These factors must be considered carefully in determining the service area for Dallas Executive Airport, which will be discussed in the next chapter.

AIRPORT CHARACTERISTICS

The purpose of this section is to summarize various studies and data collected to provide an understanding of the characteristics of the airport and the regional area. Within this section is a description of the airport's history, setting, ground access systems, surrounding land use, climate, and role. This information serves as an important baseline when developing forecasts for critical airport infrastructure to support demand over the planning period.

AIRPORT HISTORY

Construction of the present day Dallas Executive Airport site began at the end of World War II. The original airport site consisted of 1,026 acres and was acquired by the City of Dallas. Known as Redbird Airport, several improvements were made to the airfield during the late 1940s and early 1950s, including the construction of one runway and associated taxiways, a main aircraft parking apron, and two hangars.

During the next 20 years, substantial improvements were made to the facility as significant funding was allocated to the development of Redbird Airport. The first Airport Master Plan was undertaken in 1953 and recommended several improvements including the acquisition of additional property, a new runway, a new terminal building, and construction of an ATCT. By the mid-1970s, these recommendations were implemented. The 1980s saw continued improvements to the

Grand Prairie Municipal Airport (GPM)

Airport Sponsor: City of Grand Prarie
Distance from RBD: 9 nm West
Airport Classification: Reliever
Primary Runway: 17-35
Length: 4,001′
Width: 75′

Surface Type / Condition: Concrete / Good
Strength Rating: 30,000 lbs. SWL
Marking: Non-Precision
Runway Lighting: MIRL
Visual Navaids: VASI-4 (17 & 35); REILs (35)
Based Aircraft: 186
Estimated Annual Operations: 98,001
Services Provided: Aircraft Fuel (100LL & Jet A), Aircraft Maintenance, Hangars, Tiedowns, Air Charter, Flight Training

Instrument Approaches	Weather Minimums*	
Type	*Cloud Height*	*Visibility*
RNAV (GPS)Rwy 35	411 (A/B)	2.25 (A/B)
VOR/DME Rwy 35	451 (A/B)	2.25 (A/B)

Lancaster Regional Airport (LNC)

Airport Sponsor: City of Lancaster
Distance from RBD: 10 nm Southeast
Airport Classification: Reliever
Primary Runway: 13-31
Length: 6,502′
Width: 100′

Surface Type / Condition: Asphalt / Good
Strength Rating: 20,000 lbs. SWL; 60,000 lbs. DWL
Marking: Non-Precision
Runway Lighting: MIRL
Visual Navaids: PAPI-4 (13 & 31); REILs (35)
Based Aircraft: 142
Estimated Annual Operations: 67,100
Services Provided: Aircraft Fuel (100LL & Jet A), Aircraft Maintenance, Hangars, Tiedowns, Aircraft Avionics, Air Charter, Flight Training

Instrument Approaches	Weather Minimums*	
Type	*Cloud Height*	*Visibility*
RNAV (GPS)Rwy 31	200 (A/B/C/D)	0.75 (A/B/C/D)
NDB Rwy 31	613 (A/B/C/D)	1 (A/B); 1.75 (C); 2 (D)

Dallas Love Field (DAL)

Airport Sponsor: City of Dallas
Distance from RBD: 10 nm North
Airport Classification: Primary Commercial Service
Primary Runway: Multiple
Length: 8,800′
Width: 150′

Surface Type / Condition: Concrete / Good
Strength Rating: 100,000 lbs. SWL; 200,000 lbs. DWL; 350,000 lbs. DTWL
Marking: Precision
Runway Lighting: HIRL
Visual Navaids: PAPI-4; REILs; MALSR
Based Aircraft: 735
Estimated Annual Operations: 168,322
Services Provided: Aircraft Fuel (100LL & Jet A), Aircraft Maintenance, Hangars, Aircraft Avionics, Air Charter, Passenger Service

Instrument Approaches	Weather Minimums*	
Type	*Cloud Height*	*Visibility*
Multiple ILS	200 (A/B/C/D)	0.5 (A/B/C/D)
Multiple RNAV (GPS)	300 (A/B/C/D)	0.5 (A/B/C/D)

Arlington Municipal Airport (GKY)

Airport Sponsor: City of Arlington
Distance from RBD: 12 nm West
Airport Classification: Reliever
Primary Runway: 16-34
Length: 6,080′
Width: 100′

Surface Type / Condition: Concrete / Good
Strength Rating: 60,000 lbs. SWL
Marking: Non-Precision (16); Precision (34)
Runway Lighting: MIRL
Visual Navaids: PAPI-4 (16 & 34) ; REILs (16 & 34); MALSF (34)
Based Aircraft: 250
Estimated Annual Operations: 151,600
Services Provided: Aircraft Fuel (100LL & Jet A), Aircraft Maintenance, Hangars, Tiedowns, Aircraft Avionics, Air Charter, Flight Training

Instrument Approaches	Weather Minimums*	
Type	*Cloud Height*	*Visibility*
ILS or LOC/DME Rwy 34	200 (A/B/C)	0.5 (A/B/C)
RNAV (GPS) Rwy 34	200 (A/B/C)	0.5 (A/B/C)
VOR/DME Rwy34	460 (A/B/C)	1 (A/B); 1.25 (C)

Mid-Way Regional Airport (JWY)

Airport Sponsor: Cities of Midlothian & Waxahachie
Distance from RBD: 14nm South
Airport Classification: General Aviation
Primary Runway: 18-36
Length: 6,500′
Width: 100′

Surface Type / Condition: Asphalt / Good
Strength Rating: 30,000 lbs. SWL
Marking: Non-Precision
Runway Lighting: MIRL
Visual Navaids: PAPI-4 (18 & 36)
Based Aircraft: 75
Estimated Annual Operations: 37,300
Services Provided: Aircraft Fuel (100LL & Jet A), Aircraft Maintenance, Hangars, Tiedowns, Flight Training

Instrument Approaches	Weather Minimums*	
Type	*Cloud Height*	*Visibility*
RNAV (GPS)Rwy 18	200 (A/B/C/D)	0.75 (A/B/C/D)
RNAV (GPS)Rwy 36	250 (A/B/C/D)	1 (A/B/C/D)

Dallas / Fort Worth International Airport (DFW)

Airport Sponsor: Cities of Dallas & Fort Worth
Distance from RBD: 16nm Northwest
Airport Classification: Primary Commercial Service
Primary Runway: Multiple
Length: 13,401′
Width: 200′

Surface Type / Condition: Concrete / Good
Strength Rating: 120,000 lbs. SWL; 200,000 lbs. DWL; 600,000 lbs. DTWL
Marking: Precision
Runway Lighting: HIRL
Visual Navaids: PAPI-4, REILs, MALSR
Based Aircraft: N/A
Estimated Annual Operations: 705,383
Services Provided: Aircraft Fuel (100LL & Jet A), Passenger Service, Cargo

Instrument Approaches	Weather Minimums*	
Type	*Cloud Height*	*Visibility*
Multiple ILS	200 (A/B/C/D)	0.5 (A/B/C/D)
Multiple RNAV (GPS)	250 (A/B/C/D)	0.5 (A/B/C/D)

Mesquite Metro Airport (H0Z)

Airport Sponsor: City of Mesquite
Distance from RBD: 17 nm Northeast
Airport Classification: Reliever
Primary Runway: 17-35
Length: 5,999′
Width: 100′

Surface Type / Condition: Concrete / Good
Strength Rating: 70,000 lbs. SWL; 100,000 lbs. DWL; 100,000 lbs. DTWL
Marking: Precision (17), Non-Precision (35)
Runway Lighting: MIRL
Visual Navaids: PAPI-4 (17 & 35), REILs (17), LDIN (17 & 35)
Based Aircraft: 188
Estimated Annual Operations: 100,000
Services Provided: Aircraft Fuel (100LL & Jet A), Aircraft Maintenance, Hangars, Tiedowns, Flight Training

Instrument Approaches	Weather Minimums*	
Type	*Cloud Height*	*Visibility*
ILS or LOC Rwy 17	250 (A/B/C)	0.75 (A/B/C)
RNAV (GPS) Rwy 17	250 (A/B/C)	0.75 (A/B/C)
RNAV (GPS) Rwy 35	250 (A/B/C)	0.75 (A/B/C)
LOC BC Rwy 35	357 (A/B/C)	1 (A/B/C)

Addison Airport (ADS)

Airport Sponsor: Town of Addison
Distance from RBD: 17 nm North
Airport Classification: Reliever
Primary Runway: 15-33
Length: 7,202′
Width: 100′

Surface Type / Condition: Asphalt / Good
Strength Rating: 80,000 lbs. SWL; 100,000 lbs. DWL; 160,000 lbs. DTWL
Marking: Precision
Runway Lighting: MIRL
Visual Navaids: VASI-4 (15), REILs (33), MALSR (15)
Based Aircraft: 603
Estimated Annual Operations: 133,557
Services Provided: Aircraft Fuel (100LL & Jet A), Aircraft Maintenance, Hangars, Tiedowns, Aircraft Avionics, Air Charter, Flight Training

Instrument Approaches	Weather Minimums*	
Type	*Cloud Height*	*Visibility*
ILS or LOC Rwy 15	250 (A/B/C/D)	1 (A/B/C/D)
ILS or LOC Rwy 33	250 (A/B/C/D)	1 (A/B/C/D)
RNAV (GPS) Rwy 15	300 (A/B/C/D)	1 (A/B/C/D)
RNAV (GPS) Rwy 33	596 (A/B/C/D)	1 (A/B); 1.5 (C); 1.75 (D)

* - Denotes lowest approved cloud heights in feet AGL and visibility minimums in miles

Exhibit 1E: VICINITY AIRPORTS

airport including the extension of Runway 13-31 to its current length and the acquisition of more property for approach protection.

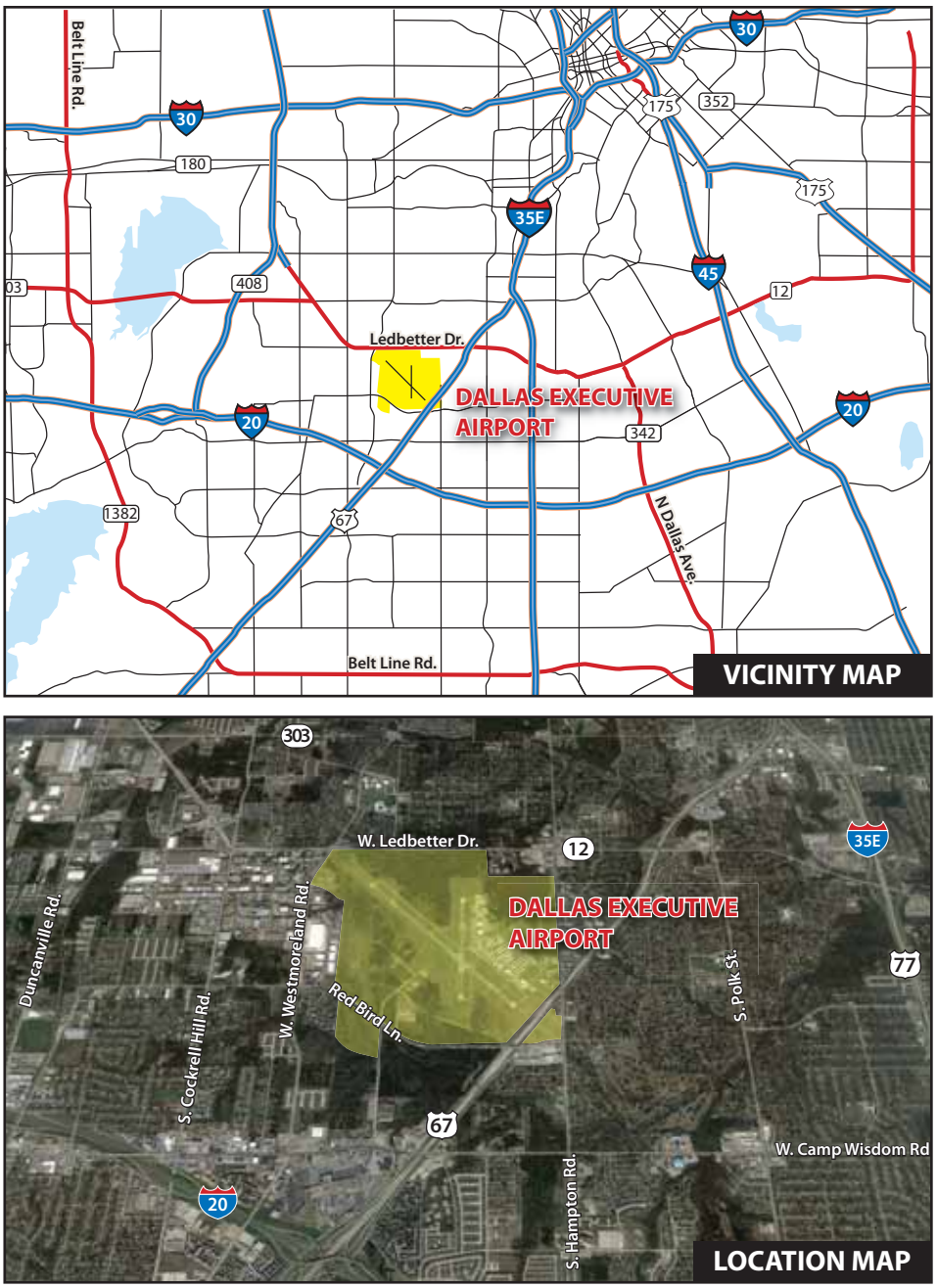
In order to better reflect the role of the airport and market the facility and its amenities to corporate and private travelers, the City of Dallas changed the name of Redbird Airport to Dallas Executive Airport in February 2002. During this same time, the airport completed its most recent Master Plan. This study called out several improvements including the construction of a new terminal building, ATCT, and additional landside development. Since this time, significant development has occurred at the airport including the present-day airport terminal building and conference center constructed in 2005. Shortly after the implementation of these facilities, a new ATCT was designed and built on the west side of the airport. Furthermore, significant private investment has been made in the form of aircraft hangars during this time.

Today, Dallas Executive Airport is home to approximately 185 based aircraft and experiences over 50,000 aircraft operations annually. Several aviation-related businesses are located on the field that provide an array of general aviation services.

AIRPORT SETTING

Dallas Executive Airport sits on approximately 1,070 acres of property in the south-central quadrant of the City of Dallas, approximately six miles south of the City's central business district. As depicted on **Exhibit 1F**, the airport is generally bounded on the north by West Ledbetter Drive, to the east by South Hampton Road and U.S. Highway 67 (Marvin D. Love Freeway), to the south by Red Bird Lane, and to the west by Westmoreland Road. Challenger Drive extends southwest from South Hampton Road serving as the point of access to the terminal building and conference center on the airport's east side. Several roadways extending from Challenger Drive provide access to aviation facilities on the east side of the airport. Among them, Mariner Drive leads to aviation development on the southeast side of the airport, Saturn Drive provides access to aviation facilities in the midfield area of the airport, and Voyager Drive leads to landside aviation development north of the terminal area. It should be noted that Apollo Drive extends off of Mariner Drive further providing roadway access

Exhibit 1F: AIRPORT VICINITY/LOCATION MAP



to private hangar development in the southeast quadrant of the airfield. On the west side of the airport, a private roadway extends north from Red Bird Lane and provides access to the ATCT and airport maintenance facility.

Dallas Executive Airport is provided excellent access to regional highway infrastructure linking it to the entire Dallas/Fort Worth Metroplex. U.S. Highway 67, located adjacent to the east side of the airport, provides direct access to U.S. Interstate 35 just a few miles north of the airport. From there, U.S. Interstate 35 provides access to the greater Dallas metropolitan area in addition to U.S. Interstate 30. Approximately one mile south of the airport, U.S. Highway 67 intersects with U.S. Interstate 20. These interstate highway systems connect the Dallas/Fort Worth Metroplex and points beyond.

REGIONAL CLIMATE

Weather conditions must be considered in the planning and development of an airport, as daily operations are affected by local weather. Temperature is a significant factor in determining runway length needs, while local wind patterns (both direction and speed) can affect the operation and capabilities of the runway. The need for navigational aids and lighting is determined by the percentage of time the visibility is impaired due to cloud coverage and other conditions.

Dallas Executive Airport experiences a humid, subtropical climate with hot summers and mild winters. The average annual daily high temperature is 76.7 degrees Fahrenheit (F), ranging from 55.4 degrees F in January to 96.1 degrees F in July. Average low temperatures range between 36.4 degrees F in January to 76.8 degrees F in July, leading to an average annual daily low temperature of 57.1 degrees F.

Average annual precipitation in the area is 37.1 inches. A larger portion of the annual precipitation results from thunderstorm activity. Thunderstorms occur throughout the year, but are most prevalent during the springtime. The area occasionally experiences snowfall, freezing rain, and icy conditions during the winter months. Winds in the area are generally from the south during the spring, summer, and fall months, averaging 10.5 miles per hour (mph). During the winter, winds tend to blow more from the north, averaging 11.1 mph. A summary of climatic data is presented in **Table 1C**.

AREA LAND USE AND ZONING

The area land use surrounding Dallas Executive Airport can have a significant impact on airport operations and growth. The following section identifies baseline information related to generalized land uses in the vicinity of the airport. By understanding the land use issues surrounding the airport, more appropriate recommendations can be made for the future of the airport.

Land surrounding Dallas Executive Airport is under the jurisdiction of the City of Dallas. A large majority of existing land use adjacent to the west side of the airport is used for industrial and commercial/office purposes. Residential property encompasses the land to the north of West Ledbetter Drive on the north side of the airport. Small areas of industrial and commercial/office use are also located in these areas. Farther east, a combination of residential, industrial, and commercial/office land use are located within an approximate 50-acre area adjacent to the northeast side of the airport. Land adjacent to the east side of the airport across from South Hampton Road is mainly utilized for residential purposes with sporadic commercial uses. Most of the land south of the airport is open space free of existing development.

Table 1C: CLIMATE SUMMARY

	Jan	Feb	Mar	Ap	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Temp. (F)	45.9	51.0	58.8	66.3	74.4	82.2	86.5	86.1	78.9	68.4	56.4	48.0	66.9
Average High Temp. (F)	55.4	61.0	69.1	76.5	83.8	91.6	96.1	95.8	88.5	78.6	66.0	57.4	76.7
Average Low Temp. (F)	36.4	41.0	48.5	56.1	64.9	72.7	76.8	76.4	69.2	58.2	46.8	38.6	57.1
Average Precip. (in.)	1.9	2.3	3.1	3.5	5.3	3.9	2.4	2.2	2.7	4.7	2.6	2.5	37.1
Wind Speed (mph)	11.0	11.5	12.5	12.4	11.0	10.6	9.8	8.9	9.2	9.5	10.6	10.9	10.7
Sunny Days (%)	31	32	31	30	26	35	40	45	40	38	33	33	35
Partly Cloudy Days (%)	20	20	24	25	30	35	38	35	33	30	29	25	29
Cloudy Days (%)	49	48	45	45	44	30	22	20	27	32	38	42	37

Source: National Oceanic and Atmospheric Administration

It should be noted that commercial/office and public/institutional activities also occur on airport property. On the east side of the airport, a United States Post Office and two other buildings constitute commercial/office activities. In addition, Fire Station #49 services as a public facility located at the corner of South Hampton Road and Challenger Drive. On the west side of the airport, the City of Dallas' waste transfer station and the Texas National Guard Armory facility serve as public/institutional land uses. **Exhibit 1G** shows the existing land uses based on a recent aerial photograph of the airport and surrounding area.

Under ideal conditions, the development immediately surrounding the airport would be controlled and limited to compatible land uses. Compatible uses would include light and heavy industrial development and some commercial development. Land use zoning is the most common land use control. The City of Dallas has in place a detailed zoning plan for all areas adjacent to Dallas Executive Airport. As previously discussed, a large area of land south of the airport (south of Red Bird Lane) is currently vacant. This property is zoned mostly for industrial and commercial land uses which are compatible with airport operations.

AIRPORT HEIGHT AND HAZARD ZONING

Height and hazard zoning establishes height limits for new construction near the airport and within the runway approaches. It is based upon an approach plan which describes artificial surfaces defining the edges of airspace, which are to remain free of obstructions for the purpose of safe navigation. It requires that anyone who is proposing to construct or alter an object that affects airspace must notify the FAA prior to its construction.

Height restrictions are necessary to ensure that objects will not impair flight safety or decrease the operational capability of the airport. Title 14 of the Code of Federal Regulations (CFR) Part 77, *Objects Affecting Navigable Airspace*, defines a series of imaginary surfaces surrounding airports. The imaginary surfaces consist of the approach zones, conical zones, transitional zones, and horizontal zones. Their respective dimensions are based upon the type of approach serving each particular runway at the airport.

The City of Dallas has enacted height hazard zoning guidelines surrounding the airport as set forth in 14 CFR Part 77. As part of this Master Plan, an update is being made to the airport's Part 77 airspace drawing that will serve as a guide for implementing updated height hazard zoning for areas around Dallas Executive Airport.

RECENT CAPITAL IMPROVEMENTS

To assist in funding capital improvements, the FAA and TxDOT have provided funding assistance to Dallas Executive Airport through the Airport Improvement Program (AIP). The AIP is funded through the Aviation Trust Fund, which was established in 1970 to provide funding for aviation capital investment programs to include aviation development, facilities and equipment, and research and development. The Aviation Trust Fund also finances a portion of the operation of the FAA. It is funded by user fees, taxes on airline tickets, aviation fuel, and various aircraft parts.

In addition, TxDOT provides grant funding assistance through the State's Routine Airport Maintenance Program (RAMP). Through this program, TxDOT will match up to $50,000 per airport for each fiscal year on "lower cost" airside and landside airport improvements.

Table 1D presents historical information for capital improvements at Dallas Executive Airport since the last Master Plan was initiated in 2000 with federal and state funding. Since that time, several notable improvements have been made, including the construction of a new terminal building and conference center, runway and taxiway pavement and lighting improvements, and the implementation of a new ATCT on the west side of the airport.

AIRPORT ACTIVITY

The ATCT located on the airport records data regarding aircraft operations (takeoffs and landings). **Table 1E** summarizes historical annual operations at the airport since the year 2000. Operations are categorized as either itinerant or local as presented. Chapter Two will provide more details as to specific types of aircraft operations conducted at the airport.

During this timeframe, annual aircraft operations at Dallas Executive Airport have averaged approximately 97,000. The airport noticed a significant jump in operations during 2006 and 2007, attributed to significant flight training activity. The past two years have seen a substantial decrease in operations as compared to previous years, most likely due to ailing economic conditions.

AIRPORT ADMINISTRATION

Dallas Executive Airport is owned by the City of Dallas. The City of Dallas – Aviation Department provides for the

LEGEND

- Airport Property Line
- Commercial / Office
- Industrial
- Residential
- Public / Institutional
- Open Space / Vacant

NORTH

0 1000 2000

SCALE IN FEET

DATE OF AERIAL:
May - 2011

Exhibit 1G: GENERALIZED LAND USE

Table 1D: PROJECTS SINCE 2000

Year	Project Description	Federal Share	State Share	Local Share
2000	Airport Master Plan Update	$124,245		$13,805
2003	Engineering/Design for runway	$146,350		$16,261
2004	Design/Construction of terminal building and parking lot		$400,000	
2004	Construction services related to Runways 13-31 and 17-35; Replace runway and taxiway lighting on Runways 13-31 and 17-35; Upgrade airfield signage; Construct electrical vault	$1,257,307		$139,701
2004	Design/Construction for apron		$378,977	$42,107
2004	Design/Construction of airport traffic control tower	$1,100,000		
2009	Prepare airport strategic business plan			$50,000

Source: Texas Airport System Plan - Airport Development Worksheet

operation and maintenance of Dallas Executive Airport and the leasing of the facility's property for aviation commercial and/or industrial purposes. In addition to Dallas Executive Airport, the Aviation Department oversees Dallas Love Field and the Dallas Heliport.

A Director of Aviation has responsibility for the overall management, maintenance, and operation of the City's overall aviation system. Daily management and operation of Dallas Executive Airport is the responsibility of the Airport Manager, who reports the City's Aviation Department. Additional airport staff at Dallas Executive Airport includes two administrative assistants, two operations specialists, five maintenance personnel, and two building custodians.

AIRPORT SYSTEM PLANNING ROLE

Airport planning exists on many levels to include local, state, and national. Each level has a different emphasis and purpose. An Airport Master Plan is the primary local airport planning document. This Master Plan will provide a vision of both airside and landside facilities over the course of the next 20 years.

At the national level, the airport is included in the National Plan of Integrated Airport Systems (NPIAS). The NPIAS includes 3,332 existing airports which are significant to national air transportation. Dallas Executive Airport is classified as a reliever airport within the NPIAS. The top half of **Exhibit 1H** shows the system breakdown of NPIAS airports.

Table 1E: HISTORICAL AIRCRAFT OPERATIONS

	Itinerant					Local			
Year	Air Carrier	Air Taxi	General Aviation	Military	Total	General Aviation	Military	Total	Total Operations
2000	0	1	32,700	224	32,925	71,431	302	71,733	**104,658**
2001	0	52	32,476	182	32,710	69,327	190	69,517	**102,227**
2002	0	29	34,371	198	34,598	60,164	196	60,360	**94,958**
2003	0	20	31,745	118	31,883	58,839	181	59,020	**90,903**
2004	0	4	31,097	101	31,202	62,359	220	62,579	**93,781**
2005	0	13	28,829	75	28,917	53,566	144	53,710	**82,627**
2006	0	39	32,026	121	32,186	102,259	182	102,441	**134,627**
2007	0	89	39,234	119	39,442	106,976	152	107,128	**146,570**
2008	10	133	30,322	137	30,602	64,539	231	64,770	**95,372**
2009	2	19	26,249	156	26,426	41,204	552	41,756	**68,182**
2010	2	147	23,175	237	23,561	30,480	210	30,690	**54,251**

Source: Air Traffic Activity System (ATADS)

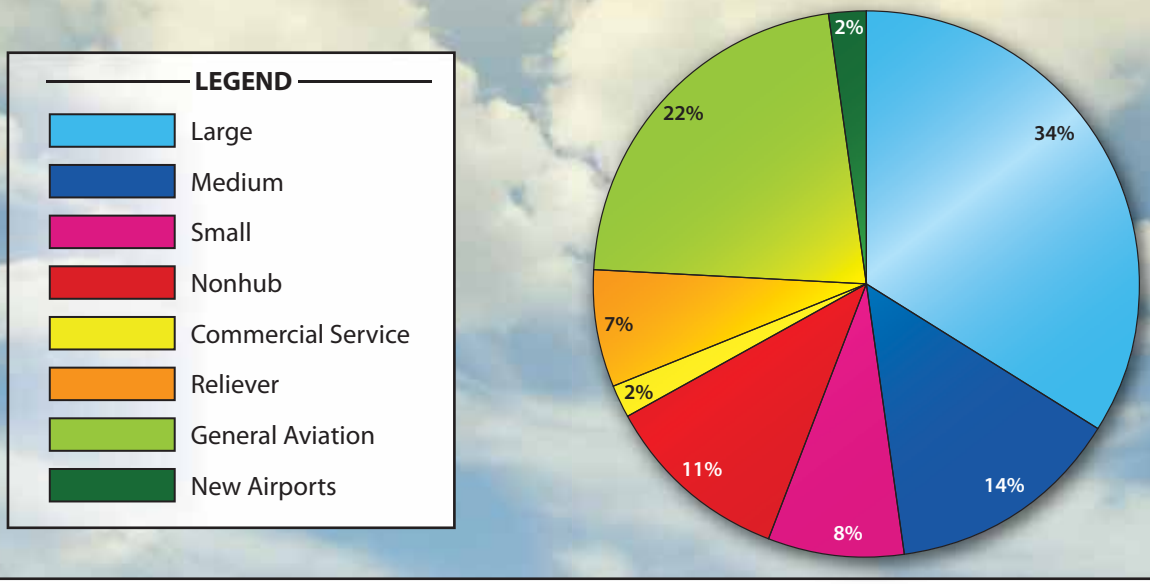
Exhibit 1H: NPIAS COMPOSITION AND FUNDING LEVELS

U.S. AIRPORT COMPOSITION

(January 2008)

- **19,734 Total U.S. Airports**
  - **5,179 Open to Public**
    - **4,247 Public Owned**
    - **932 Private Owned**
  - **14,555 Closed to Public**
- **3,380 NPIAS Airports (Of the 5,179 existing public use airports, 64% are NPIAS)**
  - **3,332 Exisiting 3,250 Public Owned 82 Private Owned**
    - **382 Primary**
    - **121 Commercial Service**
    - **269 Reliever**
    - **2,560 General Aviation**
  - **48 Proposed**
    - **3 Primary**
    - **6 Commercial Service**
    - **0 Reliever**
    - **39 General Aviation**

FEDERAL FUNDING BY AIRPORT TYPE



As a part of the federal system, Dallas Executive Airport is eligible for federal grants as a part of the AIP. The State of Texas participates in the Federal Block Grant Program, which transfers the oversight authority of general aviation airports from the FAA to TxDOT. In this capacity, TxDOT administers federal grants as well as state airport grants. Eligible airport improvement projects for general aviation airports in Texas can receive 90 percent grant funding assistance with the remaining ten percent being the responsibility of the local sponsor (i.e., City of Dallas). The federal and state funding sources and roles are detailed later in the study.

The 2011-2015 NPIAS identifies $52.2 billion for airport development across the country. Of that total, approximately $3.65 billion (seven percent) is designated for the 269 reliever airports identified. Reliever airports provide pilots with an attractive alternative to using congested hub airports (i.e., Dallas/Fort Worth International Airport and Dallas Love Field). To be eligible for reliever designation, an airport must be open to the public, have 100 or more based aircraft, or have 25,000 annual itinerant operations. Reliever airports included in the NPIAS have an average of 186 based aircraft and account for 22 percent of the nation's general aviation fleet. The bottom half of **Exhibit 1H** shows the NPIAS funding need by airport category.

At the state level, the airport is included in the *Texas Airport System Plan Update 2010* (TASP). The TASP includes 292 existing airports, 211 of which are NPIAS classified. Dallas Executive Airport is classified as a reliever airport within this system. Within the TASP, reliever airports are designed to accommodate various classes of aircraft from large business jets to smaller piston aircraft with the purpose of diverting general aviation aircraft from commercial service airports. These airports are typically within a major metropolitan area serving a population center of 250,000 or more people. The TASP provides for specific minimum design standards for runway length, taxiways, apron size, approaches, airfield lighting, terminal services, aircraft fuel, and hours of operation to be further discussed later on during the study.

SOCIOECONOMIC CHARACTERISTICS

Socioeconomic characteristics are collected and examined to derive an understanding of the dynamics of growth within the vicinity of Dallas Executive Airport. This information is essential in determining aviation demand level requirements, as most general aviation demand can be directly related to the socioeconomic condition of the area. Statistical analysis of population, employment, and income trends can define the economic strength of the region and the ability of the region to sustain a strong economic base over an extended period of time.

Whenever possible, local or regional data is used for analysis. For this study, socioeconomic data was gathered from various sources, including the United States Census Bureau, North Central Texas Council of Governments, Texas Workforce Commission, and Bureau of Labor Statistics. It should be noted that only historical figures are presented in this section. Future socioeconomic projections will be outlined in Chapter Two.

POPULATION

Population is one of the most important socioeconomic factors to consider when planning for future needs of an airport. Trends in population provide an indication of the potential of the region to sustain growth in aviation activity. Historical population data for the City of Dallas and other incorporated areas in close proximity to Dallas Executive Airport is presented in **Table 1F**. Additional population data for Dallas County, the State of Texas, and the United States is also included.

As shown in the table, all reporting entities have experienced positive growth in population since 1980. In fact, all except the City of Dallas have grown at a greater rate than the national average over the past 30 years. During this time, the population of Dallas

Table 1F: HISTORICAL POPULATION STATISTICS

	1980	1990	2000	2010	Average Annual Growth Rate
City of Dallas	904,078	1,006,877	1,188,580	1,197,816	0.94%
City of Duncanville	27,781	35,748	36,081	38,524	1.10%
City of DeSoto	15,538	30,544	37,646	49,047	3.91%
City of Grand Prairie	71,462	99,616	127,427	175,396	3.04%
City of Lancaster	14,807	22,117	25,894	36,361	3.04%
Dallas County	1,556,390	1,852,810	2,218,899	2,368,139	1.41%
Tarrant County	860,880	1,170,103	1,446,219	1,809,034	2.51%
State of Texas	14,229,191	16,986,510	20,944,937	25,213,445	1.93%
United States	227,224,681	248,709,873	282,164,844	309,050,816	1.03%

Source: North Central Texas Council of Governments; U.S. Census Bureau

has increased at an average annual growth rate (AAGR) of 0.94 percent. This translates to the addition of approximately 293,700 new residents. The Cities of DeSoto, Grand Prairie, and Lancaster have experienced very strong AAGRs of over three percent. The populations of the representative cities indicate a strong movement of new residents to the outlying suburbs of a large city, which is a common trend across the United States.

Dallas and Tarrant Counties both exhibited positive population growth during the time period, averaging 1.41 percent and 2.51 percent AAGRs, respectively. As a point of comparison, the State of Texas and United States population grew at 1.93 percent and 1.03 percent, respectively. These positive growth trends have been attributed to the availability of affordable quality homes, excellent educational institutions, and enjoyable recreational amenities.

EMPLOYMENT

Analysis of a region's employment base can be valuable in determining the overall well-being of the general area. In most cases, the area's makeup and health is significantly impacted by the availability of jobs, variety of employment opportunities, and types of wages provided by local employers. **Table 1G** provides historical employment characteristics from 2000 to 2010 in five analysis categories, including the City of Dallas and Dallas County.

Total employment in the region has grown at a slower pace compared to population growth. Total employment in the City of Dallas from 2000 to 2010 decreased by approximately 2,900 jobs. Other reporting entities including the Dallas/Fort Worth/Arlington Metropolitan Statistical Area (MSA), Dallas County, and Tarrant County experienced positive employment growth since 2000. Although the recent downturn in the economy has affected the employment base, the Dallas/Fort Worth Metroplex continues to sustain an economy that provides a variety of employment options serving multiple industries. Similar to population trends, the employment figures also point to the fact that job availability continues to increase in the outlying suburbs associated with the City of Dallas.

PER CAPITA PERSONAL INCOME

Table 1H compares the per capita personal income (PCPI) for Dallas

Table 1G: HISTORICAL EMPLOYMENT CHARACTERISTICS

	2000	2005	2010	Average Annual Growth Rate
City of Dallas	549,191	550,880	546,264	-0.05%
Dallas/Fort Worth / Arlington MSA	2,742,289	2,851,954	2,945,951	0.72%
Dallas County	1,884,030	1,809,316	1,905,548	0.11%
Tarrant County	882,071	947,961	1,041,935	1.68%
State of Texas	12,151,380	13,012,300	14,508,220	1.79%

Source: Texas Workforce Commission; Woods & Poole Complete Economic and Demographic Data (2011)

Table 1H: HISTORICAL PER CAPITA INCOME (adjusted to 2005 dollars)

	1990	2000	2005	2010	Average Annual Growth Rate
Dallas County	$30,967	$40,323	$40,679	$38,735	1.13%
Tarrant County	$26,994	$34,023	$35,468	$33,311	1.06%
State of Texas	$23,924	$31,750	$33,185	$32,559	1.55%
United States	$26,826	$33,770	$35,424	$35,336	1.39%

Source: Woods & Poole Complete Economic Demographics Data (2011)

and Tarrant Counties since 1990. The PCPI for the State of Texas and United States is also provided for this time period. PCPI is determined by dividing total income by population. In order for PCPI to grow, income growth must outpace population growth significantly. As shown in the table, Dallas and Tarrant Counties have experienced AAGRs of over one percent since 1990. While the growth rates are below the state and national average during this time, Dallas County ranks above Texas and the United States for per capita income.

ENVIRONMENTAL INVENTORY

Information regarding the environmental resources at the Dallas Executive Airport has been taken from the following sources: Redbird Airport (i.e., Dallas Executive Airport) Airport Master Plan (2001); the Dallas Executive Airport's Storm Water Pollution Prevention Plan (SWPPP) (2008); and internet research, agency maps, and other existing literature. The purpose of the forthcoming inventory is to identify potential environmental sensitivities that might affect future improvements at the airport.

AIR QUALITY

The United States Environmental Protection Agency (EPA) has adopted air quality standards that specify the maximum permissible short-term and long-term concentrations of various air contaminants. The National Ambient Air Quality Standards (NAAQS) set by the EPA consist of primary and secondary standards for six criteria pollutants: ozone (O_3); carbon monoxide (CO); sulfur dioxide (SO_2); nitrogen oxide (NO); particulate matter (PM_{10}); and lead (Pb). The *National Environmental Policy Act* (NEPA), as implemented by the FAA (Orders 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and 1050.1E, *Environmental Impacts: Policies and Procedures*) require various levels of review depending on whether or not the airport is located within an attainment area for air quality standards.

Dallas Executive Airport is located within Dallas County, which is classified as a serious nonattainment area for the 8-hour ozone standard.[1] Airports within nonattainment (or maintenance) areas must meet the requirements of the General Conformity Rule provided in the federal *Clean Air Act*. Airports in attainment areas are assumed to conform.

COASTAL RESOURCES

The Dallas Executive Airport is not located within any coastal areas and, therefore, is not within the jurisdiction of the Texas Coastal Management Program (CMP) boundaries.

DEPARTMENT OF TRANSPORTATION ACT: SECTION 4(f)

Section 4(f) of the *Department of Transportation Act of 1966*, as amended, protects publicly owned lands, including public parks, recreation areas, wildlife and waterfowl refuges, and significant historical sites from development if there are any feasible and prudent alternatives. Even if there is no physical taking of such lands, adverse impacts and land use incompatibilities are to be avoided.

The closest publicly owned Section 4(f) land to the Dallas Executive Airport is Boulder Park, which is located immediately south across Red Bird Lane. This approximate 106-acre park contains trails for hiking and mountain biking through wooded areas, across creeks, and limestone deposits. The City of Dallas purchased Boulder Park in 1967 to serve as an "overshoot" for the

[1] www.epa.gov/airquality/greenbk/ancl.htms#TEXAS, accessed July 26, 2011.

airport runway.[2] A second park, Red Bird Park, is located east of the airport off of Interstate 67. This park is the location of the City-owned Thurgood Marshall Recreation Center as well as the privately owned Bahama Beach Water Park.

According to the Texas Parks and Wildlife Department website, there are no Wildlife Management Areas located within Dallas County.[3]

FARMLANDS

A Farmland Conversion Impact Rating was completed on the Dallas Executive Airport as part of the previous Master Plan (2001). The airport received a total score of less than 160 points, which indicates that it is exempt from the requirements of the *Farmland Protection Policy Act* (FPPA) because the airport property is already committed to urban development.

According to the Soil Survey website of the Natural Resources Conservation Service, soils on the airport property are primarily urban lands of the Austin-Urban, Eddy-Whitewright-Urban, Eddy-Urban, and Stephen-Urban land complexes.[4] Other soil types on the airport are Austin and Stephen silty clays from 1-5 percent. There are no lands classified as prime or unique farmland present on the airport property.

FISH, WILDLIFE, AND PLANTS

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) oversee the requirements of Section 7 of the *Endangered Species Act of 1970*. Protected species under the Act are listed by the USFWS for each state or region of the country. According to the USFWS's Environment Conservation Online System, there are five animal species and no plant species listed as endangered or threatened for Dallas County.[5] The following species are listed as endangered: whooping crane (*Grus americana*); least tern (*Sterna antillarum*); black-capped vireo (*Vireo atricapilla*); and golden-cheeked warbler (*Dendroica chrysoparia*). The piping plover (*Charadrius melodus*) is listed as threatened and portions of Texas are listed as critical habitat for wintering populations. However, there are no listed critical habitat areas within Dallas County.

No habitat for the whooping crane, least tern, or piping plover exists on the airport property since these are shore birds. Black-capped vireo habitat consists of scattered trees and brushy areas. Most nests are between 15 and 50 inches (35-125 cm) above ground level and are screened from view by foliage. Territories are sometimes located on steep slopes, where trees are often clumped and intermediate in height. On level terrain, preferred black-capped vireo habitat is a mixture of shrubs and smaller trees that average from eight to 10 feet high (2.5-3.5 m). Black-capped vireos will no longer use sites where many trees are nearing full size.[6]

Typical nesting habitat for the golden-cheeked warbler is found in tall, dense, mature stands of Ashe juniper (blueberry cedar) mixed with other deciduous trees. This type of woodland generally grows in relatively moist areas such as steep-sided canyons, slopes, and adjacent uplands. Warblers can also be found in drier, upland juniper-oak woodlands over flat topography.[7]

Previous consultation with the USFWS as part of the *2002 Airport Master Plan* indicated that development at the airport was not likely to adversely impact federally-listed threatened or endangered species. However, since upland, wooded areas occur on the airport site and additional species have been listed since the previous USFWS consultation (i.e., the golden-cheeked warbler), consultation with the USFWS will be necessary to determine whether or not adverse impacts to species protected by the *Endangered Species Act* are likely to occur.

FLOODPLAINS

The Federal Emergency Management Agency's (FEMA) Flood Insurance maps were consulted to determine potential flooding issues related to the Dallas Executive Airport. Most of the airport is designated as Zone X on the FEMA floodplain maps (Map ID #s 48113C0470J and 48113C0490J).[8] Zone X identifies areas determined to be outside of the 500-year floodplain. However, one drainage area, located north of the end of Runway 13 in the

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2 http://www.dallasparks.org/Download/Trails/BoulderPark.pdf, accessed on July 26, 2011

3 www.tpwd.state.tx.us/landwater/, accessed on July 26, 2011

4 http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx, accessed on July 26, 2011

5 http://ecos.fws.gov/tess_public/pub/stateListingAndOccurrenceIndividual.jsp?state=TX, accessed on July 26, 2011

6 http://www.fws.gov/southwest/es/oklahoma/bcvireo.htm, accessed on July 26, 2011

7 http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bk_w7000_0013_golden_cheeked_warbler.pdf, accessed July 26, 2011

8 http://msc.fema.gov/webapp/wcs/stores/servlet/, accessed on July 26, 2011

northwestern corner of the airport, is within the 100-year floodplain for the Old Hickory Branch of Crow Creek. The creek and its immediate environs are undeveloped. Runway 13 is located at approximately 655 feet above mean sea level (MSL), while the creek is located at approximately 590 feet MSL. In the southwest portion of the airport, a portion of the 100-year floodplain for the South Prong of Fivemile Creek is present on the airport as well. This creek is also located at approximately 590 feet MSL.

Areas within the 100-year floodplain off the airport property occur to the south and north and are associated with Fivemile Creek and Crow Creek and their tributary drainages, respectively. (See the discussion on Wetlands/ Waters of the United States for more information on area-wide drainage.)

HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

As part of the agency consultation process for the airport's previous Master Plan, the Texas State Historic Preservation Office (SHPO) was consulted regarding the potential presence of cultural resources within the development areas of the airport. While the SHPO commented that impacts to historic resources were unlikely within the developed portions of the airport, it indicated that cultural resource surveys on undeveloped portions of the airport have not been done. Prior to development of undisturbed areas of the airport, field surveys would be required to make a determination of impact in compliance with the *National Historic Preservation Act* (NHPA) *of 1966*, as amended. This would include a determination of whether or not any affected properties are on, or eligible to be on, the National Register of Historic Places.

WETLANDS/WATERS OF THE UNITED STATES

Drainage information for the Dallas Executive Airport is taken primarily from general information contained in the airport's SWPPP. The Dallas Executive Airport occupies approximately 1,070 acres in the Trinity River Basin, a large drainage basin encompassing almost 18,000 square miles and 34 different counties.[9] The airport lies within the sub-drainage basin of Fivemile Creek and is drained on all sides by tributaries of Fivemile Creek. A storm drainage system for the airport collects storm water runoff from various parts of the airport and channels it into either Crow Creek north of the airport or the South Prong of Fivemile Creek south of the airport. Both Crow Creek and the South Prong are tributaries of Fivemile Creek. Topographical elevations on the airport range from 687 feet MSL to 570 feet MSL, although the official elevation of the airport is 660 feet MSL. Overall, the topography of the airport is relatively flat.

The U.S. Army Corps of Engineers (USACOE) regulates the discharge of dredged or fill materials into waters of the U.S., including wetlands under Section 404 of the *Clean Water Act*. Wetlands are defined in *Executive Order 11990, Protection of Wetlands*, as "those areas that are inundated by surface or groundwater with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetation or aquatic life that requires saturated or seasonably saturated soil conditions for growth and reproduction." Due to the presence of tributaries of Fivemile Creek within the airport environs, an USACOE jurisdictional delineation of waters of the U.S., including associated wetlands, would be required if development of the airport could directly or indirectly impact these drainages. A permit and associated mitigation under Section 404 of the *Clean Water Act* may also be required.

Consultation with the USFWS as part of the previously approved *Airport Master Plan* also confirmed the potential for impacts to tributaries, riparian areas, and forested uplands if proposed airport projects are not designed to avoid such impacts.

WILD AND SCENIC RIVERS

There are no Wild or Scenic Rivers, as designated by the *Wild and Scenic Rivers Act*, as amended, in the vicinity of the Dallas Executive Airport. The only Wild or Scenic River designation in Texas is the Rio Grande, located along the southwestern border of the State.[10]

[9] http://www.dallascityhall.com/aviation/dallas_executive_swppp.html, accessed on July 26, 2011

[10] www.rivers.gov/wildriverslist.html/#tx, accessed on July 26, 2011

DOCUMENT SOURCES

A variety of different sources were utilized in the inventory process. The following listing reflects a partial compilation of these sources. This does not include data provided by airport management as part of their records, nor does it include airport drawings and photographs which were referenced for information. On-site inventory and interviews with airport staff and tenants contributed to the inventory effort.

- *Airport / Facility Directory, South Central U.S.*, U.S. Department of Transportation, Federal Aviation Administration, National Aeronautical Charting Office, June 2011.
- *Dallas/Fort Worth Aeronautical Chart*, U.S. Department of Transportation, Federal Aviation Administration, National Aeronautical Charting Office, June 2011.
- *National Plan of Integrated Airport Systems* (NPIAS), U.S. Department of Transportation, Federal Aviation Administration, 2011-2015.
- *U.S. Terminal Procedures, South Central*, U.S. Department of Transportation, Federal Aviation Administration, National Aeronautical Charting Office, June 2011.
- *Redbird Airport Master Plan*, 2002.
- *Texas Airport System Plan Update 2010*. Texas Department of Transportation, March 2010.
- Texas Department of Transportation – Aviation Division.
- FAA Form 5010-1, Airport Master Record.
- City of Dallas.
- U.S. Census Bureau.
- North Central Texas Council of Governments.
- Texas Workforce Commission.
- Woods & Poole Economics, *The Complete Economic and Demographic Data Source, 2011*.