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MAX WESTHEIMER AIRPORT
The UNIVERSITY of OKLAHOMA
Master Plan Update

Inventory of Existing Conditions

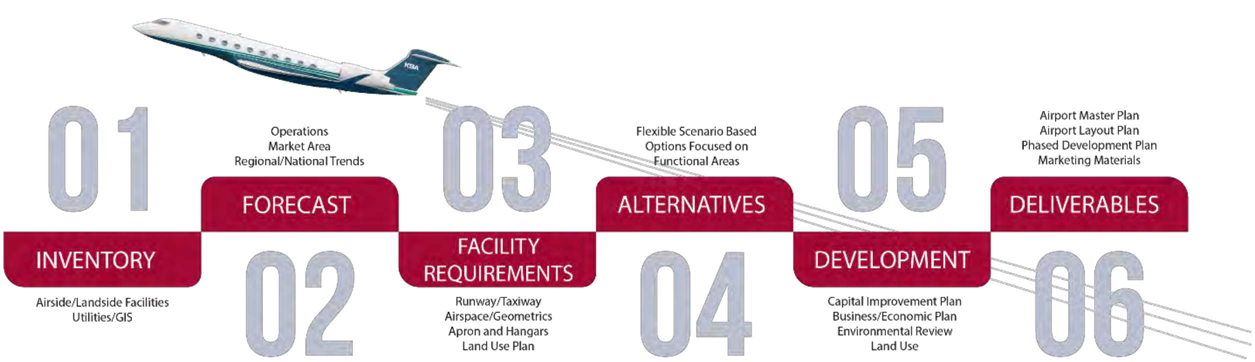
01 INVENTORY OF EXISTING CONDITIONS

1.1 OVERVIEW

The following Airport Master Plan will define a concept for development at University of Oklahoma Max Westheimer Airport (OUN or the Airport) with the goal of facilitating the growing aviation demands of the region. This plan will feature a 20-year planning period and has been prepared in collaboration with airport management, federal and state agencies, local officials, businesses and interested airport users/stakeholders. A key goal of this study is to identify needs and evaluate development alternatives to provide guidance for the future development of the Airport. The plan recommends improvements in accordance with Federal Aviation Administration (FAA) criteria, taking into consideration anticipated changes in aviation activity and development opportunities at the local, regional, and national levels.

The primary objective of this Airport Master Plan is to produce a comprehensive planning guide for continued development of a safe, efficient, and successful aviation facility that meets the goals of the University of Oklahoma (OU), airport users and tenants, and the surrounding regional airport market area. The plan must also satisfy FAA guidelines for the development of Airport Master Plans and facilities, while incorporating characteristics that are unique to the area. This study will include the following:

- Inventory of Existing Conditions
- Forecasts of Aviation Activity
- Facility Requirements
- Airport Development Alternatives
- Recommended Development Plan
- Capital Improvement Plan
- Airport Plans
- Environmental Overview



Typically, the staged plan looks at planning horizons of 0-5 (short-term), 6-10 (intermediate-term), and 11-20 (long-term) years, with the first phase addressing existing facility deficiencies or non-compliance to airport design standards as outlined in FAA Advisory Circular (AC) 150/5300-13B, *Airport Design*.

The first step in the planning process includes collecting data about the Airport and its environment. The information gathered during this phase will provide the foundation for subsequent phases. The Inventory of Existing Conditions for Max Westheimer Airport will include the following:

- Physical facilities: runways, taxiways, parking aprons, navigational aids, and facility areas associated with general aviation, corporate, and airport support;
- The Airport's role, including development history, location, and access relationship to other transportation modes;
- Socioeconomic and business trends within the Airport's service area; and
- A review of the existing Airport, community, and regional plans and studies that contain information pertinent to the development and overall implementation of the overall recommendations of the master plan.

The data collected for this phase was obtained from various sources, including airport management, the University of Oklahoma, the FAA, and the Oklahoma Aeronautics Commission (OAC). The data collected is current as of January 2022 and will serve as a baseline for the remainder of the study. Additional sources of information referenced include:

- Max Westheimer Airport Layout Plan, 2012
- Max Westheimer Airport website (www.ou.edu/airport)
- City of Norman website (www.normanok.gov)
- FAA 5010-1, *Airport Master Record*
- FAA Operational Data
- Oklahoma Aeronautics Commission, *Oklahoma Aviation and Aerospace Economic Impact Study*, 2017

1.2 AIRPORT HISTORY

In 1927, a group of University of Oklahoma students organized a flying school unaffiliated with the University in a Norman pasture. By 1940, the Board of Regents created an official OU flight training program, which was aided by Walter Neustadt, Sr.'s gift of $10,500 from the estate of his late father-in-law, Max Westheimer. This gift was given so the University could purchase enough land to create an airfield. The University did just that, and aircraft were utilizing Max Westheimer Field by late 1941. The United States entered World War II almost immediately after, and OU leadership agreed to let the U.S. Navy utilize the field for the duration of the war, training thousands of cadets how to fly. After the war ended, the Airport was deeded back to the University and civilian flight training continued.

During civil aviation's rapid growth across the country following the end of the war, OU began to invest more in their aviation education programs beyond flight training. Early courses included aeronautical engineering and airport management. A 1949 tornado destroyed many facilities, but the Airport more than recovered, growing into the largest university-owned airport in the world by the late 1950s. This growth was aided by air traffic generated by fans flying to Norman for OU athletic events, particularly football, beginning in the middle of the century. This traffic continues to be important to the airport today. In 1982, four air traffic controllers were hired, and an operating tower was established, and four years later a larger tower cab was transported from Tinker Air Force Base to the roof of Westheimer's terminal.

1.3 AIRPORT OWNERSHIP AND MANAGEMENT

The University of Oklahoma owns and operates Max Westheimer Airport which is situated within the North Campus portion of University property. Under purview of the Department of Public Safety, the Airport Administrator oversees the maintenance, development, and day to day operations of the Airport.

1.4 AIRPORT LOCATION AND ACCESS

The City of Norman, Oklahoma, is located in Cleveland County, approximately 17 miles south of downtown Oklahoma City and 160 miles north of Dallas, Texas. The Airport is located approximately two miles northwest of downtown Norman and seven miles south of downtown Moore. Primary vehicular access is provided by Interstate 35, with access to the terminal and other facilities being provided via Lexington Avenue. Interstate 35 and U.S. Highway 77 provide the primary arterial access to the City of Norman. The Airport's location in the north of the city puts it closer to Oklahoma City's junction of Interstates 35, 40, and 44. Interstate 35 runs from Duluth, MN to the Mexican border, Interstate 40 runs from Barstow, CA to Wilmington, NC, and Interstate 44 runs from Saint Louis, MO to Wichita Falls, TX.

EXHIBIT 1.1 – AIRPORT LOCATION MAP

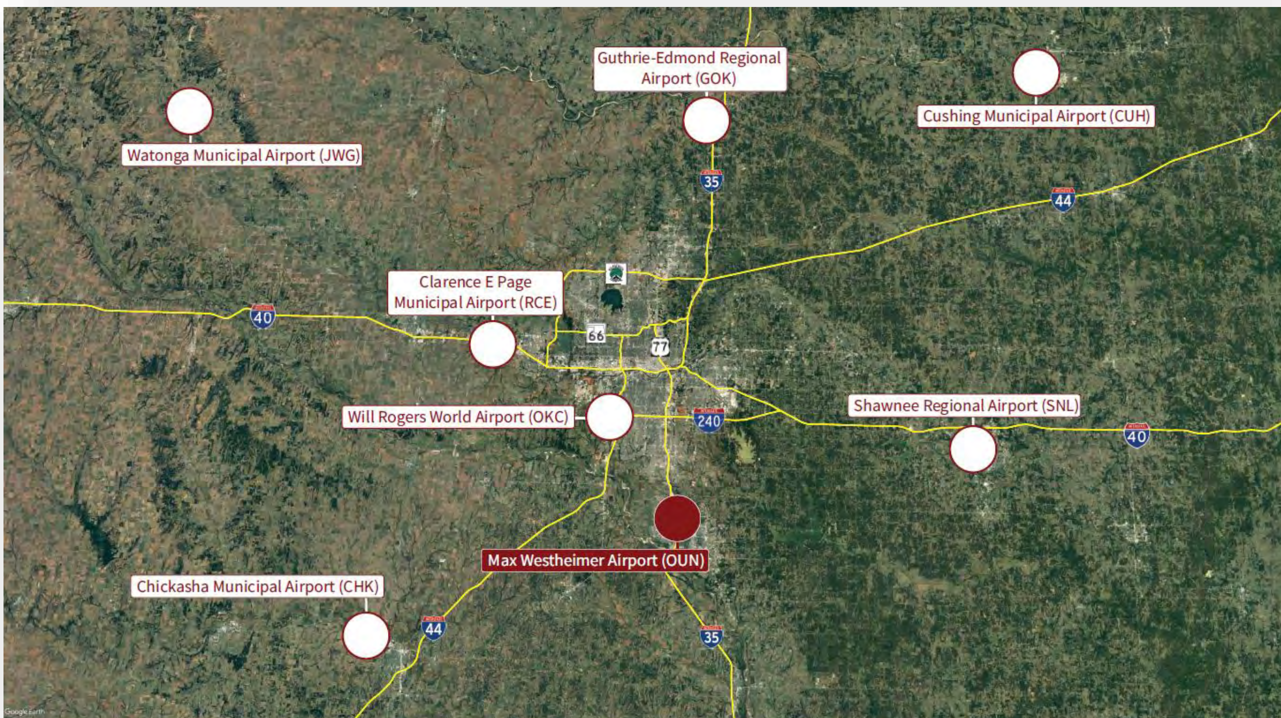


TABLE 1.1 – EXISTING CONDITIONS

Airport Name	University of Oklahoma Max Westheimer Airport
FAA Designation	OUN
Associated City	Norman, Oklahoma
Airport Owner/Sponsor	University of Oklahoma
Airport Management	Full-time Manager; on-site
Date Established	1941
Airport Roles	FAA NPIAS – Reliever/Regional; OASP – National Business
Commercial Air Service	None
Airport Acreage	727
Airport Reference Point (ARP)	35°14'44.0" N / 97°28'19.7" W
Airport Elevation	1181.7 ft.
Area Mean Max Temperature	95.0° (August)

Source: FAA Form 5010-1 Data, FAA eNASR 1/27/2022, FAA NPIAS 2021-2025, OAC OASP 2022

1.5 AIRPORT PROJECT HISTORY

To assist in ongoing capital improvements, the FAA provides funding through the Airport Improvement Program (AIP). **Table 1.2** summarizes OUN capital improvement projects since 2000 that have been received through the FAA's AIP. Airports that apply for and accept AIP grants must adhere to 39 grant assurances (included in the appendix), which include maintaining the airport facility in a safe and efficient capacity in accordance with specific conditions. The duration of the assurances depends on the type of airport, the useful life of the facility being developed, and other factors. Typically, the useful life for an airport development project is a minimum of 20-years. Thus, when an airport accepts AIP grant funding, the airport is obligated to maintain that facility in accordance with FAA standards for the useful life expected. The project history at OUN, totaling over $21 million highlights the importance of the airport to the state and surrounding community as well as continued support from the FAA and the Oklahoma Aeronautics Commission (OAC).

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TABLE 1.2 – AIRPORT PROJECT HISTORY (2000-2021)

Year	Description	Project Cost
2000	$36,000.00	Upgrade AWOS TO AWOS III T/P
2000	$645,000.00	Rehabilitate taxiway
2003	$454,147.00	Rehabilitate apron
2004	$2,205,263.00	Install airfield guidance signs; rehab apron
2004	$204,750.00	Security Fence and Gate
2005	$2,412,034.00	Phase II of an aircraft parking apron and taxilane reconstruction project
2006	$79,977.00	Replace existing AWOS III T/P
2006	$190,200.00	Installation of airport lighting control equipment
2007	$209,932.00	Rehabilitate Runway Lighting - 03 / 21
2007	$146,230.00	Pavement Maintenance Project
2007	$129,420.00	Runway 17/35 Rehab- Design Only
2008	$2,554,974.00	Asphalt overlay of runway 17/35; crack seal and seal north asphalt main apron and crack seal and seal taxiway A
2008	$171,163.00	Unknown
2009	$97,015.00	Update Airport Master Plan Study
2010	$192,500.00	Rehabilitate Apron [Design only reconstruct south terminal apron], Rehabilitate Taxiway
2010	$371,022.00	Installing vertical/visual approach guidance indicators (PAPI's) on runway 17/35 and runway 03 / 21, improving the existing segmented circle, and installing a supplemental wind cone at runway 17 end
2011	$2,159,671.00	Reconstruct the south main apron and airport fencing.
2013	$302,040.00	Improve Runway Safety Area [Design] - 03 / 21, Rehabilitate Runway 03 / 21 [Phase I - Design]
2014	$2,449,978.00	Rehabilitate runway 03 / 21 and improve safety areas on both runway ends.
2015	$312,600.00	Crack seal, seal coat, remark primary runway 17/35
2017	$96,000.00	PER - Reconstruct Taxiway
2017	$239,385.56	Install Weather Reporting Equipment
2018	$164,163.33	Rehabilitate Runway - Crack Repair
2018	$159,367.78	Rehabilitate Taxiway (Design)
2019	$5,683,912.00	Rehabilitation of parallel taxiway systems for RY 18 / 36
2021	$298,000.00	Airport Master Plan
2000-2021	Total Project Amount	$21,664,744.67

Source: Oklahoma Aeronautics Commission, Airport Administration

1.6 AIRPORT SYSTEM ROLE

All airports play a variety of different functional roles and contribute at varying levels to meet the transportation and economic needs on a national, state, and local level. Identifying and understanding the various roles that an airport plays is essential for any airport in a system, so it can continue to develop facilities and services that appropriately fulfill its respective role.

1.6.1 OKLAHOMA AIRPORT SYSTEM PLAN (OASP)

The OAC recently updated its Oklahoma Airport System Plan (OASP), which classifies airports in Oklahoma into four categories based on their role in the statewide system. OUN is categorized as a National Business Airport in the updated plan. The Plan also designates levels of facilities and services that airports in each category should ideally be equipped with, and these objectives are outlined in **Table 1.3**.

1.6.2 NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS (NPIAS)

Many of the nation's existing airports were initially constructed by the federal government or their development and maintenance were partially funded through various federal grant-in-aid programs to local communities. The system of airports that exists today is due in part to federal policy that promotes the development of civil aviation. As part of the ongoing effort to develop a national airspace system (NAS), the U.S. Congress established and maintains a national plan for the development and upkeep of airports.

The National Plan of Integrated Airport Systems (NPIAS) is a repository of airports that are eligible for AIP funding. It is used by the FAA to identify airports that have a role in the NAS and all potential, unfunded, and AIP eligible airport development projects at those airports. The AIP is funded exclusively by user fees and user taxes, such as aviation fuel and airline tickets. An airport must be included in the NPIAS to be eligible for federal assistance through the AIP.

The most current plan available is the NPIAS 2021-2025, which identified 3,304 public-use airports that are important and necessary to the national air transportation system. The plan estimates that approximately $43.6 billion in AIP-eligible airport projects will require financial assistance between 2021 and 2025. This is an increase of $8.5 billion (24 percent) from the NPIAS issued two years ago. The NPIAS categorizes airports by type of activities that occur at an airport – commercial service (primary and non-primary), air cargo, reliever operations, and general aviation. Max Westheimer Airport is currently classified as a regional reliever airport in the FAA's NPIAS with an approximate 2021-2025 development need of $8.3 million.

Regional airports are typically located in metropolitan areas and serve relatively large populations. These airports support regional economies with interstate and some long-distance flying and have high levels of activity, including jet and multi-engine propeller aircraft. Regional airports average about 92 total based aircraft, including 3 jets. The 482 regional airports currently listed in the NPIAS account for 12 percent of the total development reported in the 2021-2025 report.

There are 250 airports in the NPIAS that are categorized as reliever airports. The FAA states that reliever airports are airports designated by the Secretary of Transportation to relieve congestion at a commercial service airport and to provide more general aviation access to the overall community. However, the most recent NPIAS explains that many previously congested hub airports are no longer considered congested. This applies to every one of the nation's 69 small hub airports (commercial service airports that receive 0.05 to 0.25 percent of the annual U.S. commercial enplanements), which includes Will Rogers World Airport in Oklahoma City.

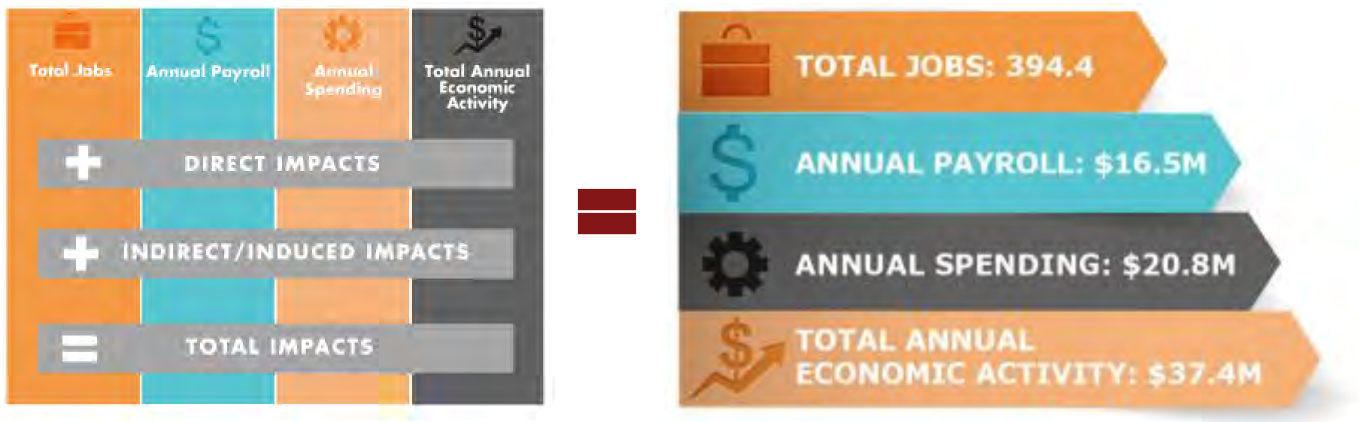
TABLE 1.3 – OASP NATIONAL BUSINESS FACILITY OBJECTIVES

Facilities	Objective
Airport Reference Code	C or D
Primary Runway Length	6,000 ft
Primary Runway Width	100 ft
Taxiway Type	Full Parallel
Runway Lighting	MIRL
Taxiway Lighting	MITL
Approach Type	ILS or LPV
Approach Lighting System	Both runway ends
Rotating Beacon	Yes
Segmented Circle	Yes
Wind Cone	Yes
Visual Glide Slope Indicator	Both Ends 4 Box
Runway End Identifier Lights	Both Runway Ends
Weather Reporting	AWOS or ASOS
Primary Runway PCI	70
Weight Capacity	20,000 SW and 75,000 DW
Covered Storage	100% of Based Aircraft
Terminal Building	2,500 sqft
Restroom (24/7 or key code)	Yes
Conference Area	Yes
Pilot's Lounge	Yes
Office Space for Airport Manager	Yes
Public Waiting Area	Yes
Ramp Area	25,000 square yards
Fuel	AvGas and Jet A
Jet Fuel (24/7 trucking)	Yes
Fixed-Base Operator	Yes
Aircraft Maintenance	Full Service
Ground Transportation	Yes
Overnight Storage for Business Aircraft	2 jets
GPU	Yes
LAV Service Cart	Yes
RPZ Control	Airport Controls all RPZs
RSA Standards	Compliance with RSA Standards
Runway / Taxiway Separation	400 ft
Height Zoning for Associated Jurisdictions	Jurisdiction with Height Zoning Ordinance
20:1 Surface Obstructions	20:1 Surface Clear of Obstructions

Source: OAC OASP 2022

1.6.3 ECONOMIC IMPACT

In 2017, the Oklahoma Aeronautics Commission (OAC) updated the statewide *Oklahoma Aviation and Aerospace Economic Impact Study*, a key component of the overall system planning effort. This study assists the OAC in determining what capital improvements best serve the state's general aviation needs. Overall, the University of Oklahoma Max Westheimer Airport plays an integral part in the local and regional economy, demonstrated by the annual direct economic impact of 236 jobs, $9.2 million in payroll, and $21.4 million in direct economic activity. When combined with indirect and induced impacts, the OAC estimates a total annual impact of 394 jobs, $16.5 million in payroll, and $37.4 million in total annual economic activity.



Source: OAC, *Oklahoma Aviation and Aerospace Economic Impact Study* in 2017

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1.6.4 SURROUNDING AIRPORTS

Table 1.4 provides a detail of airports within the Max Westheimer Airport Market Area (30nm radius) with at least one paved runway. Identifying and comparing these facilities will help the Airport distinguish other types of service within the region and consider the capabilities and limitations of these airports when planning for future improvements.

TABLE 1.4 – LOCAL AIRPORT CHARACTERISTICS

Airport Name	ID	Paved Runway(s)	Based AC / Ops	NPIAS Role	State Role
University of Oklahoma Westheimer	**OUN**	**03 / 21 – 4,748' x 100' 18 / 36 – 5,199' x 100'**	**107 / 48,733**	**National Reliever**	**National Business**
David Jay Perry	1K4	13/31 – 3,004' x 60' 17/35 – 1,801' x 60'	45 / 15,000	Local – General Aviation	General
Will Rogers World	OKC	13/31 – 7,800' X 150' 17L/35R – 9,803' x 150' 17R/35L – 9,801' X 150' 18 / 36 – 3,078' X 75'	43 / 87,736	Primary – Small Hub	National Business
Purcell Municipal - Steven E Shephard Field	3O3	17/35 – 3,003' x 60'	10 / 2,000	Basic – General Aviation	General
Wiley Post	PWA	13/31 – 4,214' x 100' 17L/35R – 7,199' X 150' 17R/35L – 5,002' X 75'	341 / 55,293	National Reliever	National Business
Clarence E Page Municipal	RCE	17L/35R – 3,502' X 75' 17R/35L – 6,104' X 100'	48 / 42,554	Local – General Aviation	National Business
Sundance	HSD	18 / 36 – 5,001' X 100'	210 / 45,425	Non-NPIAS / Privately-owned	Not Included / Privately-owned
Lindsay Municipal	1K2	01/19 – 3,010' X 60'	5 / 472	Unclassified – General Aviation	Community
Chickasha Municipal	CHK	18 / 36 – 5,101' X 100'	28 / 21,200	Local – General Aviation	Regional Business
Shawnee Regional	SNL	17/35 – 5,997' X 100'	39 / 9,182	Local – General Aviation	National Business
El Reno Regional	RQO	17/35 – 5,600' X 75'	80 / 24,825	Local – General Aviation	Regional Business

Source: FAA Form 5010-1 Data, CY 2021
National Plan of Integrated Airport Systems (NPIAS), 2021-2025
OAC OASP 2022

1.7 AIRPORT ACTIVITY

Max Westheimer Airport supports general aviation aircraft activities including business aviation, flight training, medical transport, law enforcement, and recreational flying. Reviewing historical operations activity helps provide a barometer of operation conditions and provides a necessary baseline for future demand activity. The following **Table 1.5** summarizes activity at the airport since the year 2011.

Activity is segregated into specific categories:

- Air Carrier – operations performed by aircraft with seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds, carrying passengers or cargo for hire or compensation
- Air Taxi / Commuter – operations performed by aircraft with seating capacity of 60 seats or less or a maximum payload capacity of 18,000 pounds or less, carrying passengers or cargo for hire or

compensation

- Military – operations conducted by aircraft with military designations
- General Aviation – all other activity not classified as air carrier, air taxi, or military
- Local – operations within 20 nm of the airfield. Consists mostly of flight training and touch-and-go activity
- Itinerant – operations that are not local and have an origin and/or destination

TABLE 1.5 – HISTORICAL AVIATION ACTIVITY

	Itinerant Operations					Local Operations				
Year	Air Carrier	Air Taxi / Commuter	General Aviation	Military	Total	Civil	Military	Total	Total Operations	Based Aircraft
2011	0	726	27,189	871	28,786	21,059	364	21,423	50,209	90
2012	0	540	25,148	531	26,219	24,783	166	24,949	51,168	78
2013	0	657	28,256	375	29,288	27,916	313	28,229	57,517	78
2014	0	615	26,302	611	27,528	22,285	217	22,502	50,030	94
2015	5	457	24,290	577	25,329	17,818	88	17,906	43,235	108
2016	3	590	28,337	648	29,578	22,049	115	22,164	51,742	111
2017	0	671	27,255	724	28,650	21,567	150	21,717	50,367	110
2018	44	566	25,199	694	26,503	22,305	342	22,647	49,150	122
2019	0	499	23,537	467	24,503	22,692	354	23,046	47,549	101
2020	0	320	18,369	309	18,998	17,420	252	17,672	36,670	103
2021*	0	694	23,835	402	24,931	23,144	209	23,353	48,284	123

Source: FAA Terminal Area Forecasts, OPSNET: Airport Operations Database
* University of Oklahoma Max Westheimer Airport Personnel and ATCT records

1.7.1 MILITARY OPERATIONS

The Airport is frequently utilized by United States Air Force T-6 Texan II aircraft and United States Army helicopters on training flights due to its proximity to Vance Air Force Base, Sheppard Air Force Base, and Muldrow Army Heliport. A variety of other military aircraft, including V-22 Ospreys, use OUN as a refueling stop during longer flights.

1.7.2 SOCIOECONOMIC CHARACTERISTICS

The various demographic and socioeconomic characteristics of the local area that an airport serves typically affect its demand for aviation services and are collected to derive and assess the dynamics of growth within the study area. The demographic characteristics of an airport's service area oftentimes influence the level, type, and growth in aircraft operations. Whereas population activity (positive or negative) has been a simple and important measure of the potential demand for air services, levels of income is a standard predictor of the propensity for the population to travel, the level of use of existing based general aviation aircraft and services at the airport. Additionally, this type of information is essential in generating forecasting activity at the airport and helps examine the ability of the region to sustain a strong economic base over an extended period. The following **Table 1.6** provides a historical summary and forecast of the socioeconomic indicators for Cleveland County while **Table 1.7** provides a historical summary and forecast of the socioeconomic indicators for the Oklahoma City Metropolitan Statistical Area (MSA), which includes Canadian, Cleveland, Grady, Lincoln, Logan, McClain, and Oklahoma Counites.

TABLE 1.6 – CLEVELAND COUNTY SOCIOECONOMIC CHARACTERISTICS

Historical						Projected				
1980	1990	2000	2010	2021	AAGR (1980-2021)	2026	2031	2036	2041	AAGR (2021-2041)
POPULATION										
134,526	174,716	208,614	257,085	289,953	1.89%	306,619	323,202	339,462	355,163	1.02%
PER CAPITA INCOME (in 2012 dollars)										
$24,977	$25,732	$32,905	$38,043	$43,420	1.36%	$46,832	$50,360	$54,003	$57,776	1.44%
HOUSEHOLD INCOME (in 2012 dollars)										
$69,205	$67,531	$83,179	$95,770	$105,000	1.02%	$112,081	$120,358	$129,586	$139,375	1.43%
EMPLOYMENT										
42,942	61,266	88,324	111,590	138,420	2.90%	150,174	162,012	173,876	185,735	1.48%

Source: Woods and Poole Complete Economic and Demographic Data, 2021; Cleveland County
AAGR = Average Annual Growth Rate

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TABLE 1.7 – OKLAHOMA CITY MSA SOCIOECONOMIC CHARACTERISTICS

Historical						Projected				
1980	1990	2000	2010	2021	AAGR (1980-2021)	2026	2031	2036	2041	AAGR (2021-2041)
POPULATION										
877,302	972,512	1,089,132	1,257,793	1,432,017	1.20%	1,497,896	1,562,311	1,624,219	1,682,651	0.81%
PER CAPITA INCOME (in 2012 dollars)										
$26,530	$27,633	$33,934	$40,449	$45,927	1.35%	$49,363	$52,948	$56,617	$60,555	1.39%
HOUSEHOLD INCOME (in 2012 dollars)										
$69,555	$70,443	$84,311	$101,376	$114,693	1.23%	$122,081	$130,855	$140,720	$151,274	1.39%
EMPLOYMENT										
513,839	567,558	698,061	771,480	922,038	1.44%	983,487	1,043,772	1,102,624	1,160,096	1.15 %

Source: Woods and Poole Complete Economic and Demographic Data, 2021; Oklahoma City MSA
AAGR = Average Annual Growth Rate

1.8 AIRSIDE FACILITIES AND SERVICES

Max Westheimer Airport is operated as a dual runway system (one primary and one crosswind), along with parallel and connecting taxiways, which serve the runways and provide aircraft access to the Terminal and other facilities on the Airport. **Exhibit 1.2** provides a graphic representation of the existing airport airside facilities.

1.8.1 RUNWAYS

The primary runway at the Airport has a designation of 18 / 36 and is 5,199 feet in length and 100 feet in width. It is constructed of grooved asphalt and has a gross weight bearing capacity of 30,000 lbs. single wheel and 50,000 lbs. dual wheel. The runway is equipped with Medium Intensity Runway Lights (MIRL) and a four light Precision Approach Slope Indicator (PAPI-4L) on the left side of each runway end. The runway features precision approach runway markings (PIR) on the Runway 18 end and non-precision approach runway markings (NPI) on the Runway 36 end. The Runway 18 end is served by an Instrument Landing System approved for Category I ILS approaches and is composed of a localizer, glide slope, and Medium Intensity Approach Light System with Runway Alignment Indicator Lights (MALSR). Aircraft utilizing Runway 18 / 36 fly a right-hand traffic pattern when operating on Runway 18 and a left-hand traffic pattern when operating on Runway 36.

According to the FAA's Aeronautical Information Manual, an Instrument Landing System (ILS) "is designed to provide an approach path for exact alignment and descent of an aircraft on final approach to a runway". This kind of system allows pilots to land aircraft in weather conditions with lower clouds and less visibility than they could otherwise. There are three categories of ILS approaches. Category I approaches can allow pilots to descend as low as 200 feet above the ground before seeing the runway in as low as one-quarter mile visibility. Any instrument-rated pilot with an appropriately equipped aircraft can fly a Category I ILS approach. Category II approaches can allow pilots to descend as low as 100 feet above the ground before seeing the runway in visibility as low as 1,200 feet. The most advanced Category III approaches allow an aircraft to land on the runway with no requirement that the pilots ever see the runway. Category II and III approaches require specially trained pilots and advanced autopilot systems.

LEGEND

- COMMERCIAL GROUND LEASE BUILDINGS
- ACADEMIC LEASE BUILDINGS
- AIPORT BUILDINGS

LEGEND

- AIRPORT PROPERTY
- BUILDINGS
- EXISTING PAVEMENT
- EXISTING RPZ

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0' 500' 1,000'

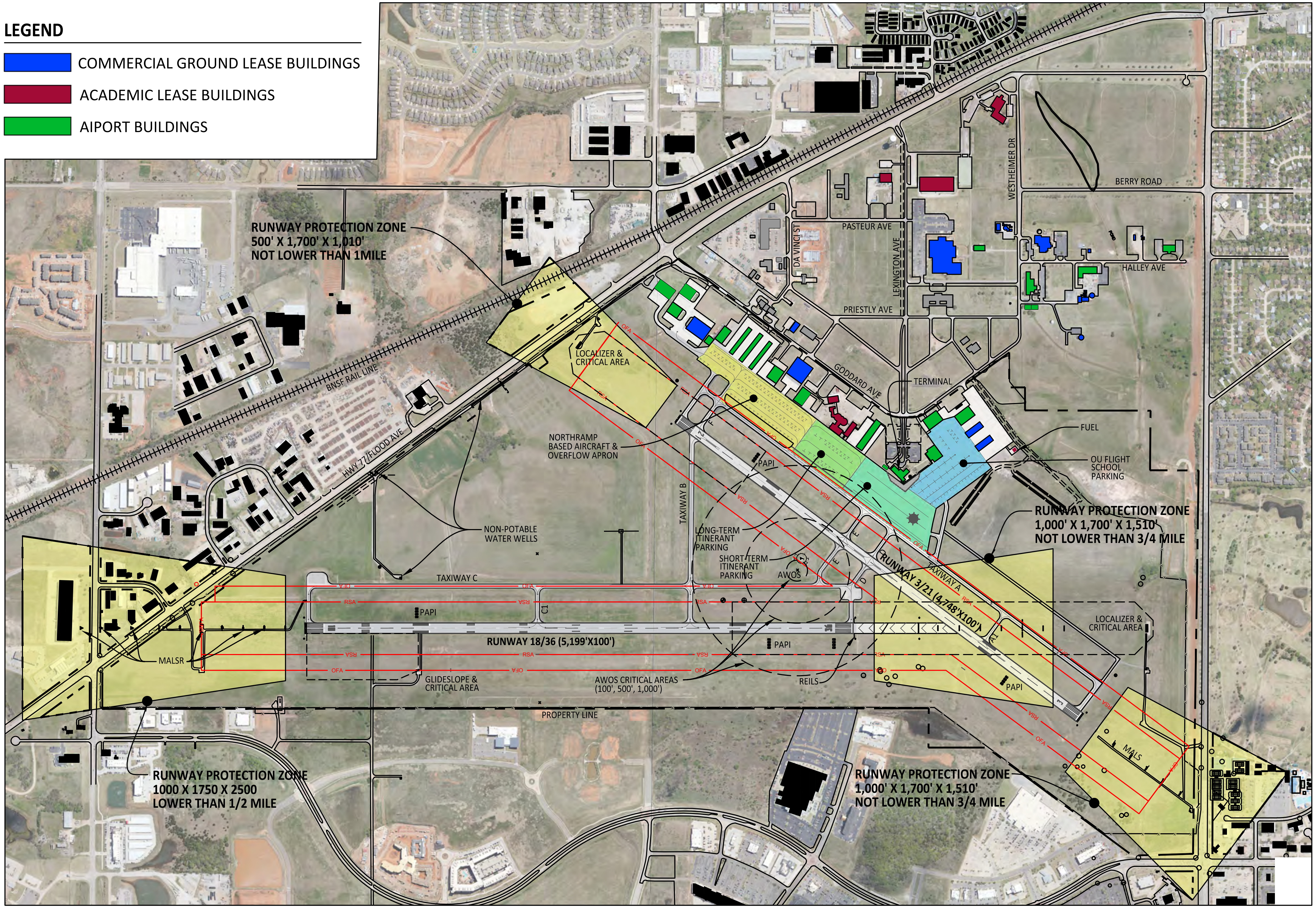


Exhibit 1.2 EXISTING FACILITIES

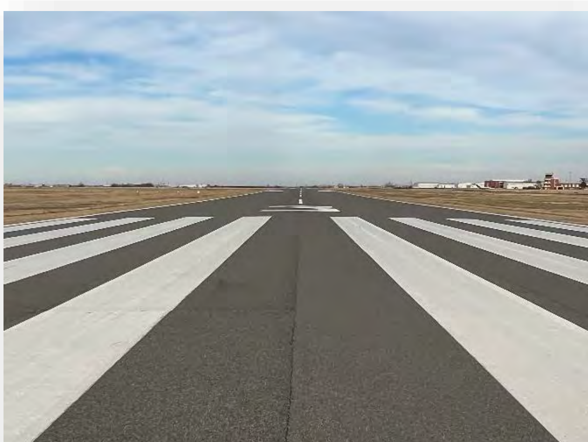
MAX WESTHEIMER AIRPORT
The UNIVERSITY *of* OKLAHOMA

The crosswind runway has a designation of 3 / 21 and is 4,748 feet in length and 100 feet in width. It is constructed of asphalt and has a gross weight bearing capacity of 30,000 lbs. single wheel and 50,000 lbs. dual wheel. The runway is equipped with Medium Intensity Runway Lights (MIRL) and a four light Precision Approach Slope Indicator (PAPI-4L) on the left side of each runway end. The runway features non-precision approach runway markings (NPI) on both ends. The Runway 3 end exhibits a Medium Intensity Approach Light System (MALS) and is served by localizer (LOC). Aircraft utilizing Runway 3 / 21 fly a left-hand traffic pattern when operating on Runway 3 and a right-hand traffic pattern when operating on Runway 21. **Exhibit 1.3** depicts the traffic patterns for both runways. **Table 1.8** outlines the existing runway data for the Airport.

TABLE 1.8 – EXISTING RUNWAY DATA

Category	Runway		Runway	
	18	36	3	21
Length	5,199'		4,748'	
Width	100'		100'	
Surface Composition (Condition)	ASPH (G)		ASPH (E)	
Runway Bearing (True)	179.7	359.7	36.2	216.2
Runway End Elevations	1,181.6'	1,177.2'	1,175.2'	1,179.1'
Runway Lighting	MIRL, MALSR	MIRL	MIRL, MALS	MIRL
Runway Marking	PIR-G	NPI-G	NPI-G	NPI-G
Navigational Aids	ILS or LOC, RNAV (GPS)	RNAV (GPS)	RNAV (GPS), LOC	None
Visual Aids (Lighting)	PAPI-4L	PAPI-4L	PAPI-4L	PAPI-4L

Source: FAA Form 5010-1 Data



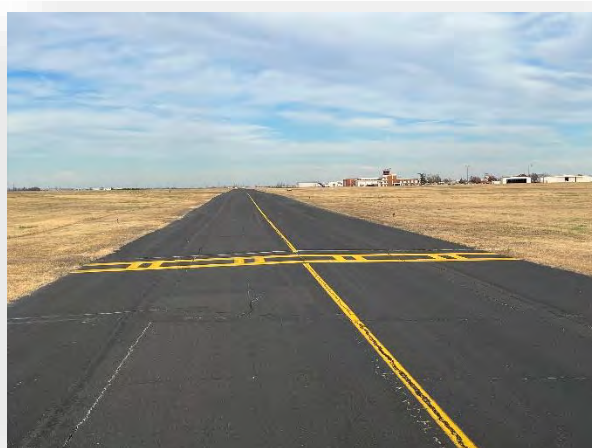
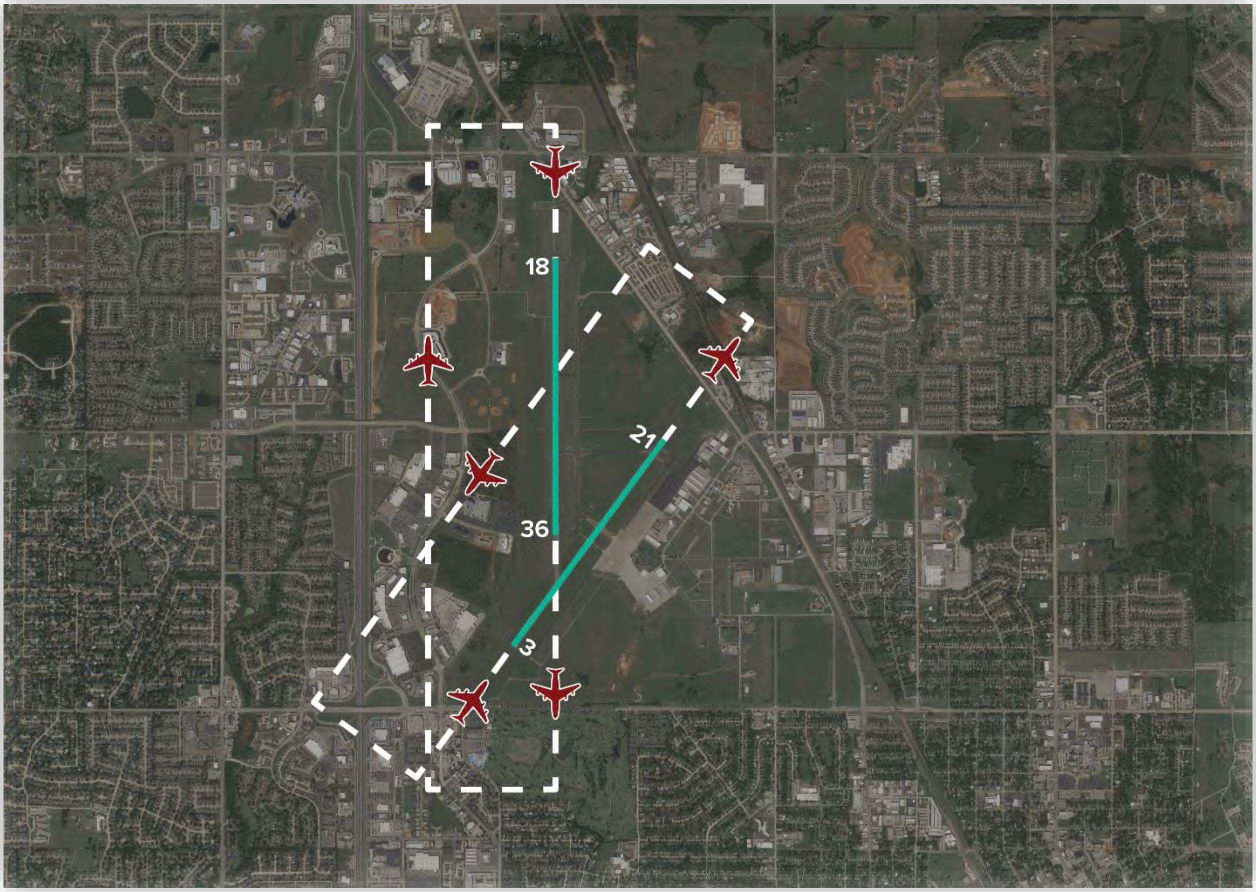


EXHIBIT 1.3 – EXISTING TRAFFIC PATTERNS



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1.8.2 TAXIWAYS

The taxiway system at Max Westheimer Airport consists of both parallel and connector taxiways. **Table 1.9** provides detail of each taxiway and its characteristics. Taxiways are designed to route aircraft quickly and efficiently between the runway and various locations around the airport.

Runway 3 / 21 features a full-length parallel taxiway. Taxiway "A" is situated 360 feet southeast of Runway 3 / 21, is 40 feet wide, and provides primary access from all ramps to both ends of Runway 3 / 21. Taxiway "A1" is a connector taxiway between taxiway "A" and Runway 3 / 21, approximately 1,200 feet from the departure end of Runway 3. Taxiway "B" provides access from the northern ramps to Runway 18 / 36 and acts as a connector taxiway between Taxiway "A" and Runway 3 / 21 and between Taxiway "C" and Runway 18/38. This runway is also served by a full-length parallel taxiway, Taxiway "C". It is located 400 feet east of the runway and is 35 feet wide. Taxiway "C1" is a connector taxiway between Taxiway "C" and Runway 18 / 36. Taxiways "D" and "E" are connector taxiways that run between Taxiway "A" and Taxiway "C", crossing Runway 3 / 21. They provide the most direct access between the central and southern parts of the ramp and Runway 18 / 36. Taxiway "F" is a connector taxiway between the northernmost ramps and Taxiway "A". Taxiways "C", "C1", "D", and "E" feature Medium Intensity Taxiway Lighting (MITL). All taxiways are equipped with standard markings.

Taxiways "C", "C1", "D", "E" and the Runway 18 / 36 connector portion of Taxiway "B" were reconstructed in the last three years. Taxiways "A1" and "F", most of Taxiway "A", and Taxiway "B" east of Taxiway "C" will be reconstructed in the next three to five years depending on funding.

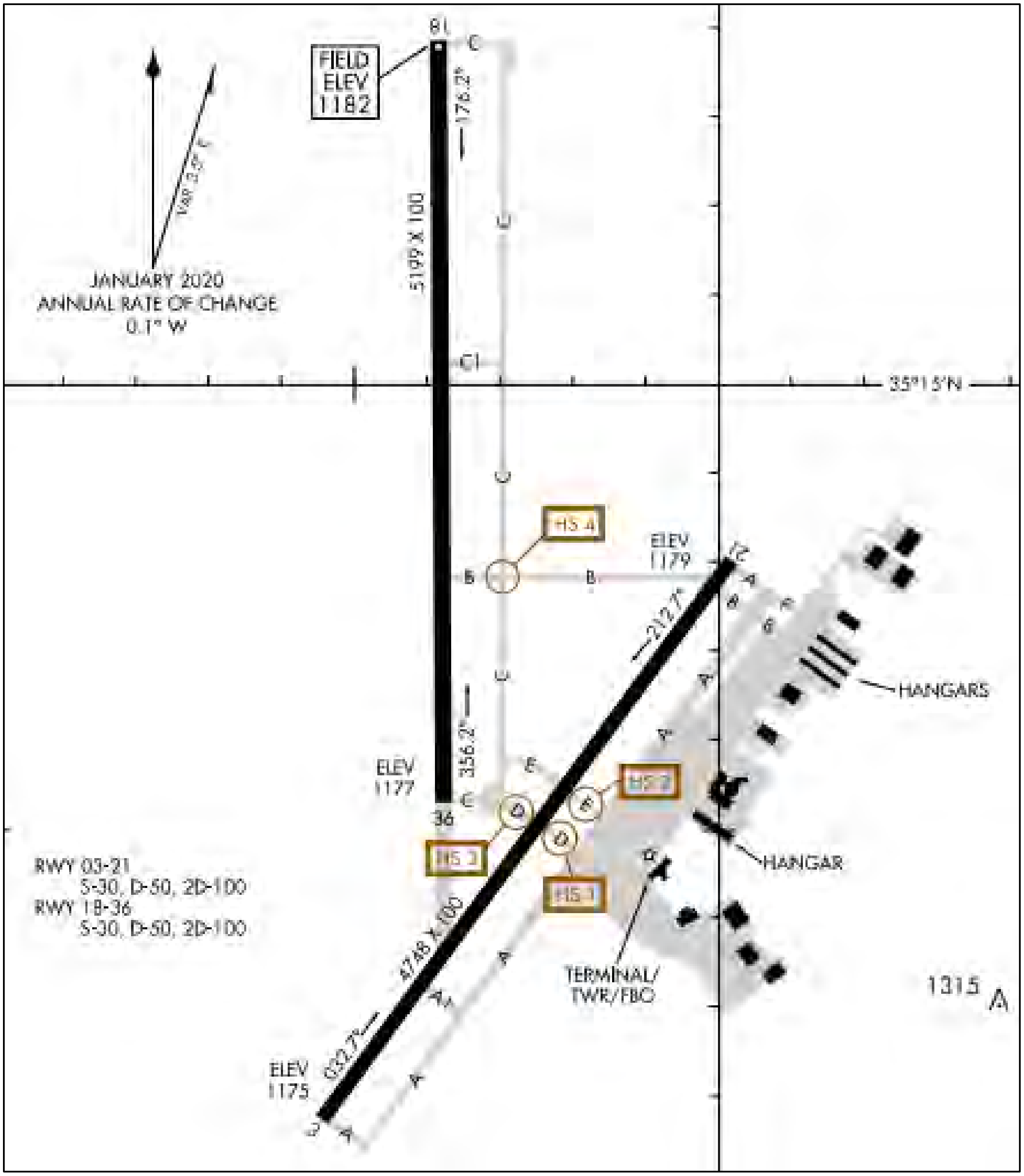
TABLE 1.9 – EXISTING TAXIWAY DATA

Name	Width	Type	Lights/Reflectors	Pavement
A	40	Full-Length Parallel	MITL	Asphalt/Concrete
A1	35	Connector	MITL	Asphalt
B	40	Connector	MITL	Asphalt
C	35	Full-Length Parallel	MITL	Asphalt
C1	35	Connector	MITL	Asphalt
D	35	Connector	MITL	Asphalt
E	35	Connector	MITL	Asphalt
F	40	Connector	MITL	Asphalt

Source: FAA Form 5010-1 Data, University of Oklahoma Max Westheimer Airport Layout Drawing, 2012

Several "hotspots" exist at OUN. A "hotspot" is defined as an area of increased risk or having a history or potential for runway incursions. The first two areas (HS-1 and HS-2) are the hold markings to the southeast of Runway 3 / 21 on Taxiways "D" and "E", respectively. They are identified as "hotspots" because they are in close proximity to the ramp, and pilots may encounter the runway hold markings at the very beginning of their taxi, increasing the risk of a runway incursion. HS-3 is the hold marking on Taxiway "D" directly across Runway 3 / 21 from HS-1 and has been identified as a "hotspot" because of its proximity to Runway 18 / 36. Pilots could leave Runway 18 / 36 and almost immediately encounter the hold markings for Runway 3 / 21, increasing the risk of a runway incursion here. The final "hotspot", HS-4 is located at the intersection of Taxiways "B" and "C". The FAA states that pilots taxiing westbound on Taxiway "B" risk incursion of Runway 18 / 36 if they miss the turn to Taxiway "C". These areas will be reviewed in the subsequent alternatives for potential remedies. **Exhibit 1.4** depicts the location of "hotspots" on the airfield.

EXHIBIT 1.4 – EXISTING HOTSPOTS



Source: FAA

1.8.3 WEATHER REPORTING SYSTEM

The Airport is served by an Automated Weather Observing System (AWOS-3) accessible on frequency 119.55 and via phone at 405.325.7302. An AWOS unit is a suite of automated sensors that measure, collect, and disseminate minute-by-minute weather data to help aircrews and flight dispatchers monitor weather conditions and plan routes for navigation to or from the airport. The AWOS facility is located approximately 140 feet east of Taxiway "C", 200 feet north of the intersection of Taxiway "C" and Taxiway "E". Based on information contained within FAA Order JO 6560.20C, *Siting Criteria for Automated Weather Observing Systems (AWOS),* an AWOS for precision instrument runways without RVR instrumentation should be located between 1,000 and 3,000 feet down the runway from the threshold with a minimum perpendicular distance of 750 feet from the runway centerline.

1.8.4 AIRFIELD LIGHTING AND VISUAL AIDS

Beacon – Operating sunset to sunrise, the beacon is a visual navigation aid displaying white and green flashes to indicate a lighted airport or white flashes only for an unlighted airport. The airport beacon is located atop the existing Air Traffic Control Tower.

Approach Lighting System (ALS) – An ALS provides the basic means for the aircraft to identify runways when operating in poor weather conditions and when operating under Instrument Flight Rules (IFR). ALSs are a configuration of signal lights at the landing threshold extending back from the runway a distance of 2,400 feet to 3,000 feet for precision instrument runways and 1,400 feet to 1,500 feet for non-precision instrument runways. As previously mentioned, the Runway 18 end is equipped with a Category I MALSR approach. Runway 3 features a Medium Intensity Approach Lighting System (MALS).

Visual Approach Aids – Visual Approach Aids assist aircraft on final approach by providing vertical situational awareness in relation to the runway threshold. Both Runway 3 / 21 and Runway 18 / 36 are equipped with a four-light Precision Approach Path Indicator (PAPI-4L) situated on the left side of each runway end. PAPIs primarily assist by providing visual glideslope guidance in non-precision approach environments. These systems have an effective visual range of at least three miles during the day and up to 20 miles at night. The row of light units is normally installed on the left side of the runway and the glide path indications are two red and two white (••••) when on the proper glide path angle of approach. Light combinations indicate when slightly high (three white ••••), significantly high (four white ••••), slightly low (three red ••••), and significantly low (four red ••••).

Additional aids to navigation include a lighted wind cone and segmented circle. At Max Westheimer Airport, the primary lighted wind cone and segmented circle are located northeast of the intersection of Taxiways "C" and "E". There is one additional wind cone located just east of the northern end of Runway 18 / 36 and Taxiway "C". Windcones are free rotating, truncated cones used to indicate wind direction and velocity. The segmented circle aids pilots in locating the airport and provides traffic pattern information.

1.8.5 COMPASS ROSE

A compass rose is painted on the short-term itinerant parking ramp. According to FAA Advisory Circular (AC) 43-215, a properly surveyed compass calibration pad, also called a compass rose, constructed to applicable FAA standards may be used to determine alignment of an aircraft compass with the Earth's magnetic field. This is helpful to aircraft technicians who have altered an aircraft in such a way that the aircraft's compass must be calibrated and new deviations due to interference recorded.

Source: Google Earth

1.8.6 NAVAID OWNERSHIP

Some airport Navigational Aid facilities are owned by the FAA, while others are owned by the Airport. **Table 1.10** outlines the various NAVAIDs at the Airport and their ownership.

TABLE 1.10 – NAVAID OWNERSHIP

NAVAID	Owner
ILS Runway 18/36	FAA
MALSR Runway 18/36	FAA
REILS Runway 18/36	FAA
Localizer Runway 3/21	FAA
MALS Runway 3/21	FAA
Rotational Beacon	Airport
PAPI Runway 18/36	Airport
PAPI Runway 3/21	Airport

Source: Airport Administration

1.9 LANDSIDE FACILITIES

Most facilities at Max Westheimer Airport are located to the southeast of Runway 3 / 21 and the development is generally linear in this direction. The various facilities on airport property include a general aviation terminal/fixed-base operator (FBO), general aviation hangar facilities, University of Oklahoma School of Aviation classrooms and hangars, OU facilities for other programs, and National Weather Service facilities. **Exhibit 1.5** graphically illustrates the Airport's terminal landside facilities.

1.9.1 TERMINAL BUILDING AND AUTO PARKING

The existing Max Westheimer Airport Terminal Building provides approximately 17,262 square feet of amenities including a pilot lounge, FBO and administration offices, flight planning room with computer, passenger waiting and vending area, public restrooms, pilot store, and conference room. The terminal building is connected to OU's School of Aviation flight department as well as the Air Traffic Control Tower. Until 2020, there was a restaurant in the terminal building and this space is now unoccupied. Located on the Second Level of the Terminal Building, the Airport Administration Offices account for approximately 678 sq. ft. This area includes offices for airport staff including the Airport Administrator, Airport Operations Officer, and support staff. The terminal auto parking area includes parking for 100 automobiles including four handicap accessible parking positions. The auto parking area outside of OU's classroom building north of the Terminal Building is used as overflow parking.

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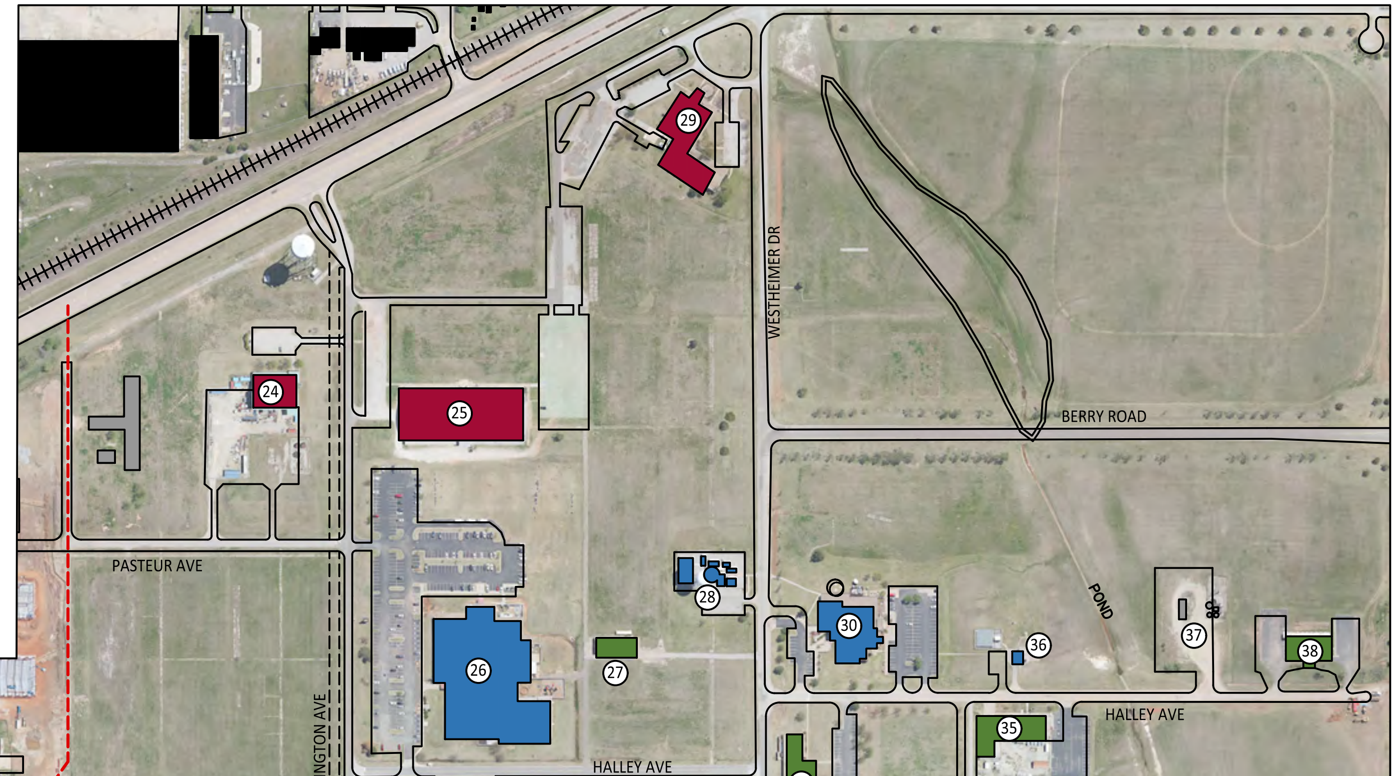
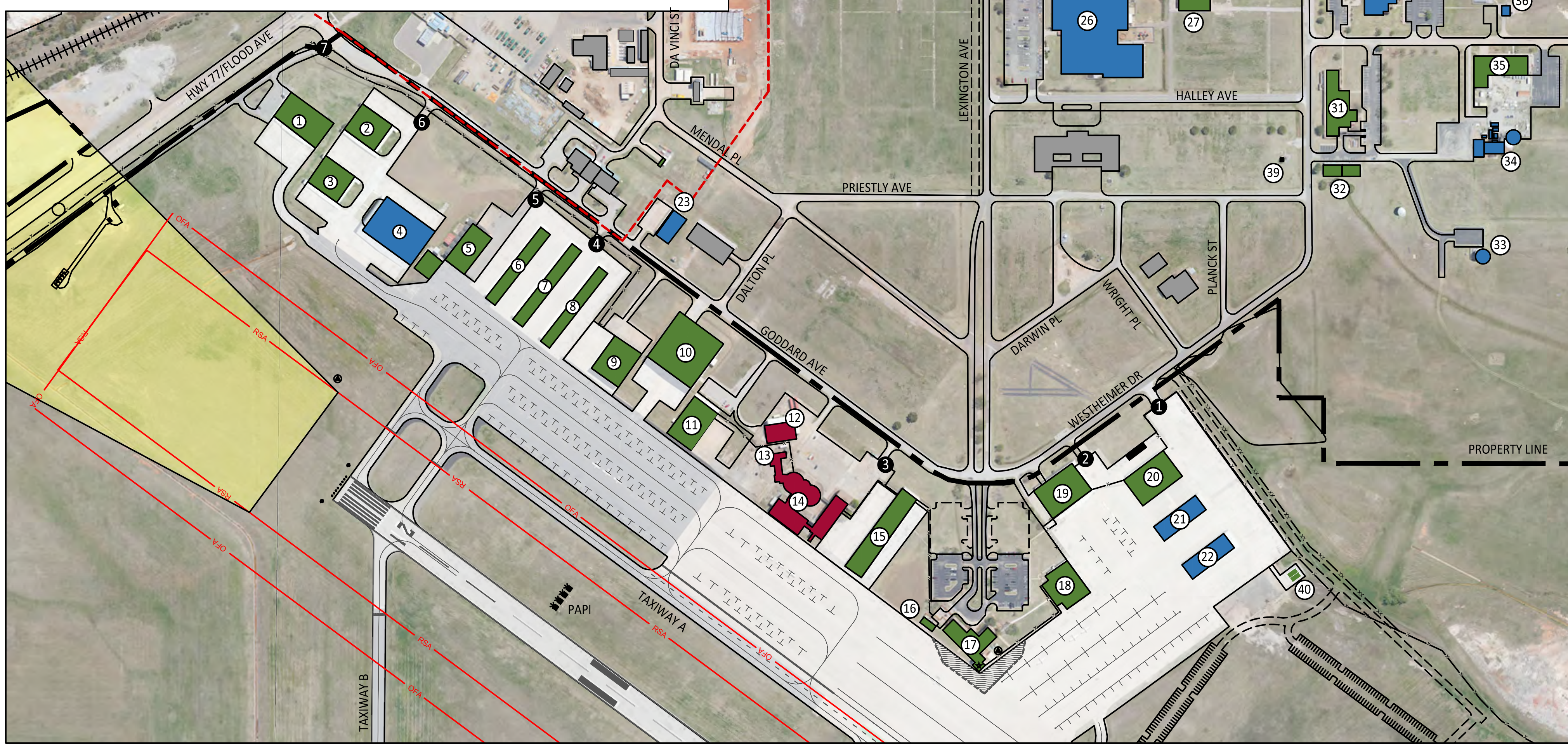
Building Number	Regent Number	North Campus Number	Street Address	Building Item	Total Size (SF)
1	R303	1200	2320	Community Hangar, Office, Shop	15,094
2	R316B	H5B	2234B	Executive Hangar	14,000
3	R316A	H5A	2234A	Executive Hangar	14,000
4	R316 C	H5C	2234C		29,000
5	R317		2232	Community Hangar, Office, Shop, Storage	11,640
6	R304	T1	2200	Small and Medium T-Hangars	9,328
7	R305	T2	2150	Small and Medium T-Hangars	10,225
8	R306	T3	2110	Small T-Hangars, Storage	8,156
9	R330	214	1950	Community Hangar, Office	15,500
10	R325		1952	Executive Hangar	32,291
11	R311	212	1948	Community Hangar, Office, Shop	15,000
12	R318		1932		6,206
13	R315	211		OU Academic Facilities	3,294
14	R314	210	1928	OU Academic Facilities	25,113
15	R310	T4	1908	Large T-Hangar	17,800
16	R334	102	1702		1,435
17	R335	101	1700	Terminal Building	17,262
18	R336	104	1630	Community Hangar, Office, Storage	12,200
19	R333	105	1620	Community Hangar, Office, Shop	20,800
20	R307		1600	Community Hangar, Office, Storage	15,000





LEGEND

AIRPORT PROPERTY

CITY OF NORMAN PROPERTY LINE

BUILDINGS

EXISTING PAVEMENT

EXISTING RPZ

GATES

N

0' 500' 1,000'

Building Number	Regent Number	North Campus Number	Street Address	Building Item	Total Size (SF)
21	R308		1610		11,500
22	R309		1612		11,500
23	R313	404	2113	Sooner Flight Academy	5,089
24	R324		1101	OU Construction Technology Center	10,926
25	R341	1005	1108	Norman Optimist Club	45,280
26			1350	YMCA	79,770
27	R355	800	1235		3,842
28	R356		1215	National Weather Service	15,706
29	R360	611	1610	OU Merrick Computer Center	22,050
30	R375		1200	National Weather Service	20,242
31	R363	600	1313	National Weather Service	177,101
32	R368	TB2/TB3	1317	OU Academic Facilities	4,383
33	R364	600A	1315	National Weather Service	1,542
34	R367	88D	1426	National Weather Service	6,457
35	R366		1424	National Weather Service	5,391
36			1501	National Weather Service	415
37			1203	Oil Derrick	937
38	R371		1205	American Red Cross	6,604
39			1313	National Weather Service	373
40				Fuel Storage	1,552

MAX WESTHEIMER AIRPORT
The UNIVERSITY of OKLAHOMA

Exhibit 1.5 EXISTING TERMINAL FACILITIES

1.9.2 AIRCRAFT PARKING APRONS

Max Westheimer Airport features four primary aircraft parking aprons located on a continuously paved area. The University of Oklahoma School of Aviation uses a dedicated apron adjacent to their flight operations and storage and maintenance hangar facilities in the southeast portion of the Airport. This apron is approximately 34,200 square yards. The remaining airport apron areas are split into three sections: short-term itinerant parking is adjacent to the Terminal Building and Cruise Aviation and is approximately 32,200 square yards; long-term itinerant parking ramp, which is approximately 26,900 square yards is northeast of the short-term itinerant ramp; and the based aircraft and overflow parking apron which lies further northeast, is approximately 34,400 square yards. There are a total of 177 aircraft tie-down spaces, three of which are reserved for based aircraft.

1.9.3 FIXED BASE OPERATOR (FBO) FACILITIES

Cruise Aviation operates as a Fixed Base Operator (FBO) at Max Westheimer Airport. Their offices and lounges are located on the first floor of the Terminal Building. Cruise Aviation provides Phillips 66 branded fuel via one 3,000-gallon Jet-A mobile fueler (3,000 gallons) and one 1,500-gallon 100LL mobile fueler (1,500 gallons). They operate two T-hangar structures that house eight units each. Their operating hours are daily from 7:00 AM to 10:00 PM. The following services are available:

- Catering
- Crew Car
- Ground Power Unit (GPU)
- Internet
- Tiedowns
- Pilot Lounge
- Aviation Weather
- Flight Planning Room

1.9.4 HANGAR FACILITIES

Currently, all hangar facilities at Max Westheimer Airport are located southeast of Runway 3 / 21. According to airport management, The University owns and operates four T-hangar buildings with a total of 40 T-hangar units, eight corporate hangars, and seven community hangars, all of which are for lease by OU Real Estate Operations. The T-hangars have a total area of approximately 45,465 square feet, the corporate hangars have a total area of approximately 28,000 square feet, and the community hangars have a total area of approximately 72,240 square feet. There is an additional 18 hangar units built and occupied by private investors. Hangars on the airport serve the OU School of Aviation, the Oklahoma Highway Patrol, the Civil Air Patrol, and several on-airport businesses. Corporate jets based at the airport include two Bombardier Challengers, two Cessna Citations, one Learjet, one Cirrus Vision Jet, and one L-39. To date, the airport administration maintains an ongoing waitlist of approximately 25 individuals for hangar space.

1.9.5 FUEL STORAGE FACILITIES

Currently, the Airport's fuel storage area(s) are located southeast of the easternmost apron area. The fuel is owned by the FBO, Cruise Aviation, and consists of two above-ground storage tanks. Tanks consist of one 15,000-gallon AVGAS/100LL and one 15,000-gallon Jet-A tank. All tanks comply with Environmental Protection Agency (EPA) guidelines including associated spill containment requirements. **Table 1.11** details fuel sales for FY 2020, FY 2021, and FY 2022 to date. In FY 2021, 100LL has accounted for approximately 28% of total flowage, while Jet-A makes up the remaining 72% of flowage.

TABLE 1.11 – ANNUAL FUEL SALES IN GALLONS

Year	100LL	Jet-A	Total
2020	111,585	239,026	350,611
2021	103,891	263,807	367,698
2022*	81,588	252,222	333,810
Average	107,783	251,417	359,155

* FY2022 figures are year to date and are not included in average
Source: Airport Administration

1.9.6 UNIVERSITY OF OKLAHOMA ACADEMIC FACILITIES

Several OU academic programs utilize facilities at the Airport. The School of Aviation currently has 243 students pursuing various aviation-related degrees. They conduct flight training with a fleet of single- and multi-engine aircraft and use a section of the Terminal Building for dispatch, flight planning and briefing, and offices for administration. Their aircraft operate from a dedicated section of the most southeastern ramp. They utilize two hangars, one of which houses a maintenance shop. Their fleet includes 15 single-engine Piper Warriors, one single-engine Cessna 152, two twin-engine Piper Seminoles, and one twin-engine turbine Beech King Air. Building R368 contains flight and air traffic control simulators for students. There are several classrooms and academic offices located in building R314, known within the School as NC210. Part of this building has classrooms and labs used by the Gallogly College of Engineering.

1.9.7 OTHER NORTH CAMPUS FACILITIES

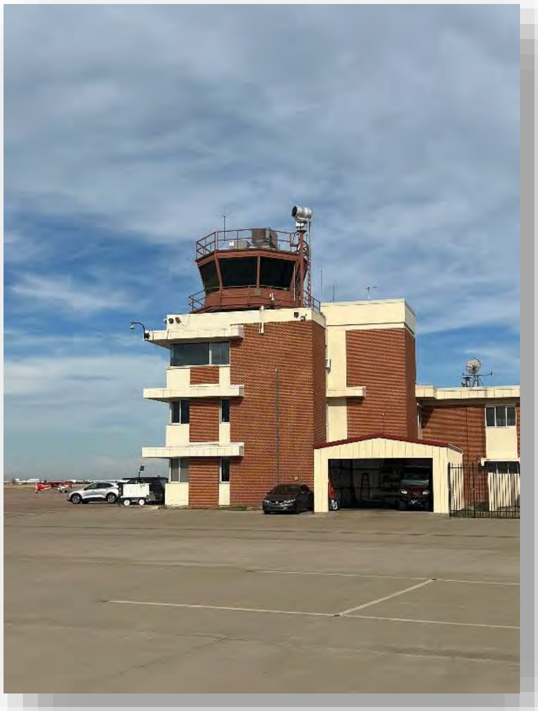
The University of Oklahoma refers to certain areas of the airport property as University Research Campus-North, or North Campus. Sooner Flight Academy is an OU-associated program that offers aviation-themed educational summer camps to children between the ages of six and 18. They operate out of building R313 and other locations around the North Campus. The National Oceanic and Atmospheric Administration (NOAA), specifically the National Weather Service (NWS), has a long history with Norman and OU. Their Radar Operations Center is located on airport property and provides centralized support for all 1988 Doppler Weather Surveillance Radars.

1.9.8 SECURITY / PERIMETER FENCING

The Airport features an 8' security fence surrounding the entire Airport in good condition. Secure access gates are located in multiple locations providing access to the Airport Operations Area (AOA). These secure access gate locations are depicted on **Exhibit 1.5**.

1.9.9 AIR TRAFFIC CONTROL TOWER (ATCT)

The Air Traffic Control Tower (ATCT) at OUN is located on top of the Terminal Building and is accessed via the second floor. The facility is manned by five full-time individuals daily from 8:00 AM to 10:00 PM and is operated by Robinson Aviation under the FAA's Contract Tower Program. There is a concurrent study focused on identifying a location for siting a new Air Traffic Control Tower. This study is anticipated to be completed by late 2022 / early 2023.



1.9.10 CIVIL AIR PATROL

The Cleveland County Composite Squadron of the Civil Air Patrol, an Auxiliary of the U.S. Air Force, provides emergency services, aerospace education, and cadet programs. The squadron is located in the north end of the closest hangar to the north of the Terminal Building, at 1908 Goddard Avenue. Weekly meetings are held on Tuesday evenings from 6:30 PM to 8:30 PM.

1.9.11 SPECIALIZED AVIATION SERVICE OPERATORS (SASO)

Also known as single-service providers or special FBOs, these businesses perform less than full services and can include aircraft sales, flight training, aircraft maintenance, or avionics. Below is a list of SASOs providing services on the Airport.

- **Sooner Aircraft**: Airframe and powerplant repairs
- **Avionics Services**: Instrument repair
- **Commander Aviation**: Support for Commander single engine aircraft
- **GCBC LLC Aircraft Rental**: Aircraft rental (3 single engine Piper aircraft as of January 2022)
- **Wrangler Aviation**: Aircraft sales

1.9.12 AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) FACILITY

Max Westheimer Airport does not have an ARFF facility on property; however, the Norman Fire Department Fire Station 7 is located less than 200 feet from an entrance to the airfield. While the station does not maintain equipment or vehicles specific to aircraft ratings, they do provide first response capability during an emergency if necessary. For airports operating under 14 CFR Part 139, the requirements for an airport's ARFF facility are determined by the airport's ARFF Index. An airport's ARFF Index is one of five categories based on the length of the longest aircraft that has an average of at least five daily departures from an airport. **Table 1.12** details the various ARFF Index Ratings and their associated requirements. OUN does not operate under 14 CFR Part 139 requirements, and therefore does not have an ARFF Index associated with it.

TABLE 1.12 ARFF INDEX RATINGS

Index	Aircraft Length	Vehicles	Extinguishing Agents
A	< 90'	1	Either 500 pounds of sodium-based dry chemical, halon 1211, or clean agent; or 450 pounds of potassium-based dry chemical and water with a commensurate quantity of ARFF to total 100-gallons for simultaneous dry chemical and ARFF application.
B	90' to < 126'	1	500 pounds of sodium-based dry chemical, halon 1211, or clean agent and 1,500-gallons of water and the commensurate quantity of AFFF for foam production.
		2	One vehicle carrying the extinguishing agents as specified for Index A; and one vehicle carrying an amount of water and the commensurate quantity of AFFF so the total quantity of water for foam production carried by both vehicles is at least 1,500-gallons.
C	126' to < 159'	2	One vehicle carrying the extinguishing agents as specified for Index B; and one vehicle carrying water and the commensurate quantity of AFFF so the total quantity of water for foam production carried by both vehicles is at least 3,000-gallons
		3	One vehicle carrying the extinguishing agents as specified for Index A; and two vehicles carrying an amount of water and the commensurate quantity of AFFF so the total quantity of water for foam production carried by all three vehicles is at least 3,000-gallons.
D	159' to < 200'	3	One vehicle carrying the extinguishing agents as specified for Index A; and two vehicles carrying an amount of water and the commensurate quantity of AFFF so the total quantity of water for foam production carried by all three vehicles is at least 4,000-gallons
E	200' and longer	3	One vehicle carrying the extinguishing agents as specified for Index A; and two vehicles carrying an amount of water and the commensurate quantity of AFFF so the total quantity of water for foam production carried by all three vehicles is at least 6,000-gallons

Source: 14 CFR Part 139

1.10 AIRSPACE SYSTEM / NAVIGATION AND COMMUNICATION AIDS

Max Westheimer Airport operates within the larger National Airspace System (NAS), which comprises a wide array of services, systems, and requirements for airports as well as for the pilots that function within it. The following sections provide an overview of the Airport's key considerations with respect to navigating and operating within the NAS.

- Air Traffic Service Areas and Aviation Communications
- National Airspace System
- Navigational Aids
- Part 77 Airspace Surfaces

1.10.1 AIR TRAFFIC SERVICE AREA AND AVIATION COMMUNICATIONS

FAA Order 7110.65Y, *Air Traffic Control* (ATC), established that the mission of ATC is safety by stating that the "primary purpose of the ATC system is to prevent a collision between aircraft operating in the system and to organize and expedite the flow of traffic". ATC is the means by which aircraft are directed and separated within controlled airspace.

Within the continental United States, there are some 22 geographic areas that are under ATC jurisdiction. Air traffic services within each area are provided by air traffic controllers in Air Route Traffic Control Centers (ARTCCs). The ARTCCs provide air traffic service to aircraft operating on Instrument Flight Rules (IFR) flight plans within controlled airspace, and primarily during the enroute phase of flight. Those aircraft operating under Visual Flight Rules (VFR) that depend primarily on the "see and avoid" principle for separation, may also contact the ARTCC or other ATC services to request traffic advisory services. Traffic advisory service is used to alert pilots of other known aircraft in the vicinity or, or within the flight path of the aircraft. The airspace overlying OUN is contained within the Fort Worth (ZFW) ARTCC jurisdiction, which has a coverage area of airspace in portions of Texas, Southern Oklahoma, Northwest Louisiana, Southwest Arkansas, and Southeast New Mexico.

Aircraft operating on instrument flight plans that are approaching or departing an airport are also subject to airspace and ATC. At OUN, clearance delivery, approach, and departure services are provided by the Oklahoma City Terminal Radar Approach Control Facility (TRACON). The primary means of controlling aircraft employed by air traffic controllers is computerized radar systems that are supplemented with two-way radio communications. Altitude assignments, speed adjustments, and radar vectors are examples of techniques used by controllers to ensure that aircraft maintain proper separation. The specified lateral and vertical separation criterion for aircraft used by controllers is as follows.

- Lateral Aircraft Separation: three (3) miles (radar environment)
- Lateral Aircraft Separation: five (5) miles (non-radar environment)
- Vertical Aircraft Separation: 1,000 feet below (below 29,000 feet) and 2,000 feet (29,000 feet and above)

1.10.2 NATIONAL AIRSPACE SYSTEM

To ensure a safe and efficient airspace environment for all aspects of aviation, the FAA has established an airspace structure through the Federal Aviation Regulations (FAR) that regulates and establishes procedures for aircraft that use the NAS. This airspace structure essentially provides two basic categories of airspace: controlled (classified as A, B, C, D, and E) and uncontrolled (classified as G).

Further, FAR Part 71 and FAR Part 73 established these classifications of airspace with the following characteristics.

- **Class A** airspace is generally the airspace from 18,000 feet mean sea level (MSL) up to Flight Level 600 (or 60,000 feet MSL). Unless otherwise authorized, all operations in Class A airspace are conducted under instrument flight rules (IFR).
- **Class B** airspace is generally airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports in terms of operations or passenger enplanements. An ATC clearance is required for all aircraft to operate within Class B airspace, and all aircraft that are so cleared receive separation services within the airspace. Clearance into Class B airspace can only be received when the controller specifically calls the tail number of the aircraft and grants explicit clearance to enter the airspace (e.g., "N1234, you are cleared to enter the Class B airspace").
- **Class C** airspace is generally airspace from the surface up to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by radar approach control, and have a certain number of IFR operations or passenger enplanements. Each aircraft must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and, thereafter, maintain those communications while in the airspace.
- **Class D** airspace is generally from the surface up to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. Unless otherwise authorized, each aircraft must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while in the airspace.
- If the airspace is not classified as A, B, C, or D, and is controlled airspace, then it is Class E airspace. **Class E** airspace extends upward from either the surface or designated altitude to the overlying or adjacent controlled airspace. Only aircraft operating under IFR are required to be in contact with ATC when operating within Class E airspace.
- **Class G** or uncontrolled airspace is the portion of airspace that has not been designated with any of the above classifications. It extends from the surface to the base of the overlying Class E airspace. Although ATC has no authority or responsibility to control air traffic, pilots must still abide by visual flight rules (VFR) minimums in Class G airspace.

Max Westheimer Airport lies within Class D airspace, just outside the Oklahoma City Class C airspace, which is tailored to individual airports. Generally, Class D airspace consists of the immediate airspace within a horizontal radius of five statute miles from the geographic center of airports with operating control towers. The Class D airspace at Max Westheimer Airport ranges from the surface to 3,700 feet above mean sea level (MSL). Class D airspace is in effect whenever the ATCT is operational, which is between 8:00 AM and 10:00 PM local time at the Airport. When the ATCT is closed, the Airport's airspace reverts to Class G. In order to operate on the Airport or within Class D airspace, pilots must establish two-way radio communications with Air Traffic Control personnel. The Airport is in the immediate vicinity of the Oklahoma City Class C airspace. The sectors closest to OUN extend from 2,500 or 3,000 feet MSL to 5,300 feet MSL. Pilots departing or arriving from OUN who will fly into this airspace must establish two-way radio communication with Oklahoma City TRACON prior do doing so. **Exhibits 1.6** and **1.7** show airspace classifications and the portion of the sectional chart published by the FAA's National Aeronautical Charting Office for the immediate regional airspace around OUN.

EXHIBIT 1.6 – FAA AIRSPACE CLASSIFICATION

Source: Federal Aviation Administration

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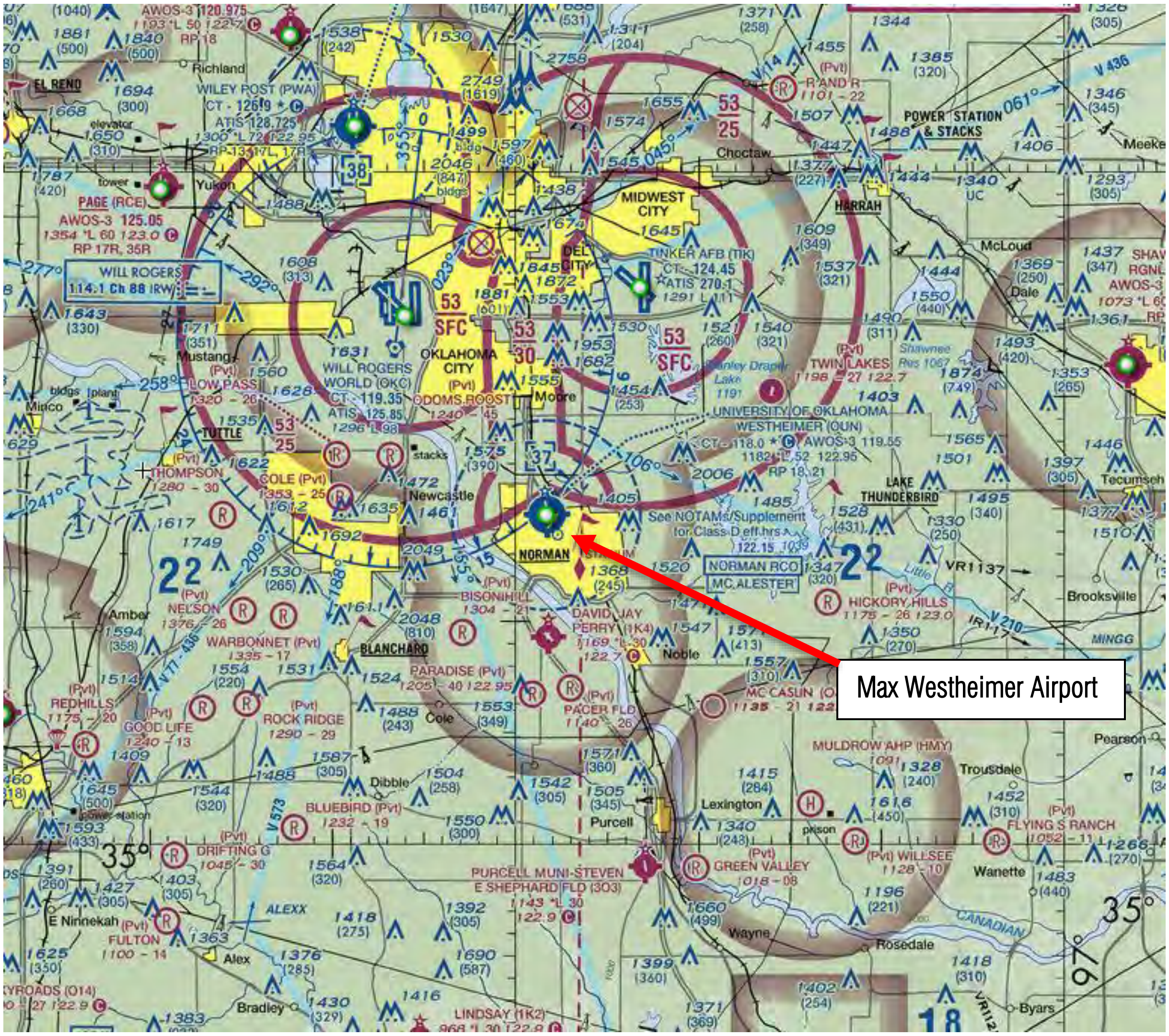
EXHIBIT 1.7 – FAA SECTIONAL CHART



Source: SkyVector, 28 January 2022

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1.10.3 NAVAIDS / COMMUNICATIONS

In 2003, the FAA implemented Wide Area Augmentation System (WAAS) availability to public airports. Pilots are now benefiting from the large number of Area Navigation (RNAV) Global Positioning System (GPS) approaches and lower minimums provided by WAAS-enabled systems. These systems are greatly more abundant than Instrument Landing Systems (ILS) and other ground-based systems from the 20th century. As of December 2, 2021, there are 4,099 Wide Area Augmentation System (WAAS) Localizer Performance with Vertical Guidance (LPV) approach procedures serving 1,979 airports, 1,209 of these airports are non-ILS facilities. Currently, there are also 734 Localizer Performance (LP) approach procedures in the U.S. serving 537 airports, 434 of which are non-ILS facilities.

The increase in popularity and availability of GPS technology has allowed the creation of RNAV Standard Instrument Departures (SIDs) and Standard Terminal Arrival Routes (STARs) at more airports. SIDs are preplanned instrument flight rule procedures which provide obstruction clearance and standardized routing for an aircraft between the airport and its pre-determined route at higher altitudes. STARs are preplanned instrument flight rule procedures which simplify air traffic control procedures and facilitate transition between an aircraft's route at cruise altitude and the instrument approach procedure it is assigned. The FAA currently has 11 SIDs and 7 STARs published for Max Westheimer Airport.

A variety of navigational facilities are currently available to pilots around Max Westheimer Airport, whether based at the field or at other locations in the region. Many of these navigational aids (NAVAIDs) are available to en-route air traffic as well. The NAVAIDs available for use by pilots in the vicinity of OUN are VORTAC, VOR/DME, and NDB facilities.

A VORTAC is a Very High Frequency Omnidirectional Range / Tactical Air Navigation station transmitting very high frequency signals, 360 degrees in azimuth oriented from magnetic north, with equipment used to measure, in miles, the slant range distance of an aircraft from that navigation aids. A VORTAC provides VOR azimuth, TACAN azimuth, and TACAN distance measure equipment (DME) at one site. The VORTAC located nearest Max Westheimer Airport is the WILL ROGERS VORTAC (IRW, 114.10) located 13 miles northeast of the field. A VOR with DME (VOR/DME) provides essentially the same navigational information to pilots as a VORTAC, but its technology was considered unsuitable for military use, leading to the development of the VORTAC. The WILEY POST VOR/DME (PWA, 113.40) is located 19 miles northwest of OUN.

An Nondirectional Radio Beacon (NDB) is a low or medium frequency radio beacon that transmits nondirectional signals. Like a VOR, a pilot can use an NDB to determine their location and to perform instrument approaches. NDBs are older technology and are in the process of being phased out by the FAA. The NDB located nearest OUN is the SEMINOLE NDB (SRE, 278) located 39 miles east of OUN.

There are five (5) published instrument approach procedures that serve Max Westheimer Airport. Table 1.13 summarizes each published approach and associated visibility minimums.

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TABLE 1.13 – INSTRUMENT APPROACH PROCEDURES

	Lowest Straight-In Minimums		Lowest Circling Minimums	
Instrument Approach	Ceiling	Visibility	Ceiling	Visibility
ILS or LOC Runway 18	1,382’	1/2-Mile	1,660	1 Mile
RNAV (GPS) Runway 3	1,460’	3/4-Mile	1,660	1 Mile
RNAV (GPS) Runway 18	1,382’	1/2-Mile	1,660	1 Mile
RNAV (GPS) Runway 36	1,432’	7/8-Mile	1,660	1 Mile
LOC Runway 3	1,580’	3/4-Mile	1,660	1 Mile

Source: FAA Terminal Procedures, 27 January 2022 – 24 March 2022

1.10.4 SPECIAL USE AIRSPACE

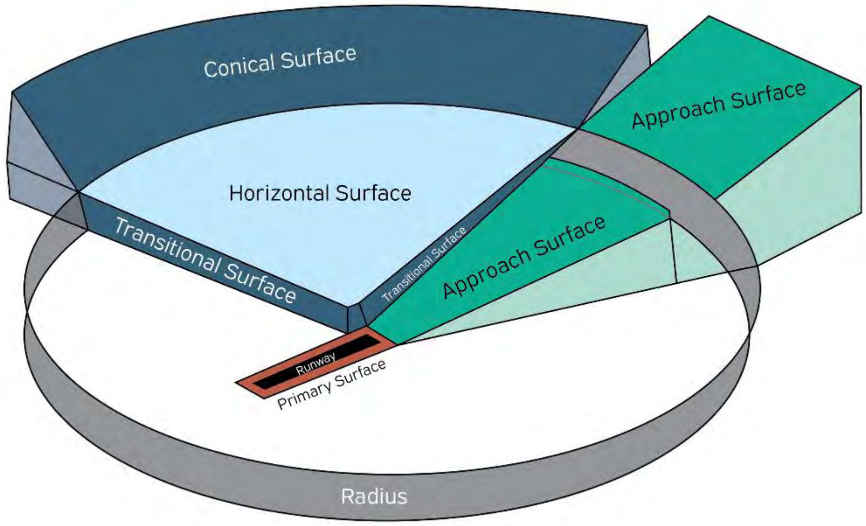
ATC designates certain areas of airspace as special-use airspace, which is designed to segregate flight activity related to military and national security needs from other airspace users. There are currently six classifications of special-use airspace – prohibited areas, restricted areas, Military Operations Area (MOA), alert areas, warning areas, and controlled firing areas. Currently, there is no special-use airspace in the immediate vicinity of the Airport.

1.10.5 PART 77 / IMAGINARY SURFACES

Federal Aviation Regulation (FAR) Part 77, Objects Affecting Navigable Airspace, is a tool used to protect the airspace over and around a given airport, and each of its runway approaches from potential obstructions to air navigation. It is important to note that as a federal regulation, all airports included in the NAS are subject to the requirements of Part 77. To determine whether an object is an obstruction to air navigation, Part 77 establishes several imaginary surfaces in relation to an airport and each runway end. The dimensions and slopes of these surfaces depend on the configuration and approach categories of each airport’s runway system. The size of the imaginary surfaces depends largely on the type of approach to the runway. The principal imaginary surfaces are described in **Exhibit 1.8**.

- **Primary Surface:** Longitudinally centered on the runway at the same elevation as the nearest point on the runway centerline.
- **Horizontal Surface:** Located 150 feet above the established airport elevation, the perimeter of which is established by swinging arcs of specified radii from the center of each primary surface end and connected via tangent lines.
- **Conical Surface:** Extends outward and upward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.
- **Approach Surface:** Longitudinally centered on the extended centerline and extending outward and upward from each runway end at a designated slope (e.g., 20:1, 34:1, 40:1, and 50:1) based on the runway approach.
- **Transitional Surface:** Extends outward and upward at a right angle to the runway centerline at a slope of 7:1 up to the horizontal surface.

EXHIBIT 1.8 – PART 77 / IMAGINARY SURFACES



Known obstructions to the Part 77 surfaces described above will be illustrated on the ALP set being prepared alongside this planning effort. It is important to note that updated obstruction information for the Airport and its surroundings should be collected through an aerial photogrammetry/survey effort prior to any physical changes to the runway of modifications to approaches serving either runway end.

1.11 AIRPORT ENVIRONS

This section addresses and examines the regional setting of the airport and land uses that surround it. This task is critical to the future development of the airport because local land-use patterns will ultimately affect the potential for expansion and capital improvements. Due to encroachment nationwide, it is imperative that airport sponsors be proactive in preserving potential future development areas as well as protecting the overlying airspace and imaginary surfaces of the Airport.

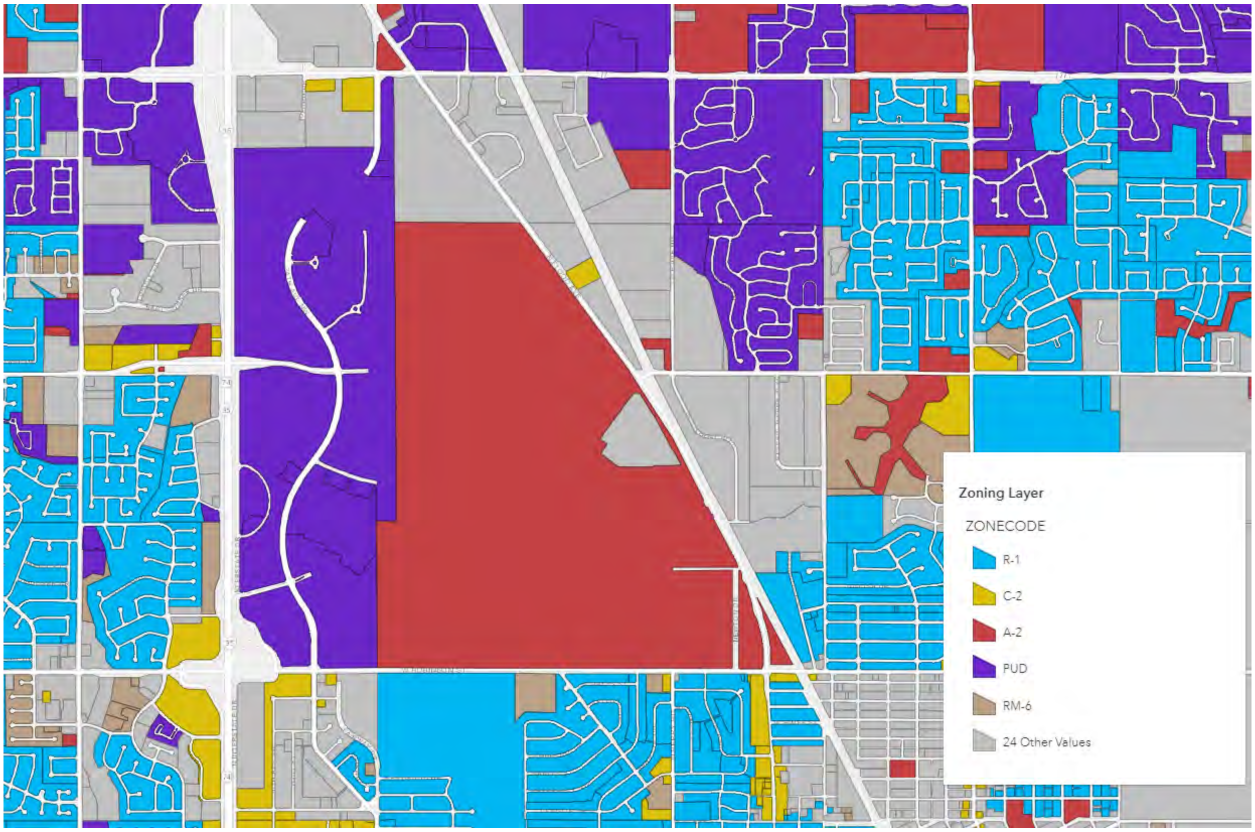
1.11.1 EXISTING LAND USE AND ZONING

The City of Norman has zoning codes that help guide development. The City's zoning code pertains to the area within its corporate limits and is intended to enable the City to uniformly and consistently evaluate, improve, and approve, as appropriate, development, changes to existing uses, and future uses and activities and to promote the health, safety, and general welfare of the citizens and residents of the City.

The City of Norman maintains a Geographic Information Database (GIS) that provides high-quality data of land use and zoning for information purposes. This general reference database offers access to base maps, aerial imagery, and other pertinent information about the community, including the Airport. Currently the Airport is categorized as Rural Agriculture

(A-2) and Light Industrial (I-1) on the City of Norman Zoning Map. **Exhibit 1.9** graphically depicts the existing zoning surrounding Max Westheimer Airport. **Exhibit 1.10** depicts land use for areas surrounding the Airport as specified in the Norman 2025 plan.

EXHIBIT 1.9 – EXISTING ZONING



Colors depicted: Single Family Dwelling (R-1), General Commercial (C-2), Rural Agriculture (A-2), Planned Unit Development (PUD), Medium Density Apartment (RM-6)
Surrounding gray areas include Light Industrial (L-1), Restricted Industrial (M-1), Heavy Industrial (I-2), Mobile Home Park (RM-4), Multi-Family Dwelling (R-3)
Source: City of Norman GIS

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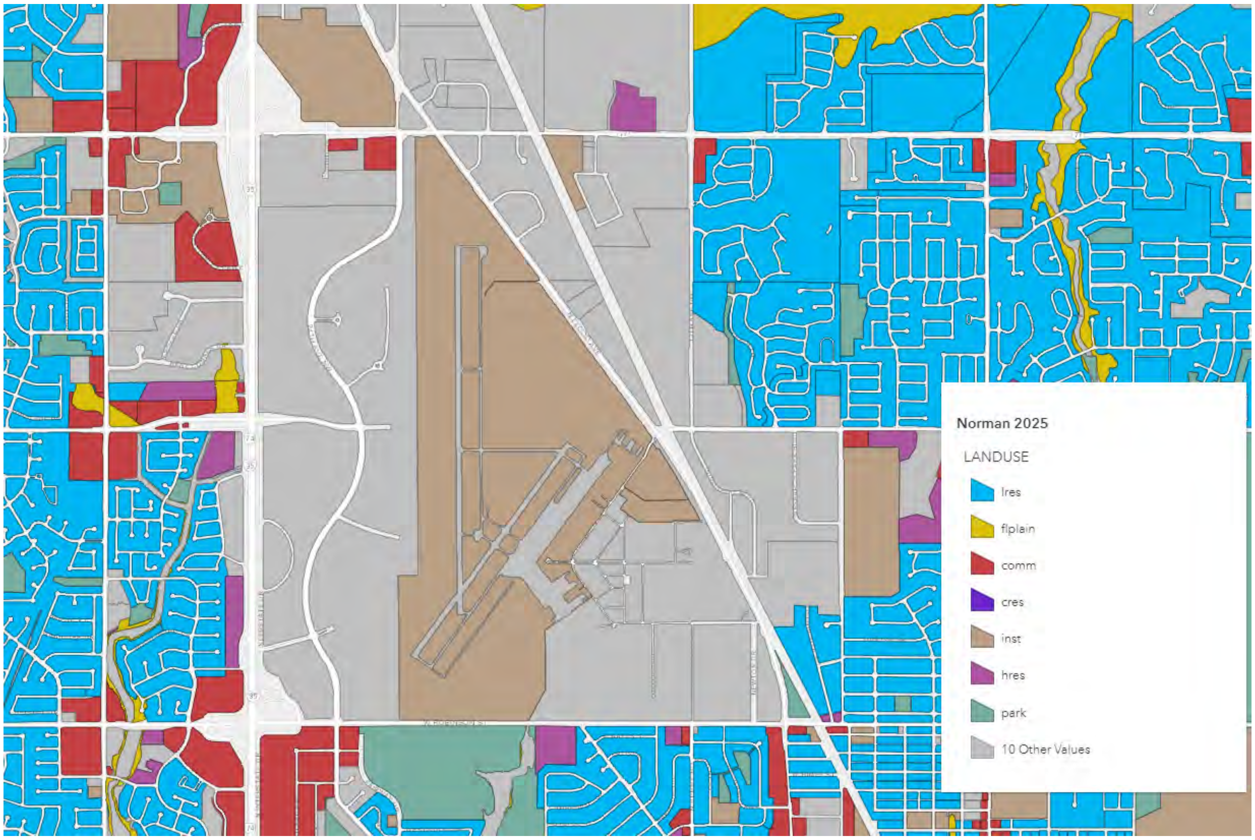
EXHIBIT 1.10 – LAND USE



Colors depicted: Low Density Residential (lres), Flood Plain (flplain), Commercial (comm), Institutional (inst), High Density Residential (hres), Park (park)
Surrounding gray areas include Mixed Use (mu), Industrial (ind),
Source: City of Norman GIS

1.11.2 CITY AND UNIVERSITY COMPREHENSIVE PLANS

In 2004, the City of Norman adopted the Norman 2025 Land Use and Transportation Plan. This plan represents a desired land use pattern in response to anticipated growth rates, public utility constraints, and environmental conditions. Three technical reports are included: the Development Capacity Technical Memorandum, the Land Demand Technical Memorandum, and the Land Use Plan Implementation Techniques Technical Memorandum. Annual reports reflecting development and construction activity since the adoption of the plan are available for review.

The University of Oklahoma, which owns and operates the Airport, has recently launched "Lead On, University", a strategic plan for OU's Norman campus. It will be important that the airport facility as a whole be included as a component of the overall theme for proper planning and coordination with government and educational entities.

1.11.3 HEIGHT HAZARD ZONING

Although the Federal Aviation Administration (FAA) has the authority to regulate the flight of aircraft, it has only limited authority to ensure that areas surrounding airports are free of hazards. Without regulatory authority at the Federal level of government, the responsibility for ensuring areas surrounding an airport are free from hazards is left to the local government.

The Aircraft Pilot and Passenger Protection Act (APPPA) is a state law passed in 2010 intended to increase safety near airports in Oklahoma. This law regulates the height of structures built or erected near public-use airports and military installations in the State. APPPA also regulates construction projects that may be deemed incompatible to normal airport operations due to safety concerns for individuals both in the air and on the ground. The Oklahoma Aeronautics Commission administers this law through an application process. **Exhibit 1.11** depicts the areas around OUN that are affected by APPPA.

The implementation of Avigation Easements may give the airport further control over future land uses that might be hazardous to flight operations. An avigation easement protects the surrounding airspace, above a specific height, from future obstructions by retaining those rights to a property from a landowner in order to limit the use of the land use subject to the easement.

Currently, the City of Norman has not adopted formal height hazard zoning standards. Following the completion of the Airport Layout Plan (ALP) Update, recommendation should be made to council to adopt new height hazard zoning standards for the City of Norman in order to protect the future development of the Airport.

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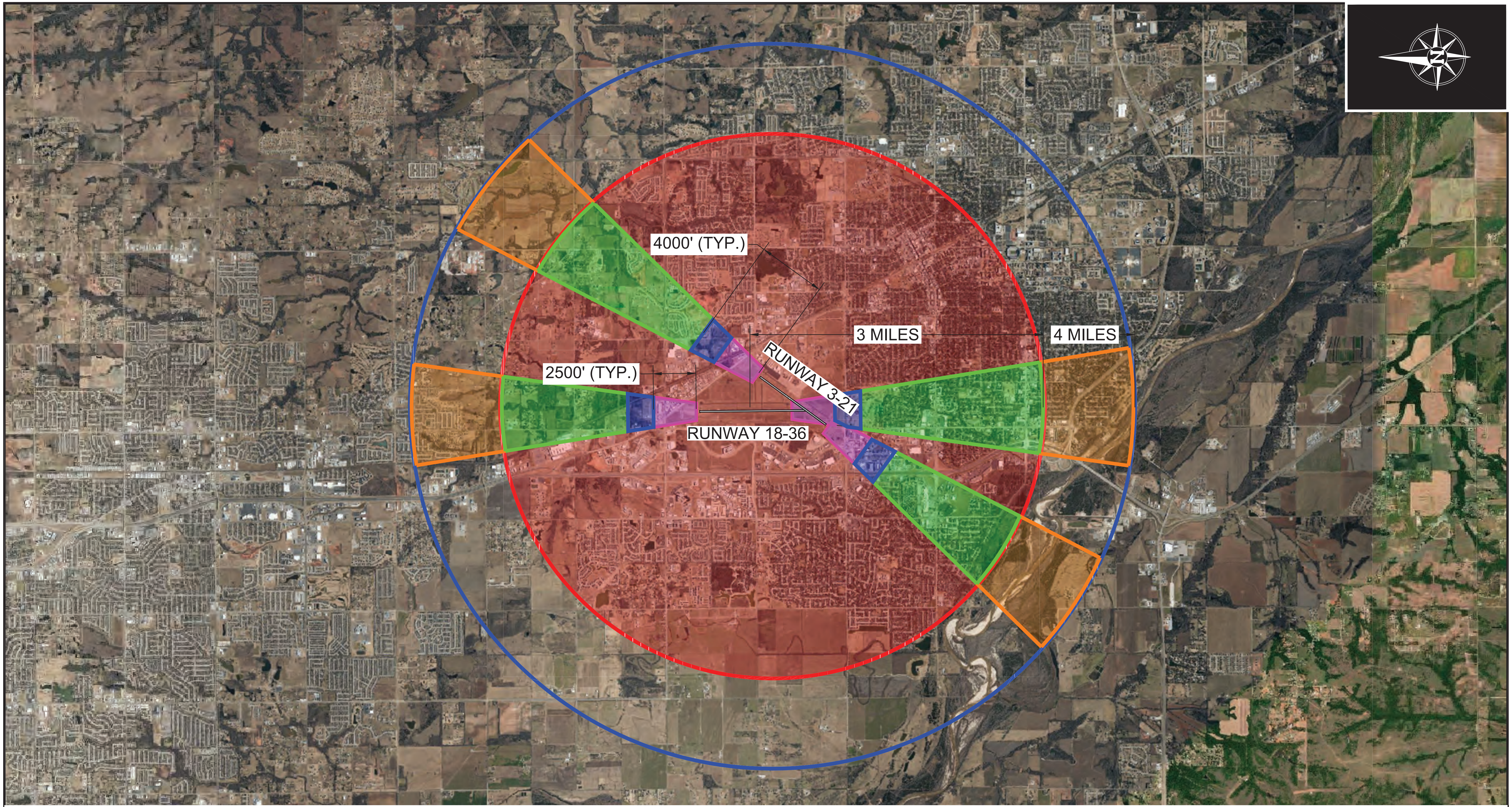

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UNIVERSITY OF OKLAHOMA MAX WESTHEIMER AIRPORT APPPA EXHIBIT

LEGEND

- RPZ RESTRICTED USE
- OAC PERMIT REQUIRED
- OAC PERMIT REQUIRED OVER 50'
- OAC PERMIT REQUIRED OVER 75'
- OAC PERMIT REQUIRED OVER 100'

1.12 ENVIRONMENTAL INVENTORY

The following environmental inventory identifies resources which present the potential for impact as a result of future planning improvements at Max Westheimer Airport. This inventory will address the 14 impact categories defined in FAA Order 1050.1F, Environmental Impacts: Policies and Procedures.

- Air Quality
- Biological Resources
- Climate
- Coastal Resources
- Department of Transportation, Section 4(f)
- Farmlands
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety
- Visual Effects
- Water Resources (wetlands, floodplains, surface water, ground water and wild and scenic rivers)

Of the 14 impact categories defined in FAA Order 1050.1F, the following are not present within the study area.

- Coastal Resources – The Airport is not located within a coastal zone boundary and will have no impact on any coastal resources.

The following impact categories will be addressed within the Environmental Chapter.

- Climate
- Visual Effects
- Natural Resources and Energy Supply

1.12.1 AIR QUALITY

Under the Clean Air Act (CAA) the U.S. Environmental Protection Agency (EPA) developed the National Ambient Air Quality Standards (NAAQS) for six common air pollutants. These criteria air pollutants are carbon monoxide (CO), nitrogen dioxide (NO2), ozone (O3), particulate matter (PM), sulfur dioxide (SO2), and lead (Pb).

According to the EPA Green Book: Non-attainment Areas for Criteria Pollutants, Cleveland County is classified as being in attainment, meeting all air quality pollution standards as established by the EPA.

1.12.2 BIOLOGICAL RESOURCES

Section 7 of the Endangered Species Act (ESA), as amended, applies to federal agency actions and sets forth requirements for consultation to determine if the Proposed Action "may affect" a federally protected species. If an agency determines that an action "may affect" a federally protected species, then Section 7(a)(2) requires each agency to consult with the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS), as appropriate, to ensure that any action the agency authorizes, funds, or carries out is not likely to jeopardize the continued existence of any federally listed endangered or threatened species, or result in the destruction or adverse modification of critical habitat.

The USFWS Information for Planning and Consultation (IPaC) was consulted regarding the potential for habitat within the immediate vicinity of the Airport. According to the query result, the study area does not contain habitat for the listed species. The following species have been determined to have the potential to occur within the vicinity of the Airport.

- Whooping Crane (endangered, bird)
- Piping Plover (threatened, bird)
- Red Knot (threatened, bird)
- Arkansas River Shiner (threatened, fish)
- Monarch Butterfly (candidate, insect)

The Migratory Bird Treaty Act (MBTA) prohibits private parties and federal agencies from intentionally taking a migratory bird, their eggs, or nests. The MBTA prohibits activities which would harm migratory birds, their eggs, or nests unless the Secretary of the Interior authorized such activities under a special permit. Migratory birds with the potential to occur in the study area include the following:

- American Golden-plover
- Bald Eagle
- Black Tern
- Bobolink
- Chestnut-collared Longspur
- Hudsonian Godwit
- Lark Bunting
- Lesser Yellowlegs
- Mccrown's Longspur
- Red-headed Woodpecker
- Sprague's Pipit
- Willet

1.12.3 CLIMATE

Understanding of the local climate is important, both from a planning and operational perspective. Weather conditions can impose significant impacts on the operation of the Airport.

According to 2021 data collected by the National Oceanic & Atmospheric Administration (NOAA), August experienced the highest average temperature of 80.8 degrees. The highest temperature recorded in 2021 was 98 degrees on August 25, 2021 and September 1, 2021. Data reported February as the coolest month with an average temperature of 30.4 degrees. The lowest temperature recorded in 2021 was -12 degrees occurring on February 16, 2021. Total rainfall for 2021 amounted to 31.8 inches, with June reporting the highest monthly accumulation of 7.37 inches. The largest rainfall event occurred on June 26, 2021 totaling 3.06 inches. The highest monthly snowfall total for the 2020-2021 season was 10.6 inches in February, with 6.0 inches falling on February 14, 2021.

1.12.4 DEPARMENT OF TRANSPORTATION ACT, SECTION 4(F)

Section 4(f) of the U.S. DOT Act of 1966 protects significant publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites. Section 4(f) uses require all possible planning to minimize harm.

The following are the nearest properties that are protected under Section 4(f) of the DOT Act:

- Recreation Area – Chickasaw National Recreation Area – 60 miles southeast of the Airport
- Wilderness Area – Narrows Wilderness Area – 76 miles southwest of the Airport
- Wildlife Refuge – Wichita Mountains National Wildlife Refuge – 45 miles south of the Airport
- Multiple properties within 7 miles of the Airport currently included in the National Register of Historic Places (NRHP)
- City Park – Westwood Park – immediately south of the Airport

1.12.5 FARMLANDS

As specified in FAA Order 1050.1F, Appendix A, a significant impact to farmland occurs when the Farmland Conversion Impact Rating Form (AD-1006) score ranges between 200 and 260 points. Impact severity increases as the total combined score approaches 260 points. The Farmland Protection Policy Act (FPPA) requires federal agencies to conduct an inventory of farmlands and analyze adverse impacts.

Analysis from the National Resource Conservation Service's (NRCS) Web Soil Survey indicates the presence of farmland classified as prime or of statewide importance. Approximately 240 acres of the Airport property is considered prime farmland.

1.12.6 HAZARDOUS MATERIALS, SOLID WASTER, AND POLLUTION PREVENTION

As defined in FAA Order 1050.1F, hazardous materials, solid waste, and pollution prevention includes evaluation of the following.

- Waste streams that would be generated by a project, potential for the wastes to impact environmental resources, and the impacts on waste handling and disposal facilities that would likely receive the wastes.
- Potential hazardous materials that could be used during construction and operation of a project, and applicable pollution prevention procedures.
- Potential to encounter existing hazardous materials at contaminated sites during construction, operation, and decommissioning of a project.
- Potential to interfere with any ongoing remediation of existing contaminated sites at the proposed project site or in the immediate vicinity of a project site.

Coordination using the EPA's EJSCREEN indicated no areas of hazardous contamination within the vicinity of the Airport.

1.12.7 HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Historical, architectural, archeological, and cultural resources encompass a range of sites, properties, and physical resources relating to human activities, society, and cultural institutions. Such resources include past and present expressions of human culture and history in the physical environment, such as prehistoric and historic archaeological sites, structures, objects, districts, which are considered important to a culture or community. Impacts have the potential to occur when a proposed project results in an adverse effect to a property which has been classified as having historical, architectural, archeological, or cultural significance.

Several properties are located within an 8-mile radius of OUN and include:

- Moore-Lindsay House – 508 N. Peters
- United States Post Office-Norman – 207 E. Gray St.
- Sooner Theater Building – 101 E. Main St.
- Santa Fe Depot – Jct. of Abner Norman Dr. and Comanche St.
- Norman Public Library – 329 S. Peters Ave.
- Norman City Park New Deal Resources – Jct. of Daws St. and Webster Ave.
- Cleveland County Courthouse – 200 S. Peters Ave.
- Norman Historic District
- President's House, University of Oklahoma – 410 W. Boyd St.
- DeBarr Historic District
- Casa Blanca – 103 W. Boyd
- Jacobson, Oscar B., House – 609 S. Chautauqua Ave.
- Bizzell Library, University of Oklahoma – 401 W. Brooks St.
- Ledbetter, H.E., House – 701 W. Brooks
- Beta Theta Pi Fraternity House, The University of Oklahoma – 800 S. Chautauqua Ave.
- Gimeno, Patricio, House – 800 Elm St.
- Oklahoma Center for Continuing Education Historic District

1.12.8 LAND USE

Land uses surrounding the Airport are graphically depicted in **Exhibit 1.10.**

1.12.9 NOISE AND COMPATIBLE LAND USE

Aviation noise primarily results from the operation of fixed and rotary wing aircraft, such as departures, arrivals, overflights, taxiing, engine run-ups. Noise is often the predominant aviation environmental concern of the public. 14 CFR 150 notes that residential land uses, and schools are not considered compatible with a 65 decibel (dB) Day-Night Average Sound Level (DNL). Religious facilities, hospitals, etc. are generally compatible when a noise level reduction is incorporated into the design of the facility.

Noise-sensitive land uses in the vicinity of the airport include residential and religious facilities.

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

Socioeconomic information is available in **Table 1.14**. FAA Order 1050.1F requires that any federal action that contains the potential to cause disproportionate impacts to a protected population be considered during the development of reasonable alternatives and that proper mitigation measures be conducted. Using the EPA's EJSCREEN tool, it was determined that 31 percent of the population within 3 miles is considered low-income while 27 percent are considered a minority population.

TABLE 1.14 – SOCIOECONOMIC DATA

Demographic Indicator	% within 3 miles	% in Oklahoma
Demographic Index	31%	35%
People of Color Population	27%	34%
Low Income Population	31%	37%
Linguistically Isolated Population	2%	2%
Population with Less Than High School Education	7%	12%
Population under Age 5	5%	7%
Population over Age 64	13%	15%

Source: EPA EJSCREEN Report

1.12.11 WATER RESOURCES

Water resources are surface waters and groundwater that are vital to society. Surface water, groundwater, floodplains, and wetlands do not function as separate and isolated components of the watershed, but rather as a single, integrated natural system. Disruption of any one part of this system can have consequences to the functioning of the entire system. The analysis should include not only disruption of the resources but also potential impacts to the quality of the water resources.

Wetlands are defined by Executive Order 119900, *Protection of Wetlands*, as those areas that are inundated by surface or groundwater with a frequency to support and under normal circumstances does or would support a prevalence of vegetation or aquatic life that requires saturated or seasonable saturated soil conditions for growth and reproduction. Categories of wetlands include swamps, marshes, bogs, sloughs, potholes, wet meadows, river outflows, mud flats, natural ponds, estuarine areas, tidal overflows, and shallow lakes and ponds with emergent vegetation. Wetlands exhibit three characteristics: hydrology, hydrophytes (plants able to tolerate various degrees of flooding or frequent saturation), and poorly drained soils. The USACE regulates the discharge of dredged and/or fill materials into waters of the United States, including adjacent wetlands, under Section 404 of the Clean Water Act. **Exhibit 1.12** graphically depicts the wetlands present within the vicinity of Max Westheimer Airport.

Floodplains are lowland areas adjoining inland and coastal waters which are periodically inundated by flood waters. Executive Order 11988 requires federal agencies to minimize potential impacts associated with floodplains. A review of the Federal Emergency Management Agency (FEMA) flood maps dated January 15, 2021, indicate that there is currently no specified flood threat to the Airport property.

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EXHIBIT 1.12 – WETLANDS

Source: https://www.fws.gov/wetlands/Data/Mapper.html

1.13 SUMMARY

This inventory chapter represents a consolidated resource containing the Airport's data that will be referenced during the completion of the University of Oklahoma Max Westheimer Airport Layout Plan (ALP) Update. When necessary, the data presented in this chapter will be expanded on for the completion of specific planning tasks. In addition, as the development plan progresses, new and/or updated data related to facilities and infrastructure examined in this chapter may become available. When appropriate, new data will be incorporated into this chapter and the entire ALP Update narrative.

The inventory data presented in this chapter provides a framework from which analysis of the Airport will proceed. Some inventory data, such as the Airport's history, provides general background knowledge. Other types of inventory data, such as airport role and existing airport facilities are used to help determine future facility requirements. Subsequent chapters, especially the Forecast of Aviation Demand, will also be key components to the development of facility requirements.

Much of the data presented in this chapter is used to conduct numerous analyses as the development planning process works towards identifying a recommended development plan for OUN. The next step in the planning process is to formulate forecasts for the quantity and type of future aviation activity expected to occur at the Airport during the 20-year planning period.

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