CHAPTER ONE

INVENTORY

The initial step in the preparation of the Master Plan for the Georgetown Municipal Airport (Airport) is the collection of information pertaining directly to or influencing the Airport and the area it serves. The information summarized in this chapter will be used in subsequent analyses within this study and includes:

- Background information related to the Georgetown region, including descriptions of the local geography, regional climate, and surface transportation systems.
- Physical inventories and descriptions of current facilities and services offered at the Airport. The analysis will include airfield and landside infrastructure and services, as well as local and regional airspace, competing airport facilities, air traffic control, and aircraft operating procedures.
- The Airport's role in regional, state, and national aviation systems. Development at the Airport over the last 20 years will also be discussed.
- Socioeconomic data, including population, employment, and income activity sectors will be analyzed. These sectors typically offer an indication of future trends that could influence general aviation activity at the Airport.
- A review of existing local and regional plans and studies which will be utilized later in the process to determine their potential influence on the development and implementation of the Airport Master Plan.
- Review of existing environmental conditions and sensitivities, on or near the Airport, to be factored in the recommended development plan.

The information outlined in this chapter provides a foundation for all subsequent chapters. Much of the information was obtained through on-site inspections of the Airport and personal interviews with Airport staff and tenants. Information was also obtained from outside resources, including documents prepared by the Federal Aviation Administration (FAA), Texas Department of Transportation –Aviation Divi-

sion (TxDOT), City of Georgetown, Williamson County, and other pertinent regional planning and economic agencies.

REGIONAL SETTING

The City of Georgetown is located in central Texas, along the I-35 corridor between the Dallas/Fort Worth Metroplex to the north and the state capital of Austin to the south. The City of Georgetown was incorporated in 1848 and had a 2016 census estimated population of 63,700, a 32 percent increase from the 2010 census population of 47,400. Georgetown and the region is one of the fastest growing parts of the country. It is home to Southwestern University, which is the oldest university west of the Mississippi River. Georgetown is approximately 30 miles from Austin and may be described as a bedroom community with many working age residents commuting to work. Sun City Texas is a large retirement-oriented age-restricted community whose residents constitute more than one-third of Georgetown's population.

The Georgetown Courthouse Square is known as one of the most beautiful and well-preserved town squares in Texas. In 1977, the Williamson County Courthouse Historical District, containing some 46 structures, was listed on the National Register of Historic Places. Georgetown is also known as the "Red Poppy" capital of Texas for the red poppy *(Papaver rhoeas)* wildflowers planted throughout the city.

The City is located on the northeastern edge of the Texas Hill Country. The Hill Country is characterized by a karst topography consisting of rugged hills with thin layers of topsoil. Areas to the east are flatter with fertile top soils appropriate for agriculture.

AIRPORT HISTORY

In February of 1942, the City of Georgetown entered into agreement with the Federal government to allow the construction of an airport at the current location. The Federal government would make the necessary improvements to construct an airport and other support facilities, all of which would then fall under the ownership of the city. The city agreed to operate the airport as such for the benefit of the public for the useful life of the improvements. The original airfield was constructed in 1943 to serve as a U.S. Navy Auxiliary Airfield. The City took ownership and management of the Airport in 1945, following the conclusion of WWII. The Airport has been operated as a general aviation facility since that time.

In the late 1990s, Robert Mueller Municipal Airport and Austin Executive Airpark were closed. Commercial service was transferred from Robert Mueller to the newly renovated Austin-Bergstrom International Airport in 1999. The impact at Georgetown was felt immediately as the number of based aircraft increased from 131 in 1998 to 268 in 2000. Even by 2004, more than 100 aircraft owners remained on a hangar waiting list. While many hangars have been constructed since this time, there is still a significant wait list for space at the Airport. As of this writing (2016), 179 aircraft owners are on the wait list for an enclosed hangar, while 10 owners are on a wait list for an aircraft tie-down position.

Plans were developed to locate and construct a new general aviation airport, tentatively called the Central Texas Airport, in the years that followed; however, a new airport was never constructed. Therefore, pressure still exists on Georgetown Municipal Airport to meet local general aviation demand.

From the year 2000 to the present, activity continues to increase at the Airport. A variety of hangars and aircraft tie-down aprons have been constructed. An airport traffic control tower (ATCT) was constructed in 2007.

Recent Airport Development

As a block-grant state, the TxDOT – Aviation Division administers the federal Airport Improvement Program (AIP) for the general aviation airports in the state. Since 2001, the Airport has accepted more than $17.2 million in grants from TxDOT. Through these grants, the Airport has constructed an airport traffic control tower, acquired adjacent land for approach protection, and improved runway safety areas. In addition, numerous pavement areas have been rehabilitated, including runways, taxiways, and aprons. Currently, the airport is constructing a new parallel taxiway to Runway 18-36 and adding additional apron area. Because this project is currently underway, all references and exhibits regarding the airfield will consider this project as having been completed. **Table 1A** presents the federal grants received since 2001.

TABLE 1A
Recent Development Grant History
Georgetown Municipal Airport

Year	Description	Total Grant Amount
2016	Airport Master Plan Update	$213,286
2016	Taxiway A and Airfield Improvements	$8,000,000
2016	RAMP: General airport maintenance	$100,000
2015	RAMP: General airport maintenance	$64,030
2014	Land acquisition (4.7ac): RW 29 RPZ/TSS Land acquisition (6.8ac): RW 11 RPZ	$1,019,862
2014	Upgrade RW 11-29 lights, signage, electrical vault	$1,209,353
2014	RAMP: General airport maintenance	$50,112
2013	RAMP: General airport maintenance	$38,850
2013	Design TW A	$691,347
2013	Obstruction survey	$64,742
2012	RAMP: General airport maintenance; AWOS maintenance	$100,000
2011	RW 36 RSA Improvements; Taxilane rehabilitation	$1,248,644
2011	RAMP: General airport maintenance	$132,072
2010	Airport roads maintenance	$300,604
2010	RAMP: fuel farm maintenance, tower equipment, NDB	$4,472
2009	Land acquisition (7.15ac): RW 36 RPZ; Taxilane rehabilitation; RSA improvements RW 18-36	$1,072,518
2009	RAMP: AWOS maintenance; fuel farm maintenance; terminal renovations; tree removal	$17,100
2008	RAMP: PAPI controller and other maintenance projects	$10,662
2007	RAMP: Hangar door repairs	$4,682
2006	RAMP: Spill prevention plan	$3,820
2005	Tower design and construction	$1,666,667
2004	Update ALP	$36,468
2003	RAMP: security cameras	$25,724
2002	Rehab RW 11-29; PAPI RW 18; Taxilane rehab; New beacon; fencing/drainage improvements	$830,750
2001	Conduct Part 150 Study	$310,198
TOTAL AIRPORT IMPROVEMENT GRANTS SINCE 2001		**$17,215,963**

Source: TxDOT - Aviation Division

As the administrator of both federal and state development funds for general aviation airports, TxDOT participates in the development of the annual airport capital improvement program (CIP). These are summarized on the Airport Development Worksheet (ADW). Both the development history at the Airport and the current 20-year CIP are presented in **Appendix B**. The ADW will be updated based on the results of this master plan.

AIRPORT ADMINISTRATION

The Airport is owned and operated by the City of Georgetown. As of this writing, the City is in the process of reorganizing the city department responsible for the Airport. When complete, the Airport will fall under a new Public Works Department that will report to the General Manager of Utilities. The Airport Manager will report to the Director of the Public Works Department.

The Georgetown Transportation Advisory Board (GTAB) is in place to review and provide recommendations to City Council for all transportation related issues, including the Airport. The GTAB is comprised of eight individuals appointed by the mayor and approved by the City Council.

AIRPORT LOCATION AND ACCESS

Airports are a significant part of the national transportation infrastructure. Other modes of transportation can work in synergy with airports to promote access and economic development, but they can also compete with airports for users. The following discussion presents information related to the various transportation modes available in the area.

Georgetown Municipal Airport is located three miles to the north of the historic central business district of the City of Georgetown. The Airport encompasses approximately 533 acres and it is at an elevation of 790 feet above mean sea level (MSL). The main airport entrance road, Terminal Drive, extends from an intersection with Airport Road which extends along the east side of the Airport. Interstate 35 passes approximately one mile to the east of the Airport providing connections to the north and south. **Exhibit 1A** shows the location of the Airport and the surface transportation system.

Ground Transportation

The Capital Area Rural Transportation System (CARTS) provides bus service in the region. There is a bus station in the City of Georgetown. There is not a route that extends to the Airport currently. With a reservation, curb-to-curb service is available.

The Airport has two courtesy cars available for the use of visitors that fly into the Airport. The cars are available from 7:00 a.m. to 7:00 p.m., seven days per week. Trips are limited to the Georgetown city limits and a maximum of four hours in duration.

LOCATION MAP

VICINITY MAP

Several taxi services operate in the area, and taxis will pick up passengers who have made prior arrangements.

REGIONAL CLIMATE

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

Georgetown has a humid subtropical climate with long, hot summers and cooler, mild winters. Over the course of a year, the monthly daily average temperature ranges from a low of 35.6 degrees Fahrenheit (F) in January to 96.2 degrees in August. The area receives 37.3 inches of rain during an average year. Snowfall is extremely rare, but it does average approximately one inch per year.

Table 1B lists common climate data for Georgetown, Texas. Information pertaining to temperature and precipitation were obtained from the National Oceanic and Atmospheric Administration (NOAA), while the wind speed, percent of time in instrument and visual flight rule conditions, and sky clear data was pulled from the automated weather observing system (AWOS). Visual flight rule (VFR) conditions are when pilots fly with visual reference, having a minimum of three-miles visibility and at least 1,000-foot cloud ceilings. Instrument flight rule (IFR) conditions are those times where either visibility or cloud heights fall below VFR conditions.

TABLE 1B
Historic Climate Data
Georgetown Municipal Airport

Period	Average Precip. (in.)[1]	Average Snowfall (in.)[1]	Average Daily High Temp (F)[1]	Average Daily Low Temp (F)[1]	Average Wind Speed (mph)[2]	Percent IFR[2]	Percent VFR[2]	Percent Clear Sky[2]
January	2.2	0.5	60.3	35.6	7.37	11.82	88.18	61.76
February	2.5	0.3	63.7	39.2	8.14	13.72	86.28	56.15
March	3.1	0	70.8	46.8	8.33	10.64	89.36	53.38
April	2.7	0	78.6	54.4	8.53	7.05	92.95	56.20
May	4.4	0	85.1	63.3	7.92	5.36	94.64	56.08
June	4.7	0	90.9	68.9	7.59	2.33	97.67	71.76
July	2.1	0	95.0	71.6	6.82	3.42	96.58	74.99
August	2.2	0	96.2	71.4	6.73	1.39	98.61	86.42
September	3.8	0	89.6	65.6	5.43	4.33	95.67	74.8
October	4.2	0	80.8	56.1	6.39	6.82	93.18	68.11
November	3.0	0.1	70.2	46.6	6.70	9.94	90.06	61.64
December	2.5	0.1	60.9	37.5	6.84	12.94	87.06	54.91
TOTAL	**37.3**	**1.0**						

[1]*Source: NOAA - Climatography of the U.S. (30-years of data from 1981-2010) as sourced from the on-airport automated weather observing system (AWOS)*
[2]*Source: On-airport AWOS; 161,604 observations from 1.1.2006 to 12.31.2015.*
Clear Sky is reported ceilings of 72,000 feet or greater.
KEY: In. - Inches; MPH - Miles per hour; IFR - Instrument Flight Rule; VFR - Visual Flight Rule

AIRPORT SYSTEM PLANNING ROLE

Airport planning exists on many levels: national, state, and local. Each level has a different emphasis and purpose. On the national level, the Georgetown Municipal Airport is included in the *National Plan of Integrated Airport Systems* (NPIAS). On the regional and state levels, the airport is included in the *Texas Airport System Plan* (TASP). The most recent local planning document is the Airport Master Plan, which was last updated in 2005.

FEDERAL AIRPORT PLANNING

The role of the federal government in the development of airports cannot be overstated. Many of the nation's existing airports were either initially constructed by the federal government or their development and maintenance was partially funded through various federal grant-in-aid programs to local communities. The system of airports existing today is due, in large part, to the existence of federal policy that promotes the development of civil aviation. As part of a continuing effort to develop a national airport system to meet the needs of civil aviation and promote air commerce, the United States Congress has continually maintained a national plan for the development and maintenance of airports.

Georgetown Municipal Airport is a general aviation reliever airport.

On the national level, the Georgetown Municipal Airport is included in the NPIAS as a general aviation reliever airport. The NPIAS identifies 3,331 existing airports which are considered significant to the national air transportation system. The NPIAS is published and used by the FAA in administering the AIP, which is the source of federal funds for airport improvement projects across the country. The AIP program is funded exclusively by user fees and taxes, such as those on aircraft fuel and airline tickets. The 2015-2019 NPIAS estimates that $33.5 billion of needed airport improvements are eligible for AIP funding across the country over the next five years. An airport must be included in the NPIAS to be eligible for federal funding assistance through the AIP.

The NPIAS supports the FAA's strategic goals for safety, system efficiency, and environmental compatibility by identifying specific airport improvements. The current issue of the NPIAS identifies approximately $8.1 million in development needs at Georgetown Municipal Airport for the five-year planning horizon. This figure is not a guarantee of federal funding; instead, this figure represents development needs as presented to the FAA by the airport administration in the annual airport capital improvement program.

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

To distinguish the important and varied roles that general aviation airports serve, the FAA has completed two top-down reviews of the existing network of general aviation facilities included in the NPIAS. The results of these efforts are contained in the May 2012 report entitled, *General Aviation Airports: A National Asset,* and the March 2014 report entitled, *ASSET 2: In-Depth Review of 497 Unclassified Airports*. The purpose of the report is to further classify general aviation airports into four categories: national, regional, local, and basic airports. Of the 2,942 general aviation airports included in the study, 251 are currently unclassified due to types of activity and characteristics that did not provide for clear classification within one of the four groups. **Exhibit 1B** summarizes the composition of the National Airspace System, as well as the general aviation classifications and functions.

With this report, which has been integrated into the NPIAS, the FAA is recognizing the important contribution that general aviation airports provide to the national aviation system and economy. General aviation contributed $38.8 billion in economic output in 2009. When factoring in manufacturing and visitor expenditures, general aviation accounted for an economic contribution of $76.5 billion.

The new categories for general aviation airports are intended to help guide policymakers when making decisions regarding airports. The study recognized that categorizing all general aviation airports the same did not properly identify the important role of each airport within a community and the benefits of a large and diverse aviation system.

Georgetown Municipal Airport is categorized as one of the 459 "regional" general aviation facilities. According to the NPIAS, "regional" general aviation airports support regional economies by connecting communities to regional and national markets. These airports have high levels of activity with some jets and multiengine propeller aircraft. These airports average about 90 total based aircraft, including three jets.

These airports are typically located near larger population centers, with many operations extending across state lines but typically within the region. According to the original asset study, regional airports account for 37 percent of total flying at general aviation airports and 42 percent of flying with flight plans. There is typically a substantial amount of charter (air taxi), jet flying, and helicopter flights at regional airports. Nearly all of the regional airports support air ambulance services. Approximately 11 percent have limited scheduled commercial service.

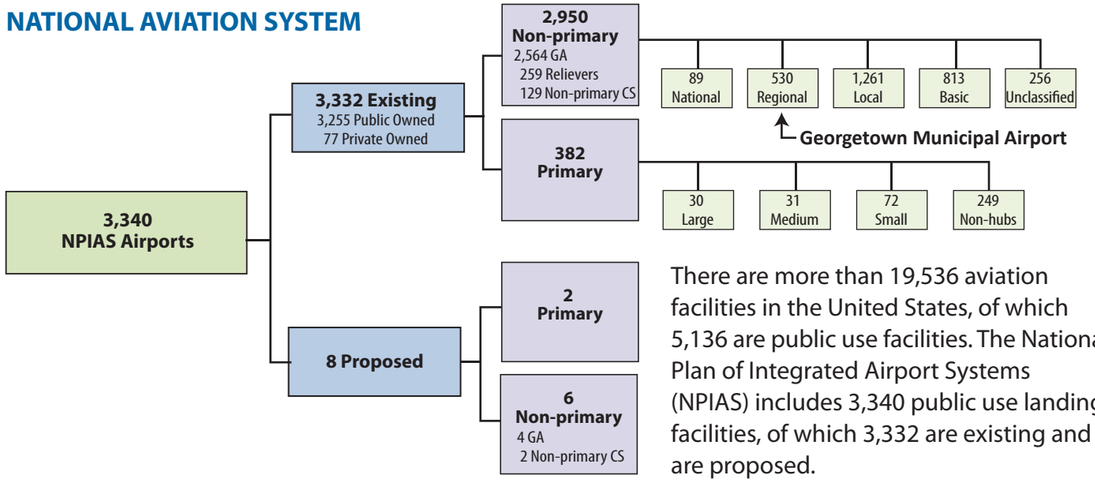
REGIONAL SYSTEM PLANNING

In more urban locales with multiple airports, regional planning agencies may elect to develop a regional aviation system plan. There is not a regional aviation plan that includes Georgetown Municipal Airport.

STATE AIRPORT PLANNING

The primary aviation planning document for the State of Texas is the *Texas Airport System Plan* (TASP-2010). The plan provides the TxDOT – Aviation Division staff with a tool to assess the needs of the state's

NATIONAL AVIATION SYSTEM

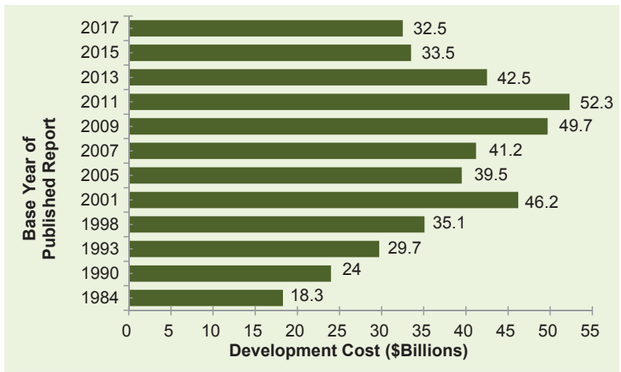


There are more than 19,536 aviation facilities in the United States, of which 5,136 are public use facilities. The National Plan of Integrated Airport Systems (NPIAS) includes 3,340 public use landing facilities, of which 3,332 are existing and 8 are proposed.

GENERAL AVIATION AIRPORTS

GROUP (number of airports)	DESCRIPTION	FUNCTIONS (varies among individual airports)
National (89)	**Serves national - global markets** Very high levels of activity with many jets and multi-engine propeller aircraft Averaging about 200 total based aircraft, including 30 jets	Emergency Preparedness and Response Critical Community Access Other Aviation Specific Functions Commercial, Industrial, and Economic Activities Destination and Special Functions
Regional (530)	**Serves regional - national markets** High levels of activity with some jets and multi-engine propeller aircraft Averaging about 90 total based aircraft, including 3 jets	
Local (1,261)	**Serves local - regional markets** Moderate levels of activity with some multi-engine propeller aircraft Averaging about 33 based propeller-driven aircraft and no jets	
Basic (813)	**Often serving critical aeronautical functions within local and regional markets** Moderate - low levels of activity Averaging about 10 propeller-driven aircraft, and no jets	

The FAA has further categorized non-primary airports to help guide policy makers when making decisions regarding airport development. An additional 256 airports are currently unclassified.

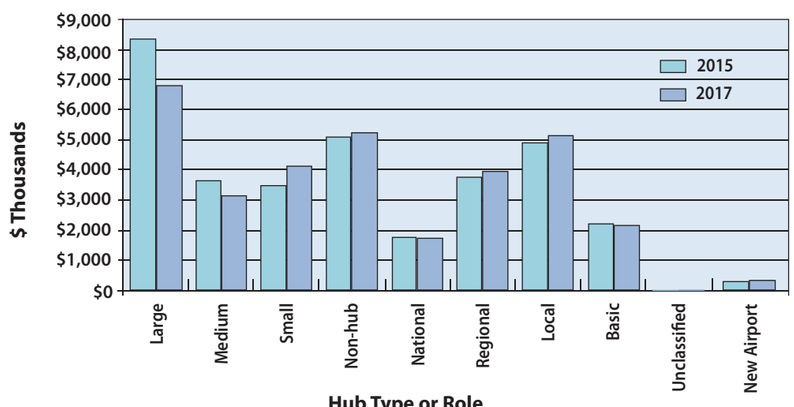


The FAA estimates that over the next five years, (2017-2021), there will be $32.5 billion of airport infrastructure projects eligible for Airport Improvement Program (AIP) funding.

Emergency Preparedness and Response	▪ Aeromedical Flights ▪ Law Enforcement/National Security/Border Security ▪ Emergency Response ▪ Aerial Fire Fighting Support ▪ Emergency Diversionary Airport ▪ Disaster Relief and Search and Rescue ▪ Critical Federal Functions
Critical Community Access	▪ Remote Population/Island Access ▪ Air Taxi/Charter Services ▪ Essential Scheduled Air Service Cargo
Other Aviation Specific Functions	▪ Self-Piloted Business Flights ▪ Corporate ▪ Flight Instruction ▪ Personal Flying ▪ Charter Passenger Services ▪ Aircraft/Avionics Manufacturing/Maintenance ▪ Aircraft Storage ▪ Aerospace Engineering/Research
Commercial, Industrial, and Economic Activities	▪ Agricultural Support ▪ Aerial Surveying and Observation ▪ Low-Orbit Space Launch and Landing ▪ Oil and Mineral Exploration/Survey ▪ Utility/Pipeline Control and Inspection ▪ Business Executive Flight Service ▪ Manufacturing and Distribution ▪ Express Delivery Service ▪ Air Cargo
Destination and Special Events	▪ Tourism and Access to Special Events ▪ Intermodal Connections (rail/ship) ▪ Special Aeronautical (skydiving/airshows)

General aviation airports provide important services for both local communities and the national aviation system.

The 382 primary airports account for 11.4% of the airports and 60% of the total development costs. The 2,950 non-primary airports account for 88.3% of the airports and 39.2% of total development costs.



Source: National Plan of Integrated Airport Systems 2017-2021

Airports in the non-primary categories account for $12.9 billion of the $32.5 billion in identified development need over the next five years.

Category	National	Regional	Local	Basic	Unclassified	Total	Percent
Safety	$ 68	$ 68	$ 72	$ 38	$0	$ 246	0.76%
Security	67	61	127	72	$0	$ 327	1.00%
Reconstruction	683	1,531	1,649	703	$6	$ 4,572	14.05%
Standards	728	1,894	2,744	1,181	$2	$ 6,549	20.12%
Environmental	2	17	16	13	$0	$ 48	0.15%
Noise	44	17	2	0	$0	$ 63	0.19%
Capacity	109	207	175	67	$0	$ 558	1.71%
Terminal	2	39	56	25	$0	$ 122	0.37%
Access	42	105	93	32	$0	$ 272	0.84%
Other	3	29	48	26	$0	$ 106	0.33%
New Airport	0	0	0	0	$0	$ 0	0.00%
Total	**$1,747**	**$3,968**	**$4,984**	**$2,157**	**$8**	**$12,863**	**39.52%**
Percentage	**5.4%**	**12.2%**	**15.3%**	**6.6%**	**0.03%**	**39.52%**	

Note: Dollars in millions (2015)
Source: General Aviation Airports: A National Asset (May 2012)

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airports; help justify funding for airport improvements; and provide information to airport sponsors and others concerning the value, use, and needs of the state's public use airports.

The TASP identifies five service levels Texas airports, which are defined as follows:

Primary Commercial Service: These airports support scheduled passenger service by large and medium transport aircraft. Enplanements exceed 10,000 passengers annually. There are 26 primary commercial service airports in the TASP.

Non-Primary Commercial Service: These airports support scheduled commercial service by smaller transport aircraft. Enplanements range between 2,500 and 10,000 annually. There is one non-primary commercial service airport included in the TASP (Victoria Regional Airport).

Reliever: These airports provide congestion relief to commercial service airports by serving as an alternate landing facility for general aviation aircraft that might otherwise use the proximate commercial service airport. Georgetown Municipal Airport is a reliever to Austin-Bergstrom International Airport.

Reliever airports are located within a major metropolitan area. There are 24 reliever airports in the TASP. These airports are intended to accommodate the full range of general aviation aircraft from the largest business jets to single engine piston aircraft. Reliever airports have or must be forecast to have 100 based aircraft or 25,000 annual itinerant operations. These airports generally serve population centers with more than 250,000 people.

General Aviation: These airports support aviation activity by general aviation operators. These airports do not have scheduled commercial service and experience less than 2,500 annual enplanements. There are three role classifications of general aviation airports:

> *Business/Corporate:* These airports provide access to turboprop and jet business aircraft in areas where there is sufficient economic activity. These airports are typically more than 30 minutes from the nearest commercial service or reliever airport. These airports have or are forecast to have at least 500 annual business/corporate operations or have at least two based jets. There are 67 Business/Corporate General Aviation Airports in the TASP.
>
> *Community Service:* These airports provide primary business access to smaller communities throughout the state. Community service airports are generally within a 30-minute drive of a commercial service, reliever or corporate/business aviation airport. These airports have or are forecast to have 20 based aircraft or 6,000 annual operations. There are 106 Community Service airports in the TASP.
>
> *Basic Service:* These airports typically have very low usage and provide additional convenience for clear weather flying and training operations. These airports are usually not projected to expand significantly and represent the only public landing site for many miles.

Heliports: There are two heliports in the TASP which accommodate helicopters used by individuals, corporations, air taxi services, and medical transport services. Scheduled passenger service may be available if sufficient demand exists.

The TASP outlines specific minimum design standards for each airport classification with the exception of reliever airports. Generally, reliever airports should be designed to accommodate business jet type aircraft in airport reference code C/D-II. The minimum facility and service requirements for corporate/business airports are listed in **Table 1C**. Generally, these requirements will apply to reliever airports as well. Georgetown Municipal Airport meets all of the objectives except for hangar availability and taxiway lighting (planned installation in 2018).

TABLE 1C
Facility and Service Target
TASP - Business/Corporate and Reliever Airports

Airport Criteria	Minimum Objectives	Meets Objective
	AIRSIDE	
Airport Reference Code	C-II/D-II typ.	Yes
Design Aircraft	Business Jet	Yes
Runway Length	5,000 feet minimum	Yes
Runway Width	100 feet minimum	Yes
Runway Strength	30,000 lbs. SWL	Yes
Taxiway	Full parallel	Yes
Instrument Approach	Non-precision 250' cloud ceilings, ¾-mile visibility	Yes
Runway Lighting	Medium Intensity Runway Lights (MIRL)	Yes
Taxiway Lighting	Medium Intensity Taxiway Lights (MITL)	No
Visual Guidance Slope Indicator	Both runway ends (or an ILS) (Runway 18-36)	Yes
Runway End Identification Lights	Both runway ends (or ILS) (Runway 18-36)	Yes
Rotating Beacon	Yes	Yes
Wind Indicator	Yes (lighted) and supplemental as needed	Yes
RCO Facilities	ATCT or RCO as needed	Yes
Weather Reporting Aids	Yes (e.g., AWOS, ASOS)	Yes
Wind Coverage	95% combined coverage	Yes
	LANDSIDE	
Covered Storage	100% of based aircraft	No
Overnight Transient Storage	Yes - Based on demand	Yes
Aircraft Apron	100% of daily average transients	Yes
Terminal/Admin Building	Yes	Yes
Paved Entry/Parking Lot	Yes	Yes
	SERVICES	
Fuel Availability	100LL & Jet A (24-hour).	Yes
Attendance	18 hours. After hours on-call.	Yes
Ground Transportation	Courtesy car/rental car	Yes
Good & Beverage	Vending	Yes
Fixed Base Operator (FBO) Facility	Pilot lounge, flight planning, flight training, rental aircraft, aircraft maintenance, charter aircraft.	Yes
	PLANNING	
Height Zoning	Yes	Yes
Comp Plan Define Land Uses	Yes	Yes
Emergency Plan	Yes	Yes
Airport Layout Plan	Updated within last 8 years.	Yes

ATCT: Air Traffic Control Tower
AWOS/ASOS: Automated Weather Observation System/Automated Surface Observation System
FBO: Fixed Base Operator
RCO: Remote Communications Outlet
ILS: Instrument Landing System
Source: TASP - Texas Airport System Plan 2010

Note: There are not specific design standards for reliever airports.

LOCAL AIRPORT PLANNING

The airport master plan is the primary local planning document. The master plan is intended to provide a 20-year vision for airport development based on aviation demand forecasts. The most recent update to the airport planning document is the 2005 Airport Master Plan. Over time, the forecast element of an airport master plan typically becomes less reliable due to changes in aviation activity and/or the economy. Therefore, the FAA recommends that airports update their master plans every five to ten years, or as necessary to address any significant changes. Thus, this is an appropriate time to update the airport master plan and revisit the development assumptions from the previous planning study.

FUTURE ROLE OF THE AIRPORT

Georgetown Municipal Airport is a reliever general aviation airport as defined in the FAA National Aviation System. Neither the FAA nor the Texas Department of Transportation has indicated that this role is changing. The first baseline assumption, presented in the Introduction of this study, is that the role of the airport would not change from its current purpose.

For the purpose of this planning effort, no consideration is being given related to any feasibility of commercial passenger service at the airport. The requirements to receive and maintain a commercial operating certificate are extensive. The proximity of current commercial service providers in Austin, Killeen, and Waco would severely limit any potential service at Georgetown. Finally, the infrastructure costs for airport design changes, meeting new security protocols, emergency response requirements, and implementing the FAA Part 139 requirements are impractical.

ECONOMIC IMPACT

The most recent economic impact study done for the Airport was completed in 2011 by Center for Economic Development and Research at the University of North Texas. The study estimated that the Airport accounted for 227 jobs, $9.9 million in salary, wages, and benefits, and $23.7 million in total economic activity.

AIRPORT PROPERTY

In January 1942, the City of Georgetown purchased an area of land which includes the present-day airport from the Hausenfluck estate for an agreed upon fee of $4,250.25. In subsequent years, adjacent land has been acquired with Federal grant funds, for the protection of aircraft operations to and from the airport. Most recently, the airport has acquired land that falls within the runway protection zones for Runways 11, 29, and 36. In total, the airport currently encompasses 533 acres.

AREA LAND USE

Land uses in the vicinity of the Airport can have an impact on Airport operations and growth potential. The following section identifies baseline information relating to both existing and future land uses in the vicinity of Georgetown Municipal Airport. By understanding the land use issues surrounding the Airport, more appropriate recommendations can be made for the future of the Airport.

It is important to note the distinction between the primary land use concepts (existing land use, existing zoning, and general plan land use) used in evaluating development within the airport environs. Existing land use refers to property improvements as they exist today. Zoning is the primary regulatory tool for controlling development within a community. A community's zoning ordinance defines the type, size, and density of land uses allowed in the zones illustrated on the zoning map. Examples of zones include Airport, Residential, Commercial, Industrial, and Agricultural. The general plan land use identifies the projected or future land use according to the locally adopted general plans. The general plan guides future development within the community planning area and provides the basis for zoning designations. In some cases, the land use allowed in the zoning ordinance or depicted in the general plan may differ from the existing land use.

EXISTING LAND USE

Exhibit 1C presents the current land uses in the vicinity of the Airport. To the north, west, and south are residential developments. To the east is commercial/industrial land uses. As can be seen, the Airport is nearly surrounded by development.

FUTURE LAND USE

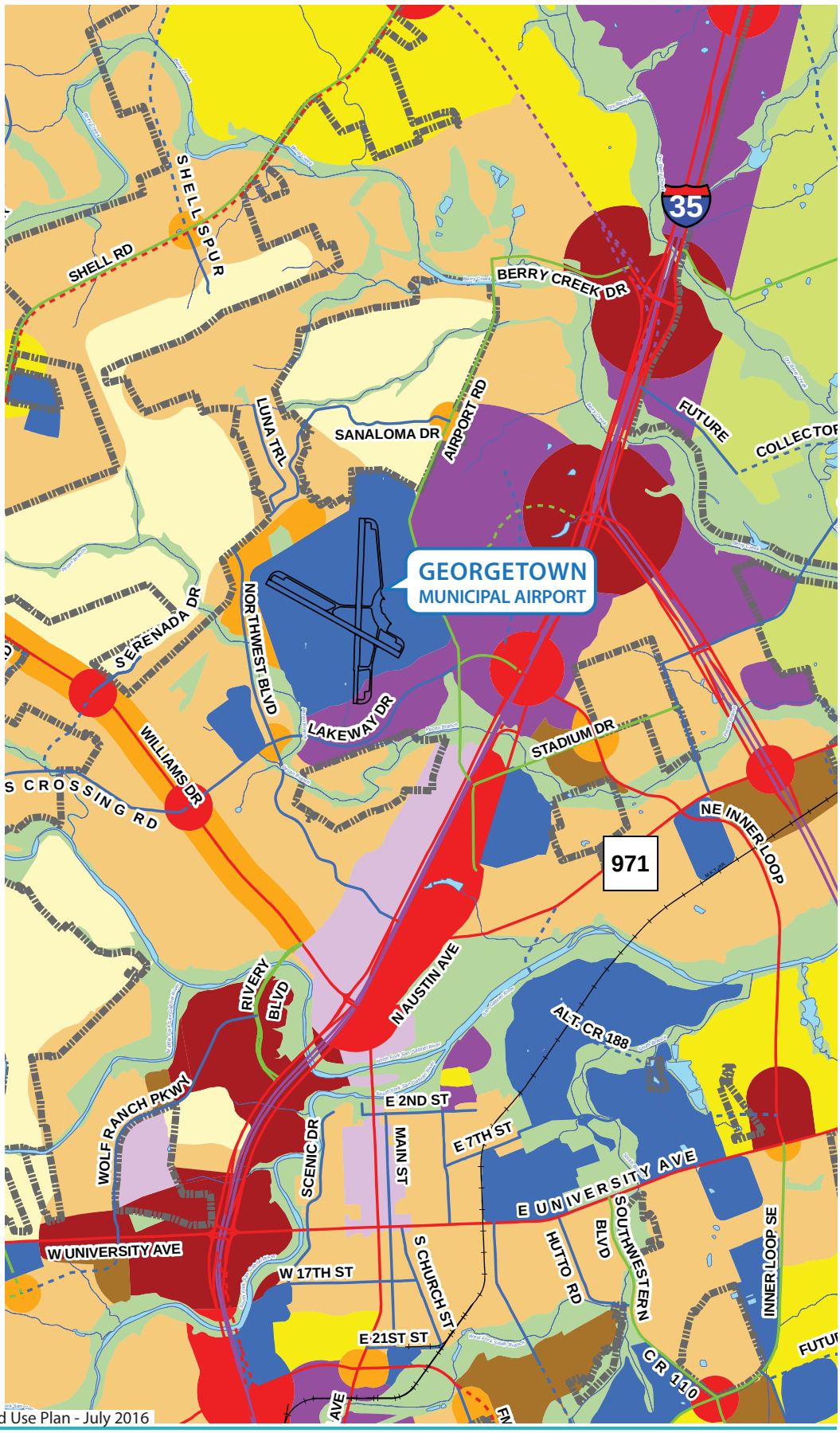
Exhibit 1D presents the future land use map contained in the *City of Georgetown 2030 Comprehensive Plan*. Areas to the north are designated as low density residential. Areas to the east and immediate south are designated as employment centers. Areas to the west are designated as low to moderate residential development.

AREA ZONING

Exhibit 1E presents the current zoning map in the airport environment. Noticeable on the zoning map are areas to the immediate north and south of the Airport which are not within the city limits of Georgetown and are therefore not currently zoned; however, both of these areas are fully developed with low density residential housing.

The Airport property is zoned as industrial with a Planned Unit Development Overlay District. This essentially means that other, more specific documents provide the land use limitations. Other adjacent


LEGEND
Airport Property Line
City/County Boundary
Residential
Public (e.g. church, school)
Commercial/Industrial
Runway Protection Zone (RPZ)
Aerial Photo: Google Earth 2-3-16
NORTH
WILLIAMSON COUNTY
CITY OF GEORGETOWN
WILLIAMSON COUNTY
CITY OF GEORGETOWN
CITY OF GEORGETOWN
CITY OF GEORGETOWN
WILLIAMSON COUNTY



Source: Georgetown Future Land Use Plan - July 2016

LEGEND

City Limits

Ag-Exempt Development Agreements

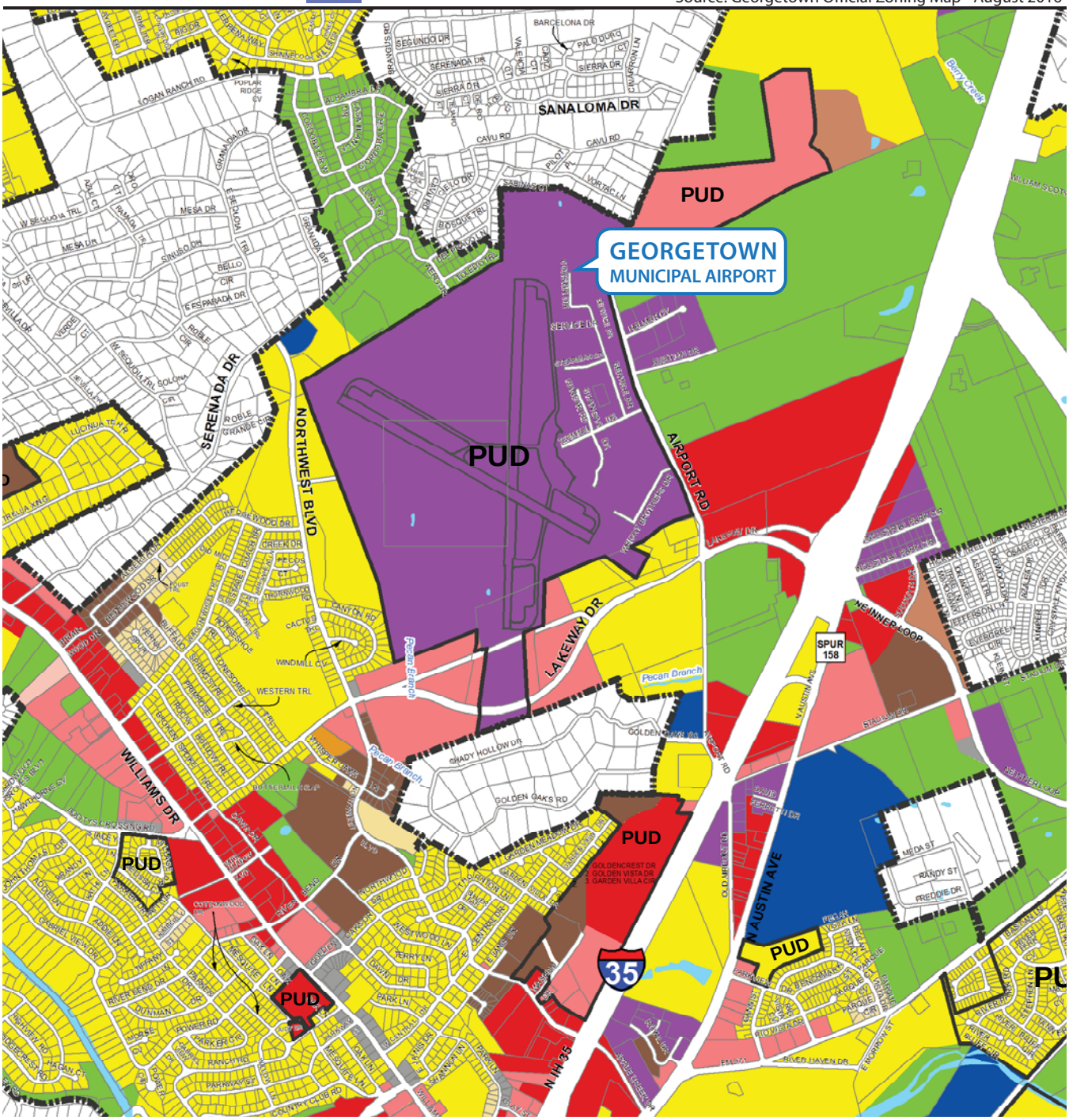
Zoning Districts

- AG (Agriculture)
- RE (Residential Estate)
- RL (Residential Low Density)
- RS (Residential Single-Family)
- MH (Manufactured Housing)
- TF (Two Family)
- TH (Townhouse)
- MF-1 (Low-Density Multifamily)
- MF-2 (High-Density Multifamily)
- OF (Office)
- MU (Mixed Use)
- MU-DT (Mixed Use - Downtown)
- CN (Neighborhood Commercial)
- C-1 (Local Commercial)
- C-3 (General Commercial)
- IN (Industrial)
- PF (Public Facility)
- BP (Business Park)

Overlay Districts

- PUD — Planned Unit Development
- D — Downtown Overlay
- H — Historic Overlay
- O — Old Town Overlay

Source: Georgetown Official Zoning Map - August 2016



zoning includes agricultural lands to the east, local commercial zoning to the south, low density residential zoning to the west and southeast, and an area of general commercial zoning to the southeast.

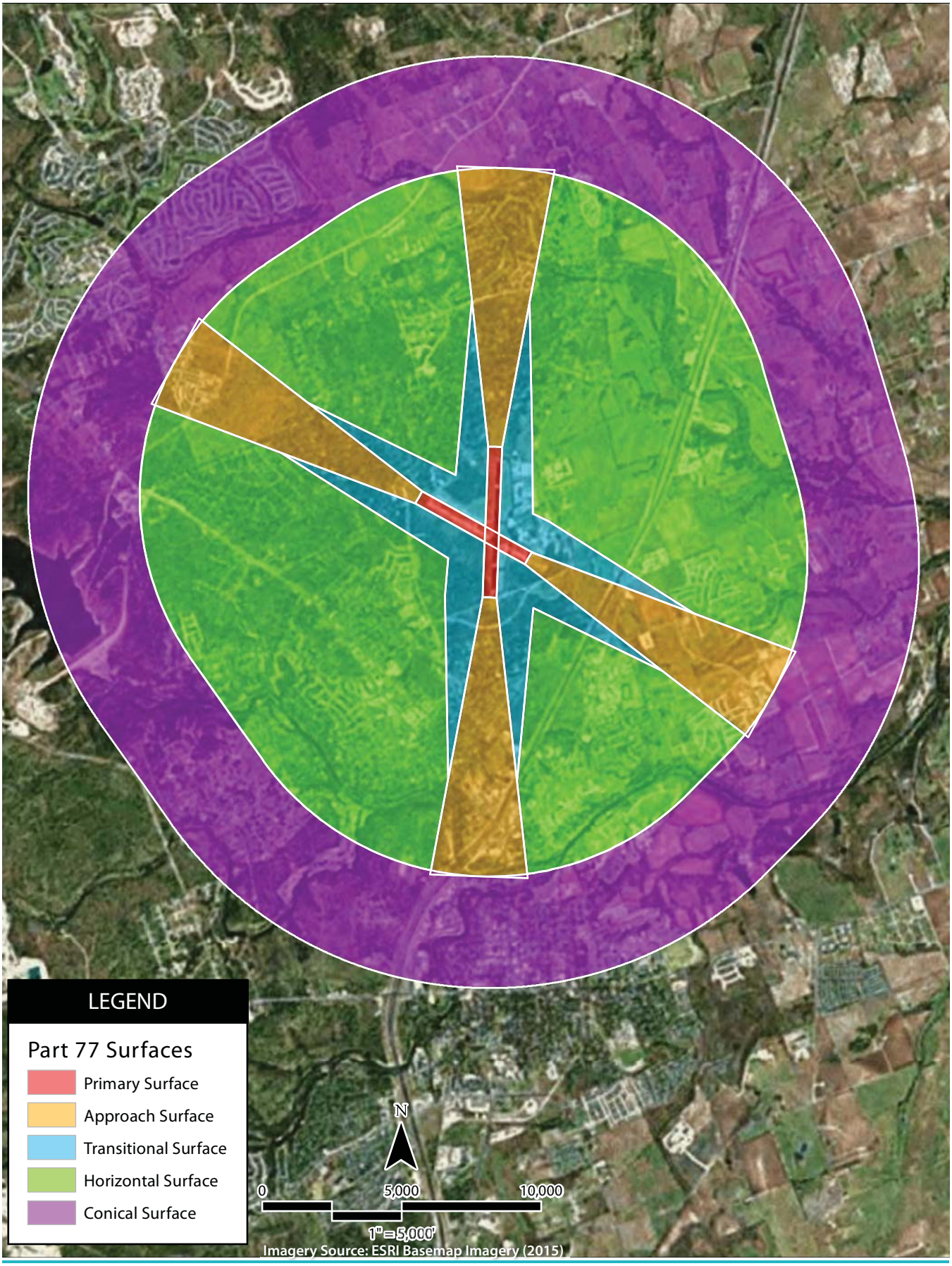
Height and Hazard Zoning

Chapter 12.36 of the City of Georgetown Municipal Code defines the Georgetown Airport Zoning Ordinance and is included in its entirety in **Appendix D**. The Code establishes and defines certain zones which include all of the land lying beneath the approach surfaces, transition surfaces, horizontal surface, and conical surface. The various zones were developed following guidance provided by the FAA in Code of Federal Regulations (CFR) Part 77 - *Safe, Efficient Use, and Preservation of the Navigable Airspace.* Part 77 defines various imaginary surfaces for airport sponsors and neighboring communities to proactively protect land uses surrounding airports. **Exhibit 1F** depicts the Airport Zoning Ordinance zones which are defined as follows:

A. Approach Zone. Approach zone is established beneath the approach surface at each end of all runways on Georgetown Municipal Airport for non-precision instrument landings and take-offs. The approach zone shall have a width of 500 feet at a distance of 200 feet beyond each end of the runway, widening thereafter uniformly to a width of 3,500 feet at a horizontal distance of 10,200 feet beyond each end of the runway, its centerline being the continuation of the centerline of the runway.

   Height Limitation: One foot in height for each 34 feet in horizontal distance beginning at a point 200 feet from and at the elevation of the end of the runway and extending to a point 10,200feet from the end of the runway.

B. Transition Zones. Transition zones are established beneath the transition surface adjacent to each runway and approach surface as indicated on the zoning map. Transition surfaces, symmetrically located on either side of runways, have variable widths as shown on the zoning map. Transition surfaces extend outward from a line 250 feet on either side of the centerline of the runway, for the length of such runway plus 200 feet on each end. The line is parallel to and level with the runway centerlines. The transition surfaces along such runways slope upward and outward one foot vertically for each seven feet horizontally to the point where they intersect the horizontal surface. Further, transition surfaces are established adjacent to approach surfaces for the entire length of the approach surfaces. These transition surfaces have variable widths, as shown on the zoning map. Such transition surfaces flare symmetrically with either side of the runway approach surfaces from the base of such surfaces and slope upward and outward at the rate of one foot vertically for each seven feet horizontally to the points where they intersect the horizontal and conical surfaces.


LEGEND
Part 77 Surfaces
Primary Surface
Approach Surface
Transitional Surface
Horizontal Surface
Conical Surface
N
0
5,000
10,000
1"=5,000'
Imagery Source: ESRI Basemap Imagery (2015)

Height Limitation: One foot in height for each seven feet in horizontal distance beginning at any point 250 feet normal to and at the elevation of the centerline of runways extending 200 feet beyond each end thereof, extending to a height of 150 feet above the airport elevation or a height of 937 feet above mean sea level. In addition to the foregoing, there are established height limits of one-foot vertical height for each seven feet horizontal distance measured from the edges of all approach zones for the entire length of the approach zones and extending upward and outward to the points where they intersect the horizontal or conical surfaces.

C. Horizontal Zones. The area beneath a horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of 10,000 feet radii from the center of each end of the primary surface of each runway and connecting the adjacent arcs by lines tangent to those arcs.

   Height Limitation: That area beneath the horizontal surface which is located 150 feet above the airport elevation, or a height of 937 feet above mean sea level.

D. Conical Zone. The area beneath the conical surface extending outward and upward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.

   Height Limitation: That area beneath the conical surface which is one foot in height for each 20 feet of horizontal distance beginning at the periphery of the horizontal surface extending to a height of 350 feet above the airport elevation.

AIRFIELD FACILITIES

Airfield facilities are those which facilitate aircraft movements between the air and ground. Generally, these facilities include runways, taxiways, airport lighting and markings, and navigational aids. **Exhibit 1G** summarizes and depicts airfield facility information atop an aerial photograph for visual reference.

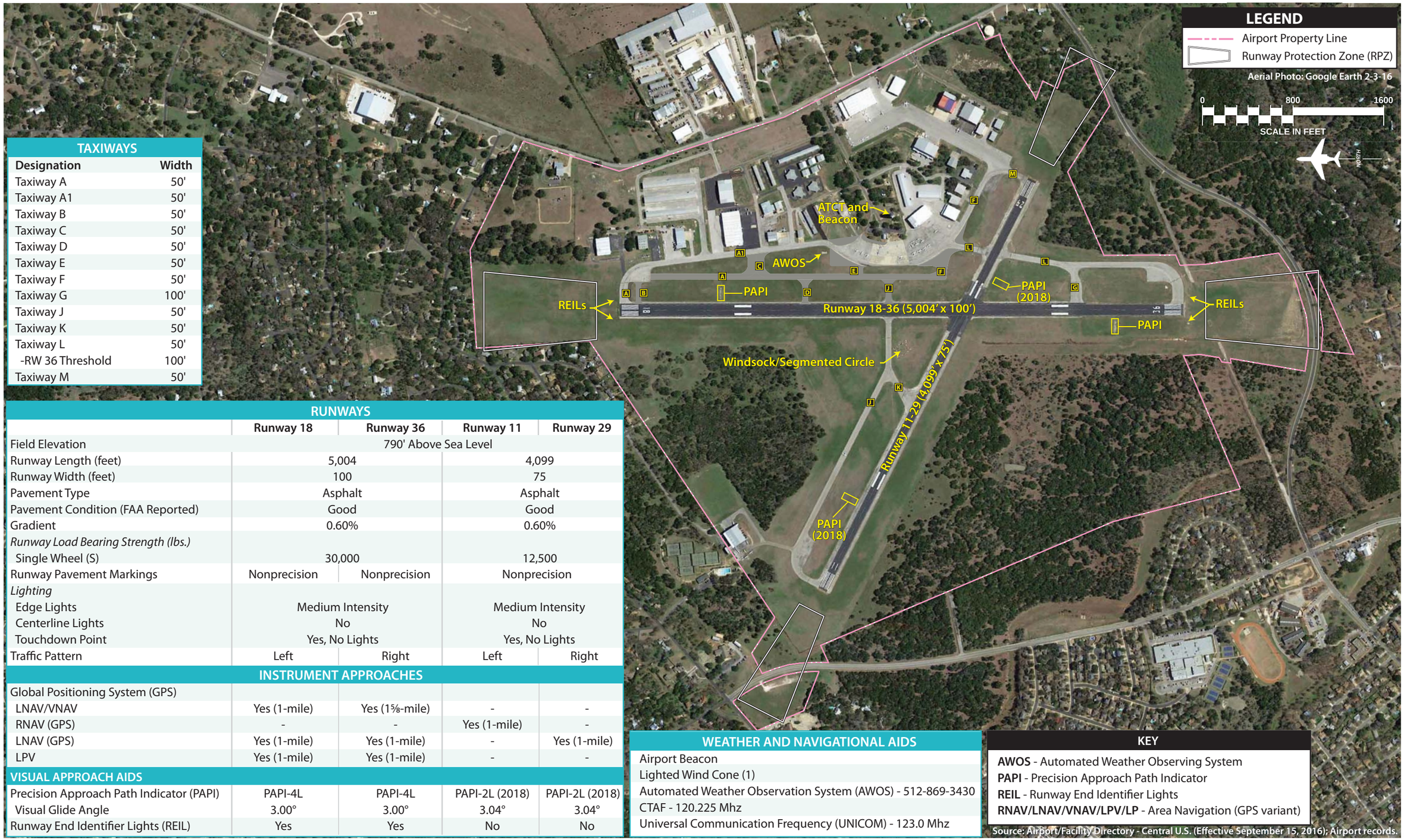
RUNWAYS

Georgetown Municipal Airport is served by two runways which intersect. Runway 18-36 is the Airport's primary runway and Runway 11-29 is the crosswind runway.

Runway 18-36 is 5,004 feet long.
Runway 11-29 is 4,099 feet long.

Primary Runway 18-36

Runway 18-36 is 5,004 feet long by 100 feet wide, oriented in a north to south manner. The pavement is constructed of asphalt and is reported as being in "good" condition by official FAA publications. Both runway ends have non-precision markings providing threshold bars, runway end designations, aiming point, centerline, and edge markings.



TAXIWAYS

Designation	Width
Taxiway A	50'
Taxiway A1	50'
Taxiway B	50'
Taxiway C	50'
Taxiway D	50'
Taxiway E	50'
Taxiway F	50'
Taxiway G	100'
Taxiway J	50'
Taxiway K	50'
Taxiway L	50'
-RW 36 Threshold	100'
Taxiway M	50'

RUNWAYS

	Runway 18	Runway 36	Runway 11	Runway 29
Field Elevation	790' Above Sea Level			
Runway Length (feet)	5,004		4,099	
Runway Width (feet)	100		75	
Pavement Type	Asphalt		Asphalt	
Pavement Condition (FAA Reported)	Good		Good	
Gradient	0.60%		0.60%	
Runway Load Bearing Strength (lbs.)				
Single Wheel (S)	30,000		12,500	
Runway Pavement Markings	Nonprecision	Nonprecision	Nonprecision	
Lighting				
Edge Lights	Medium Intensity		Medium Intensity	
Centerline Lights	No		No	
Touchdown Point	Yes, No Lights		Yes, No Lights	
Traffic Pattern	Left	Right	Left	Right
INSTRUMENT APPROACHES				
Global Positioning System (GPS)				
LNAV/VNAV	Yes (1-mile)	Yes (1⅝-mile)	-	-
RNAV (GPS)	-	-	Yes (1-mile)	-
LNAV (GPS)	Yes (1-mile)	Yes (1-mile)	-	Yes (1-mile)
LPV	Yes (1-mile)	Yes (1-mile)	-	-
VISUAL APPROACH AIDS				
Precision Approach Path Indicator (PAPI)	PAPI-4L	PAPI-4L	PAPI-2L (2018)	PAPI-2L (2018)
Visual Glide Angle	3.00°	3.00°	3.04°	3.04°
Runway End Identifier Lights (REIL)	Yes	Yes	No	No

WEATHER AND NAVIGATIONAL AIDS

Airport Beacon
Lighted Wind Cone (1)
Automated Weather Observation System (AWOS) - 512-869-3430
CTAF - 120.225 Mhz
Universal Communication Frequency (UNICOM) - 123.0 Mhz

KEY

AWOS - Automated Weather Observing System
PAPI - Precision Approach Path Indicator
REIL - Runway End Identifier Lights
RNAV/LNAV/VNAV/LPV/LP - Area Navigation (GPS variant)

Source: Airport/Facility Directory - Central U.S. (Effective September 15, 2016); Airport records.

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Runway 18-36 has a pavement strength of 30,000 pounds single wheel loading (S), which refers to the design of certain aircraft landing gear that has a single wheel on each main landing gear strut. The gradient of the runway is 0.6 percent with the high point being at the Runway 18 threshold. The elevation at the Runway 18 threshold is 786 feet, and 748 feet at the Runway 36 threshold. Runway 18-36 intersects the crosswind runway approximately 1,930 feet from the Runway 36 pavement end.

Crosswind Runway 11-29

Oriented in a northwest-southeast manner, crosswind Runway 11-29 is 4,099 feet long and 75 feet wide. The runway is constructed of asphalt pavement and is reported in FAA publications to be in "good" condition. Runway 11-29 also has non-precision markings, which include threshold bars, runway end designations, aiming point, and edge and centerline markings. The published pavement strength is 12,500 pounds S. The gradient of the runway is 0.6 percent with the high point being at the Runway 11 threshold. The elevation at the Runway 11 threshold is 789 feet, and at the Runway 29 threshold it is 759 feet. Runway 11-29 intersects the primary runway approximately 1,300 feet from the Runway 29 pavement end.

TAXIWAYS

The airfield has a variety of taxiways to provide access to all four runway ends and to provide for circulation. Taxiway A is 50 feet wide and it serves as the partial parallel taxiway to Runway 18-36. As noted previously, a major reconstruction project is currently underway which will shift the northern portion of Taxiway A to a uniform separation distance to the runway of 300 feet. Several new connecting taxiways are also part of the project. Other elements of the project include expansion of the terminal apron and installation of a new fuel farm in the terminal area. This project is being depicted as complete for purposes of this Master Plan.

Taxiway A1 is 50 feet wide and it provides access to the north side hangars and the terminal apron.

Taxiway B is 50 feet wide and it is a bypass taxiway immediately south of threshold Taxiway A.

Taxiway C is 50 feet wide and it provides access from the new parallel Taxiway A to the hangar areas north of the terminal area.

Taxiway D is a new connecting taxiway from Runway 18-36 to the new parallel Taxiway A.

Taxiway E and F are 50 feet wide and both provide a connection from the expanded terminal apron to Taxiway A.

Taxiway G is a connecting taxiway to Runway 18-36 located between the runway and Taxiway L. This taxiway flares out to a width of 100 feet at the intersection with the runway.

Taxiway J is 50 feet wide and it provides access from Taxiway A in proximity to the terminal apron to the Runway 11 threshold. It crosses Runway 18-36 at approximately the mid-point.

Taxiway K is an angled taxiway exit from Runway 11-29 and connecting with Taxiway J. Taxiway K is 50 feet at its narrowest point.

Taxiway L extends from the Runway 36 threshold to the terminal apron, thus serving as the parallel taxiway for the southern portion of Runway 18-36. At the Runway 36 threshold, Taxiway L is 100 feet wide. The parallel segment is 50 feet wide.

Taxiway M is the threshold taxiway to Runway 29 and is 50 feet wide. **Table 1D** summarizes the taxiway dimensions.

PAVEMENT MARKINGS

Both runways have non-precision markings. The hold lines on taxiways serving Runway 18-36 are 250 feet from the runway centerline. Hold lines on taxiways serving Runway 11-29 are 200 feet from the runway centerline. Taxiway and taxilane centerline markings are provided to assist pilots in maintaining proper clearance from pavement edges and objects near the taxiway/taxilane edges.

PAVEMENT CONDITION

Federally obligated airports are required to implement an effective pavement maintenance/management program. The purpose of the requirement (as outlined in Grand Assurance No. 11) is to preserve the useful life of any pavement sections constructed or improved with federal funding.

A common method for assessing pavement condition is to hire a consultant specializing in pavement assessments to inspect and document the existing pavement condition. Typically, the report will provide a pavement condition index (PCI) rating for all pavement sections. The PCI rating ranks pavement condition on a scale from 0-100 with 100 representing new pavement. Typically, PCIs below 75 will need some relatively minor rehabilitation, while PCIs below 50 are considered in need of reconstruction. Often there will be several PCI maps showing the projected deterioration of pavement condition over a 20-year timeframe.

TABLE 1D
Taxiway Dimensions
Georgetown Municipal Airport

Taxiway	Width
Taxiway A	50'
Taxiway A1	50’
Taxiway B	50'
Taxiway C	50'
Taxiway D	50'
Taxiway E	50'
Taxiway F	50'
Taxiway G	100'
Taxiway J	50'
Taxiway K	50'
Taxiway L	50'
RW 36 Threshold	100'
Taxiway M	50'

There is not a PCI map for the Airport. Instead, visual inspections are performed by airport staff and the consulting engineer. A pavement maintenance schedule is included in the TxDOT Airport Development Worksheets (see Appendix B) for the Airport.

AIRFIELD LIGHTING SYSTEMS

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

Identification Lighting: The location of the Airport at night is universally identified by a rotating beacon. The rotating beacon projects two beams of light, one white and one green, 180 degrees apart. The rotating beacon is located atop the control tower. The beacon operates sunset to sunrise. The beacon is owned and maintained by the Airport and is operated from the tower.

Runway and Taxiway Lighting/Signage: Runway and taxiway edge lighting utilize light fixtures placed near the edge of the pavement to define the lateral limits of the pavement. This lighting is essential for safe operations during night and/or times of low visibility and to provide efficient access to and from the runways and aircraft parking areas.

Both runways are equipped with medium intensity runway lights (MIRL). All taxiways are planned to have medium intensity taxiway edge lighting (MITL) installed in 2017.

The Airport also has a runway/taxiway signage system. 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 signage system installed at the Airport includes runway and taxiway designations, holding positions, routing/directional, and runway end and exits. All airfield signs are lighted for evening and night time operations. These lighting systems are owned and maintained by the Airport.

Approach Lighting Systems (ALS): An approach lighting system such as a medium intensity approach lighting system with runway alignment indicator lights (MALSR) is required for instrument approach visibility minimums of ½-mile and recommended for ¾-mile. The lowest visibility minimums available at the Airport is 1-mile to both ends of Runway 18-36. The Airport does not currently have an approach lighting system and none is required.

Visual Glide Slope Approach Aids: Both ends of Runway 18-36 are equipped with a precision approach path indicator (PAPI) system located on the left side of the runway approximately 1,000 feet from the landing thresholds. The system consists of four light boxes which shine red or white light that pilots interpret to determine if they are on the correct glide path to the runway. The approach slope is set to the standard of 3 degrees. The PAPIs on the Runway 18 end are owned and maintained by the Airport. The PAPIs on the Runway 36 end are owned and maintained by the FAA. The left side of both ends of Runway 11-29 are planned for installation of the two-box version of the PAPI system in 2018. These will be owned and maintained by the Airport.

Runway End Identifier Lights (REIL): Both ends of Runway 18-36 are equipped with REILs which are located adjacent to each side of the landing threshold. These flashing strobe lights provide rapid identification of the runway threshold for a distance of up to 20 miles. Typically, REILs are installed on runway ends serving turboprop and jet aircraft where there is no approach lighting system. The REILs on the Runway 18 end are owned and maintained by the Airport. The REILS on the Runway 36 end are owned and maintained by the FAA. There are no REILS serving Runway 11-29.

After-Hours Lighting: All airfield lights are turned off at night except the MIRL and PAPIs for Runway 18-36, which is set to low intensity. Pilots can activate the airfield lights utilizing the pilot-controlled lighting (PCL) system via a series of clicks with their microphone transponder on the common traffic advisory channel (CTAF) frequency 120.225 MHz. The PCL will increase the intensity of the Runway 18-36 edge lights and activate the edge lights for Runway 11-29, taxiway edge lights (when available), airfield signs, and the Runway 18 REILs. The airfield lighting will time out after 15 minutes.

WEATHER AND COMMUNICATION AIDS

Wind Indicators: Georgetown Municipal Airport is equipped with one windsock. The windsock provides information to pilots regarding wind conditions, such as direction and intensity. The windsock is located in the center of the airfield, northwest of the runway intersection. The windsock is illuminated with floodlights. A segmented circle surrounds the windsock.

Automated Weather Observing System (AWOS): Georgetown Municipal Airport has an AWOS which automatically records weather conditions, such as temperature, dew point, wind speed, altimeter setting, visibility, sky condition, and precipitation. The AWOS updates observations each minute, 24 hours a day, and this information is transmitted to pilots in the vicinity via a very high frequency (VHF) ground-to-air radio transmitter (118.6 MHz) or via a local telephone number (512-869-3430). The AWOS is currently located 500 feet north of the terminal building, between Taxiway A and A1. Consideration is being given to relocating the AWOS to the infield area west of Runway 18-36 and north of Taxiway J in order to reduce effects of nearby structures.

Common Traffic Advisory Frequency (CTAF): The Georgetown Municipal Airport CTAF radio frequency is 120.225 MHz. CTAF is used by pilots in the vicinity of an airport to communicate with each other about approaches to or departures from the airport, as well as for PCL. In addition, the UNICOM frequency is 123.0 MHz, which pilots can use to obtain information pertaining to the Airport and to communicate with the FBOs.

Automatic Terminal Information Service (ATIS): ATIS is a continuous broadcast of recorded non-control aeronautical information in busier airspace. ATIS broadcasts essential information such as weather information, which runways are active, available approaches, and NOTAMs. ATIS broadcasts can be received on 118.6 MHz.

AREA AIRSPACE AND AIR TRAFFIC CONTROL

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

AIRSPACE STRUCTURE

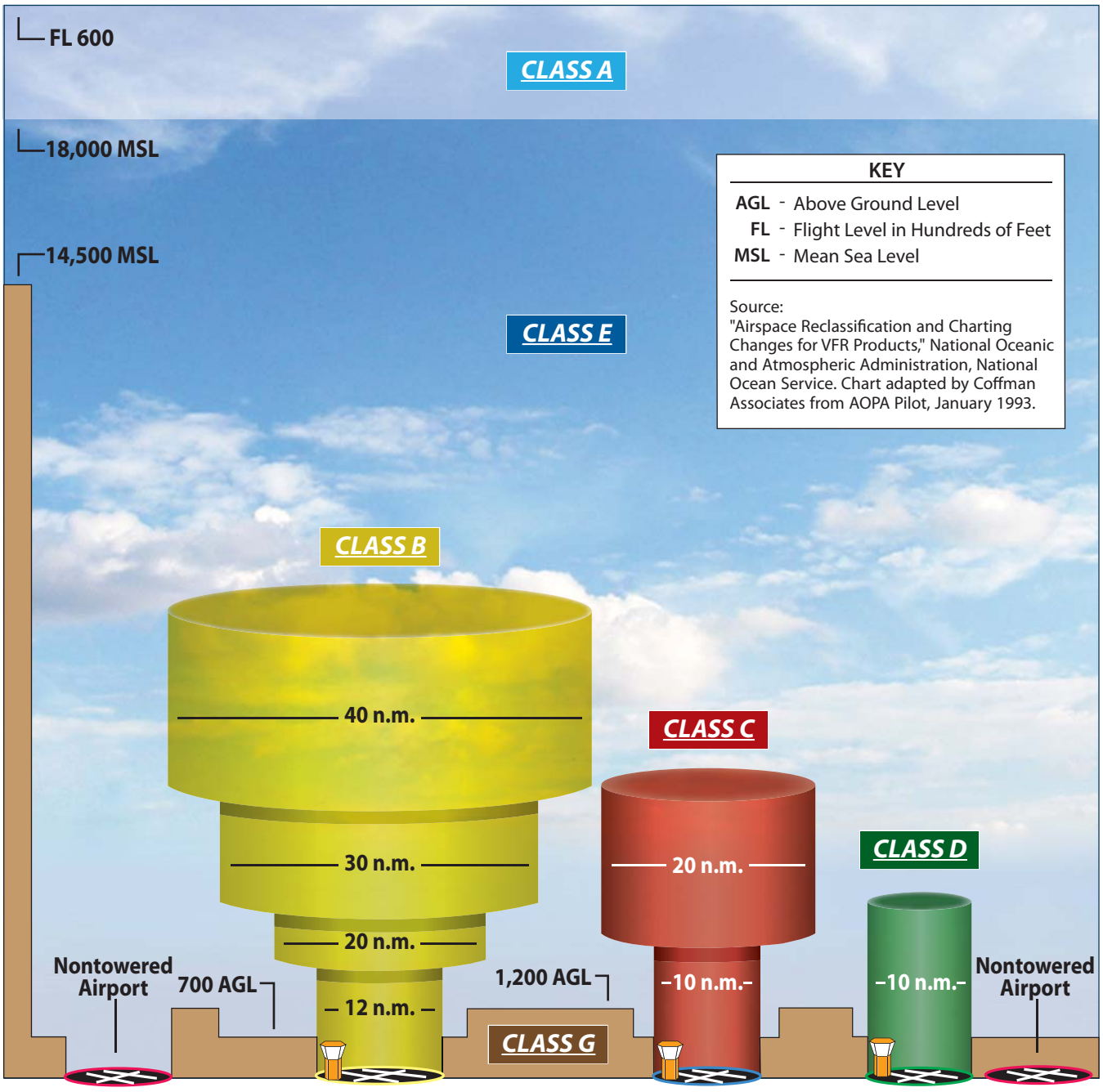
Airspace within the United States is broadly classified as either "controlled" or "uncontrolled." The difference between controlled and uncontrolled airspace relates primarily to requirements for pilot qualifications, ground-to-air communications, navigation and air traffic services, and weather conditions.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

Class A Airspace: Class A airspace includes all airspace from 18,000 feet mean sea level (MSL) to flight level (FL) 600 (60,000 feet MSL). This airspace is designated in FAR Part 71.193 for positive control of aircraft. The Positive Control Area (PCA) allows flights governed only under IFR operations. The aircraft must have special radio and navigation equipment, and the pilot must obtain clearance from an ATC facility to enter Class A airspace. In addition, the pilot must possess an instrument rating.

Class B Airspace: Class B airspace has been designated around some of the country's busiest commercial service airports, such as the Dallas/Fort Worth International Airport. Class B airspace is designed to regulate the flow of uncontrolled traffic, above, around, and below the arrival and departure airspace required for high-performance, passenger-carrying aircraft at busy commercial service airports. This airspace is the most restrictive controlled airspace encountered by pilots operating under VFR.

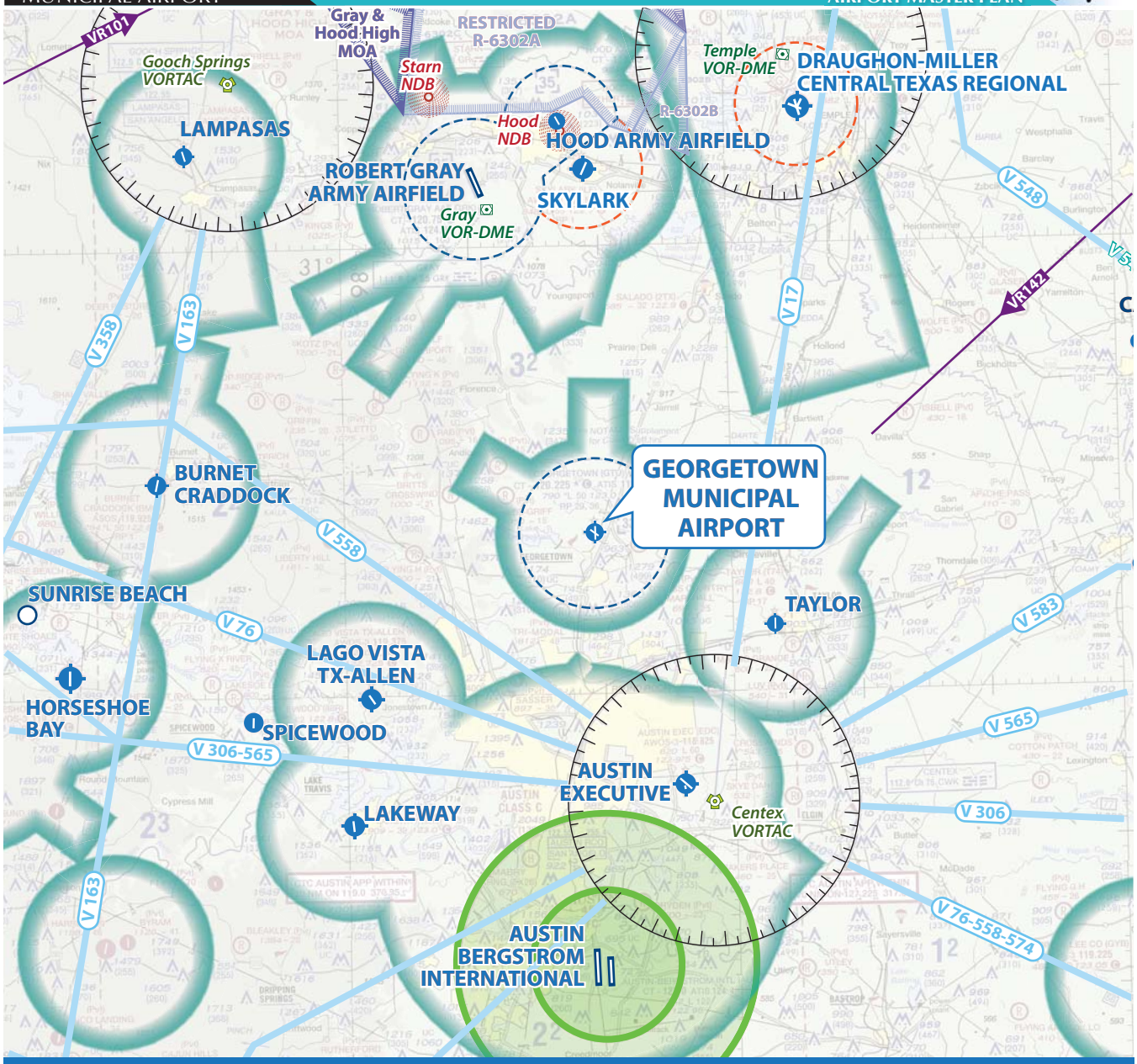
In order to fly within Class B airspace, an aircraft must be equipped with special radio and navigation equipment and must obtain clearance from air traffic control. Moreover, a pilot must have at least a private pilot's certificate or be a student pilot who has met the requirements of F.A.R. Part 61.95, which requires special ground and flight training for Class B airspace. Helicopters do not need special navigation equipment or a transponder if they operate at or below 1,000 feet and have made prior arrangements in the form of a Letter of Agreement with the FAA controlling agency. Aircraft are also required to have and utilize a Mode C transponder within a 30-nautical mile (NM) range of the center of Class B airspace. A Mode C transponder allows the ATCT to track the altitude of the aircraft.

Class C Airspace: The FAA has established Class C airspace at 120 airports around the country as a means of regulating air traffic in these areas. Class C airspace is designed to regulate the flow of uncontrolled



DEFINITION OF AIRSPACE CLASSIFICATIONS

CLASS A	Generally airspace above 18,000 feet MSL up to and including FL 600.
CLASS B	Generally multi-layered airspace from the surface up to 10,000 feet MSL surrounding the nation's busiest airports.
CLASS C	Generally airspace from the surface to 4,000 feet AGL surrounding towered airports with service by radar approach control.
CLASS D	Generally airspace from the surface to 2,500 feet AGL surrounding towered airports.
CLASS E	Generally controlled airspace that is not Class A, Class B, Class C, or Class D.
CLASS G	Generally uncontrolled airspace that is not Class A, Class B, Class C, Class D, or Class E.



LEGEND

- Airport with other than hard-surfaced runway
- Airport with hard-surfaced runways 1,500' to 8,069' in length
- Airports with hard-surfaced runways greater than 8,069' or some multiple runways less than 8,069'
- Non-directional Radio Beacon (NDB)
- VORTAC
- VOR-DME
- Compass Rose
- Victor Airways
- Class C Airspace
- Class D Airspace
- Class E Airspace
- Class E (sfc) Airspace with floor 700 ft. above surface that laterally abuts 1200 ft. or higher Class E airspace
- Military Training Route
- Alert Area and MOA
- Prohibited, Restricted, and Warning Area

N

Source: San Antonio Sectional Chart, US Department of Commerce, National Oceanic and Atmospheric Administration, 4/28/16

traffic above, around, and below the arrival and departure airspace required for high-performance, passenger-carrying aircraft at some commercial service airports. In order to fly inside Class C airspace, the aircraft must have a two-way radio, an encoding transponder, and have established communication with the ATC. Aircraft may fly below the floor of the Class C airspace or above the Class C airspace ceiling without establishing communication with ATC. Class C airspace surrounds Austin-Bergstrom International and San Antonio International Airports.

Class D Airspace: Class D airspace is controlled airspace surrounding airports with an ATCT, such as at Georgetown Municipal Airport. The Class D airspace typically constitutes a cylinder with a designated horizontal radius from the airport, extending from the surface up to a designated vertical limit, above the airport elevation. If an airport has an instrument approach or departure, the Class D airspace sometimes extends along the approach or departure path. During periods when the airport's ATCT is closed, Class D airspace typically reverts to Class E airspace.

The Airport is in Class D airspace when the tower is open and Class E when it is closed.

The Class D airspace surrounding Georgetown Municipal Airport extends from the surface to an altitude of 3,300 feet MSL within a 5-mile radius. This airspace is in effect when the tower is open from 7:00 a.m. to 10:00 p.m.

Class E Airspace: Class E airspace consists of controlled airspace designed to contain IFR operations near an airport and while aircraft are transitioning between the airport and en-route environments. Unless otherwise specified, Class E airspace terminates at the base of the overlying airspace. Only aircraft operating under IFR are required to be in contact with air traffic control when operating in 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 flight can only be conducted if minimum visibility and cloud ceilings exist.

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

Exhibit 1H shows the airspace structure surrounding Georgetown Municipal Airport.

SPECIAL USE AIRSPACE

Special use airspace is defined as airspace where activities must be confined because of their nature or where limitations are imposed on aircraft not taking part in those activities. The designation of special use airspace identifies for other users the areas where military activity occurs, provides for segregation of that activity from other fliers, and allows charting to keep airspace users informed. These areas are depicted on **Exhibit 1H**.

Military Operating Areas (MOAs): This special use airspace is established outside positive control areas to separate/segregate certain nonhazardous military activities from IFR traffic and to identify for VFR traffic where these activities are conducted. MOAs are established to contain certain military activities, such as air combat maneuvers, air intercepts, acrobatics, etc. There are several MOAs in the vicinity of the Airport. To the north are the GRAY and HOOD MOAs, while several MOAS in proximity to the Randolph Air Force Base are located to the south.

Military Training Routes: Military training routes (MTRs) are designated airspace that has been generally established for use by high performance military aircraft to train below 10,000 feet AGL and in excess of 250 knots. There are VR (visual) and IR (instrument) designated MTRs. MTRs with no segment above 1,500 feet AGL will be designated with the VR or IR, followed by a four-digit number (e.g., VR1257). MTRs with one or more segments above 1,500 feet AGL are identified by the route designation followed by a three-digit number (e.g., VR540). The arrows on the route show the direction of travel. The closest MTR to the Airport is VR142 to the east.

Victor Airways: For aircraft arriving or departing the area using very high frequency omni-directional range (VOR) facilities, a system of Federal Airways, referred to as Victor Airways, has been established. Victor Airways are corridors of airspace eight miles wide that extend upward from 1,200 feet AGL to 18,000 feet MSL and extend between VOR navigational facilities. There are numerous Victor Airways leading to and from the CENTEX VORTAC facility located approximately 15 miles to the south of the Airport.

AIRSPACE CONTROL

An airport traffic control tower (ATCT) was constructed in 2007 at the Airport. The tower controls the Class D airspace surrounding the Airport. The ATCT can be contacted via 120.225 MHz. Ground control is available via 119.12 MHz.

Houston Center is the local Air Route Traffic Control Center (ARTCC). ARTCCs primarily provide air traffic services to aircraft operating on IFR flight plans within controlled airspace and during the en route phase of flight. Approach and Departure control (119.0 MHz) is available from the Austin ATCT. When the ATCT at Georgetown is closed, Austin will also provide IFR clearance delivery (119.0 MHz).

Flight Service Stations (FSS) are FAA facilities that provide information and services to pilots before, during, and after flights, but they are not responsible for giving instructions or clearances or providing aircraft separation. Typical services available from an FSS include weather briefings, notices to airmen (NOTAMs), filing, opening, and closing flight plans, and relaying instructions or clearances from air traffic control. The San Angelo is the local FSS.

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 Georgetown Municipal Airport include a

very high frequency omni-directional range (VOR) facility, the global positioning system (GPS), and a non-directional beacon (NDB).

The VOR, in general, provides azimuth readings to pilots of properly equipped aircraft 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 direction 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. The Centex VORTAC is located approximately 23 miles to the southeast, near Austin Executive Airport.

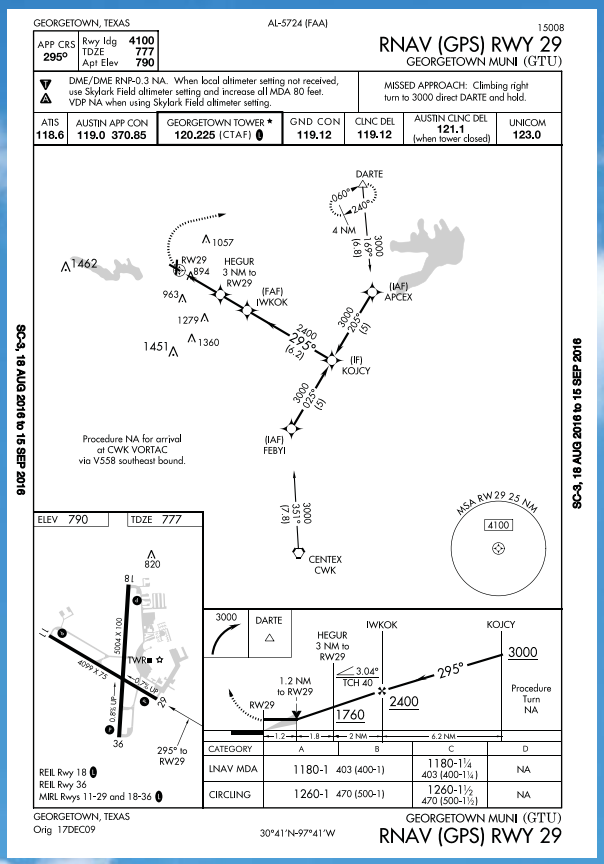
GPS is an additional navigational aid for pilots. GPS was initially developed by the United States Department of Defense for military navigation around the world. GPS differs from a VOR, in that pilots are not required to navigate using a specific facility. GPS uses satellites placed in orbit around the earth to transmit electronic radio signals, which pilots of properly equipped aircraft use to determine altitude, speed, and other navigational information. With GPS, pilots can directly navigate to any airport in the country and are not required to navigate to a specific ground-based navigation facility.

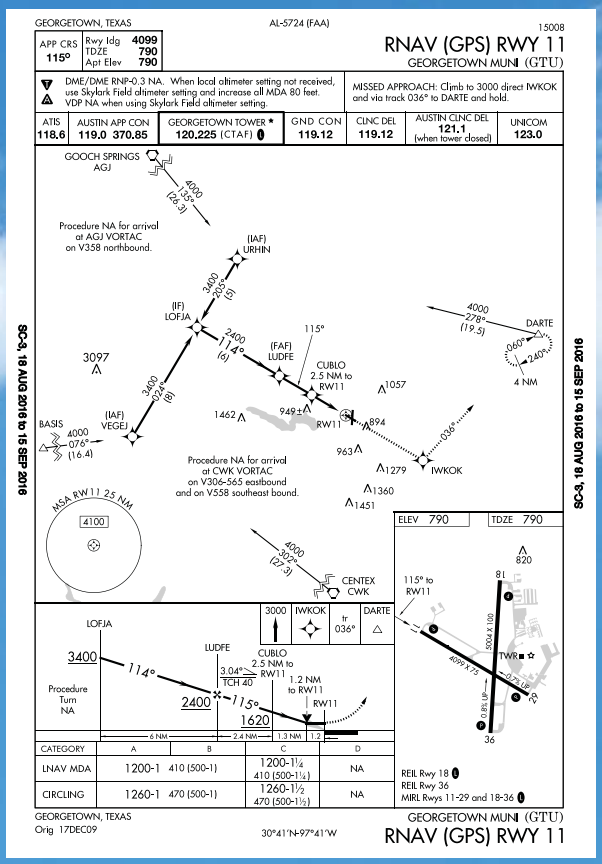
The NDB transmits non-directional radio signals whereby the pilot of an aircraft equipped with direction-finding equipment can determine their bearing to or from the NDB facility in order to track to the beacon station. The closest NDB is the Hood NDB located approximately 31 miles to the north of the airport. This facility can be used by pilots to track to the region, and then other aids would need to be utilized to track to the Airport.

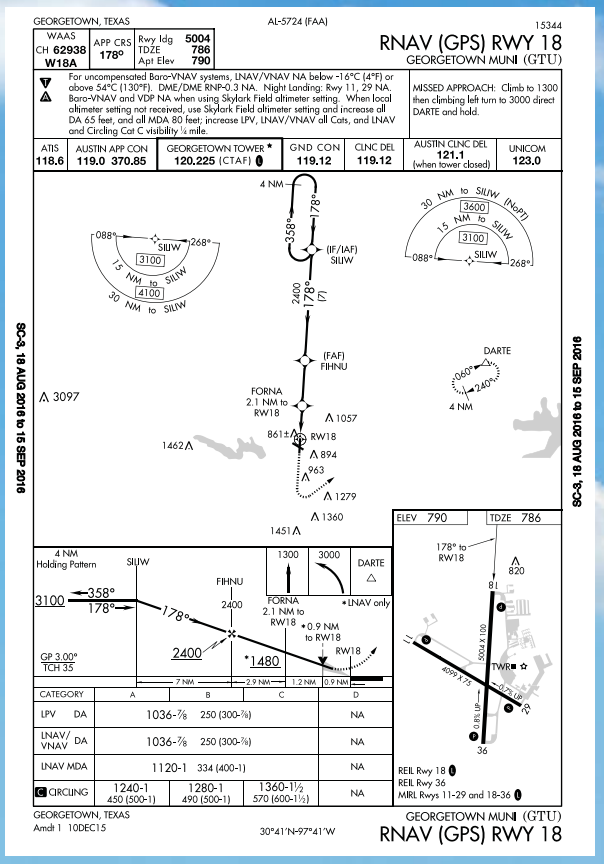
INSTRUMENT APPROACH PROCEDURES

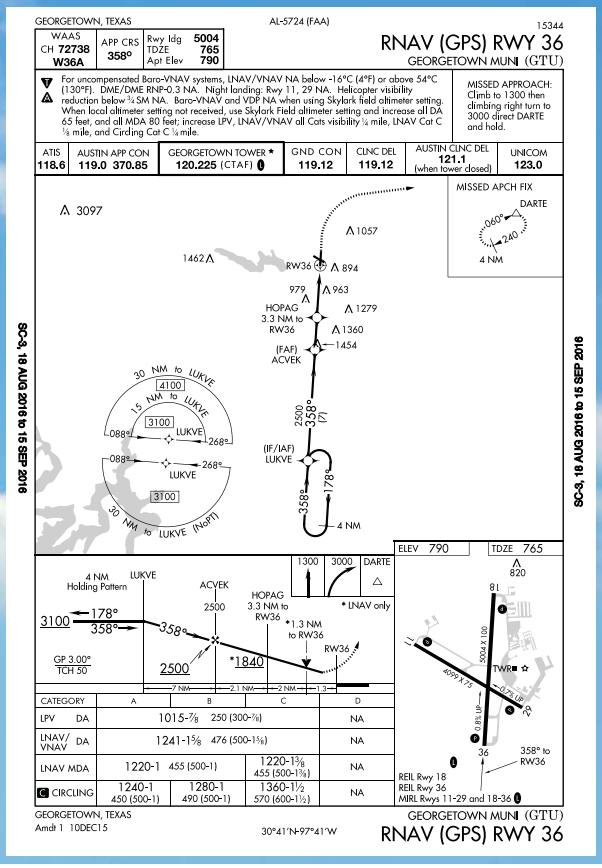
Instrument approach procedures are a series of predetermined maneuvers, established by the FAA, using electronic navigational aids that assist pilots in locating and landing at an airport, especially during instrument flight conditions. There are currently (2017) four non-precision instrument approach procedures, which are shown on **Exhibit 1J**. Non-precision approaches provide course guidance to the pilot (precision instrument approaches provide both course and vertical guidance); however, relatively new GPS localizer performance with vertical guidance (LPV) approaches are currently categorized by the FAA as non-precision approaches even though it provides vertical guidance.

The capability of an instrument approach procedure is defined by the visibility and cloud ceiling minimums associated with the approach. Visibility minimums define the horizontal distance the pilot must be able to see in order to complete the approach. Cloud ceilings define the lowest level a cloud layer (defined in feet above the ground) can be situated for the 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.


GEORGETOWN, TEXAS
AL-5724 (FAA)
15008
RNAV (GPS) RWY 29
GEORGETOWN MUNI (GTU)
APP CRS 295° | Rwy Idg 4100 | TDZE 777 | Apt Elev 790
DME/DME RNP-0.3 NA. When local altimeter setting not received, use Skylark Field altimeter setting and increase all MDA 80 feet. VDP NA when using Skylark Field altimeter setting.
MISSED APPROACH: Climbing right turn to 3000 direct DARTE and hold.
ATIS 118.6 | AUSTIN APP CON 119.0 370.85 | GEORGETOWN TOWER * 120.225 (CTAF) | GND CON 119.12 | CLNC DEL 119.12 | AUSTIN CLNC DEL 121.1 (when tower closed) | UNICOM 123.0
DARTE
HEGUR 3 NM to RW29
(FAF) IWKOK
(IAF) APCEX
(IF) KOJCY
(IAF) FEBYI
Procedure NA for arrival at CWK VORTAC via V558 southeast bound.
CENTEX CWK
MSA RW29 25 NM
4100
ELEV 790 | TDZE 777
IWKOK
KOJCY
3000
1.2 NM to RW29
3.04° TCH 40
295°
1760
2400
Procedure Turn NA
CATEGORY | A | B | C | D
LNAV MDA | 1180-1 403 (400-1) | 1180-1¾ 403 (400-1¼) | NA
CIRCLING | 1260-1 470 (500-1) | 1260-1½ 470 (500-1½) | NA
REIL Rwy 18
REIL Rwy 36
MIRL Rwys 11-29 and 18-36
GEORGETOWN, TEXAS
Orig 17DEC09
30°41'N-97°41'W
GEORGETOWN MUNI (GTU)
RNAV (GPS) RWY 29
SC-3, 18 AUG 2016 to 15 SEP 2016


GEORGETOWN, TEXAS
AL-5724 (FAA)
15008
RNAV (GPS) RWY 11
GEORGETOWN MUNI (GTU)
APP CRS 115° | Rwy Idg 4099 | TDZE 790 | Apt Elev 790
DME/DME RNP-0.3 NA. When local altimeter setting not received, use Skylark Field altimeter setting and increase all MDA 80 feet. VDP NA when using Skylark Field altimeter setting.
MISSED APPROACH: Climb to 3000 direct IWKOK and via track 036° to DARTE and hold.
ATIS 118.6 | AUSTIN APP CON 119.0 370.85 | GEORGETOWN TOWER * 120.225 (CTAF) | GND CON 119.12 | CLNC DEL 119.12 | AUSTIN CLNC DEL 121.1 (when tower closed) | UNICOM 123.0
GOOCH SPRINGS AGJ
Procedure NA for arrival at AGJ VORTAC on V358 northbound.
(IAF) URHIN
(IF) LOFJA
(FAF) LUDFE
CUBLO 2.5 NM to RW11
(IAF) VEGEJ
BASIS
Procedure NA for arrival at CWK VORTAC on V306-565 eastbound and on V558 southeast bound.
IWKOK
DARTE
CENTEX CWK
MSA RW11 25 NM
4100
ELEV 790 | TDZE 790
LOFJA
LUDFE
3400
114°
2400
115°
1620
1.2 NM to RW11
3.04° TCH 40
Procedure Turn NA
CATEGORY | A | B | C | D
LNAV MDA | 1200-1 410 (500-1) | 1200-1¼ 410 (500-1¼) | NA
CIRCLING | 1260-1 470 (500-1) | 1260-1½ 470 (500-1½) | NA
REIL Rwy 18
REIL Rwy 36
MIRL Rwys 11-29 and 18-36
GEORGETOWN, TEXAS
Orig 17DEC09
30°41'N-97°41'W
GEORGETOWN MUNI (GTU)
RNAV (GPS) RWY 11
SC-3, 18 AUG 2016 to 15 SEP 2016


GEORGETOWN, TEXAS
AL-5724 (FAA)
15344
RNAV (GPS) RWY 18
GEORGETOWN MUNI (GTU)
WAAS CH 62938 W18A | APP CRS 178° | Rwy Idg 5004 | TDZE 786 | Apt Elev 790
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Night Landing: Rwy 11, 29 NA. Baro-VNAV and VDP NA when using Skylark Field altimeter setting. When local altimeter setting not received, use Skylark Field altimeter setting and increase all DA 65 feet, and all MDA 80 feet; increase LPV, LNAV/VNAV all Cats, and LNAV and Circling Cat C visibility ¼ mile.
MISSED APPROACH: Climb to 1300 then climbing left turn to 3000 direct DARTE and hold.
ATIS 118.6 | AUSTIN APP CON 119.0 370.85 | GEORGETOWN TOWER * 120.225 (CTAF) | GND CON 119.12 | CLNC DEL 119.12 | AUSTIN CLNC DEL 121.1 (when tower closed) | UNICOM 123.0
SILW
(IF/IAF) SILW
(FAF) FIHNU
FORNA 2.1 NM to RW18
DARTE
4 NM Holding Pattern
GP 3.00° TCH 35
*1480
*0.9 NM to RW18
*LNAV only
ELEV 790 | TDZE 786
CATEGORY | A | B | C | D
LPV DA | 1036-⅞ 250 (300-⅞) | NA
LNAV/VNAV DA | 1036-⅞ 250 (300-⅞) | NA
LNAV MDA | 1120-1 334 (400-1) | NA
C CIRCLING | 1240-1 450 (500-1) | 1280-1 490 (500-1) | 1360-1½ 570 (600-1½) | NA
REIL Rwy 18
REIL Rwy 36
MIRL Rwys 11-29 and 18-36
GEORGETOWN, TEXAS
Amdt 1 10DEC15
30°41'N-97°41'W
GEORGETOWN MUNI (GTU)
RNAV (GPS) RWY 18
SC-3, 18 AUG 2016 to 15 SEP 2016


GEORGETOWN, TEXAS
AL-5724 (FAA)
15344
RNAV (GPS) RWY 36
GEORGETOWN MUNI (GTU)
WAAS CH 72738 W36A | APP CRS 358° | Rwy Idg 5004 | TDZE 765 | Apt Elev 790
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA. Night landing: Rwy 11, 29 NA. Helicopter visibility reduction below ¾ SM NA. Baro-VNAV and VDP NA when using Skylark field altimeter setting. When local altimeter setting not received, use Skylark Field altimeter setting and increase all DA 65 feet, and all MDA 80 feet; increase LPV, LNAV/VNAV all Cats visibility ¼ mile, LNAV Cat C ⅛ mile, and Circling Cat C ¼ mile.
MISSED APPROACH: Climb to 1300 then climbing right turn to 3000 direct DARTE and hold.
ATIS 118.6 | AUSTIN APP CON 119.0 370.85 | GEORGETOWN TOWER * 120.225 (CTAF) | GND CON 119.12 | CLNC DEL 119.12 | AUSTIN CLNC DEL 121.1 (when tower closed) | UNICOM 123.0
MISSED APCH FIX
DARTE
HOPAG 3.3 NM to RW36
(FAF) ACVEK
(IF/IAF) LUKVE
4 NM Holding Pattern
GP 3.00° TCH 50
*1840
*1.3 NM to RW36
*LNAV only
ELEV 790 | TDZE 765
CATEGORY | A | B | C | D
LPV DA | 1015-⅞ 250 (300-⅞) | NA
LNAV/VNAV DA | 1241-1⅝ 476 (500-1⅝) | NA
LNAV MDA | 1220-1 455 (500-1) | 1220-1⅜ 455 (500-1⅜) | NA
C CIRCLING | 1240-1 450 (500-1) | 1280-1 490 (500-1) | 1360-1½ 570 (600-1½) | NA
358° to RW36
REIL Rwy 18
REIL Rwy 36
MIRL Rwys 11-29 and 18-36
GEORGETOWN, TEXAS
Amdt 1 10DEC15
30°41'N-97°41'W
GEORGETOWN MUNI (GTU)
RNAV (GPS) RWY 36
SC-3, 18 AUG 2016 to 15 SEP 2016

The instrument approach procedure with the lowest visibility minimum is the LPV GPS approach to both ends of Runway 18-36. These non-precision instrument approaches provide visibility minimums as low as ⅞-mile and cloud ceilings of 250 feet AGL.

Instrument approaches based on the global positioning system (GPS) have become very common across the country. GPS is inexpensive, as it does not require a significant investment in ground-based systems by the airport or FAA. All four runway ends are served by GPS approaches. **Table 1E** summarizes the instrument approach data for the Airport.

TABLE 1E
Instrument Approach Data
Georgetown Municipal Airport

	WEATHER MINIMUMS BY AIRCRAFT TYPE		
	Category A	Category B	Category C
RNAV (GPS) RWY 18			
LPV DA	250'/⅞-mile		
LNAV/VNAV DA	250'/⅞-mile		
LNAV MDA	334'/1-mile		
Circling	450'/1-mile	490'/1-mile	570'/1½-mile
RNAV (GPS) RWY 36			
LPV	250'/⅞-mile		
LNAV/VNAV DA	476'/1⅛-mile		
LNAV MDA	455'/1-mile		455'/1⅜-mile
Circling	450'/1-mile	490'/1-mile	570'/1½-mile
RNAV (GPS) RWY 11			
LNAV MDA	410'/1-mile		410'/1¼-mile
Circling	470'/1-mile		470'/1½-mile
RNAV (GPS) RWY 29			
LNAV MDA	403'/1-mile		403'/1¼-mile
Circling	470'/1-mile		470'/1½-mile

Aircraft categories are based on the approach speed of aircraft, which is determined as 1.3 times the stall speed in landing configuration. The approach categories are as follows:

Category A:	0-90 knots (e.g., Cessna 172)
Category B:	91-120 knots (e.g., Beechcraft KingAir)
Category C:	121-140 knots (e.g., B-737, Regional Jets, Canadair Challenger)
Category D:	141-166 knots (e.g., B-747, Gulfstream IV)
Category E:	Greater than 166 knots (e.g., Certain large military or cargo aircraft)

Abbreviations:
LOC – Localizer
GPS - Global Positioning System
LNAV/RNAV/VNAV - A technical variant of GPS (Lateral, Area, Vertical Navigation)
DA - Decision Altitude (Used for vertically guided approaches)
MDA - Minimum Descent Altitude (Used for non-precision approaches)
Note: (xxx'/ x-mile) = Visibility (in feet)/Cloud ceiling height (in miles)

Source: U.S. Terminal Procedures, South Central Region (Effective September 15, 2016)

NOTE: As a result of the analysis in this master plan, the visibility minimums to both ends of Runway 18-36 were recommended to be raised to 1-mile. The purpose of this recommendation was to provide a

greater degree of compatible land uses within the runway protection zones (RPZ). By raising the visibility minimums, the size of the RPZ changes and numerous incompatibilities, such as homes, are removed from the RPZs. On June 26, 2018, a NOTAM was published indicating the visibility minimums for both ends of Runway 18-36 have been raised to 1-mile. The approach plates are planned to be updated to reflect this change as well.

Arrival and Departure Procedures

There are five Standard Terminal Arrival Routes (STARs) that can be used by pilots in the vicinity of the Airport. A STAR is a published procedure utilized by pilots of aircraft on an IFR flight plan just before reaching a destination airport. A STAR is an ARC-coded arrival route established for arriving IFR traffic. There are five different STARs associated with arrivals at the Airport.

There are seven published Departure Procedures (DPs) for the Airport. Departure Procedures are flight procedures followed by aircraft on an IFR flight plan immediately after takeoff from an airport. DPs are established at certain airports to simplify clearance delivery procedures.

LOCAL CONDITIONS

Various pilot information services identify potential obstructions in the vicinity of the Airport of which pilots should be aware. On the approach to Runway 18, there are 30-foot tall trees located approximately 425 feet from the runway end and 280 feet to the right of centerline. A minimum 7:1 slope is necessary to clear the trees.

The Airport also publishes several alerts for pilots which include the possibility of deer and other wildlife in the vicinity of the Airport. Pilots are also to be aware that portions of Taxiway F to the east are not visible from the ATCT. The airport also requests that military helicopters refrain from operations between the hours of 9:00 p.m. and 7:00 a.m.

The Airport has implemented voluntary noise abatement procedures which are advertised to pilots through a number of outlets. **Exhibit 1K** presents the map of the Fly Friendly program at the Airport. As can be seen, the residential areas in proximity to the Airport are considered noise-sensitive. Pilots are asked to adhere to the following procedures; however, at no time is operational safety to be compromised:

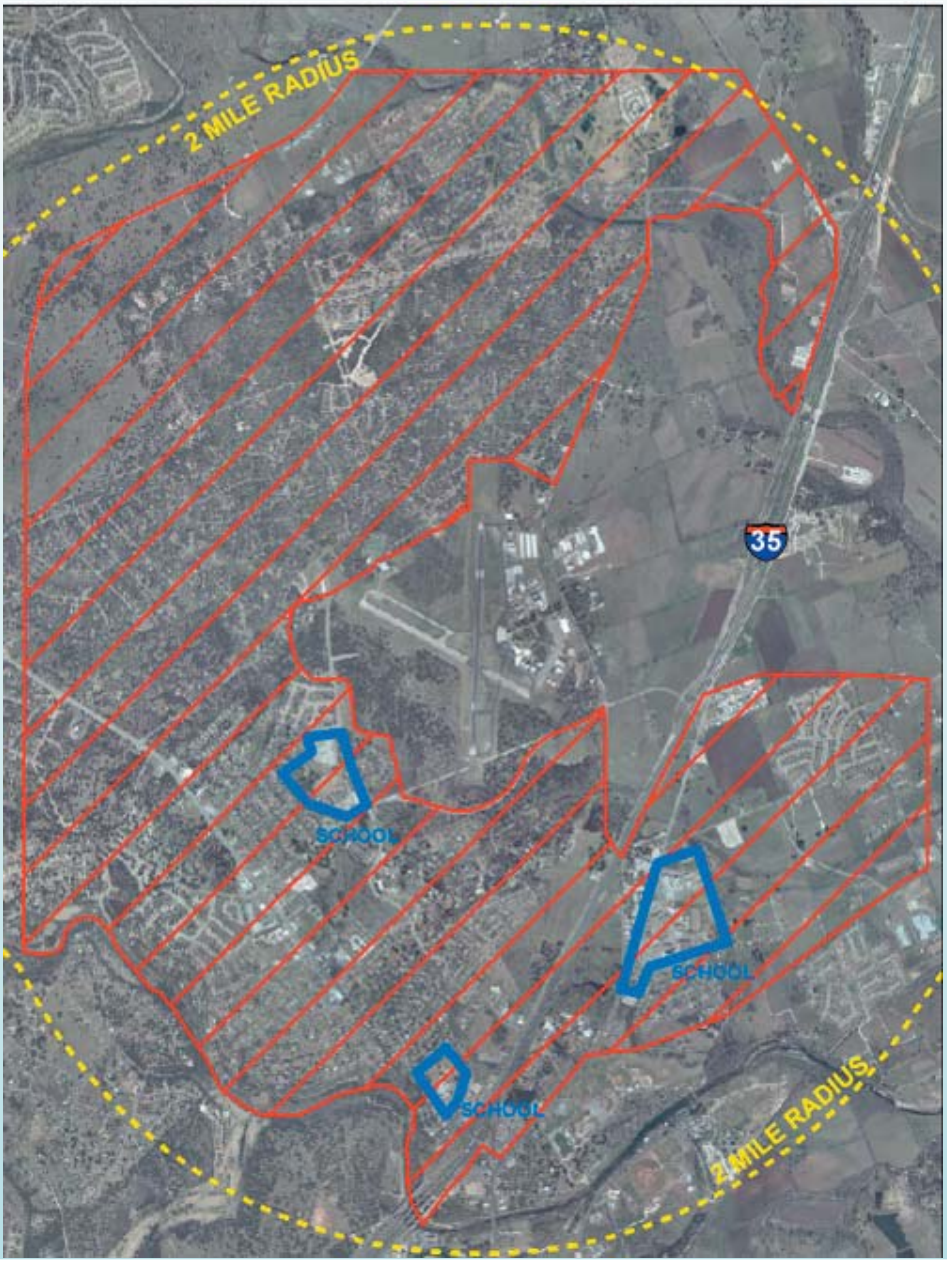
- Avoid prolonged run-ups.
- After takeoff, reduce climb power when safe and practical.
- Fly traffic pattern as close as possible to the runways.
- Avoid low flights over noise-sensitive areas.
- Avoid low, dragged-in approaches with high power/prop settings.

GEORGETOWN MUNICIPAL AIRPORT
FLY FRIENDLY PROGRAM
(**NOTE**: AT NO TIME IS OPERATIONAL SAFETY TO BE COMPROMISED)

NOISE ABATEMENT AND SAFETY PROCEDURES

- Traffic Pattern Altitude
  - Light Aircraft: 1000 Ft. AGL
  - Turbine / Large Aircraft: 1500 Ft. AGL
- Avoid prolonged run-ups.
- After takeoff, reduce to climb power when safe and practical.
- Light Aircraft: Climb initially at Vx until crossing airport boundary, then utilize Vy.
- Turbine Aircraft: Follow manufacturers' noise abatement profile, when possible. Otherwise use FAA or NBAA profile.
- Fly at published traffic pattern altitiudes as close to runways as possible
- Avoid low flights over noise sensitive areas.
- Avoid low, dragged-in approaches with high power/prop settings.
- See and avoid other aircraft. Make proper radio calls.
- Be considerate of neighborhoods during nighttime operations.

NOISE SENSITIVE AREAS:



RUNWAY USE AND TRAFFIC PATTERNS

The Airport elevation is 790 feet above mean sea level. Runways 18 and 11 have standard left-hand traffic patterns. Runways 36 and 29 have non-standard right-hand traffic patterns. The appropriate traffic pattern is identified on the segmented circle. The purpose of the right-hand traffic pattern is to limit overflights of the residential neighborhoods to the west. The recommended traffic pattern for light aircraft is 1,000 feet AGL and for large/turbine aircraft, it is 1,500 feet AGL.

Identification of the general runway use percentages by aircraft type aids in various environmental analysis and in determining aircraft movement efficiency. Runway 18 is designated as the calm wind runways. **Table 1F** presents the runway use percentage as estimated by ATCT personnel.

TABLE 1F
Runway Use Percent
Georgetown Municipal Airport

Aircraft Type	Runway 18	Runway 36	Runway 11	Runway 29
Overall Operations	66%	20%	7%	7%
Business Jets	73%	23%	2%	2%
Turboprop	73%	23%	2%	2%
Piston	65%	25%	5%	5%
Helicopter	75%	25%	0%	0%
Military	65%	25%	5%	5%
Touch and Go	66%	20%	7%	7%

Source: Interview ATCT on 12.6.16.

LANDSIDE FACILITIES

Landside facilities support the aircraft and pilot/passenger transition between air and ground. Typical landside facilities include the passenger terminal complex, on-airport buildings and hangars, general aviation facilities, and support facilities (i.e., fuel storage, vehicle parking, roadway access, snow removal equipment, and aircraft rescue and firefighting).

AIRPORT BUSINESSES

Georgetown Municipal Airport has a thriving aviation business community. There are three FBOs catering to the needs of aviation users. There are also several aircraft repair and modification businesses. For those learning to fly or pursuing a career as a pilot, there are several flight schools at the airport. **Table 1G** provides a summary of the aviation related businesses at the Airport.

TABLE 1G
Airport Businesses
Georgetown Municipal Airport

Business Category	Business Name	Services Provided
Fixed Base Operators (FBO)	Aerojet Center	Full service FBO; Jet fuel sales; Aircraft sales, Pilot/owner lounge; Rental cars; Hotel services.
	GTU Jet	Full service FBO; Jet fuel sales; Avgas fuel sales; pilot/owner lounge; rental cars; hotel services.
Avionics Repair	Central Texas Avionics, Inc.	Avionics Repair and installation/modifications for all major brands of avionics fixed wing aircraft and helicopters.
Flight Schools	ATP	Flight training.
	Awesome Aviation	Pilot Shop – charts, headsets, gleim, jeppensen, pilot supplies, aircraft rental and flight training.
	Genesis Flight Academy	Part 141 flight school; Flight instruction; aircraft rental; Sightseeing tours and photography.
	IFR Flight Training School	Flight school; Elite flight simulator; Aircraft Sales; Aircraft management; Pilot supplies; Aviation career counseling; Aviation art.
	Pilot's Choice Aviation	Part 61 and FAA approved Part 141 flight school; Fleet of 18 aircraft for rental and instruction; pilot supplies.
	Veracity Aviation	Specializing in helicopter training.
	Premier/APEX	Part 141 flight training planned to commence in spring 2017
Repair Station	B&G Aviation, LLC	Maintenance (airframe and engine); Annuals; Phase Inspection; Specialize in King Air's; Engine Modifications; Airframe Modifications; BLR winglets hot section inspection.
	Central Texas Avionics, Inc.	Repairing and/or modifying turboprop, jet and piston aircraft.
	Georgetown Turbine Services	Maintenance for turboprop and jet aircraft with a special focus on King Air, Learjet, Challenger, and Cessna Citation airframes.
	Leather Specialties	Complete aircraft interiors: vinyl, fabric, leather, carpet, seatbelts, cabinets.
	SR Aviation, Inc.	Corporate and general aviation repair and maintenance specializing in Cessna Citations, Piper, and Beechcraft.
	Corsair Turbines	Turbine engine repair and maintenance.
Aircraft Sales	Cannan Aviation	Airplane sales and acquisitions.
	Cannon Aviation Group	Helicopter sales and acquisitions.
	Charlie Bravo Aviation, LLC	Airplane sales and acquisitions.
	Gantt Aviation	Aircraft sales.
	Trinity Aviation	Specializing in jet aircraft and helicopter sales.
	Wood Aviation	Aircraft sales.
Aircraft Storage	Texas Aeronautical Enterprises	Hangar leasing.
Aviation Business	Source Helicopter	High voltage power line inspection and maintenance.

Source: http://airport.georgetown.org and airport data.

AIRPORT BUILDINGS AND HANGARS

There are various buildings and hangars located on the Airport which are shown on **Exhibit 1L**. It is important to identify those hangars that may be used for storage/parking of active aircraft. By having a reasonable estimate of the baseline hangar capacity, a determination of future hangar needs can be made based upon forecast hangar demand (see Chapter Two – Forecasts). It is estimated that there is

Bldg ID	Description	Total Square Footage	Estimated Square Footage for Active Aircraft	Estimated Aircraft Parking Positions	Ownership Status
1	Terminal	2,800	0	0	Airport
2	ATCT	1,300	0	0	Airport
3	Office	1,400	0	0	Airport
4	Storage	400	0	0	Airport
5	Conventional Hangar	9,700	8,600	6	Airport
6	T-Hangar	6,000	6,000	5	Airport
7	T-Hangar	7,700	7,700	7	Airport
8	Executive Hangar	3,400	3,000	2	Airport
9	T-Hangar	6,300	6,300	6	Airport
10	T-Hangar	6,300	6,300	6	Airport
11	T-Hangar	6,300	6,300	6	Land Lease
12	Executive Hangar	3,200	3,200	1	Land Lease
13	Executive Hangar	3,200	3,200	1	Land Lease
14	Executive Hangar	3,200	3,200	1	Land Lease
15	Executive Hangar	3,200	3,200	1	Land Lease
16	Executive Hangar	3,200	3,200	1	Land Lease
17	T-Hangar	13,500	13,500	12	Airport
18	T-Hangar	7,400	7,400	7	Airport
19	T-Hangar	7,400	7,400	7	Airport
20	Executive Hangar	4,000	4,000	2	Land Lease
21	Executive Hangar	8,500	8,200	4	Land Lease
22	Executive Hangar	6,800	5,100	3	Airport
23	Conventional Hangar	48,500	41,800	16	Airport
24	Conventional Hangar	26,000	17,900	7	Land Lease
25	T-Hangar	23,200	23,200	21	Airport
26	T-Hangar	23,200	23,200	21	Airport
27	T-Hangar	23,200	23,200	21	Airport
28	Conventional Hangar	14,600	11,600	5	Land Lease
29	Conventional Hangar	10,200	9,600	4	Land Lease
30	Conventional Hangar	18,600	16,600	7	Airport
31	Conventional Hangar	20,200	18,000	7	Land Lease
32	T-Hangar	15,600	15,600	12	Airport
33	T-Hangar	10,200	10,200	9	Airport
34	Conventional Hangar	13,900	12,000	5	Land Lease
35	Executive Hangar	7,300	7,000	3	Land Lease
36	Executive Hangar	6,400	6,000	2	Land Lease
37	Executive Hangar	5,300	3,800	3	Land Lease
38	Executive Hangar	6,400	6,000	2	Land Lease
39	Conventional Hangar	24,900	19,800	8	Land Lease
40	Conventional Hangar	47,100	40,800	16	Land Lease
41	Conventional Hangar	15,000	13,000	5	Land Lease
42	Conventional Hangar	20,000	18,000	6	Land Lease
43	Conventional Hangar	25,300	22,000	9	Land Lease
44	Executive Hangar	5,200	4,800	2	Land Lease
45	Executive Hangar	4,100	4,100	2	Land Lease
46	Executive Hangar	5,000	5,000	2	Land Lease
47	Conventional Hangar	25,000	22,500	9	Airport
48	Local Fire Station	5,000	0	0	Airport
TOTAL		564,600	501,500	282	N/A

Source: Airport records.

Aerial Photo: Google Earth 2-3-16

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approximately 501,500 square feet of hangar space at the Airport that could be utilized for storage/parking of active aircraft. It is additionally estimated that there are 282 enclosed hangar units.

These estimates are based solely on the square footage footprint of the facility. Some hangars may house more aircraft and other may house less than their estimated capacity. For example, it is common for an aircraft owner to construct their own hangar and house a single aircraft even when there may be space available for additional aircraft.

Table 1H presents a summary of the buildings and hangars at the Airport. The hangar mix includes large conventional hangars, executive hangars, and T-hangars (including connected box hangars). Conventional hangars typically can house multiple aircraft, while executive hangars are usually somewhat smaller but can house 2-4 aircraft. T-hangars are individual storage units intended for a single aircraft (typically a small single or multi-engine aircraft). Often a portion of larger conventional and executive/box hangars have space dedicated for offices or other maintenance activity.

TABLE 1H
Hangar Inventory Summary
Georgetown Municipal Airport

Hangar Type	Total Footprint (s.f.)	Aircraft Storage Area (s.f.)[1]	Office/ Maintenance Area (s.f.)	Aircraft Parking Positions[2]
Conventional	319,000	272,200	46,800	110
Executive/Box	78,400	73,000	5,400	32
T-Hangars	156,300	156,300	NA	140
Total	**553,700**	**501,500**	**52,200**	**282**

[1]Estimate based on typical aircraft type for that hangar.
[2]Estimated maximum.

AIRCRAFT APRONS

Aircraft aprons provide space for local aircraft tie-downs, itinerant aircraft parking, and circulation. Once reconstructed, the terminal apron area will encompass approximately 36,000 square yards of pavement. This includes approximately 3,200 square yards in front of the terminal building, and 9,100 square yards on the south portion of the terminal apron. The remaining terminal apron areas are designated for taxilane circulation and for the aircraft fueling station. The east hangar area includes a 5,000 square yard apron utilized for aircraft tie-downs. There are several smaller apron areas located adjacent to FBO facilities and other private hangars.

AIRCRAFT TIE-DOWN POSITIONS

Aircraft apron area is an important feature of an Airport. Aprons provide access to facilities, circulation, and aircraft parking needs. Typically, the aircraft aprons are marked with tie-down positions to facilitate the orderly and efficient parking of aircraft. Georgetown Municipal Airport has a main terminal apron

encompassing approximately 36,000 square yards of pavement. There are other smaller aprons encompassing approximately 5,000 square yards for a total of 41,000 square yards of aircraft apron.

Some airports will distinguish between transient aircraft parking and local aircraft parking needs. The transient parking is typically located in immediate proximity to short term services such as a fuel island or a terminal building. Local tie-down positions are typically located to the sides of the transient positions.

There are 31 marked aircraft tie-down positions on the main terminal apron. All tie-downs are sized for smaller single and multi-engine piston aircraft. Nine of these tie-downs are located in front of the terminal building and are designated for transient users. The remaining 22 tie-downs are on the south portion of the terminal apron and are available for both local and transient tie-down needs. In addition, the Airport has four aircraft parking positions in the grass east of T-Hangar #24 intended for transient users. Located on the east apron are 11 additional marked tie down positions that are leased by the FBOs. In total, there are 46 tie-down positions at the airport.

SUPPORT FACILITIES

The previous sections addressed airside and landside facilities. This section discusses other related facilities that support airport operations.

Terminal Building

The terminal building is located at the east edge of the terminal area aircraft apron. The original structure was constructed in the 1950s and has been added onto several times. The terminal building houses the administrative offices. Available services include a public lounge, conference room, pilot flight planning room, vending machines, and restrooms. The terminal building is open from 7:00 a.m. until 7:00 p.m.

Fire Protection

As a general aviation reliever airport that is not certified for scheduled commercial service, the Airport is not required to have on-airport firefighting services. The closest fire station, however, is located on airport property in the northeast corner. Fire Station No. 4 is located at 4200 Airport Road and serves the Airport and north central areas of the City of Georgetown. While the fire station does not have direct access to the airfield, it is less than ½-mile to the Airport entrance road, Terminal Drive. This station has the following apparatus:

- Engine 4 - 2009 Pierce Engine
- Truck 51 – 2004 Sutphen 75’ Aerial Ladder Truck
- Brush Truck 3 – 1993 Type IV International Engine

In addition, Station No. 4 houses the Georgetown Safety and Fire Education Team (SAFE-T) trailer, which is a mobile fire education trailer as well as an antique 1922 triple combination pumper, also used for educational purposes.

Airport Maintenance

The airport does not have a dedicated maintenance equipment building. Currently, various mowers, weed-whackers, and weed control agents are stored in two of the City-owned T-hangar units.

Fuel Storage

The current fuel farm is underground in the terminal apron area. Both Jet A and Avgas are available. Jet A is sold at wholesale to FBOs for resale to customers. AvGas is available via City-owned self-serve pumps on the terminal apron or through the FBOs.

As part of the Taxiway A/Apron project currently underway, a new above-ground fuel farm is planned. The new fuel farm will be located immediately to the north of the terminal building. The new fuel farm is planned with a 20,000-gallon Jet A tank and 15,000-gallon AvGas tank. An AvGas self-serve fuel island is planned to be located on the terminal apron. The same procedures are planned to remain in place, with the FBOs selling Jet A fuel purchased from the City, and AvGas available from both the City self-serve pump and the FBOs. **Table 1J** summarizes the total fuel capacity at the Airport.

TABLE 1J
Fuel Storage Capacity
Georgetown Municipal Airport

Static Fuel Tanks (to be constructed 2016/2017)		
Jet A	20,000 gallons	
AvGas	15,000 gallons with self-serve pump	
Mobile Fuel Trucks		
Company	**Truck Capacity**	**Type of Fuel**
Aerojet Center	2,500 gallons	Jet A
Aerojet Center	3,000 gallons	Jet A
GTU Jet	3,000 gallons	Jet A
GTU Jet	1,200 gallons	AvGas
GTU Jet	600 gallons	AvGas
Longhorn Jet	3,000 gallons	Jet A
Longhorn Jet	750 gallons	AvGas
TOTALS		
Jet A	31,500 gallons	
AvGas	17,550 gallons	

Source: Airport records

Used Oil Recycling

The Airport provides a 250-gallon above ground waste oil collection tank, located north of hangar building No. 6 (see **Exhibit 1L**). It is a safe disposal station for used oils and lubricants generated from various maintenance activities at the airport. This oil is then recycled periodically.

Security/Wildlife Fencing

It is normal for general aviation airports located in more developed areas, such as Georgetown, to have full perimeter fencing. Deer and other wildlife are occasionally seen on and around the airfield, which poses a significant safety risk. To protect the safety of aircraft operations and to enhance overall airport security, an eight-foot high game fence was installed in 1991 along Airport Road and around the airfield.

There are three remote-controlled vehicle gates providing access to the east side of the Airport. They are located at Aviation Drive to the north hangar areas; Terminal Drive, the main airport entrance road; and at Wright Brothers Drive, providing access to the south hangar areas. These three gates are on a timer and are open from 7:00 a.m. to 7:00 p.m. There is also a vehicle gate providing access to the hangar located on the west side of the airfield, closest to Runway 11.

Additional wildlife/security fencing is planned as part of the current Taxiway A project. The new fencing is to be located beyond the Runway 29 end and will encompass the RPZ, as well as the RPZ beyond the Runway 11 end.

Utilities

Having an understanding of the source of various utilities and any issues surrounding the provision of utilities is an important factor in current and future development of the Airport. Primary utilities are provided by Georgetown Utility Systems. This includes water, electricity, wastewater, storm water drainage, garbage collection, and recycling.

Storm Water Pollution Prevention Control Facilities

The Airport is located on the Edwards Aquifer Discharger Zone and is required by the Environmental Protection Agency (EPA) and Texas Commission on Environmental Quality (TCEQ) to treat storm water runoff before it is discharged. Two storm water pollution prevention control facilities exist at the Airport (shown on **Exhibit 1P**). The first, a water quality pond, was installed in 1998 adjacent and north of Terminal Drive. The water quality pond was designed to capture and filter the first one-half inch of storm water runoff from the north T-hangar areas of approximately 16.2 acres. The treated storm water runoff is then discharged into the culverts underneath Terminal Drive.

The second facility is a detention pond, located at the southeast corner of the airport property. This facility captures storm water runoff from upstream and retains it for a period of time. It functions as a sedimentation and filtration structure, as well as a detention pond.

As part of the current Taxiway A project, numerous improvements to airfield drainage are planned, including a linear feature adjacent Runway 18-36.

AIRPORT DOCUMENTS

There are a number of additional documents that the Airport maintains. The following briefly discusses each of these documents.

Rules and Regulations: This document outlines the airport rules for administration and tenants.

Minimum Standards: This document outlines the minimum requirements for potential tenants and business operators. The standards outlined in this document are intended to encourage and ensure the provision of adequate services and facilities, economic health, and orderly development of aviation and related aeronautical activities.

Wildlife Hazard Management Program: The FAA's wildlife hazard management program has been in place for more than 50 years and focuses on mitigating wildlife hazards through habitat modification, harassment technology, and research. The FAA requires airport sponsors to maintain a safe operating environment, which means they must conduct a Wildlife Hazard Assessment (WHA) and prepare a Wildlife Hazard Management Plan (WHMP) when there has been a wildlife strike at an airport. The WHMP identifies the specific actions the airport will take to mitigate the risk of wildlife strikes on or near the airport. The FAA will provide funding assistance to conduct a WHA and a subsequent WHMP for airports that meet the following criteria:

- Part 139 certificated commercial service airports;
- General aviation (and reliever) airports with 100 or more based aircraft; and,
- General aviation (and reliever) airports with 75,000 or more annual operations.

While the original focus was on Part 139 certificated commercial service airports, the FAA has been encouraging (and funding) WHA/WHMP plans for general aviation airports of all sizes. A search of the FAA Wildlife Strike Database indicates that there have been three incidents at Georgetown Municipal Airport, which are documented in **Table 1K**. Airport management and TxDOT have discussed the need for a WHA/WHMP and plan to undertake the studies when funding becomes available.

TABLE 1K
Wildlife Strikes
Georgetown Municipal Airport

Date	Aircraft	Engine	Species	Damage
1/30/2011	Socata TBM700	Turboprop	Coyote	NA
7/7/2010	Cessna 172	Piston	Swallows	None
5/3/2007	Aeros 350	Helicopter	Unknown Bird - Medium	Substantial

Source: http://wildlife.faa.gov/database.aspx, accessed on 9.27.16.

Spill Prevention, Control, and Countermeasure Plan: This document provides guidance and regulations for the prevention and control of spills of potentially hazardous materials, particularly oil and fuel. It outlines procedures, including training, inspections, and storage requirements for spill prevention. It provides a methodology for reporting and responding to spills.

Georgetown Airport Business Analysis (2013)

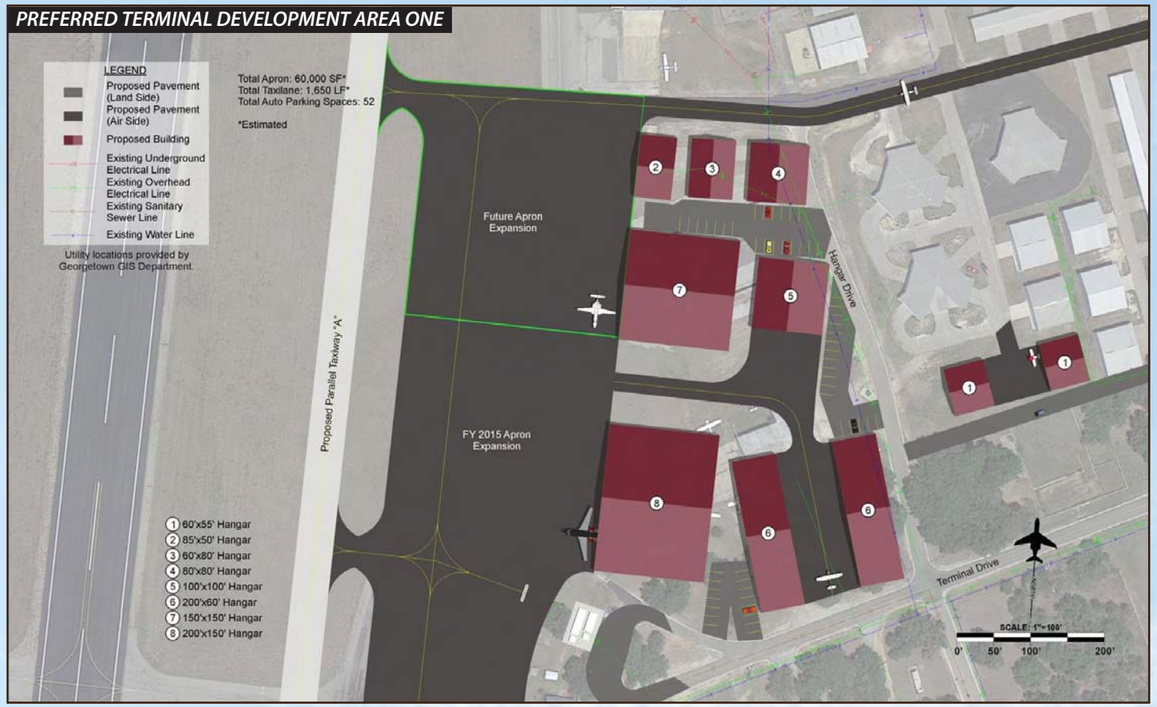
The purpose of the *Airport Business Analysis* is to assist city and airport management in developing and operating the Airport in a manner that would be financially and operationally sustainable in the immediate and long term. The desired outcome of the *Airport Business Analysis* is to provide recommendations as to the most effective and financially sustainable form of long term management for the Airport. In addition, the study made the following recommendations:

- Undertake an Airport Master Plan Update (this current document);
- Consider the case for a 500- or 1,000-foot extension of Runway 18-36, as an economic development benefit;
- Develop an Airport vision statement and a marketing and branding strategy to potentially include changing the name of the Airport. Suggestions from the study included: Georgetown Executive Airport, Georgetown Business Airport, and North Austin Regional Airport at Georgetown;
- Develop an Airport security plan;
- Develop an Airport land use plan;
- Update and improve existing and future lease agreements;
- Administration reorganization including additional staff to allow the Airport Manager to focus more on business development opportunities;
- Improve airport aesthetics through landscaping in order to appeal to high end users; and,
- Consider attracting an on-airport restaurant.

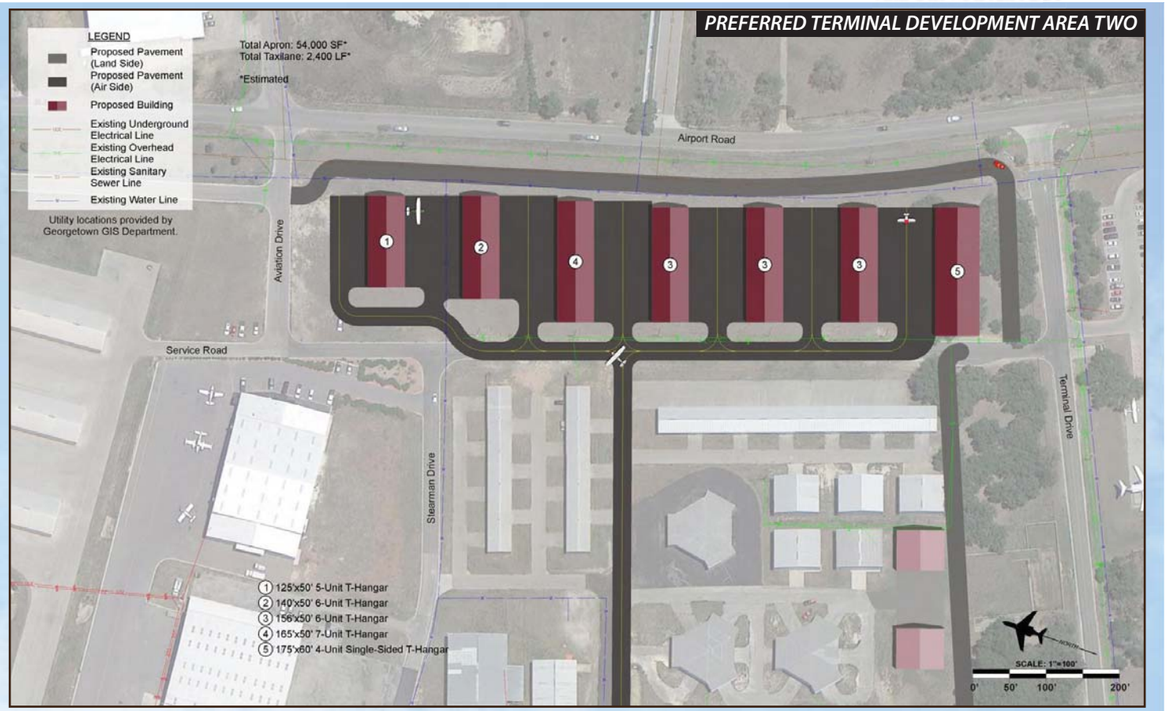
Terminal Development Plan (2013)

This report describes the terminal area options for the open areas or areas designated for terminal redevelopment north of the Terminal Drive and east of Taxiway Alpha, existing and future. It evaluates the merits and deficiencies of each option and provides the technical basis necessary for determining a preferred or recommended development plan. There were four hangar development options considered for each of the three development areas, for a total of 12 options. **Exhibit 1M** is a composite of the

PREFERRED TERMINAL DEVELOPMENT AREA ONE



PREFERRED TERMINAL DEVELOPMENT AREA TWO



PREFERRED TERMINAL DEVELOPMENT AREA THREE

Source: Georgetown Municipal Airport Terminal Development Plan, Garver (2013)

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three recommended development options. The recommended hangar development plan for this area of the Airport will be re-evaluated in the Alternatives chapter of this Master Plan.

AIRPORT SERVICE AREA

The initial step in determining the aviation demand for an airport is to define its generalized service area for various segments of aviation. The service area is determined primarily by evaluating the location and role of competing airports, their capabilities, their services, and their relative attraction and convenience.

The service area for an airport is a geographic region from which an airport can be expected to attract the largest share of its activity. The definition of the service area can then be used to identify other factors, such as socioeconomic and demographic trends, which influence aviation demand at an airport. Aviation demand will be impacted by the proximity of competing airports, the surface transportation network, and the strength of commercial airline and/or general aviation services provided by an airport and competing airports.

As in any business enterprise, the more attractive the facility is in terms of service and capabilities, the more competitive it will be in the market. If an airport's attractiveness increases in relation to nearby airports, so will the size of its service area. If facilities and services are adequate and/or competitive, some level of aviation activity might be attracted to an airport from more distant locales.

Georgetown Municipal Airport serves a very important role in the regional aviation system. Only Austin Executive Airport provides a comparable level of service, and it is also extremely limited in hangar space. **Table 1L** presents information related to general aviation airports in proximity to Georgetown.

TABLE 1L
Regional Airports

Airport	Driving Miles from GTU	Service Level	Based Aircraft	Annual Operations	Longest Runway (ft.)	Lowest Visibility Minimum
Georgetown Municipal (GTU)	0	GA-R	287	73,400	5,004	1-mile
Taylor Muni. (T74)	22 (SE)	GA	52	21,900	4,000	⅞-mile
Austin Executive (EDC)	24 (S)	GA-R	93	17,900	6,025	¾-mile
Skylark Field - Killeen (ILE)	29 (N)	GA	66	28,500	5,495	¾-mile
Lago Vista (RYW)	31 (SW)	GA	14	5,100	3,808	1-mile
Austin-Bergstrom (AUS)	39 (s)	CS	209	183,200	12,250	½-mile
Lakeway Airpark (3R9)	40 (SW)	GA	58	9,100	3,930	1-mile

[1]Military airport open to the public
GA: General Aviation; GA-R: General Aviation - reliever; CS: Commercial Service
Source: www.airnav.com

The general service for the Airport includes Williamson County and area beyond, especially towards Austin. For this reason, the primary service area will also include Travis County. While some aircraft owners from farther away will utilize and, in some cases, base at the Airport, as a general matter, these two counties best represent the service area.

Williamson and Travis Counties constitute the primary airport service area.

As a check, the mailing address of all based aircraft owners was analyzed. It was found that 69 percent of the based aircraft owners have a mailing address in Williamson (43%) and Travis (26%) Counties. Another 14 percent have address in other Texas counties. The remaining 17 percent of based aircraft owners have mailing addresses outside the state with Delaware accounting for the greatest number with approximately seven percent of based aircraft. These figures confirm that Williamson and Travis county should be considered the primary airport service area. **Exhibit 1N** shows the generalized service area for Georgetown Municipal Airport.

SOCIOECONOMIC CHARACTERISTICS

For an airport planning study, socioeconomic characteristics are collected and examined to derive an understanding of the dynamics of growth within the study area. Socioeconomic information related to the approximate airport service area is an important consideration in the master planning process.

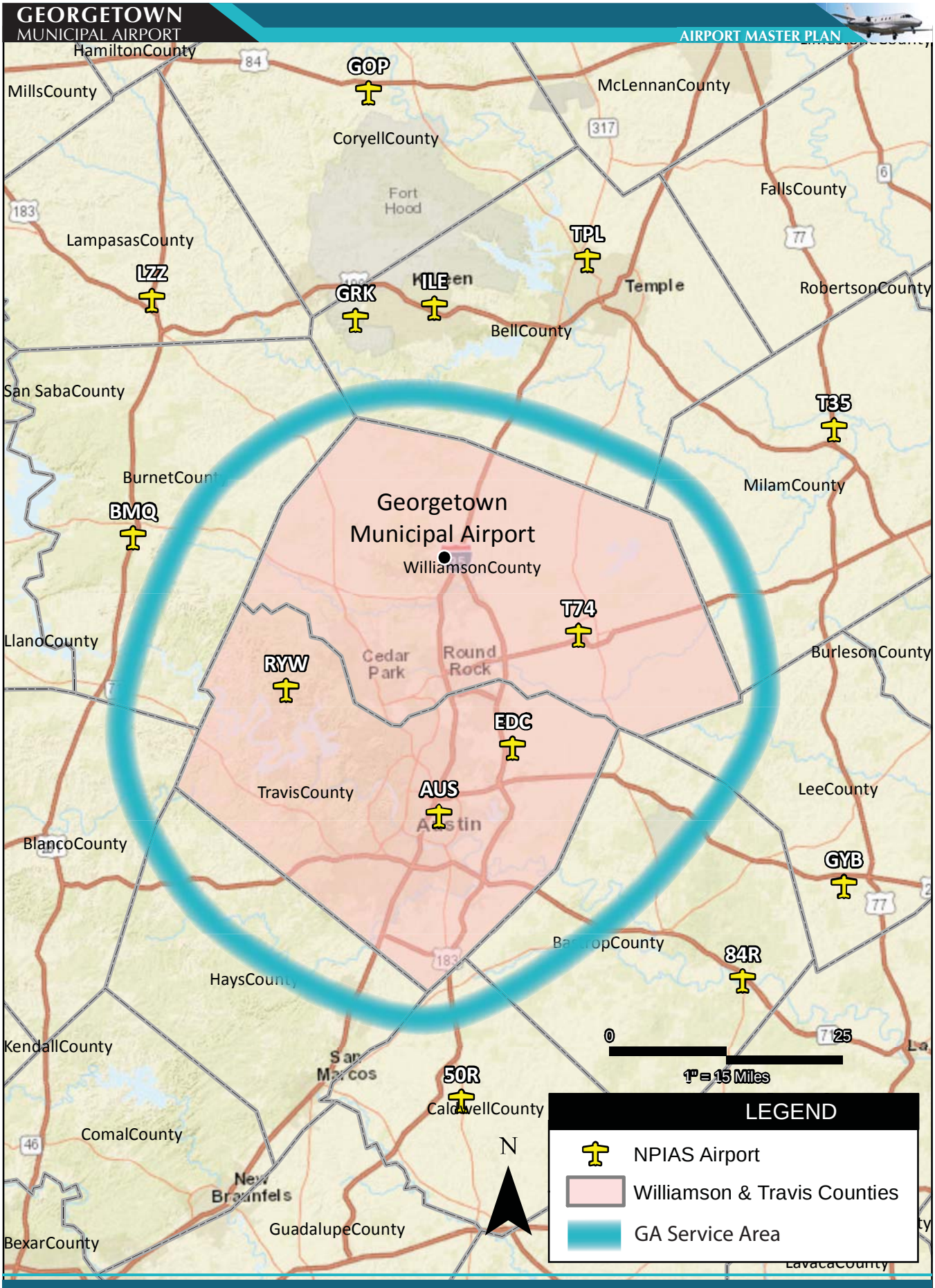
The historic trend in elements, such as population, employment, and income, provides insight into the long term socioeconomic condition of the region. This information is essential in determining aviation service level requirements, as well as forecasting aviation demand elements for airports. Aviation forecasts are typically related to the population base, economic strength of the region, and the ability of the region to sustain a strong economic base over an extended period of time.

Table 1M presents historical and forecast population data for the City of Georgetown, the extended Extra Territorial Jurisdiction (ETJ), Williamson County, and Travis County. While additional socioeconomic data will be utilized in the forecast chapter, this table is intended to introduce to the reader the exceptional growth in population experienced since 2000 and forecast for the region through 2030. This area is one of the fastest growing areas in the country, and this growth will have a significant influence on aviation demand in the region.

TABLE 1M
City/County Population Estimates

Year	City Limits[1]	Percent Increase	ETJ[1]	Percent Increase	Williamson County[2]	Percent Increase	Travis County[2]	Percent Increase
2000	28,339	NA	36,231	NA	255,379	NA	819,692	NA
2005	37,870	25.2%	52,526	31.0%	332,169	23.1%	891,266	8.0%
2010	47,400	20.1%	68,821	23.7%	426,541	22.1%	1,030,443	13.5%
2015	54,689	13.3%	81,376	15.4%	504,088	15.4%	1,171,245	12.0%
2020	67,418	18.9%	98,689	17.5%	587,135	14.1%	1,281,126	8.6%
2025	81,239	17.0%	112,270	12.1%	682,830	14.0%	1,399,193	8.4%
2030	96,567	15.9%	128,465	12.6%	792,107	13.8%	1,524,267	8.2%
CAGR 2015-2030	3.9%		3.1%		3.1%		1.8%	

[1]*City of Georgetown Planning Department*
[2]*Woods & Poole Complete Economic and Demographic Data Source (CEEDS) 2016*
CAGR: Compound Annual Growth Rate


HamiltonCounty
MillsCounty
GOP
McLennanCounty
CoryellCounty
Fort Hood
FallsCounty
LampasasCounty
LZZ
TPL
GRK
ILE
Temple
RobertsonCounty
BellCounty
San SabaCounty
T35
BurnetCounty
MilamCounty
BMQ
Georgetown Municipal Airport
WilliamsonCounty
T74
LlanoCounty
RYW
Cedar Park
Round Rock
BurlesonCounty
EDC
TravisCounty
AUS
Austin
LeeCounty
BlancoCounty
GYB
BastropCounty
84R
HaysCounty
KendallCounty
San Marcos
50R
CaldwellCounty
ComalCounty
New Braunfels
GuadalupeCounty
BexarCounty
0
25
1" = 15 Miles
N
LEGEND
NPIAS Airport
Williamson & Travis Counties
GA Service Area

ENVIRONMENTAL INVENTORY

The Environmental Inventory addresses the existing conditions at Georgetown Municipal Airport and is intended to help identify relevant environmental issues that should be considered during preparation of the Airport Master Plan. The inventory is organized using the 14 resource categories contained in FAA Order 1050.1F, *Environmental Impact: Policies and Procedures.* However, categories which are part of the developed environment of the Airport, such as visual effects (light emissions), natural resources, and energy supply, have already been discussed previously. Available information regarding the existing environmental conditions at the Airport has been derived from reliable internet resources, agency maps, and existing literature.

AIR QUALITY

Under the *Clean Air Act*, the United States (U.S.) Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) based on health risks for the following pollutants:

- Carbon monoxide (CO)
- Nitrogen dioxide (NO_2)
- Sulfur dioxide (SO_2)
- Lead (Pb)
- Ozone (O_3)
- Particulate matter (PM) measuring 10 micrometers or less in diameter (PM_{10})
- PM measuring two and one-half micrometers in diameter ($PM_{2.5}$)

An area with ambient air concentrations exceeding the NAAQS for a criteria pollutant is said to be a nonattainment area for the pollutant's NAAQS, while an area where ambient concentrations are below the NAAQS is considered to be an attainment area. EPA requires that areas designated as nonattainment demonstrate how they will attain the NAAQS by an established deadline. To accomplish this, states are required to prepare State Implementation Plans (SIPs). SIPs are typically a comprehensive set of reduction strategies and emissions budgets designed to bring the area into attainment. The Airport is located in Williamson County, Texas. According to the EPA's *Green Book*, Williamson County is in attainment for all of the NAAQS standards.

BIOLOGICAL RESOURCES (INCLUDING FISH, WILDLIFE AND PLANTS)

The U.S. Fish and Wildlife Service (USFWS) is charged with overseeing the requirements of the *Federal Endangered Species Act* (FESA), specifically Section 7, which sets forth requirements for consultation to determine if a proposed action "may affect" a federally endangered or threatened species. If an agency determines that an action "may affect" a federally protected species, then Section 7(a)(2) requires the agency to consult with USFWS 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. If a species has been listed as a candidate species, Section 7(a)(4) states that each agency must confer with the USFWS.

Additional federal laws protecting fish, wildlife, and plants include the *Migratory Bird Treaty Act* (MBTA), which prohibits activities that would harm migratory birds, their eggs, or nests; and the *Bald and Golden Eagle Protection Act*, which prohibits the take (defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb") of bald and golden eagles, including their parts, nests, or eggs, without a permit. Executive Order (E.O.) 13312, *Invasive Species,* aims to prevent the introduction of invasive species as a result of a proposed action. (E.O. 11990, *Protection of Wetlands,* is discussed under the Water Resources section of this report.)

According to the USFWS, there are 12 threatened or endangered species in the vicinity of the Airport as shown in **Table 1N**, along with habitat information where each species is most commonly found. There are no critical habitats on airport property.

TABLE 1N
Species Protected Under the *Endangered Species Act*
Williamson County, Texas

Species type	English name	Scientific name	Status	Habitat
Amphibian	Georgetown Salamander	*Eurycea naurfragia*	Threatened	Springs of San Gabriel River; Cowan & Berry Creek drainages
Amphibian	Jollyville Plateau Salamander	*Eurycea tonkawae*	Threatened	Springs or spring runs
Amphibian	Salado Salamander	*Eurycea chisholmensis*	Threatened	Salado Springs, Robertson Springs
Arachnid	Bone Cave Harvestman	*Texella reyesi*	Endangered	Caves
Bird	Black-capped Vireo	*Vireo articapilla*	Endangered	Oak scrub, brushy hills, rocky canyons
Bird	Golden-cheeked Warbler	*Dendroica chrysoparia*	Endangered	Junipers, oaks, streamside trees
Bird	Least Tern	*Sterna antillarum*	Endangered	Beach, bays, large rivers, salt flats
Bird	Piping Plover	*Charadrius melodus*	Threatened	Beach, tidal flats
Bird	Red Knot	*Caldris canutus rufa*	Threatened	Tidal flats, shores
Bird	Whooping Crane	*Grus Americana*	Endangered	Muskeg (summer), prairie pools, marshes
Insect	Coffin Cave Mold Beetle	*Batrisodes texanus*	Endangered	Caves
Insect	Tooth Cave Ground Beetle	*Rhadine persephone*	Endangered	Under rocks, deep & compact silt

Source: Information for Planning and Conservation (USFWS), September 2016
Williamson County Habitat Conservation Plan (2008)
Audubon Bird Guide, September 2016

Karst Invertebrate Survey Report (2011)

The Airport property was surveyed for karst (cave) features and found to have sites requiring excavation. Five sites were excavated which revealed two caves requiring biological monitoring. Three biological surveys were performed in each of the two caves that appeared to contain suitable habitat to support karst invertebrate communities. An immature eyeless *Texella reyesi* harvestman was observed in Willow the Wisp Cave. Due to the immaturity of the specimen collected, it is unknown if it represents populations of the federally-listed endangered species or not.

A supplemental survey was conducted in 2012 covering 4.7 acres near the northwest end of Runway 11 and 4.7 acres near the southeast end of Runway 29. One closed depression was observed; however, no karst invertebrate habitat was found. Much of the northwest search area consisted of fill material which could obscure underlying features. Due to this uncertainty, monitoring for karst voids during any excavation activities is recommended at this site.

There are 21 species of migratory birds protected by the MBTA that could potentially be affected by activities in the airport environs listed in **Table 1P**. All birds listed, with the exception of the Least Bittern, are considered Birds of Conservation Concern (BoCC). In the 1988 amendment to the *Fish and Wildlife Conservation Act*, it is mandated that the USFWS identify species of migratory, nongame birds that, without additional conservation acts, are likely to become candidates under the ESA.[1]

TABLE 1P
Birds Protected Under the *Migratory Bird Treaty Act*
Williamson County, Texas

Bald Eagle (*Haliaeetus* leucocephalus)	Lewis's Woodpecker (*Melanerpes* lewis)
Bell's Vireo (*Vireo* belli)	Loggerhead Shrike (*Lanius* ludovicianus)
Burrowing Owl (*Athene* cunicularia)	Orchard Oriole (*Lcterus* spurius)
Dickcissel (*Spiza* Americana)	Painted Bunting (*Passerina* ciris)
Fox Sparrow (*Passerella* iliaca)	Prothonotary Warbler (*Protonotaria* citrea)
Harris's Sparrow (*Zonotrichia* querula)	Red-headed Woodpecker (*Melanerpes* erythrocephalus*)*
Hudsonian Godwit (*Limosa* haemastica)	Rufous-crowned Sparrow (*Aimophila* ruficeps)
Lark Bunting (*Calamospiza* melanocorys)	Rusty Blackbird (*Euphagus* carolinus)
Le Conte's Sparrow (*Ammodramus* leconteii)	Short-eared Owl (*Asio* flammeus)
Least Bittern (*Lxobrychus* exilis)	Sprague's Pipit (*Anthus* spragueii)
Lesser Yellowlegs (*Tringa* flavipes)	

Source: Information for Planning and Conservation (USFWS), September 2016

CLIMATE

According to the EPA, U.S. aircraft are responsible for 11 percent of greenhouse gas (GHG) emissions in the U.S. transportation sector and three percent of the total U.S. GHG emissions.[2] While there is still

[1] https://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.ph
[2] https://www3.epa.gov/otaq/documents/aviation/420f15023.pdf

some uncertainty on the exact impact the aviation industry has on climate change, a goal of reducing GHG emissions is a national priority.[3]

GHGs are those emissions that trap heat in the earth's atmosphere. They include: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). GHGs are both naturally occurring and anthropogenic (man-made). Aircraft jet engines, similar to other vehicle engines, produce CO_2, H_2O, nitrogen oxides (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), volatile organic compounds (VOCs), particulates, and other trace compounds. Due to its innate properties, CO_2 is the most important GHG to monitor. It remains in the atmosphere for up to 100 years, causing both short- and long-term impacts, locally and internationally. Climate change impacts include increased air temperatures, sea level rise, and more frequent and intense storms.

The FAA is currently leading or participating in several efforts intended to clarify the role that commercial aviation plays relative to GHGs and climate change. The most comprehensive and multi-year program geared towards quantifying the climate change effects of aviation is the Aviation Climate Change Research Initiative (ACCRI), funded by the FAA and the National Aeronautics and Space Administration (NASA). ACCRI hopes to reduce key scientific uncertainties in quantifying aviation-related climate impacts and to provide timely scientific input to inform policy-making decisions.

The FAA also funds ASCENT, the Aviation Sustainability Center, also known as the Center of Excellence for Alternative Jet Fuels and Environment. The goal of ASCENT is to craft scientific solutions for the aviation industry's largest challenges, ranging from alternative jet fuel supply to altitude and speed optimization.[4] Finally, the Transportation Research Board's (TRB) Airport Cooperative Research Program (ACRP) project 02-06 published a guidebook on preparing airport GHG emission inventories in September 2008.

Federal regulations specific to the aviation sector under the *Clean Air Act* regarding the reduction of GHG emissions have yet to be approved, and there do not appear to be state-led policies in relation to climate change in Texas.

COASTAL RESOURCES

Federal activities involving or affecting coastal resources are governed by the *Coastal Barriers Resource Act* (CBRA), the *Coastal Zone Management Act* (CZMA), and E.O. 13089, *Coral Reef Protection*.
The Airport is not located near any coastal resources.

DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(f)

Section 4(f) of the U.S. *Department of Transportation Act* (DOT Act), which was re-codified and renumbered as Section 303(c) of Title 49 United State Code (USC), provides that the Secretary of Transportation

[3] https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/faa_nepa_order/desk_ref/media/3-climate.pdf
[4] https://ascent.aero/

will not approve any program or project that requires the use of any publicly owned land from a historic site, public park, recreation area, or waterfowl and wildlife refuge of national, state, regional, or local importance unless there is no feasible and prudent alternative to the use of such land, and the project includes all possible planning to minimize harm resulting from the use.

The only protected properties in the vicinity of the airport are Emerald Springs Park, a public park approximately three-quarters of a mile west of the airport and Georgetown Tennis Center, a City-owned recreation facility located adjacent to the northern airport property line (shown on **Exhibit 1P**). There are no recreation areas, wilderness areas, or wildlife refuges within two miles of the airport.

Properties registered with the *National Historic Preservation Act* that are found within two miles of the airport are listed under the Historical, Architectural, Archaeological, and Cultural Resources category.

FARMLANDS

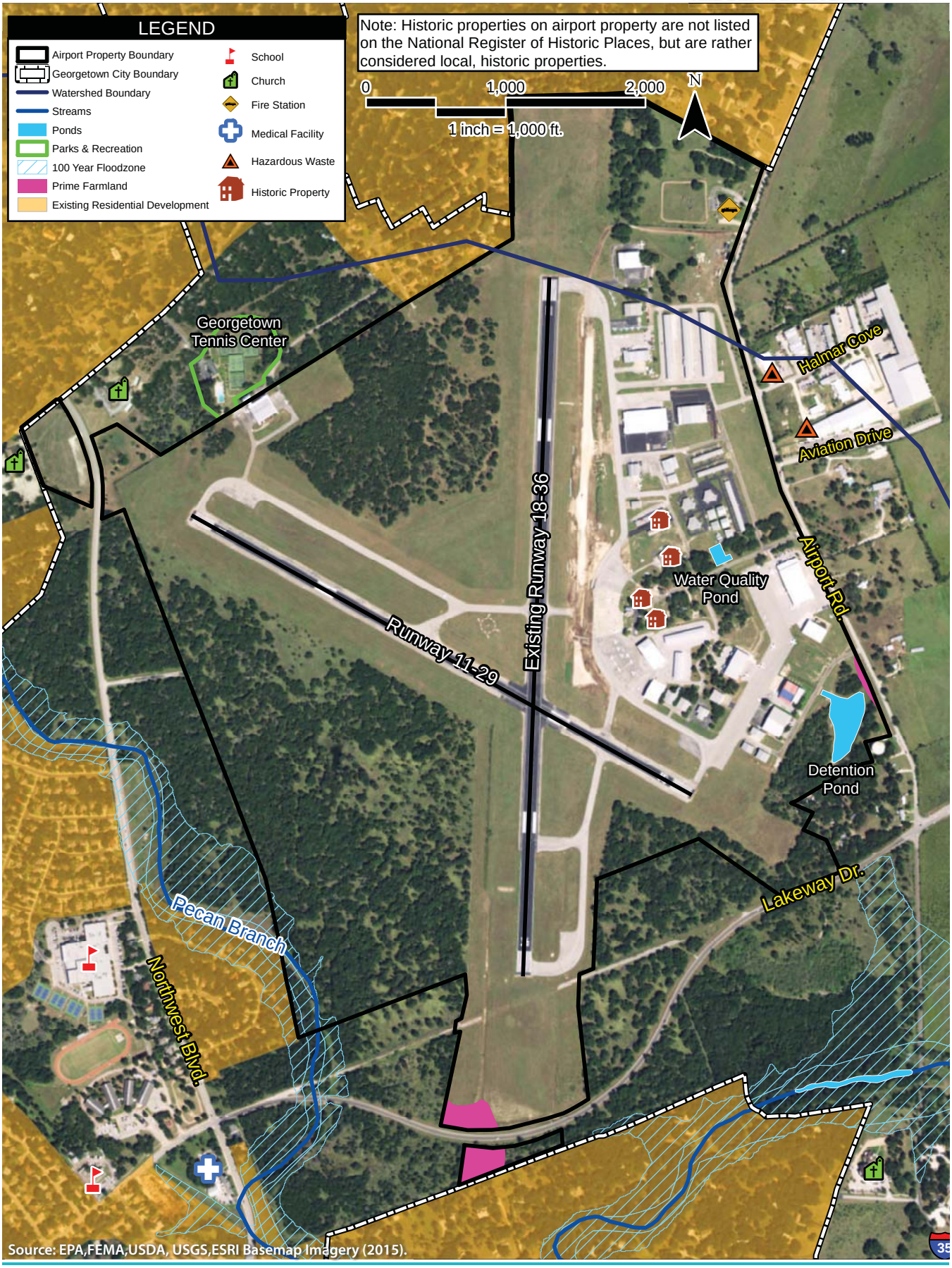
The *Farmland Protection Policy Act* (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and farmland of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can also be forest land, pastureland, or other land, but not water or urban built-up land.

Based on the U.S. Department of Agriculture, Natural Resources Conservation Service – Web Soil Survey (NRCS-WSS), 3.5 acres (less than one percent) of airport property is considered prime farmland (shown on **Exhibit 1P**). The remaining 530.3 acres of soil on airport property are not considered prime farmland. There are also no soils classified as unique farmland, or farmland of statewide or local importance on airport property.

HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

Federal, state, and local laws, including the *Resource Conservation Recovery Act* (RCRA) and the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), as amended (also known as the Superfund), regulate hazardous materials use, storage, transport, and disposal. These laws may extend to past and future landowners of properties containing these materials. Disturbing areas that contain hazardous materials or contaminates can cause significant impacts to soil, surface water, groundwater, air quality, and the organisms using these resources.

According to the EPA's EJSCREEN website, there are no Superfund or Brownfield sites in proximity to the Airport. However, there are two hazardous waste facilities very close to the Airport. SBR Pumping, Inc. is located an Aviation Drive and operates a used oil program. The other facility, Nextus, Inc., is located on Halmar Cove and handles ignitable waste. These facilities are shown on **Exhibit 1P**.


LEGEND
Airport Property Boundary
Georgetown City Boundary
Watershed Boundary
Streams
Ponds
Parks & Recreation
100 Year Floodzone
Prime Farmland
Existing Residential Development
School
Church
Fire Station
Medical Facility
Hazardous Waste
Historic Property
Note: Historic properties on airport property are not listed on the National Register of Historic Places, but are rather considered local, historic properties.
0
1,000
2,000
1 inch = 1,000 ft.
N
Georgetown Tennis Center
Halmar Cove
Aviation Drive
Existing Runway 18-36
Runway 11-29
Water Quality Pond
Airport Rd.
Detention Pond
Lakeway Dr.
Pecan Branch
Northwest Blvd.
Source: EPA,FEMA,USDA, USGS,ESRI Basemap Imagery (2015).

HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

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

There are three places listed on the National Register of Historic Places located within three miles of the airport.

- Imhoff House – 1.9 miles south of the airport
- University Avenue-Elm Street Historic District – 2.7 miles south of the airport
- Williamson County Courthouse Historical District – 2.1 miles south of the airport

Historical Resources Survey

In 2007, the City of Georgetown conducted an inventory of historical resources which was an update to a historic resources survey conducted in 1984. Phase I of the 2007 survey updated, located, documented, and reevaluated all resources documented by the 1984 survey. The 1984 survey originally documented all pre-1935 historic resources built within the city limits and the Extraterritorial Jurisdiction. Phase II of the 2007 survey located, documented, and evaluated buildings, structures, objects, and districts built by 1960 within the city limits of Georgetown. The City of Georgetown Planning and Development Department uses the historic resource survey to make informed decisions about local historic zoning overlays and to guide decisions about new development.

Phase I of the 2007 survey identified 900 properties and Phase II identified an additional 665 for a total of 1,574 historic properties. Each property was assigned a preservation priority of LOW, MEDIUM, or HIGH. Assignment of the priority ranking was undertaken by a group of historians, architectural historians, and preservation specialists. Factors such as age, alterations, and level of local significance, were considered.

Properties categorized as LOW are neither individually eligible for listing on the NRHP nor potentially contributing resources within a historic district. Properties categorized as MEDIUM are not individually eligible for listing on the NRHP; however, they likely would be a contributing resource if located within a historic district. Properties categorized as HIGH are either eligible for listing on the NRHP or designation as Registered Texas Historic Landmarks (RTHLs).

Four structures on the airport were added during the 2007 Phase II survey. **Figure 1A** presents the data from the survey. The control tower and the terminal building are categorized as LOW priority. The two hangars are categorized as MEDIUM priority. **Exhibit 1P** shows the location of each of these structures.

2007 LOW **1984** NOT RECORDED		**2007 Site ID No.** 1323d **1984 Site ID No.** **Address** 408 Terminal Drive	**Property Type** Transportation Buildings / Aircraft **Form / Plan Type** Control Tower **Stylistic Influence** N/A **Construction Date** ca. 2000
2007 LOW **1984** NOT RECORDED		**2007 Site ID No.** 1323a **1984 Site ID No.** **Address** 500 Terminal Drive	**Property Type** Transportation Buildings / Aircraft **Form / Plan Type** Terminal Building **Stylistic Influence** Art Deco **Construction Date** 1945
2007 MED **1984** NOT RECORDED		**2007 Site ID No.** 1323b **1984 Site ID No.** **Address** Hangar Drive, at intersection with Terminal Drive, northwest corner	**Property Type** Transportation Buildings / Aircraft **Form / Plan Type** Hangar **Stylistic Influence** N/A **Construction Date** ca. 1945
2007 MED **1984** NOT RECORDED		**2007 Site ID No.** 1323c **1984 Site ID No.** **Address** 204 Hangar Drive	**Property Type** Transportation Buildings / Aircraft **Form / Plan Type** Hangar **Stylistic Influence** N/A **Construction Date** ca. 1945

Figure 1A: On-airport structures of potential local significance

LAND USE

Compatible land use evaluations for airports must consider the land uses in the vicinity of an airport to ensure those uses do not adversely affect safe aircraft operations. In addition, if an airport action would result in impacts exceeding FAA thresholds of significance which have land use ramifications, such as disruption of communities, relocation of businesses or residences, and induced socioeconomic impacts, the effects of the land use impacts shall be discussed.

Based on maps provided in the City of Georgetown's *2030 Comprehensive Plan* (2009), the airport is considered an institutional land use. The airport is currently zoned as a planned unit development (PUD), with industrial as the underlying base district. Zoning the airport this way, along with implementing runway protection zones, was intended to require appropriate buffers for residential uses near the airport. However, as seen on **Exhibit 1P**, residential development is found within one-half mile of the airport to the north, west, and south, many of which are adjacent to the airport property line. Residential uses north and south of the airport are not within City limits and, thus, are not subject to the Georgetown Zoning Code. Williamson County does not have zoning regulations, rendering land uses north and south of the airport unregulated by the City.[5] In addition to residential uses, the airport is surrounded by vacant/undeveloped parcels, open space, commercial, industrial, and parks and recreation uses. There are

[5] http://www.wilco.org/CountyDepartments/Infrastructure/FAQs/tabid/476/language/en-US/Default.aspx

also several aviation-based uses on airport property, as well as some nearby land uses that should be noted. Uses in view are shown on **Exhibit 1P** and listed in **Table 1Q**.

TABLE 1Q
Land Uses on and Near Airport Property
Georgetown Municipal Airport

Name of Location	Distance & Direction from Airport Property Line
FBOs (Fixed Base Operators)	
Aircraft Repair Stations	
Aircraft Avionics Repair	
Flight Schools (Aircraft and Helicopter)	
Aircraft Sales	
Private Hangars	
City-Owned T-Hangars	
City-Owned Hangars	
Airport Terminal	
Georgetown Fire Department Fire Station #4	
Residential	Adjacent to property line north, west, and south[1]
SBR Pumping, Inc.	0.04-mile east
Nextus, Inc.	0.02-mile west
Georgetown Charter Academy	0.04-mile northwest
Pecan Branch Park	0.10-mile west
The Church of Jesus Christ of Latter Day Saints	0.01-mile northwest
Benold Middle School	0.16-mile west
Georgetown Sleep Center	0.23-mile west
Frost Elementary School	0.34-mile west
Church on the Rock	0.38-mile southeast

[1] Note: residential uses north and south of the airport are not within City limits and do not adhere to City zoning standards.
Source: Google Earth (2016)
https://airport.georgetown.org/land-use-map/

Section 12.32.520 of the Georgetown Zoning Code (2016)[6] explains that property within the airport may be used only for aeronautical purposes, provided, however, that nothing herein prohibits a secondary non-aeronautical use of such land if:

- The primary aeronautical need is not interfered with;
- It is not in violation of FAA or TxDOT regulations;
- Is specifically authorized by owner; and
- If such secondary use will benefit the airport or provide better for its maintenance or development.

[6] https://www.municode.com/library/tx/georgetown/codes/code_of_ordinances

Section 12.32.520 states that there are no allowable commercial activities on airport property unless approved by the City Council, but land leases are available on airport property for uses deemed compatible to airport operations (Section 12.32.501). Chapter 12.36 of the Georgetown Zoning Code, titled Georgetown Airport Zoning, outlines regulations related to the airport zones, height limitations, use restrictions, nonconforming uses, permits, existing uses, variances, hazard marking and lighting, enforcement, the Board of Adjustment, appeals, judicial review, conflicting regulations, and violations.

Land uses that are susceptible to aircraft noise are discussed in the Noise and Compatible Land Use section.

NOISE AND COMPATIBLE LAND USE

Noise is considered to be unwanted sound that can disrupt activities, like sleeping and student learning, in addition to causing annoyance. Aviation noise is caused primarily from aircraft operations, like departures, arrivals, overflights, taxiing, and engine run-ups. Most often, it is rural and suburban residential areas that are affected by airport noise exposure due to their inherently low noise level, as compared to more urbanized areas. There are also special noise sensitivities regarding certain uses, like national parks.[7]

Federal land use compatibility guidelines are established under Title 14 Code of Federal Regulations (CFR) Part 150, *Airport Noise Compatibility Planning*. According to 14 CFR 150, residential land uses and schools are not considered compatible with a 65 decibel (dB) Day-Night Sound Level (DNL) noise exposure contour or higher. Religious facilities, hospitals, or nursing homes located within a 65 dB DNL contour are generally compatible if an interior noise level reduction of 25 dB is incorporated into the design and construction of the structure.[8]

As previously mentioned, the airport zoning designation, brought about with the adoption of the *Georgetown Municipal Airport Function Plan Element* (adopted November 22, 2005)[9], is intended to limit residential uses near the airport by requiring appropriate buffers. Section 1.12.050 of the Georgetown Zoning Code states that the purpose of this document is to direct City Council, staff, and/or commissions on the appropriate uses of the airport and surrounding property for the purpose of development, safety, and noise control. Chapter 12.36 of the Georgetown Zoning Code, which discusses the Georgetown Airport Zoning, does not contain any language regarding aviation noise. However, Section 8.16.030

[7] https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/faa_nepa_order/desk_ref/media/11-noise.pdf

[8] Noise-sensitive receptors are generally residences, churches/places of worship, hospitals and healthcare facilities, and educational facilities. Churches/places of worship are defined as permanently established facilities intended solely for use as places of worship and not meant to be converted to other potential uses. For a hospital/healthcare facility to be considered a noise-sensitive medical facility, it must provide for overnight stays or provide for longer recovery periods, where rest and relaxation are key considerations for use of the facility. Schools are facilities that provide full-time use for instruction and training to students.

[9] Copies of this document are available only in print at the office of the City Secretary and the Planning and Development Office.

states maximum allowable decibel levels given the time of day and type of land use. The following are considered to be noise nuisances according to the Georgetown Zoning Code:

- Noise exceeding 63 dB during the daytime or 56 dB during the nighttime in residential areas and all abutting right-of-way.
- Noise exceeding 70 dB during the daytime or 63 dB during the nighttime on commercial or other business zoned property (as defined by the Georgetown Zoning Ordinance).
- Noise exceeding 72 dB during the day or 65 dB during the nighttime on industrial zoned property (as defined by the Georgetown Zoning Ordinance).
- Noise exceeding 72 dB during the daytime or 65 dB during the nighttime on any property which does not fit into any of the categories described previously.

Land uses that are considered noise-sensitive in the vicinity of the airport include the following (uses in view are shown on **Exhibit 1P**):

- Residential – adjacent to airport property line to the north, west, and south
- Georgetown Charter Academy – 0.04-mile northwest of the airport property line
- The Church of Jesus Christ of Latter Day Saints – 0.01-mile northwest of the airport property line
- Benold Middle School – 0.16-mile west of the airport property line
- Georgetown Sleep Center – 0.23-mile west of the airport property line
- Frost Elementary School – 0.34-mile west of the airport property line
- Church on the Rock – 0.38-mile southeast of the airport property line

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

Executive Order 12898, *Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations,* and the accompanying Presidential Memorandum, and Order DOT 5610.2, *Environmental Justice*, require FAA to provide for meaningful public involvement by minority and low-income populations, as well as analysis that identifies and addresses potential impacts on these populations that may be disproportionately high and adverse. The EPA's *EJSCREEN* online tool was consulted regarding the presence of environmental justice areas within the airport environs. Within a one-mile radius of the airport, the American Community Survey (2014) estimates there are 1,571 people, of which 441 (28 percent) are minority. It is also estimated that 32 percent of those residing around the airport are considered low-income.

VISUAL EFFECTS (INCLUDING LIGHT EMISSIONS)

The City of Georgetown's Zoning Code has a Courthouse View Protection (CVP) Overlay District that is intended to preserve views of the Williamson County Courthouse from various locations along corridors

in Georgetown (Chapter 4, Section 4.12). The airport is over two miles away from the CVP overlay district; thus, it should not interfere with any view sheds the district is intended to protect.

WATER RESOURCES (INCLUDING WETLANDS, FLOODPLAINS, SURFACE WATERS, GROUNDWATER, AND WILD AND SCENIC RIVERS)

Water resources are considered to be surface waters and groundwater that society relies upon for drinking, recreation, transportation, industry, agriculture, and aquatic ecosystems. Wetlands, surface waters, and floodplains operate as a single, integrated natural system, and disruption to any part can affect the entire system. This section will look at five primary water systems, including wetlands, floodplains, surface waters, groundwater, and Wild and Scenic Rivers. Water resources in proximity to the airport are shown on **Exhibit 1P**.

Wetlands

The U.S. Army Corps of Engineers regulates the discharge of dredged and/or fill material into waters of the United States, including adjacent wetlands, under Section 404 of the *Clean Water Act*. 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." Wetlands can include swamps, marshes, bogs, sloughs, potholes, wet meadows, river overflows, mud flats, natural ponds, estuarine areas, tidal overflows, and shallow lakes and ponds with emergent vegetation. Wetlands exhibit three characteristics: the soil is inundated or saturated to the surface at some time during the growing season (hydrology), has a population of plants able to tolerate various degrees of flooding or frequent saturation (hydrophytes), and soils that are saturated enough to develop anaerobic conditions during the growing season (hydric).

According to the USFWS, which manages the National Wetlands Inventory on behalf of all federal agencies, there are no wetlands on airport property. According to the NRCS-WSS, there are no hydric soils on airport property.

Floodplains

Executive Order (EO) 11988 directs federal agencies to take action to reduce the risk of flood loss, minimize the impact of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial values served by the floodplains. Based on a review of Federal Emergency Management Agency (FEMA) maps dated September 26, 2008 (map number 48491C0295E), there is a 100-year floodplain present in Pecan Branch which flows onto the southwest corner of the airport property. DOT Order 5650.2 and EO 11988 prohibit encroachment into a floodplain unless no other practical alternative exists. Coordination with the local floodplain administrator is required.

Surface Waters

The *Clean Water Act* provides the authority to establish water quality standards, control discharges, develop waste treatment management plans and practices, prevent or minimize the loss of wetlands, and regulate other issues concerning water quality. Water quality concerns related to airport development most often concern the potential for surface runoff and soil erosion, as well as the storage and handling of fuel, petroleum products, solvents, etc. Examples of this include any in-water work resulting from expansion of an existing FAA facility adjacent to surface waters, or a withdrawal of water from a surface water for construction or operations. Additionally, Congress has mandated (under the *Clean Water Act*) the National Pollutant Discharge Elimination System (NPDES). Through the use of permits, certain procedures are required to prevent contamination of water bodies from stormwater runoff.

Storm water compliance per TCEQ and EPA requirements are discussed earlier in Chapter One in the Storm Water Pollution Prevention Control Facilities section.

According to the EPA's MyWATERS Mapper, there are no impaired waters on or near airport property, nor are there any waters with Total Maximum Daily Loads (TMDLs) or sediment impairments (including clay, silt, and sand). Pecan Branch is the nearest stream, running south and west of the airport. The airport is in the Smith Branch-San Gabriel River Watershed (HUC12: 120702050501).

Groundwater

Groundwater is subsurface water that occupies the space between sand, clay, and rock formations. The term aquifer is used to describe the geologic layers that store or transmit groundwater, such as to wells, springs, and other water sources. Examples of direct impacts to groundwater could include withdrawal of groundwater for operational purposes, or reduction of infiltration or recharge area due to new impervious surfaces. The Edwards Aquifer II is the closest sole source aquifer, which is 32.6 miles south of the airport. According to the City of Georgetown's *2030 Comprehensive Plan* (2009), it states that most of the City, including the airport property, sits within the designated protection zones of the Edwards Aquifer, which is a natural groundwater resource extending 180 miles along the Balcones Fault Zone. The City draws its water from Lake Georgetown, but the Edwards Aquifer provides water for many communities, and thus is a resource the City aims to protect.[10]

National Wild and Scenic Rivers and National River Inventory

The National Wild and Scenic Rivers System was created in 1968 to preserve certain rivers with outstanding natural, cultural, and recreational values[11]. The Rio Grande is classified as a Wild and Scenic River. It is 251.3 miles west of the Airport and is the closest such resource.

[10] *City of Georgetown 2030 Comprehensive Plan* (Plan established in 2008; amendments adopted May 11, 2009)
[11] http://www.rivers.gov/wsr-act.php

The Nationwide Rivers Inventory (NRI) is managed by the U.S. Department of the Interior's National Park Service. The NRI contains more than 3,400 rivers in the U.S. that are believed to have one or more natural or cultural characteristics deemed to be of more than local or regional importance[12]. Located 29.7 miles southwest of the Airport, Pedernales River is the closest resource in the NRI.

DOCUMENT SOURCES

A variety of sources were used during the inventory process. The following listing reflects a partial compilation of these sources. In addition, considerable information was provided directly to the consultant by Georgetown Municipal Airport staff.

Airport/Facility Directory South Central U.S., U.S. Department of Transportation, Federal Aviation Administration, National Aeronautical Charting Office. Effective September 15, 2016.

San Antonio Sectional Chart, U.S. Department of Transportation, Federal Aviation Administration, National Aeronautical Charting Office. Effective April 26, 2016.

U.S. Terminal Procedures, South Central U.S., U.S. Department of Transportation, Federal Aviation Administration, National Aeronautical Charting Office. Effective September 15, 2016.

National Plan of Integrated Airport Systems (NPIAS), U.S. Department of Transportation, Federal Aviation Administration, 2015-2019.

Georgetown Municipal Airport Master Plan Update – Final Report, 2005. Prepared by GRW-Willis.

A number of internet websites were also used to collect information for the inventory chapter. These include the following:

Georgetown Municipal Airport:
https://airport.georgetown.org/

Texas Department of Transportation - Division of Aviation:
http://www.Texasdot.gov/aviation/index.html

Various Official Websites:

Historical FAA Grants:
http://www.faa.gov/airports/aip/grant_histories/

[12] http://www.nps.gov/ncrc/programs/rtca/nri/index.html

Terminal Area Forecast:
http://aspm.faa.gov/main/taf.asp

Traffic Flow Management System Counts (TFMSC):
https://aspm.faa.gov/tfms/sys/main.asp

FAA 5010 Data:
http://www.airnav.com and http://www.gcr1.com/5010Web

U.S. Census Bureau:
http://www.census.gov

U.S. Bureau of Labor Statistics:
http://www.bls.gov

City of Georgetown:
https://georgetown.org/

Williamson County:
https://www.wilco.org/

Capital Area Metropolitan Planning Organization
http://www.campotexas.org/

EPA, Currently Designated Nonattainment Areas for All Criteria Pollutants:
http://www.epa.gov/oar/oaqps/greenbk/ancl3.html

U.S. Fish and Wildlife Service Information, Planning, and Conservation System:
http://ecos.fws.gov/ipac/

FEMA Map Service Center:
https://msc.fema.gov/portal/

EPA MyWATERS Mapper:
http://watersgeo.epa.gov/