VICTORIA
REGIONAL AIRPORT

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Master Plan Update

2017

Victoria Regional Airport (VCT)

Airport Master Plan Update

FINAL REPORT
September 2017

Prepared for:
Victoria County

P.O. Box 2069
Victoria, Texas 71273
&
Texas Department of Transportation (TxDOT)

Aviation Division
Austin, TX

Prepared by:
KSA
A·DYNAMIC·PERSPECTIVE
McKinney, TX

In association with:
Quadrex Aviation, LLC
Melbourne, FL

Urban Engineering
Victoria, TX

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Airport Master Plan - Planning Advisory Committee Members

Gary Bay
Citizen/Local Pilot
bayge@suddenlink.net

Adrian Cannady
Victoria Economic Development Corporation
adriancannady@victoriaedc.com

Anthony Cordo
Victoria Visitors and Convention Bureau (VCB)
acordo@victoriatx.org

Mary Craighead
Victoria Metropolitan Planning Organization
mcraighead@victoriatx.org

Joyce Dean
Victoria County – Administrative Services
jdean@vctx.org

Dan Easton
Victoria Advocate Newspaper
deaston@vicad.com

Lt. Thomas Eisman
Victoria County Sheriff's Office
teisman@vctx.org

Dale Fowler
Victoria Economic Development Corporation
dfowler@victoriaedc.com

Ben Galvin
CivilCorp Engineering
Bgalvan@civilcorp.us

Charmelle Garrett
City of Victoria – City Manager
chgarrett@victoriatx.org

Councilman Tom Halepaska
City of Victoria
doboy3@viptx.net

Loc Phan
Local Business Owner
locphan@theskygrill.com

Mayor Paul Polasek
City of Victoria
ppolasek@victoriatx.org

Bryant Price
AGAMA Advertising
bryantp@agamaad.com

Larry Reese
Citizen/Local Pilot
ldreese@att.net

Steve Roth
Roth Construction
s.roth@rothcorps.com

Trey Ruschhaupt
Victoria Airport Commission
treyrus@yahoo.com

Bill Russell
Victoria Airport Commission
Bill.russell@sprouselaw.com

Tim Smith
Local Business Owner
tim@reliantfieldservice.com

Jennifer Stastny
Port of Victoria
Jennifer@portofvictoria.com

Lou Svetlek
Victoria ISD School Board
claero@ccwip.net

Randy Vivian
Victoria Chamber of Commerce
randyvivian@victoriachamber.org

Judge Ben Zeller
Victoria County
bzeller@vctx.org

Brenda Svetlik
University of Houston – Victoria
SvetlikB@uhv.edu

Airport Staff

Lenny Llerena
Executive Director
Victoria Regional Airport
VLlerena@vctx.org

Jack Lill
Air Traffic Control Tower Chief
Victoria Regional Airport
jlil@ci2.com

TxDOT Representative

Ben Breck
Airport Planner
Texas Department of Transportation
Ben.Breck@txdot.gov

Consultant Staff

Molly Waller
Principal In-Charge
KSA
mwaller@ksaeng.com

Michael Mallonee
Project Manager
KSA
mmallonee@ksaeng.com

Dr. Dave Byers
Quadrex Aviation
dabyers@gmail.com

Thomas A. Schmidt, PE
Urban Engineering
tschmidt@urbanvictoria.com

Executive Summary

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Chapter Two: Aviation Demand and Forecasts

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Executive Summary

This Airport Master Plan defines a concept for development at Victoria Regional Airport (VCT) over the course of a 20-year planning period and is prepared in collaboration with airport management, federal and state agencies, local officials, businesses and interested airport users/stakeholders. The plan recommends improvements in accordance with specific Federal Aviation Administration (FAA) criteria, taking into consideration anticipated changes in aviation activity trends at the local, regional, and national levels.

Victoria Regional Airport (VCT) is a public use airport owned and operated by the County of Victoria. The county employs a full-time, professional airport manager and associated support staff.

VCT is a towered, fully operational FAA Part 139 airport that provides scheduled commercial airline service. Texas Sky Airlines currently operates a 19-seat British Aerospace (BAe) Jetstream 32 turbo-prop aircraft to Dallas/ Fort-Worth (DFW). VCT is included in the National Plan of Integrated Airport Systems (NPIAS), which identifies existing and proposed airports that are considered significant to the national airspace system. To receive Airport Improvement Program (AIP) grants, a listing in the NPIAS is required. The NPIAS currently classifies VCT as a Regional General Aviation airport. This type of airport supports regional economies by connecting communities to statewide and interstate markets.

The primary objective of this Airport Master Plan is to provide a comprehensive planning guide for the continued development of a safe, efficient, and environmentally compatible aviation facility that meets the goals of Victoria, airport users and tenants, and the surrounding market area. The plan must also satisfy FAA and Texas Department of Transportation (TxDOT) guidelines for the development of airport master plan and facilities, while incorporating characteristics that are unique to the area. The study focuses on aeronautical forecasts, economic development opportunities, need and justification for development, and a staged plan for recommended development. Existing planned studies and reports were also used for input into this inventory and referenced as a basis for this master plan.

Scope of Study

The primary elements of this Master Plan Update include:

- Inventory and assessment of the existing facilities
- Forecasts of aviation activity
- Analysis of economic development strategies
- Demand/capacity analysis and facility requirements
- Airport Development Alternatives and Recommended Plan
- Implementation Plan
- Airport Layout Plan

The staged plan typically looks at planning horizons of 0-5 years, 6-10 years, and 11-20 years. The first phase generally addresses existing facility deficiencies or non-compliance with FAA Airport Design Standards. The subsequent phases

typically address the facilities and resources needed to accommodate the predicted growth based on reasonable assumptions and opportunities.

Inventory

Victoria Regional Airport is located in Victoria County. VCT encompasses 1,766 acres on the northeast side of the city of Victoria and is approximately 5 miles northeast of downtown Victoria. Chapter 1, *Inventory*, provides further detail including socioeconomic, historic, operational, and infrastructure conditions existing at the Airport and the surrounding market area.

Forecast of Aviation Demand

It is anticipated that Victoria Regional Airport will see low to moderate growth during the 20-year planning period. Market area demographic trends indicate the Airport will slightly outpace growth in based aircraft versus enplanements and total operations. Military activity is expected to continue to represent most aircraft operations in the future. Based aircraft are expected to increase from 41 aircraft to 59 aircraft by 2035. By the end of the planning period over 60,000 operations could be expected.

To secure approval for these projections, the FAA requires a comparison of master plan forecasts to the annually produced Terminal Area Forecast (TAF), which is completed for each airport in the NPIAS and is updated annually. The FAA prefers that airport planning forecasts not vary significantly from the TAF and looks for forecasts to fall within 10 percent of their five-year forecasts and 15 percent of their 10-year forecasts. If the numbers do not fall within these tolerances, explanation must be provided. A comparison between the Master Plan projections and TAF for Victoria are provided in Chapter 2, *Forecast of Aviation Demand.*

Facility Requirements

Facility requirements for this planning effort included the identification of facilities which will be necessary to meet the forecasted demand as well as opportunities for local and regional economic development. An evaluation of existing and potential future opportunities found that the airfield should continue to be maintained to accommodate an Aircraft Reference Code of C-II including the Cessna Citation X, which was determined to be the critical aircraft for this master planning exercise.

Victoria Regional Airport currently includes vast quantities of apron, runway, and hangar infrastructure as a result of the Airport's military history. While improvements are recommended, many factors including apron are adequate for the duration of the planning period and should be maintained as such.

Development Alternatives

The development alternatives for the planning process assumed that Victoria Regional Airport will continue in its current role as a regional general aviation airport providing commercial service, creating employment opportunities throughout the surrounding market area, and accommodating the demand of general aviation throughout the region. The following is a summary of the key facility recommendations that were highlighted within the evaluation of alternatives.

- Taxiway/runway connector improvements that are consistent with FAA design standards and provide convenient access to runway points that maximize available runway length.
- Implementation of taxiway improvements designed to mitigate direct access from the aircraft apron to the runway.
- Rehabilitation of the primary Runway 13L/31R to ensure operational capability throughout the planning period.

- Conversion of Runway 13R/31L to a full length parallel taxiway serving the primary instrument runway (13L/31R) as required by FAA design standards. This runway is currently in poor condition and certain portions have experienced failure.
- Construction of additional T-Hangars to accommodate the forecast growth of single-engine based aircraft.
- Should commercial service at VCT expand, additional parking should be considered to accommodate additional operations.

Recommended Development Concept

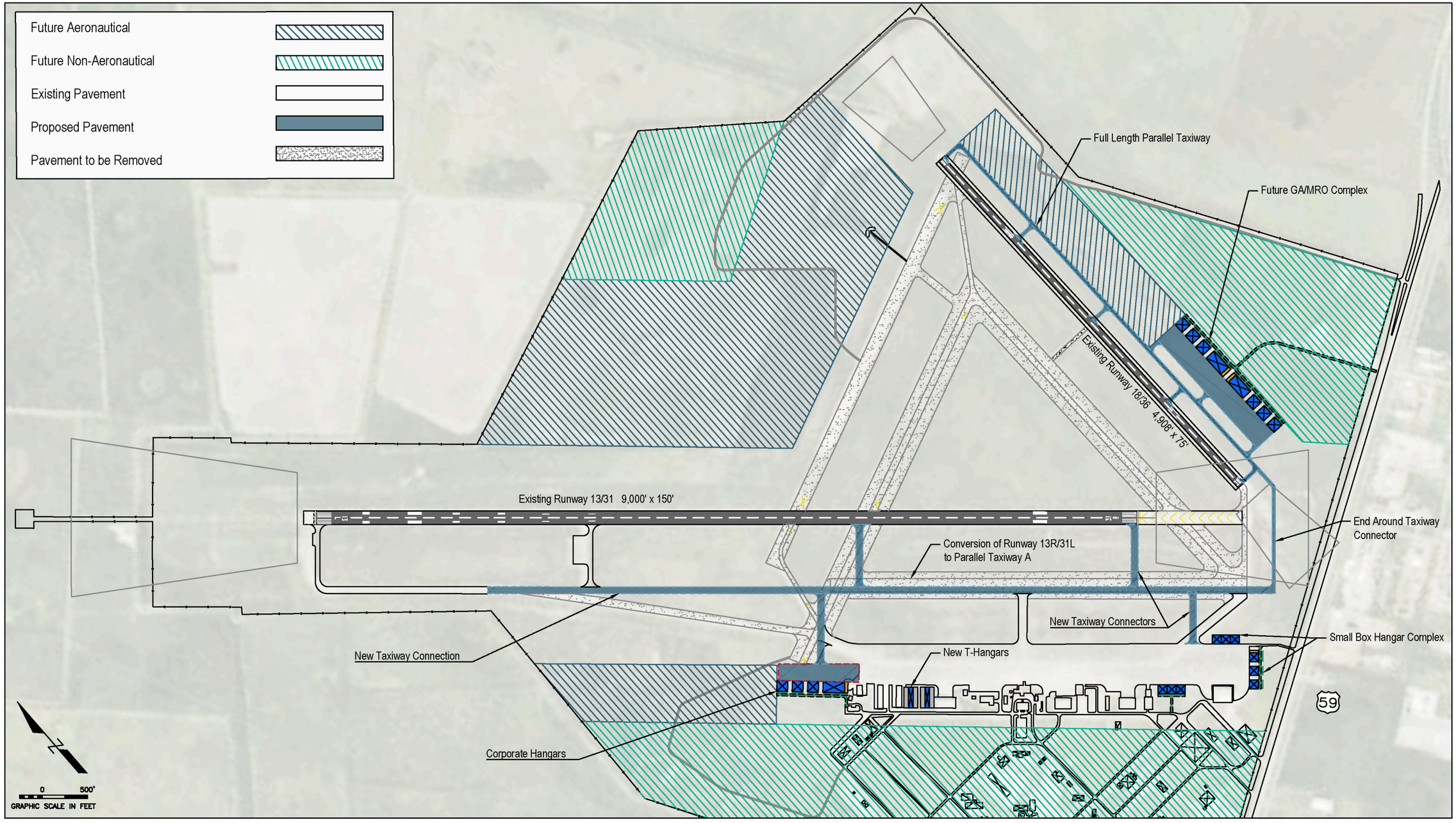
Utilizing the evaluation of development alternatives, as well as feedback from airport staff and the project advisory committee (made up of key tenants and stakeholders), the development alternatives were modified to create a preferred development concept. Shown below, the preferred concept is intended to combine the best of the alternatives described above while mitigating potential negative impacts. The Recommended Development Concept is shown in **Figure ES.1.**

Implementation Plan

For the purpose of this study, cost estimates have been prepared for projects that would benefit all airport users and likely qualify for funding from federal and state agencies. Projects and improvements intended for a specific user or tenant have not been included in these estimates and will likely vary greatly based on their complexity, amenities, location, timing and other factors. **Table ES.1** shows the estimated cost and funding share of key projects at VCT that would benefit all users of the airport.

Table ES.1 – Cost Estimates Project Description	Design (10%)	Construction Admin (12%)	Construction	Total Construction	Total Project
Runway 13L/31R Rehabilitation	$202,981	$243,557	$1,583,274	$1,826,831	$2,029,812
Runway 31R Entrance Taxiway	$140,274	$168,329	$1,094,140	$1,262,469	$1,402,743
Runway 13R/31L Reconstruction	$222,151	$266,582	$1,732,782	$1,999,364	$2,221,515
Taxiway A and B Rehabilitation	$181,317	$217,581	$1,414,279	$1,631,860	$1,813,177
Drainage Improvements	$20,000	$24,000	$156,000	$180,000	$200,000
Air Traffic Control Tower Renovation	$30,000	$36,000	$234,000	$270,000	$300,000
Apron Rehabilitation	$66,750	$80,100	$520,650	$600,750	$667,500
Runway 18/36 Rehabilitation	$8,500	$10,200	$66,300	$76,500	$85,000
Runway 13R/31L Parallel Taxiway	$1,050,266	$1,260,320	$8,192,077	$9,452,397	$10,502,663
Construct Two - 10 Unit T-Hangars	$242,918	$291,502	$1,894,760	$2,186,262	$2,429,180
Construct 3 Box Hangars (100'x100')	$593,931	$712,718	$4,632,664	$5,345,382	$5,939,313
Runway 18/36 Parallel Taxiway and End-Around	$611,209	$733,450	$4,767,426	$5,500,876	$6,112,085
Construct 8 Box Hangars (6 @ 120'x120")(2@120'x240')	$3,612,334	$4,334,800	$28,176,203	$32,511,003	$36,123,337
Construct 4 Box Hangars (3@120'x120')(1@120'x240)	$1,868,972	$2,242,766	$14,577,979	$16,820,745	$18,689,717
				Subtotal	**$88,516,042**

Figure ES.1: Recommended Development Concept



Chapter 1: Facility Inventory

1.0 Inventory and Analysis of Existing Conditions

This inventory chapter contains comprehensive airport data that will be used to complete the remaining chapters of the Victoria Regional Airport (VCT) master plan. Information gathered from previous studies are necessary to describe how VCT has evolved, the airports role regionally and within the state of Texas, its place in the local community's infrastructure, and the socioeconomic benefit and costs of operating the airport. An inventory review of existing conditions and infrastructure at VCT is also included in this chapter and addresses the following topics:

- Runway & taxiway lighting, markings, and NAVAIDS
- Apron and ramp space

General Aviation and other terminal buildings and areas by function

- Updated building inventory
- Aircraft fuel services
- Utilities
- Automobile access to the airport and parking
- Hangar space

A review of off-airfield conditions at VCT are documented in this chapter. Airspace and air traffic control, zoning and land use, and meteorological data provide a framework for environmental considerations used in the planning process.

Information in this chapter was compiled using a variety of sources, including data research, site visits, airport management, airport surveys, federal and state aviation documents, and meetings with airport management, tenants and users.

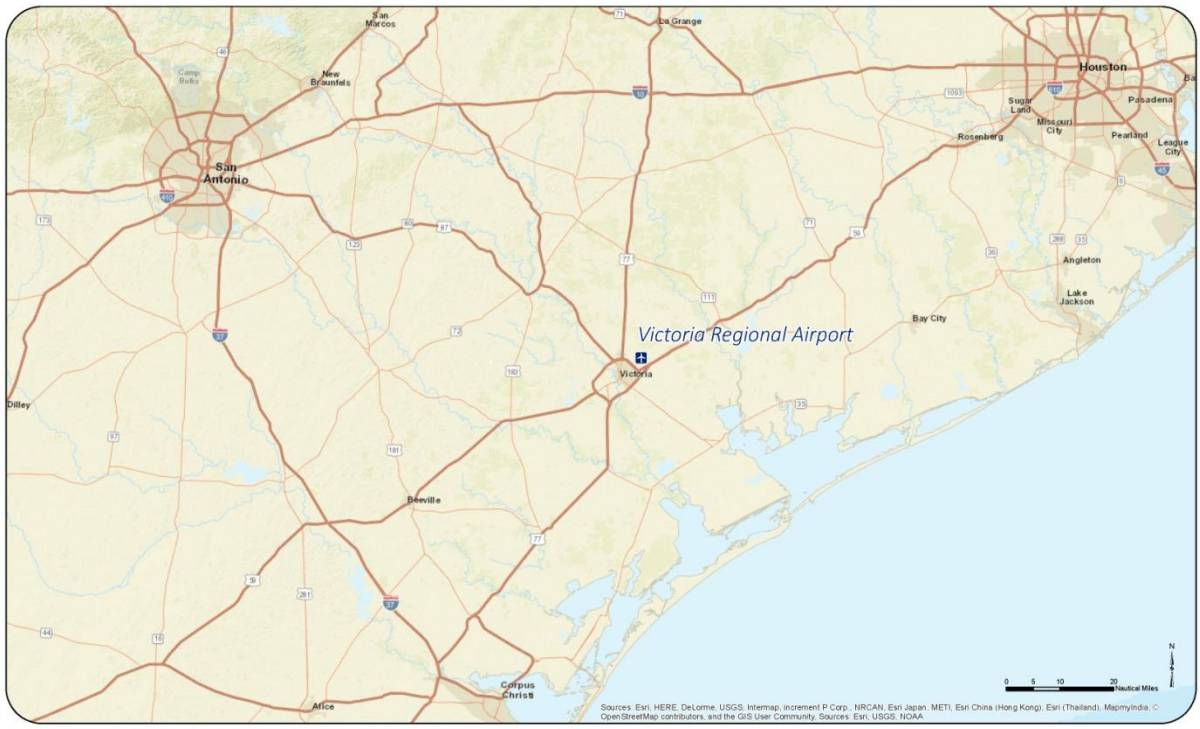
Note: Given the duration of this study, information found in this section is current as of January 2016 and subsequent chapters may include updated information.

1.1 Location

City and County of Victoria

The City of Victoria is located in southeast Texas within Victoria County. Built along the Guadalupe River, the City of Victoria is located at the intersection of U.S. Highways 59, 77, and 87. Victoria is approximately 30 miles from Port Lavaca, located on Matagorda Bay leading to the Gulf of Mexico, and within a two-hour drive from four of the largest metropolitan areas in Texas: San Antonio (114 miles), Corpus Christy (85 miles), Houston (124 miles), and the state capital of Austin (122 miles). Three counties, Victoria, Calhoun, and Goliad make up the Victoria Metropolitan Statistical Area. It is estimated that the population of this area is over 115,000. A map of Victoria is shown in **Figure 1.1**

Figure 1.1 City of Victoria Location



Source: KSA

History of Victoria

Don Martin de Leon settled in Victoria in 1824 with the permission of the Mexican government. What was then called the colony of "Nuestra Senora de Guadalupe" became known as Victoria after Texas claimed its independence in 1836 and was later incorporated as part of the Republic of Texas.

Due to the prime location of Victoria, the City Developed into a center for trade in southeast Texas. The progression of railway systems, highways, population growth and the establishment of agricultural businesses spurred economic development in the late 19th century. Victoria has since maintained strong agricultural business along with the development of other industries including healthcare, manufacturing and education.

1.2 Socioeconomic Benefits and Costs

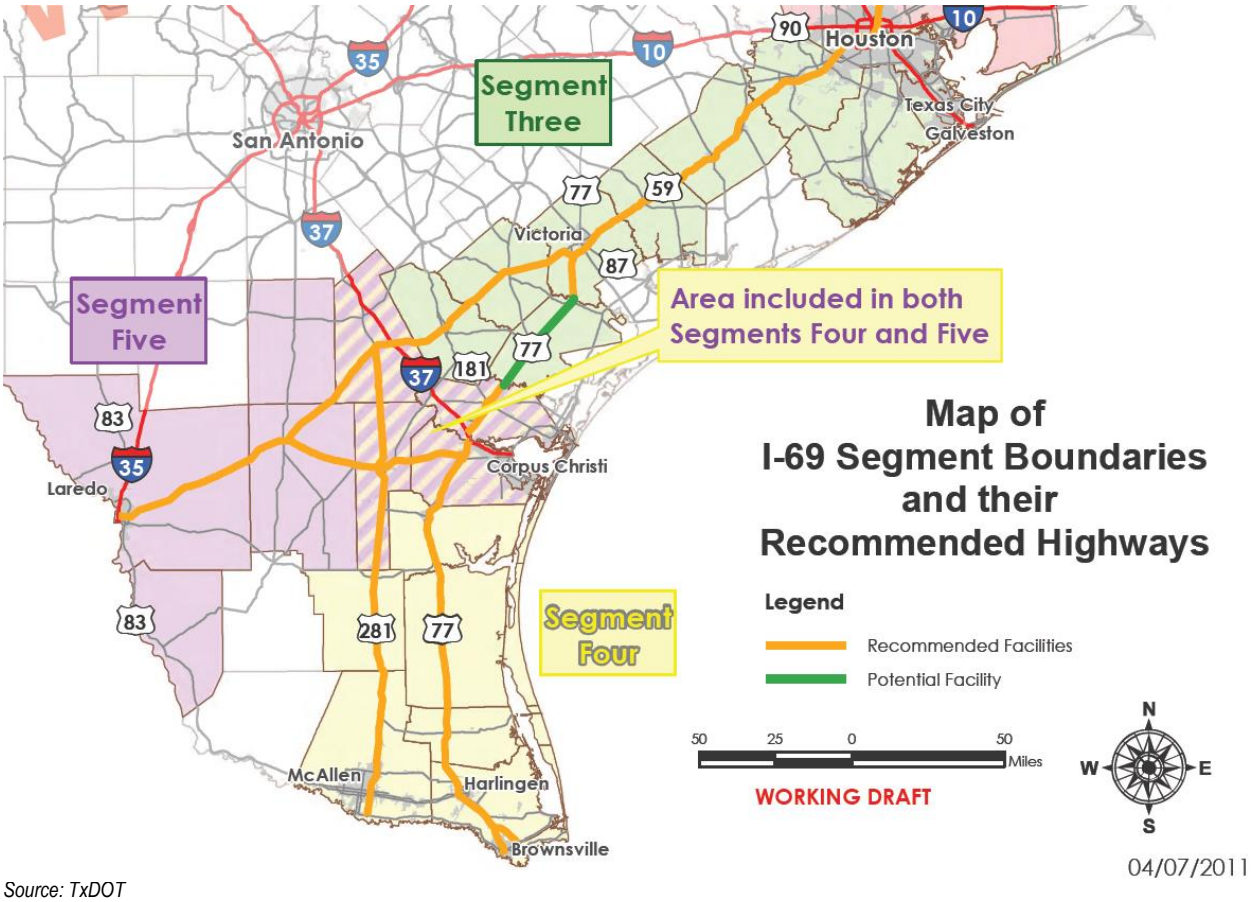
Victoria has a diversified economy that now serves as the focus of the Golden Crescent Region containing seven counties: Calhoun, De Witt, Goliad, Gonzales, Jackson, Lavaca, and Victoria. These counties are referred to as the seven-county area in this study. According to the Victoria Economic Development Corporation (VEDC), this diversified economy is well positioned for dynamic growth into the 21st century.

With the accessibility of three major highways, commercial airline service, and vicinity to the Gulf of Mexico, the City of Victoria has large potential for growth in manufacturing and distribution businesses while also offering attractive recreation opportunities. Victoria's primary business base includes plastics manufacturing, petrochemical and industrial chemical manufacturing, oil and gas exploration, medical services, education, and retail trade.

I-69 Superhighway

Victoria is located on the proposed corridor for the proposed I-69 Superhighway. I-69 is a proposed national interstate that extends from Texas to Michigan. The Texas route includes several existing roads: US 59, US 84, US 77 and US 281. In 2011, the first section on I-69 was established. Since then, TxDOT has been using the recommendations of the I-69 Citizen Committees to further plan and develop I-69 Texas. Once complete, the corridor will strategically link industrial centers in the United States, Mexico, and Canada. Victoria and the seven-county area could potentially gain an economic advantage through this enhanced transportation link between North American's largest cities. Please see Figure 1.2 for the proposed alignments.

Figure 1.2 IH-69 Proposed Corridor Map



Source: TxDOT

Port of Victoria

The Port of Victoria is located just ten miles south of the Victoria city center and is situated on more than 2,000 acres. Served by rail and highway, the port allows for easy transfer of cargo that is transported by freight barges on a 24-hour basis. Chemicals, farm products, sand, and gravel are major products transferred through the Port of Victoria.

There are two major docks at the Port of Victoria. POV Dock No. 1 is a 350-foot transit dock that offers 20 mooring sites and 17,000 square feet of shed space. There is also a vacant 7,300 square foot office and storage building that is configured and ready for occupancy. POV Dock No. 2 is 800 feet long with docking sites with access to barge repair stations.

Employment

Victoria has a robust trade and skilled workforce. The largest industries for employment in Victoria are Education, manufacturing, and health care.

Table 1.1 below lists the top employers located in Victoria.

Table 1.1 Major Employers in Victoria By Industry

Company	Employees	Business Type
Education:		
Stroman High School	2163	Public Education
Manufacturing:		
INVISTA	700+	Petrochemical
Caterpillar-NAHEX Victoria	529	Heavy Excavators
Berry Plastics	186	Plastics
Fordyce Holdings Inc.	116	Sand & Gravel
DuPont	101	Petrochemical
Health Care:		
Citizens Medical Center	986	Hospital
DeTar Healthcare System	897	Hospital
Devereux-Victoria	236	Social Services
Twin Pines Nursing & Rehab	164	Healthcare
Regency Post-Acute Healthcare System	150	Healthcare
Distribution:		
Performance Food Group	230	Food Distribution
Construction:		
Victoria Air Conditioning	146	Supplier
Texas Concrete Company	130	Concrete
Engineering:		
Maverick Engineering	102	Engineering
Utility:		
South Texas Electric Co-op	249	Power

Source: Victoria Economic Development Corporation

1.3 Airport Overview

Airport History

Victoria Regional Airport was established in 1941 as a United States Army Air Forces (USAAF) base facilitating single-engine fighter pilot and aerial gunnery training. Originally, known as Victoria Field, it was renamed in 1942 to Foster Field in dedication of Lt. Arthur L. Foster, a United States Air Corps flight instructor who was killed in an airplane accident in 1925. Foster field was returned back to the original owners after World War II.

Airplane Formation near Foster Field over the Guadalupe River 1942
(Source: USAAF)

During the Korean War, the Government purchased Foster Field back to reactivate single-engine training in the T-28 propeller aircraft, and initiated jet training in the T-33 aircraft. In 1954, Foster Field was designated a permanent military installation and renamed Victoria Air Force Base (AFB), becoming the headquarters of the Nineteenth Air Force the following year. Foster AFB was deactivated again in 1958 and the local economy suffered as a result.

However, the General Service Administration approved the exchange of Aloe Field for Foster Field in 1960. Victoria County Airport was then moved to the Foster Field site. With the resurgence of air traffic and relocation of businesses to Victoria County Airport, economic growth began to shift upwards in Victoria County. Victoria County Airport was renamed in 1976 to Victoria Regional Airport.

The first commercial service airline service began in 1979 served by Trans-Texas Airways operating the Douglas DC-3. Other carriers include, Metro Airlines, Continental Airlines operating as Continental Express, and Sun Air Express. Currently, Texas Sky Airlines operates a 19-seat British Aerospace BAe Jetstream 32 turbo prop aircraft to Austin (AUS), Dallas/Fort-Worth (DFW), and Houston-Intercontinental (IAH).

Table 1.2 Airport Activity

Based Aircraft		Airport Activity Type	
Single-engine	32	Commercial Airlines	0%
Multi-engine	6	Air Taxi	4%
Jet	1	Military	80%
Military	2	General Aviation-Local	4%
Total Based Aircraft	39	General Aviation-Itinerant	12%
Helicopters	2	Total	100%

Source: Airport Records, Form 5010
**For 12-Month Period Ending March 31, 2015*

Previous Studies

The following studies were completed prior to the start of this airport master plan. These studies were reviewed for applicable and relevant historical context.

- Airport Master Plan Update- Victoria Regional Airport, URS Corporation 2007.
- General Aviation Airports: A National Asset. Department of Transportation Federal Aviation Administration, May 2012.
- Report to Congress: National Plan of Integrated Airport Systems (NPIAS) (2015-2019), Federal Aviation Administration, 2015.
- Texas Airport System Plan Update, Texas Department of Transportation, March 2010
- Victoria 2025 Comprehensive Plan. City of Victoria Planning Services, 2007.

Local and National Aeronautical Role

National Role-National Plan of Integrated Airport Systems (NPIAS): The National Plan of Integrated Airport Systems (NPIAS) identifies airports with a significant role in the national aviation system. Airports in the NPIAS are eligible for AIP funding so long as specific requirements in the NPIAS are met. Airports in the NPIAS are defined as commercial service or general aviation based on the prevalent type of service at the airport. There are different categories that further classify the specific role the airport serves within the greater national picture defined in **Table 1.3** and **Table 1.4**. The 2015-2019 Federal Aviation Administration NPIAS classified Victoria Regional Airport as a General Aviation Airport.

National Role-General Aviation Airport Asset Study: The 2012 Asset Study identifies 2,952 general aviation airports, selected to part of the NPIAS, which contribute to U.S. economy and support activity that is not feasible at most commercial service airport due to capacity constraints. Victoria Regional Airport is categorized as a General Aviation-Regional Airport defined in the Asset Study as, "supporting regional economies by connecting communities to statewide and interstate markets."

State Role-Texas Airport System Plan (TASP): The *2010 Texas Airport System Plan Update* identifies airports and heliports that are a necessity to the economic and social development of Texas. There are five main service levels defined in the TASP: Primary and Non-Primary Commercial Service airports, Relievers, General Aviation airports, and heliports. Each service level is then broken down in to more specific roles shown in **Table 1.4** below. Victoria Regional Airport is classified under the TASP as a Non-Primary Commercial Service Airport.

Table 1.3 NPIAS General Aviation Airport Categories

National	Regional	Local	Business Type
Supports the national airport system by providing communities with access to national and global markets. These airports have very high levels of activity with many jets and multiengine propeller aircraft. These airports average about 200 total based aircraft, including 30 jets.	Supports 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 3 jets.	Supplements local communities by providing access to local and regional markets. These airports have moderate levels of activity with some multiengine propeller aircraft. These airports average about 33-based propeller-driven aircraft and no jets.	Supports general aviation activities, often serving aeronautical functions within the local community such as emergency response and access to remote communities. These airports have moderate levels of activity with an average of 10 propeller-driven aircraft and no jets.

Table 1.4 TASP Service Level and Classification

Service Level	Airport Role	Description
Primary Commercial Service	Commercial Service	Supports scheduled passenger service by large and medium transport aircraft; enplanes at least 10,000 passengers annually.
Non-Primary Commercial Service	Commercial Service	Supports scheduled passenger service by smaller transport aircraft; enplanes fewer than 10,000 but more than 2,500 passengers annually.
Reliever	Reliever	Relieves congestion at Commercial Service airport by providing alternative general aviation facilities.
General Aviation	Business/Corporate	Provides community access by business jets.
General Aviation	Community Service	Provides community access by single and light twin-engine aircraft, and a limited number of business jets.
General Aviation	Basic Service	Provides air access for communities less than a 30 minute drive from Commercial Service, Reliever, Business/Corporate, and Community Service airports; and/or supports essential but low level activity.
General Aviation	Heliport	Accommodates helicopters used by individuals, corporations and helicopter air taxi services. Scheduled passenger service may be available if sufficient demand exists.

Source: TxDOT

1.4 Airport Management

Victoria Regional Airport is owned by Victoria County, and as the Airport Sponsor the County and Airport Commission shall:

- Operate VCT in a safe and efficient manner with a goal of financial self-sufficiency
- Provide public outreach to the community in regards to VCT and its purpose
- Provide reports to County Commissioners
- Develop relationships with funding and regulatory agencies
- Use a performance-based budgeting approach
- Maintain economic development efforts by strategically leasing airport property for aeronautical and non-aeronautical uses
- Provide professional advice on capital planning and construction projects
- Seek opportunity to partner with public/private entities who may provide mutual benefit to the airport
- Provide project management, planning, and construction inspections
- Actively seek funding grants or other opportunities to help lower operational and development cost of VCT

There are six maintenance staff, employed by Victoria County that are responsible for airside airport operations. These employees inspect and maintain the airside pavement and facilities to ensure safe operational standards and FAA compliance. The Victoria Regional Airport Commission is granted voting rights on important airport decisions by the County of Victoria Commissioners Court. The commission is made up of five members who serve a three year term.

NOTE: See sections of the associated Airport Business Plan to detail the management and governance of the airport.

1.5 Victoria Regional Airport Airfield Facilities

Table 1.5 below provides a summary of important primary data for Victoria Regional Airport.

Table 1.5 Existing Conditions

Airport Name:	Victoria Regional Airport
FAA Designation:	VCT
Associated Town:	Victoria, TX
Airport Owner:	Victoria County, TX
Airport Sponsor:	Victoria County, TX (on behalf of the Airport Commission)
Airport Roles:	FAA NPIAS: General Aviation
	FAA Asset Study: Regional
	Texas Airport System Plan: Non-Primary Commercial Service
Commercial Air Service:	Texas Sky Airlines
Airport Acreage:	1,766
Airport Elevation:	115 Feet

Source: Airport Layout Plan (ALP), FAA Airport Master Record (Form 5010), FAA National Plan of Integrated Airport Systems (NPIAS), and FAA General Aviation Asset Study

Figure 1.3 contains the Victoria Regional Airport Master Record (FAA Form 5010-1). The Airport Master Record is a document that contains aeronautical information describing the physical and operational characteristics of public-use airports. A graphic layout of the existing facilities is shown in **Figure 1.4**.

Figure 1.3 Airport Master Record Form 5010

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AIRPORT MASTER RECORD

PRINT DATE: 7/17/2017
AFD EFF 06/22/2017
FORM APPROVED OMB 2120-0015

> 1 ASSOC CITY: VICTORIA — 4 STATE: TX — LOC ID: VCT — FAA SITE NR: 24971.*A
> 2 AIRPORT NAME: VICTORIA RGNL — 5 COUNTY: VICTORIA TX
3 CBD TO AIRPORT (NM): 05 NE — 6 REGION/ADO: ASW/TEX — 7 SECT AERO CHT: HOUSTON

GENERAL

10 OWNERSHIP: PUBLIC
> 11 OWNER: COUNTY OF VICTORIA
> 12 ADDRESS: VICTORIA CO COURTHOUSE RM 102, VICTORIA, TX 77901
> 13 PHONE NR: 361-575-4558
> 14 MANAGER: VINICIO L. LLERENA
> 15 ADDRESS: 609 FOSTER FIELD DR SUITE F, VICTORIA, TX 77904
> 16 PHONE NR: 361-578-2704
> 17 ATTENDANCE SCHEDULE:

ALL	MON-FRI	0600-2000
ALL	SAT	0600-2000
ALL	SUN	0600-1800

18 AIRPORT USE: PUBLIC
19 ARPT LAT: 28-51-09.1650N ESTIMATED
20 ARPT LONG: 096-55-06.5594W
21 ARPT ELEV: 115.0 SURVEYED
22 ACREAGE: 1,766
> 23 RIGHT TRAFFIC: 31R, 13R
> 24 NON-COMM LANDING: NO
25 NPIAS/FED AGREEMENTS: NGPY
> 26 FAR 139 INDEX: I A S 09/1982

SERVICES

> 70 FUEL: 100LL A
> 71 AIRFRAME RPRS: MINOR
> 72 PWR PLANT RPRS: MINOR
> 73 BOTTLE OXYGEN:
> 74 BULK OXYGEN:
75 TSNT STORAGE: HGR, TIE
76 OTHER SERVICES: AFRT, INSTR

FACILITIES

> 80 ARPT BCN: CG
> 81 ARPT LGT SKED : SEE RMK
BCN LGT SKED: SS-SR
> 82 UNICOM: 122.700
> 83 WIND INDICATOR: YES-L
84 SEGMENTED CIRCLE: YES
85 CONTROL TWR: YES
86 FSS: MONTGOMERY
87 FSS ON ARPT: NO
88 FSS PHONE NR:
89 TOLL FREE NR: 1-800-WX-BRIEF

BASED AIRCRAFT

90 SINGLE ENG:	28
91 MULTI ENG:	5
92 JET:	1
TOTAL:	34
93 HELICOPTERS:	2
94 GLIDERS:	0
95 MILITARY:	0
96 ULTRA-LIGHT:	0

OPERATIONS

100 AIR CARRIER:	1
102 AIR TAXI:	2,272
103 G A LOCAL:	1,944
104 G A ITNRNT:	6,898
105 MILITARY:	43,626
TOTAL:	54,741

OPERATIONS FOR 12 MONTHS ENDING: 12/31/2016

RUNWAY DATA

	13L/31R	13R/31L	18/36	H1
> 30 RUNWAY INDENT:	9,111	4,643	4,908	60
> 31 LENGTH:	150	150	75	60
> 32 WIDTH:	ASPH-G	CONC-P	ASPH-G	ASPH-G
> 33 SURF TYPE-COND:	GRVD		GRVD	
> 34 SURF TREATMENT:	28.0	28.0	28.0	
35 GROSS WT: S	49.0	49.0	49.0	
36 (IN THSDS) D	87.0	87.0	87.0	
37 2D				
38 2D/2D2				
> 39 PCN:				

LIGHTING/APCH AIDS

> 40 EDGE INTENSITY:	HIGH		MED	
> 42 RWY MARK TYPE-COND:	PIR - G / NPI - G	BSC - G / BSC - G	BSC - F / BSC - F	- / -
> 43 VGSI:	/ P4L	/	P2L / P2L	/
44 THR COSSING HGT.:	/ 55	/	40 / 40	/
45 VISUAL GLIDE ANGLE:	/ 3.00	/	3.00 / 3.00	/
> 46 CNTRLN-TDZ:	- / -	- / -	- / -	- / -
> 47 RVR-RVV:	- / -	- / -	- / -	- / -
> 48 REIL:	/	/	Y / Y	/
> 49 APCH LIGHTS:	MALSR /	/	/	/

OBSTRUCTION DATA

50 FAR 77 CATEGORY	PIR / C	B(V) / B(V)	B(V) / B(V)	/
> 51 DISPLACED THR:	/	441 / 551	/	/
> 52 CTLG OBSTN:	/	/ POLE	FENCE / POLE	/
> 53 OBSTN MARKED/LGTD:	/	/	/	/
> 54 HGT ABOVE RWY END:	/	/ 29	6 / 29	/
> 55 DIST FROM RWY END:	/	/ 947	400 / 1,544	/
> 56 CNTRLN OFFSET:	/	/ 64L	0B / 44L	/
57 OBSTN CLNC SLOPE:	50:1 / 50:1	50:1 / 25:1	33:1 / 46:1	/
58 CLOSE-IN OBSTN:	N / N	N / N	N / N	N / N

DECLARED DISTANCES

> 60 TAKE OFF RUN AVBL (TORA):	9,111 / 9,111	4,643 / 4,643	4,908 / 4,908	/
> 61 TAKE OFF DIST AVBL (TODA):	9,111 / 9,111	4,643 / 4,643	4,908 / 4,908	/
> 62 ACLT STOP DIST AVBL (ASDA):	9,111 / 9,111	4,643 / 4,643	4,908 / 4,908	/
> 63 LNDG DIST AVBL (LDA):	9,111 / 9,111	4,202 / 4,092	4,908 / 4,908	/

(>) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

> 110 REMARKS

A 026 BETWEEN 2200-0700 ALL UNSCHEDULED ACR OPNS WITH MORE THAN 9 PSGR SEATS CONTACT ARFF 361-582-5889.
A 048 RWY 18 REIL OTS INDEFLY.
A 048 RWY 36 REIL OTS INDEFLY.
A 057 RWY 13R APCH RATIO 50+:1 FROM DSPLCD THR.
A 057 RWY 31L APCH RATIO 50+:1 FROM DSPLCD THR.
A 081 HIRL RY 13L/31R PRESET LOW INTST; TO INCR INTST & ACTVT MALSR RY 13L - CTAF. MIRL RY 18/36 PRESET MED INTST ONLY. PAPI RYS 31R, 18 & 36 OPERS CONTINUOUSLY.
A 110-001 RYS 13R/31L & 18/36 NOT AVBL FOR ACR OPNS WITH MORE THAN 9 PSGR SEATS.
A 110-002 (A89) FOR FP FILING CALL CXO FSS 1-800-833-5602

111 INSPECTOR: (F) — 112 LAST INSP: 02/23/2017 — 113 LAST INFO REQ:

FAA FORM 5010-1 (3/96) SUPERSEDES PREVIOUS EDITION

Source: Form 5010

Label	Description	Area (Sq. Ft.)
A-1	Passenger Terminal	15,700
A-2	Office	3,400
A-3	Maintenance	12,200
A-4	Electrical Vault	1,300
A-5	FBO Hangar (Hewitt)	29,100
A-6	Aircraft Rescue and Fire Fighting (ARFF)	2,800
A-7	T-Hangar (County Ownership)	7,300
A-8	T-Hangar (County Ownership)	16,000
A-9	T-Hangar (County Ownership)	14,700
A-10	Air Traffic Control Tower (ATCT)	N/A
A-11	Reliant Field Services, INC	38,200
A-12	Hangar (County Ownership)	4,800
A-13	Hangar B Aviation Flight Instruction-plane rentals	21,800
A-14	Civil Air patrol	6,400
A-15	FBO Hangar (County Ownership)	21,800

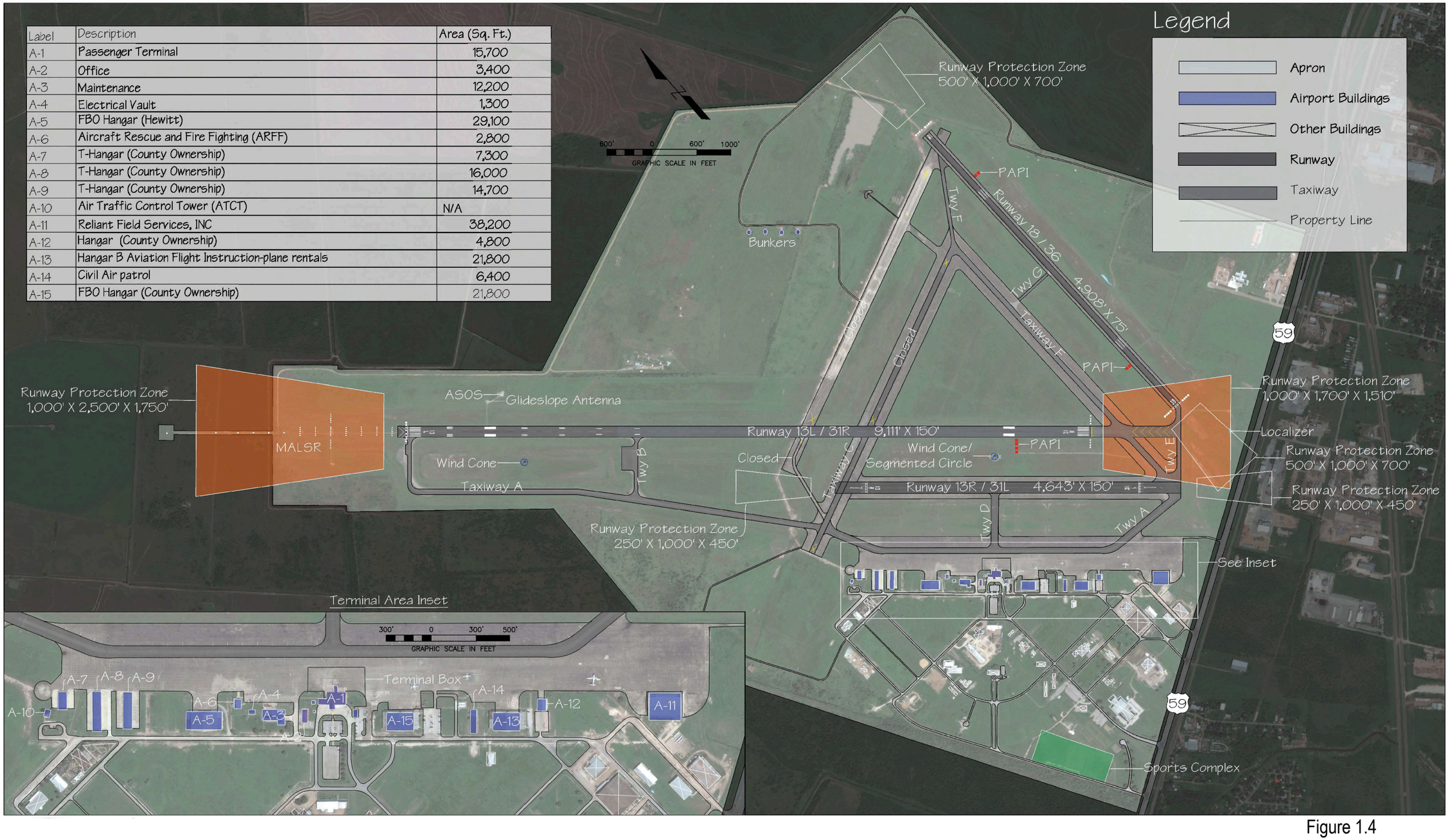


Figure 1.4
Existing Facilities

Runways

Runways are given an identifier number that is determined based on its magnetic compass orientation. Each runway end is named accordingly. For example, Runway 13 has a magnetic heading of 130 degrees. The opposite end of Runway 13 is 31, which has a magnetic heading of 310 degrees. These numbers represent the direction the aircraft in approaching or departing the runway. Runway headings are important so pilots can identify which runway aligns with the prevailing winds. When possible, pilots takeoff and land with the nose of the aircraft facing the wind in order to maximize lift and limit the amount of runway length used for either operation.

The letters "R" for right, "L" for left, or "C" for center, are used to name parallel runways with the same heading. RWY 13L is located to the left of 13R when approaching the airport to land in that direction. It is important to note that magnetic north changes overtime, which in turn, changes the runway orientation. As a result of this magnetic shift, the runway alignments at Victoria Regional Airport have shifted one degree since the last master plan was published.

Presently, there are three active runways at Victoria Regional Airport. Important informational about each runway is listed in **Table 1.6.**

Table 1.6 Airport Runway Data

	Primary Runway	Secondary	Other Runway
Orientation (RWY No.'s)	13L/31R	18/36	13R/31L
Asphalt, Concrete, Turf	Asphalt/Good	Asphalt/Good	Concrete/Poor
Length and Width	9,111/150	4,908/75	4,643/150
Pavement Strength	Single ≤ 28,000	Single ≤ 28,000	Single ≤ 28,000
Runway Lighting[1]	HIRL	MIRL	None
Displaced Thresholds (distance & runway	None	None	13R-431 ft.
Taxiway Type[2]	Partial	Partial	Partial
Taxiway Width	50-100	50-100	50-100
Taxiway Lighting[3]	MITL	MITL	MITL
PAPI (which end(s))	31R	Both	None
VASI (which end(s))	None	None	None
REIL (which end(s))	None	Both (OTS)	None
ILS (which end(s))	13L	None	None
ALS (which end(s))	13L	None	None
Approach Type (ILS, LPV, GPS, NDB,	ILS/DME, GPS	None	None

Notes:
[1] HIRL, MIRL or LIRL for runways, please note if lighting is non-standard
[2] Full parallel, partial parallel, or turnaround
[3] MITL, LITL, or reflectors for taxiways, please note if lighting is non-standard

Taxiways

Taxiways allow access between the runways and landside areas and are named using letters in the phonetic alphabet, for example, Taxiway Alpha (A) or Bravo (B). There are three main types of taxiways: full parallel, partial parallel, and stub or connector taxiways. Each type is named after its relative location to a runway. A full parallel taxiway runs the entire length of a runway from end to end. A stub taxiway runs perpendicular or angular to a runway creating intersections for access from another taxiway. A partial parallel taxiway runs part of the runway length.

There are several taxiways that are part of the existing facilities at VCT. Taxiway Alpha provides access to the approach end of 13L from the landside facilities. Taxiway Bravo serves a connector between Taxiway Alpha and Runway 13L/31R. Taxiway Alpha also allows access to the approach end of 31L. Taxiway Delta serves as a connector between Taxiway Alpha and Runway 31L/13R. Taxiway F is a partial parallel for Runway 18/36 Taxiway G connects Runway 18/36 with Taxiway F. Taxiway C connects Runway 13L/31R, Taxiway A, the main apron, and the approach end of Runway 13R.

Aprons

The terminal apron is constructed of concrete and is located parallel to Runway 31L/13R to the west side. The terminal apron contains a Terminal Box marked with a solid white line. When an aircraft is parked in the terminal box, the area must be clear of all persons and property not engaged in the operation of the flight as passengers, flight crew, or maintenance.

Other general aviation aprons are located north and south of the terminal apron. The FBO apron is located directly in front of the FBO airfield entrance. These aprons are used for fueling operations, aircraft parking, and aircraft staging.

Helipad

There is one concrete constructed helipad at VCT that is 60 feet long and 60 feet wide. The helipad is located just south of the FBO apron.

Airfield lighting and visual aids

Airfield lighting provides pilots with visual indications of pavement areas during nighttime and low visibility weather conditions. In general, runway lighting is white and taxiway lighting is blue. Runway 13L/31L has high intensity lighting. Runway 18/36 has medium intensity lighting and a 2-light Precision Approach Path Indicator (PAPI) on both runway ends. Runway 18/36 also has Runway End identifier Lights (REILs) that are out of service according to airport records. Runway 13R/31L is equipped with medium intensity lighting. The approach end of runway 13L is equipped with a MALSR which provides pilots with a lighted path towards the runway. Taxiways A, B, C, E, and a portion of F are equipped with medium intensity lighting.

1.6 Victoria Regional Airport Building Inventory

There are currently 26 t-hangars and 4 conventional box hangars at VCT. The total area of hangar space is approximately 135,000 square feet. **Table 1.7** shows important building facilities at VCT by area.

Table1.7Airport Building and Parking Facilities

Facility	Approx. Area (sq. ft.)	Units
FBO Conventional Box Hangar	21,800	1
Terminal	15,700	1
Passenger Parking Spaces	39,500	128
T-Hangars	23,600	26
Conventional Box Hangars	89,100	3

Source: Airport documents

A complete inventory of airside and landside airside buildings at Victoria Regional Airport is detailed in **Appendix A**.

Terminal Building

The passenger terminal is located at the center of the main apron and is over 15,000 square feet. The main entrance to the building is accessible from Foster Field Drive. The terminal space includes an airline ticket counter, baggage claim, rental car counter, security checkpoint, restrooms, and a passenger lounge. The airport administration office is also located in the terminal.

Fueling Facilities

VCT has a fuel farm a located on airport property that is owned by the County of Victoria and contains 100 low lead aviation gasoline (100LL) and jet fuel (Jet A). **Table 1.10** below lists fuel quantities by gallon for all fuel facilities and trucks located at VCT.

Table 1.10 VCT Fuel Quantities

	Av Gas 100LL (Gal.)	Jet-A (Gal.)
Fuel Farm	12,000	20,000
Fuel Trucks	1,000	8,000
Total	13,000	28,000

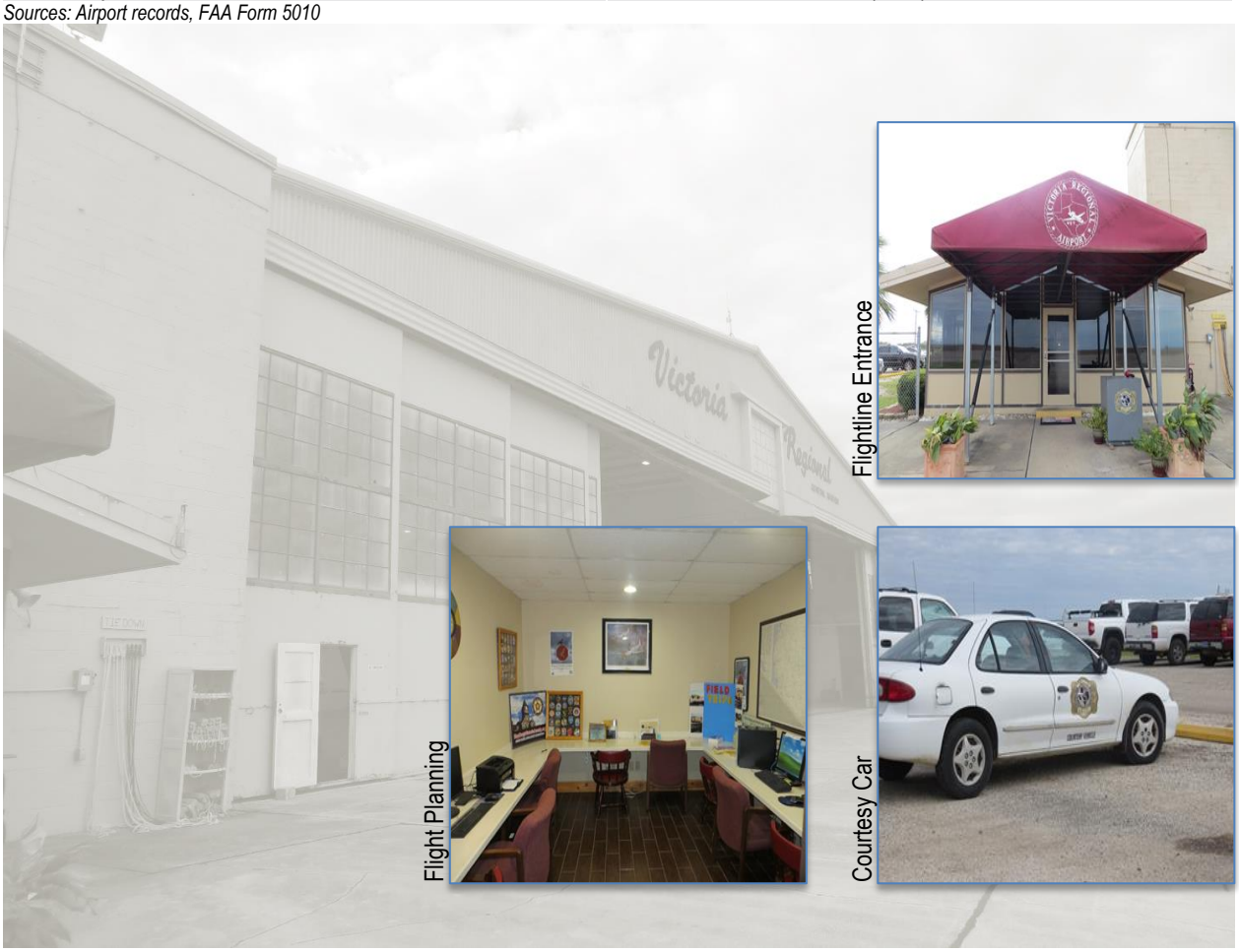
Source: Airport Record

Fixed-BaseOperator (FBO) Every airport provides an array of aviation services depending on individual characteristics of their location and operational demand. These services usually have a direct correlation between the surrounding markets and needs of the aviation community. **Table 1.11** provides a broad list of Victoria Regional Airport's current services. The majority of these services are provided by Victoria Jet Center, the County owned FBO.

Table 1.11 Existing Aviation Services

Aviation Fuel (100LL, Jet-A)	Oxygen
Aircraft Maintenance and Repair (Minor)	Customer and Pilot Lounge
Aircraft Parking Transient (Hangars)	Automated Weather (ASOS)
Charter Service	Restaurant
Courtesy Car	On-Airport Rental Cars (Avis)

Sources: Airport records, FAA Form 5010



1.7 Air Traffic Control Facilities

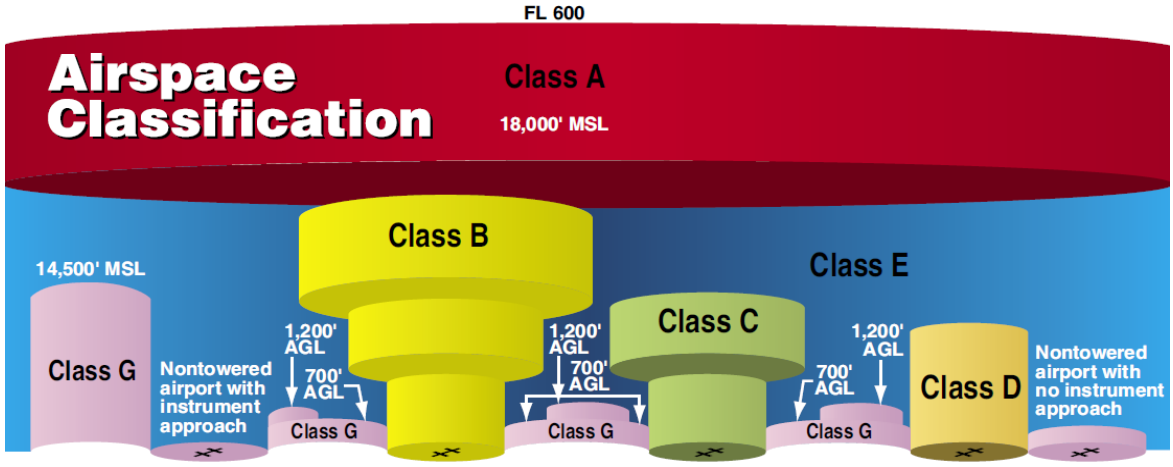
Air Traffic Control Tower

As part of the FAA's Contract Tower Program, the Air Traffic Control Tower (ATCT) opened in 2008 to increase the safety and efficiency of operations at VCT. At VCT, the variety of airport activity and aircraft types operating in the close confines of an airport environment creates a hazard for collision in the air or on the ground. Air traffic control plays a vital role in separating these aircraft and mitigating the risk for such safety hazards.

1.8 Airspace

Victoria Regional Airport is located within Class D airspace depicted in **Figure 1.6 and Figure 1.7 and defined in Table 1.12.** Class D airspace is controlled and pilots must establish two-way radio communication with air traffic control prior to entering the airspace. During night operations when the air traffic control tower is closed, entry into class D airspace does not require communication as the airspace is then considered uncontrolled. During this time it is advised that pilots communicate their intentions through the common traffic advisory frequency (CTAF) to maintain separation with other aircraft operating in the same airspace or on the ground at the same airport.

Figure 1.6 Airspace Classification Illustration



Source: FAA

The class D airspace, indicated by a blue dashed circle on the FAA sectional, is surrounded by an area of class E controlled airspace with a base of 700 feet above ground level (AGL) which contains all of the instrument approach procedures configured at VCT. The class E airspace surrounding VCT is indicated by a shaded magenta area on the sectional chart.

Figure 1.7 San Antonio Sectional Chart

Source: FAA

Table 1.12 Airspace Class Definitions

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

Source: FAA Pilot's Handbook of Aeronautical Knowledge

Special Use Airspace

Special use airspace is designated in areas where the nature of certain operational activities must be protected or confined from other users in the airspace. Special use airspace surrounding Victoria Regional Airport, depicted in **Figure 1.5**, includes **Military Operations Areas (MOA)** and **Alert Areas**.

An MOA is an area with defined lateral and vertical boundaries for the purpose of separating military training operations from other traffic. VCT is located within the Kingsville 5 MOA and surrounded by Randolph 1A MOA to the northwest, Kingsville 4 MOA to the west, and Randolph 1B MOA to the northwest.

An Alert Areas is defined as congested airspace where there may be a high volume of activity from pilot training or an unusual type of operations. Pilots operating in Alert Areas should exercise extreme caution to avoid collisions with other aircraft. VCT is surrounded by two Alert Areas, A-632E and A-632D. The alert pertains to concentrated student

jet training in the area. A-632D extends from 6,000-10,999 feet and A-632E extends from 6,000-9,000 feet. Both alert areas are in use from sunrise to midnight on Monday through Friday and 2pm to midnight on Sundays.

Navigational Aids (NAVAIDS)

A variety of navigational facilities are currently available to pilots around Victoria Regional Airport, whether based at the field or at other locations in the region. Many of these NAVAIDS are available to en route air traffic as well. The NAVAIDS available for use by pilots in the vicinity VCT include VOR/DME and ILS facilities.

A **VOR/DME** (VHF Omni-directional Range and Distance Measuring Equipment) is a ground-based electronic navigation aid, transmitting very high frequency signals, 360 degrees in azimuth oriented from magnetic north, with equipment used to measure, in miles, the slant range distance of an aircraft from the navigation aid. This can also be called a VORTAC as most VORs are co-located with a TACAN (military use) that provides the distance measurement. The Victoria VOR is located northwest of the airport inside the class D airspace.

An **Instrument Landing System (ILS)** provides electronic vertical and horizontal guidance to a runway. There are two components of an ILS: the glide slope antenna emitting vertical signals and localizer emitting horizontal signals. At VCT, the glides slope is located near the approach end of Runway 13L and the localizer is located at the end of the runway. More information related to ILS systems will be discussed in the next section about approach procedures.

Victoria Regional Airport Glideslope Antenna (left) and Localizer (right).

Approach Procedures

In 2003, the FAA implemented Wide Area Augmentation Systems (WAAS) availability to the public. Pilots are now benefiting from the large number of Area Navigation (RNAV) Global Positioning System (GPS) approaches and lower minimums provided by WAAS-enabled systems. These systems are greatly more abundant than instrument landing systems (ILS) and other ground based systems from the 20th Century. As of June 25, 2015, there are 3,554 Wide Area Augmentation System (WAAS) Localizer Performance with Vertical guidance (LPV) approach procedures serving 1732 airports. 989 of these airports are Non-ILS airports. Currently, there are also 594 Localizer Performance (LP) approach procedures in the U.S. serving 429 airports.

There are five published instrument approach procedures at VCT. Runway 13L has an ILS or LOC/DME, RNAV, and VOR published approach. There is an RNAV and VOR/DME approach for Runway 31R. **Figure 1.8 and Table 1.13** presents the current lowest approach minima for these published instrument procedures.

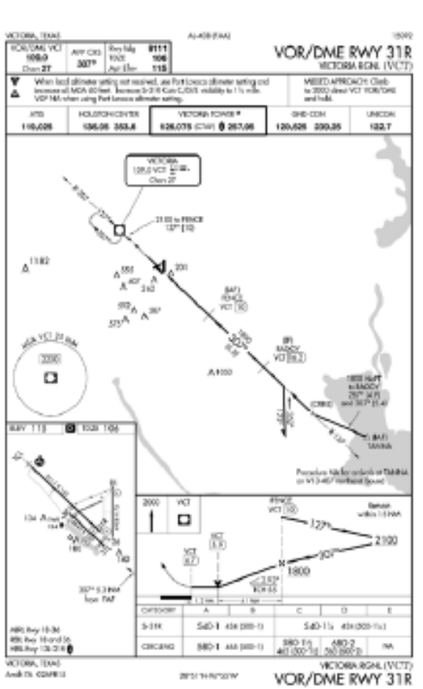
Figure 1.8 Approach Plates for VCT

APPROACH PLATE: ILS OR LOC/DME RWY

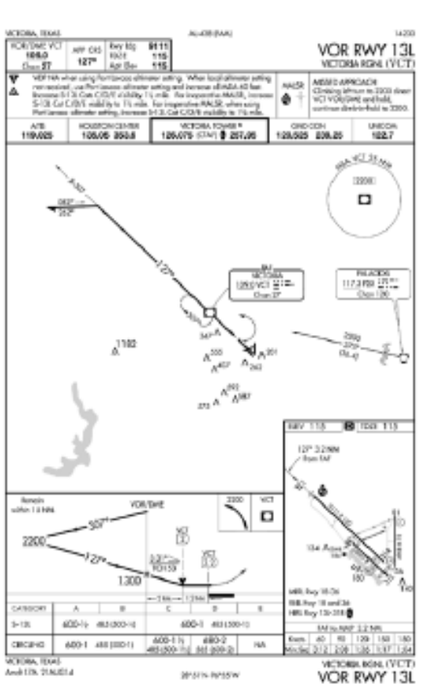
APPROACH PLATE: RNAV RWY 13L

APPROACH PLATE: RNAV RWY 31L

APPROACH PLATE: VOR/DME RWY 31R



APPROACH PLATE: VOR RWY 13L



Source: U.S. Terminal Procedures; not to be used for navigational purposes

Source: U.S. Terminal Procedures

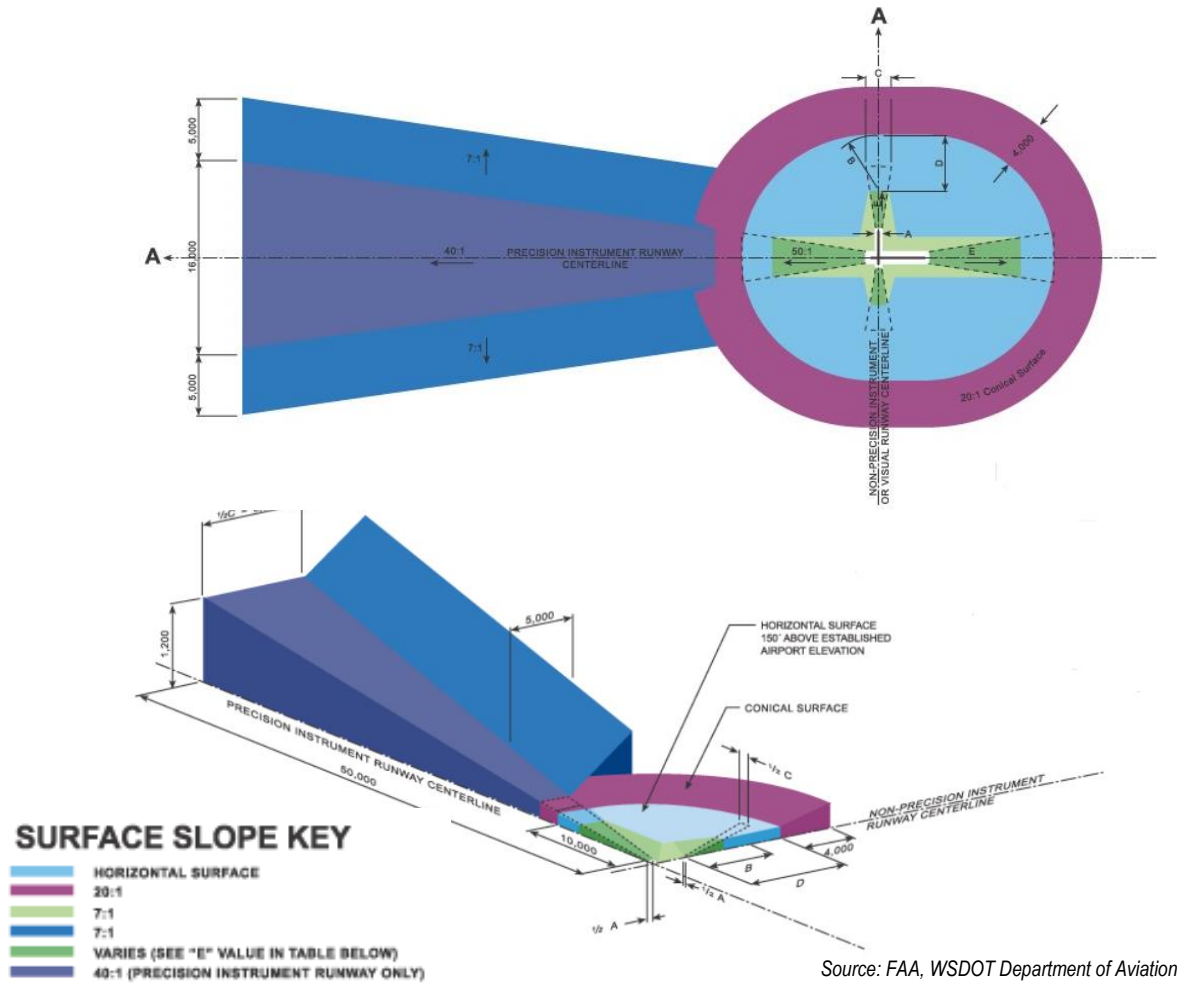
Table 1.13 Approach Procedures

	Lowest straight-in Minimums		Lowest circling minimums	
Instrument Approach	Ceiling	Visibility	Ceiling	Visibility
ILS or LOC/DME RWY 13L	200'	1/2 mile	500'	1 mile
RNAV (GPS) RWY 13L	200'	1/2 mile	500'	1 mile
RNAV (GPS) RWY 31R	200'	3/4 mile	500'	1 mile
VOR/DME RWY 31R	500'	1 mile	500'	1 mile
VOR RWY 13L	500	1/2 mile	500'	1 mile

Part 77 Surfaces

Federal Aviation Regulations (FAR) Part 77, Objects Affecting Navigable Airspace, is a tool used to protect the airspace over/around a given airport and each of its runway approaches from potential obstructions to air navigation. It is important to note that as a federal regulation, all airports included in the National Airspace System (NAS) are subject to the requirements of Part 77. To determine whether an object is an obstruction to air navigation, Part 77 establishes several imaginary airspace surfaces in relation to an airport and each runway end. The dimensions and slopes of these surfaces depend on the configuration and approach categories of each airport's runway system. The size of the imaginary surfaces depends largely upon the type of approach to the runway in question. The principal imaginary surfaces are generally described below and are illustrated in **Figure 1.9**.

Figure 1.9 Part 77 Surfaces



Source: FAA, WSDOT Department of Aviation

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

Primary Surface: Longitudinally centered on the runway at the same elevation as the nearest point on the runway centerline.

Horizontal Surface: Located 150 feet above the established airport elevation, the perimeter of which is established by swinging arcs of specified radii from the center of each the primary surface end and connected via tangent lines.

Conical Surface: Extends outward and upward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.

Approach Surface: Longitudinally centered on the extended centerline, and extending outward and upward from each runway end at a designated slope (e.g. 20:1, 34:1, 40:1, and 50:1) based on the runway approach.

Transitional Surface: Extends outward and upward at a right angle to the runway centerline at a slope of 7:1 up to the horizontal surface.

1.9 Existing Land Use

Victoria 2035 Comprehensive Plan

The 2035 plan, a revision of the 2025 plan, is in the process of being completed by the City of Victoria Planning Department. The existing conditions chapters have been completed, however, the follow-up chapters are still in publication. This section will be completed with the most up-to-date information as soon as the report in complete.

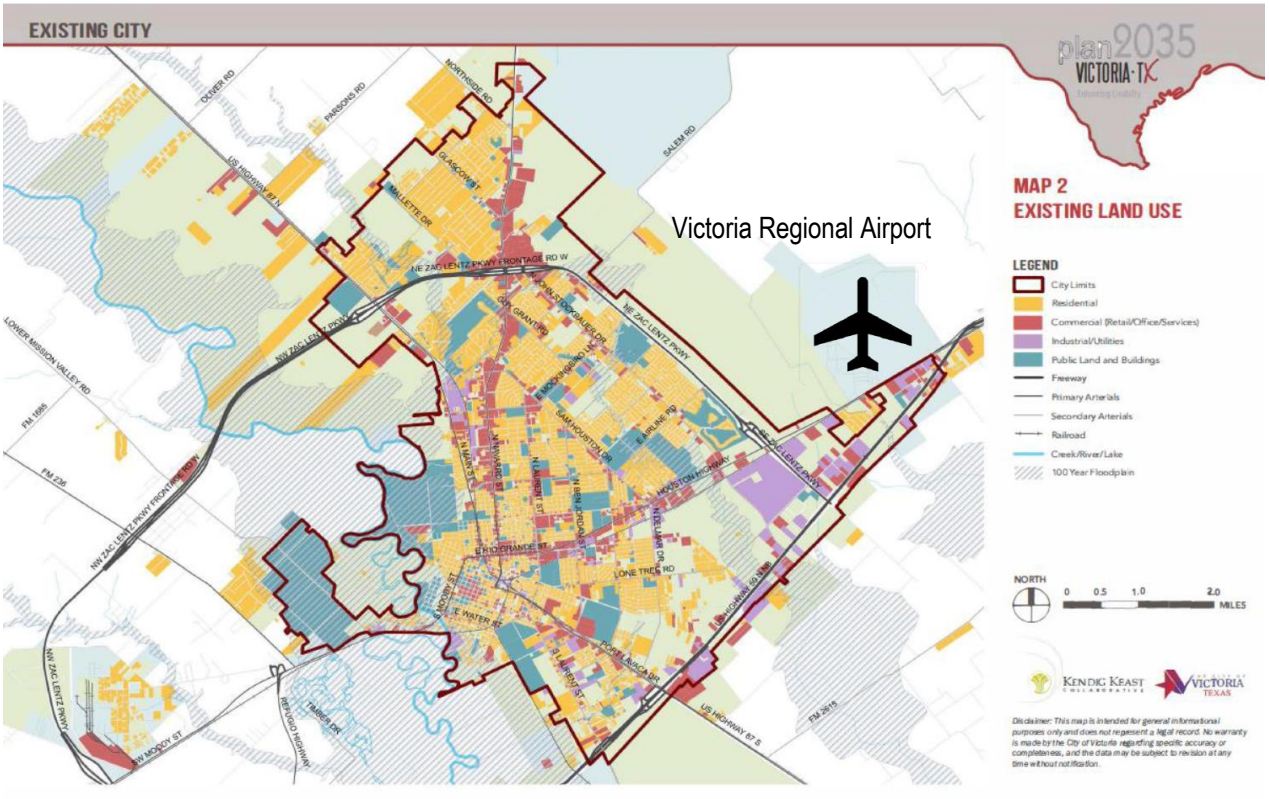
A community comprehensive plan is similar to an airport master plan, but on a city-wide scale. It includes a statement of city policies regarding future physical development and community growth. It is comprehensive in scope, general in nature, and long range in community growth.

After evaluating the *Victoria 2035 Comprehensive Plan,* no conflicts reside for the current airport configuration.

Zoning

Victoria Regional Airport is located just east of the Victoria city boundary in Victoria County. The areas north and east of VCT consist of primarily open and agricultural land. The land south of VCT is mostly commercial and industrial zoned tracks. Land adjacent to VCT on the west side is open between the airport property and Zac Lentz Parkway which is inside the City of Victoria boundary. A complete zoning map of the City of Victoria is shown in **Figure 1.10**.

Figure 1.10 City of Victoria Land Use



Source: City of Victoria

Height Hazard Zoning

The State of Texas recognizes that airspace above and in the vicinity of airports warrants special zoning to mitigate hazards that may diminish the airport's usefulness. Through the Airport Zoning Act (AZA), municipalities can adopt airport compatible land use and hazard zoning regulations. Airport compatible land use protects property and its occupants adjacent to the airport from injury, damages, and excessive noise from the operation of aircraft. Airport hazard zoning protects the airspace from structures or objects of natural growth that could obstruct the flight path of an aircraft.

Specific standards are not identified in the AZA, however, preferred standards for clearing possible airport obstructions can be found in the Federal Aviation Regulations (FAR) Part 77. The County of Victoria should reference FAR Part 77 and the Airport Zoning Act, Texas Local Government Code, §§241.001 et seq. in the development of airport hazard zoning.

1.10 Environmental Concerns

Victoria Regional Airport was formally the site of Foster Air Force base from the start of WWII until 1959 when it was closed due to military budget constraints. Despite efforts from the Army Corps of Engineers, the task force in charge of cleaning up such sites, there are concerns from the general public and airport management that undeveloped land inside the VCT property line may be contaminated with chemicals left over from the military. It is important that environmental issues are resolved before planning development in those specified areas.

1.11 Automobile Parking and Access

The terminal at Victoria Airport is accessible from U.S. Highway 59. The main terminal parking is divided into two lots consisting of approximately 128 parking spots. A separate parking lot to the east of the terminal access road accommodates rental cars. Additional parking lots serve airport employees and airport tenants. Current parking availability and airport access are adequate to support passengers, tenants, and employees at VCT.

Chapter 2: Aviation Demand and Forecast

Chapter 2 – Aviation Demand Forecasts

Projecting future aviation demand is an important part of a planning process. Understanding what to expect in the future will help determine how development around the airport may take place. Having projections of how many operations, types and number of based aircraft, and enplanements will be the foundation for facility requirements including what improvements may be needed in the future. However, forecasting is inherently inaccurate and can only be used as a guide for what the future may hold. In order to consider the unknowns in forecasting, multiple scenarios and growth rates should be considered in order to come up with the most "realistic" possibility.

This important element in the overall master planning process will be used in conjunction with other master planning tasks to determine the characteristics of future airside and landside facilities and development alternatives.

This chapter will develop airport forecast datasets such as:

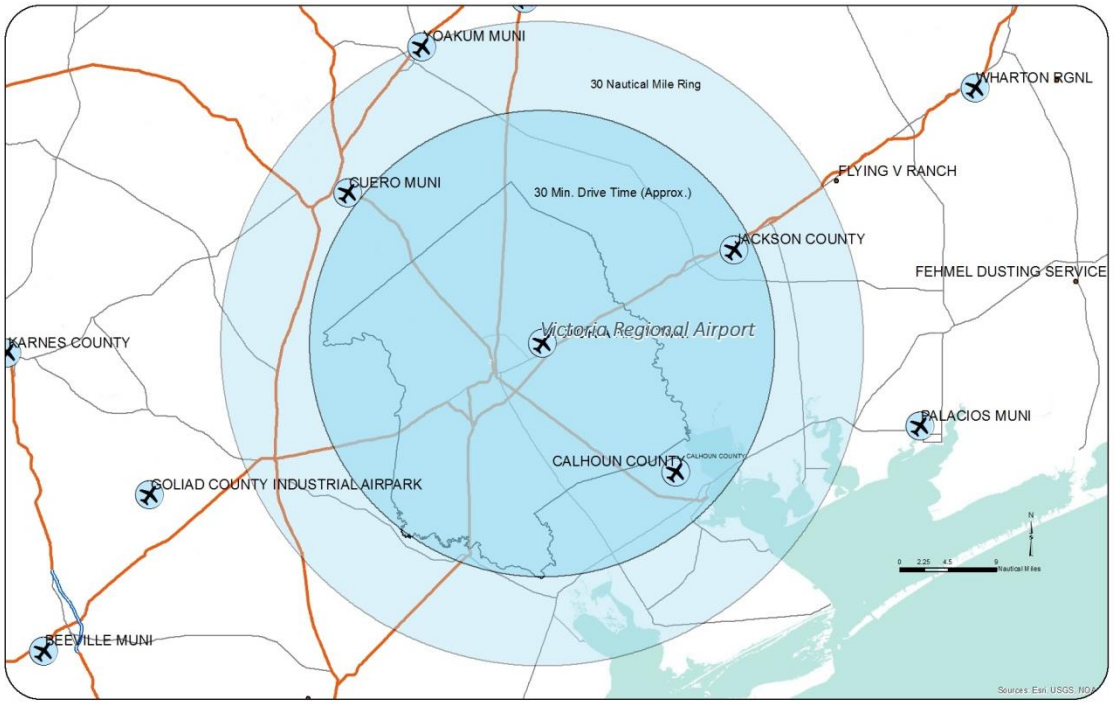
- Based Aircraft by Type
- Operations by Type
- Total Enplanements

2.1 – Market Area

Airport market areas are important to understand when forecasting due to the considerable insight they provide on factors that may influence aviation activity. However, market areas are not always easily defined given the complexities and nature of general aviation and non-primary commercial service airports. Airport markets are unique and are often a mixture of community industry, demographics, facility infrastructure and services. Each airport must clearly understand the market they serve and develop a strategy for how to capture, retain, and grow the markets for which they are best suited.

For planning purposes, general aviation airports typically consider a catchment area of approximately 30 nautical miles or a 30-minute drive time in the surrounding area. This assumption is generally consistent with airports outside of large urban metropolitan areas where multiple airports are needed to serve one market. In Victoria's case, the airport serves the entire county and portions of surrounding Goliad, Jackson, and Calhoun counties. Although these surrounding counties have airports, they are not as substantial in their services or infrastructure. **Figure 2.1** below shows the airport market area surrounding VCT including a 30 minute drive time (darker blue ring) and a 30 nautical mile ring (lighter blue ring).

Figure 2.1 Victoria Regional Airport Market Area



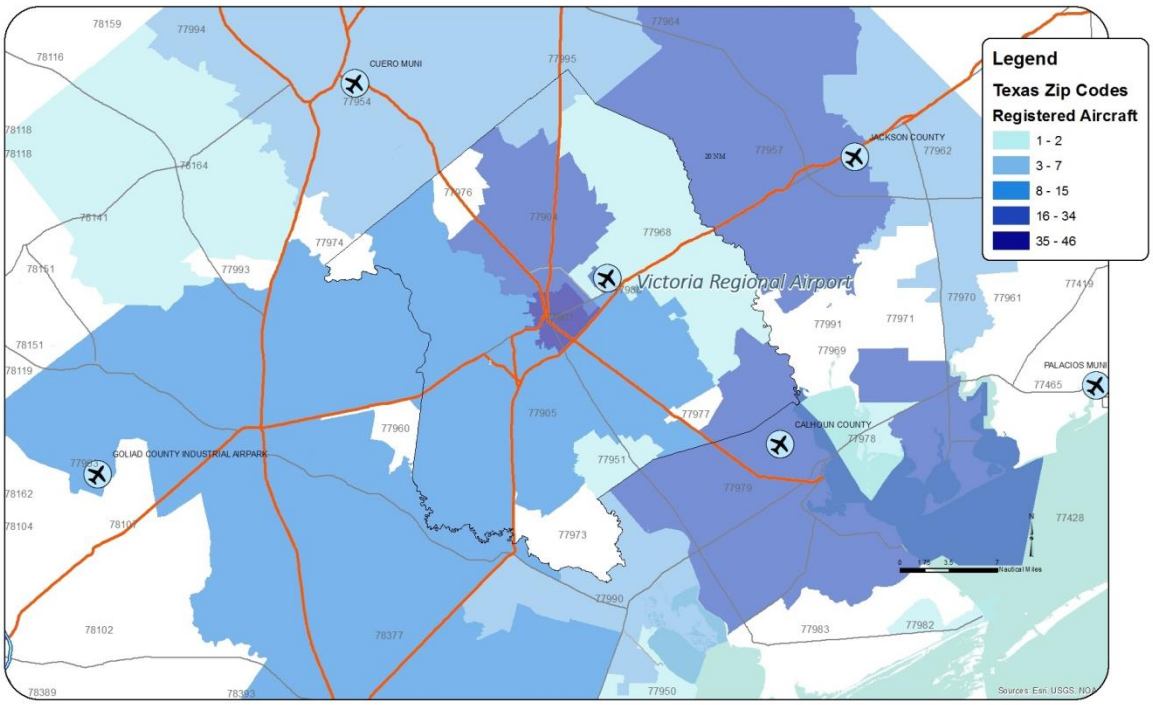
Source: KSA

General Aviation Market

The number of registered aircraft in a given market area is important when considering based aircraft for general aviation airports (see **Figure 2.2**). Understanding where aircraft owners are located in your area can highlight the availability and capture rate of the existing market. Consideration should also be given the possibility of the relocation of aircraft outside this market area from other parts of Texas or the U.S. By marketing to potential corporate clients outside of this market area there is possibility to attract users from other market areas and stimulate growth. This can be done in conjunction with the City of Victoria through economic development opportunities, targeted marketing efforts, and promotion of airport capabilities to user groups and industry relocating to the area.

Growth from the market area can be realized from either capturing a consistent piece of the regional aviation population (flat percentage share of a growing market area), or delivering a unique product to target customers, beyond what its competition provides (increasing percentage share of existing market area). Some of this is dependent on how well the airport markets its capabilities to appropriate industry sectors. **More about this will be discussed in Appendix B, SWOT analysis.**

Figure 2.2 Regional Registered Aircraft



Source: FAA Aircraft Registry Database

The total market area has 252 registered aircraft while Victoria County has 94. Given the level of services and amenities at VCT, as well as the fact that there are only 4-5 airports in the market area, the number of based aircraft at Victoria can viewed as relatively low, indicating there may be an opportunity to increase market share. In order to maximize the share of this market area, the airport should capitalize on some key advantages over other competitors in the region such as:

1. Central location comparative to other population centers serving the surrounding counties
2. Lack of constraints or congestion to allow for expansion
3. Most capable runway length and infrastructure including ATC and instrument approaches

Commercial Service Airport Market

Passengers seeking commercial service air service are willing to travel farther and don't require close proximity to the airport as aircraft owners and operators. Commercial service passengers are often willing to drive an hour or more to an airport in order to save money or take advantage of convenient service/destinations. There are multiple larger commercial service airport markets within an approximate two-hour drive time; Houston (Bush Intercontinental and Hobby), Corpus Christi International, and San Antonio International. This may make it difficult to compete with additional routes, lower fares, and more choices when flying out of the other hub airports. A comprehensive air service development study would be helpful in determining the exact market that is being transferred (leakage) to other competing airports. **Figure 2.3** shows proximity of Victoria Regional Airport to other major metropolitan market areas.

Figure 2.3 Surrounding Commercial Service Markets

The Airline Deregulation Act (ADA), passed in 1978, gave air carriers increased freedom to determine which markets to serve domestically and what fares to charge for that service. Due to this fact, the Essential Air Service (EAS) program was put into place to guarantee that small communities maintain a minimal level of scheduled air service throughout the country. The US DOT is mandated to provide eligible EAS communities with access to the National Air Transportation System.

Victoria has pursued service through the EAS program in the past and as of 2014 is part of the Alternative EAS program. The Alternative Essential Air Service program allows funds to flow directly to the municipality or airport authority instead of the airline allowing the community to recruit air service that would not otherwise meet EAS guidelines. This includes operators that have less-than-daily service, air taxi service, or even ground transportation.

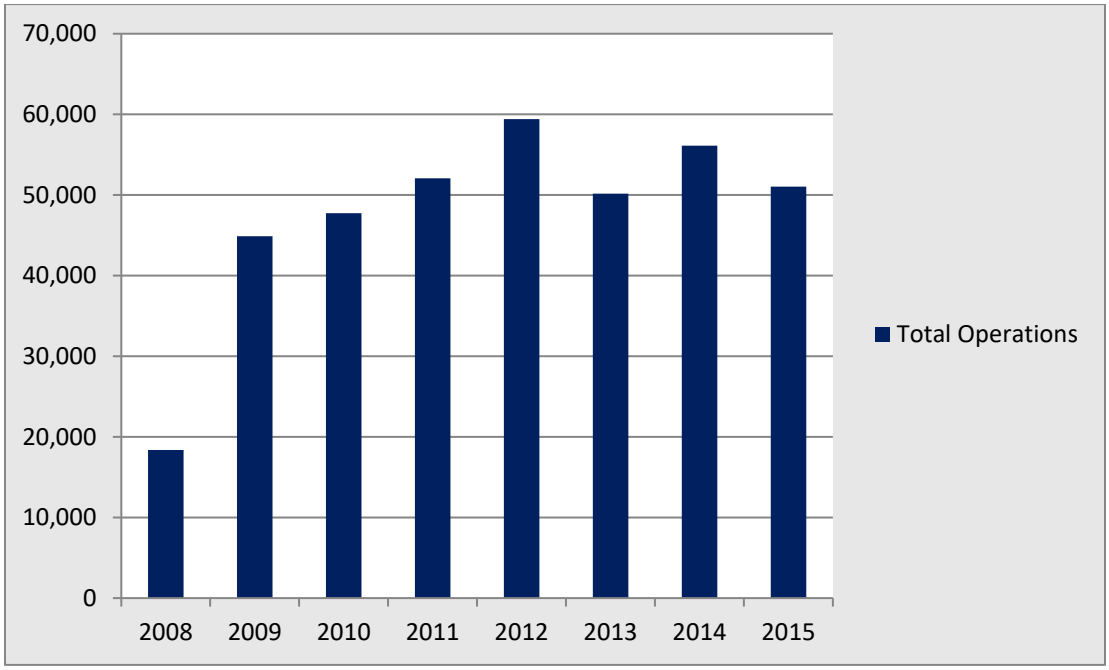
2.2 – Historical Activity Data

The Victoria Regional Airport is a diverse facility and has a complex mix of past operational characteristics. Activity is comprised of a mixture of recreational, corporate, small to large commercial and military jet aircraft, as well as flight training activities. It is valuable to study the previous activity in detail at the airport to understand trends and influences on activity. This will formulate a baseline to apply to future year forecasts of activity. While historic trends are not always reflective of future periods, historic data does provide insight into how local, regional, and national demographic and aviation-related trends may be tied to the airport.

Most of this data comes from FAA sources such as the 5010 Airport Master Record (5010), Terminal Area Forecast (TAF), Traffic Flow Management System Counts (TFMSC), or local airport records.

For the purposes of this analysis, a "based aircraft" is generally defined as an aircraft that is permanently stored at the airport. An "aircraft operation" at a given airport represents either an individual aircraft landing or departure; hence, an aircraft takeoff and a landing would count as a total of two operations. Operations are the best way to understand how active an airport is and how often it is being utilized. Historical Operations are included in **Figure 2.4**.

Figure 2.4 Historical Operations



Source: FAA Terminal Area Forecast (TAF) 2015
Note: Operations not complete for 2015 (ending in November due to data limitations)

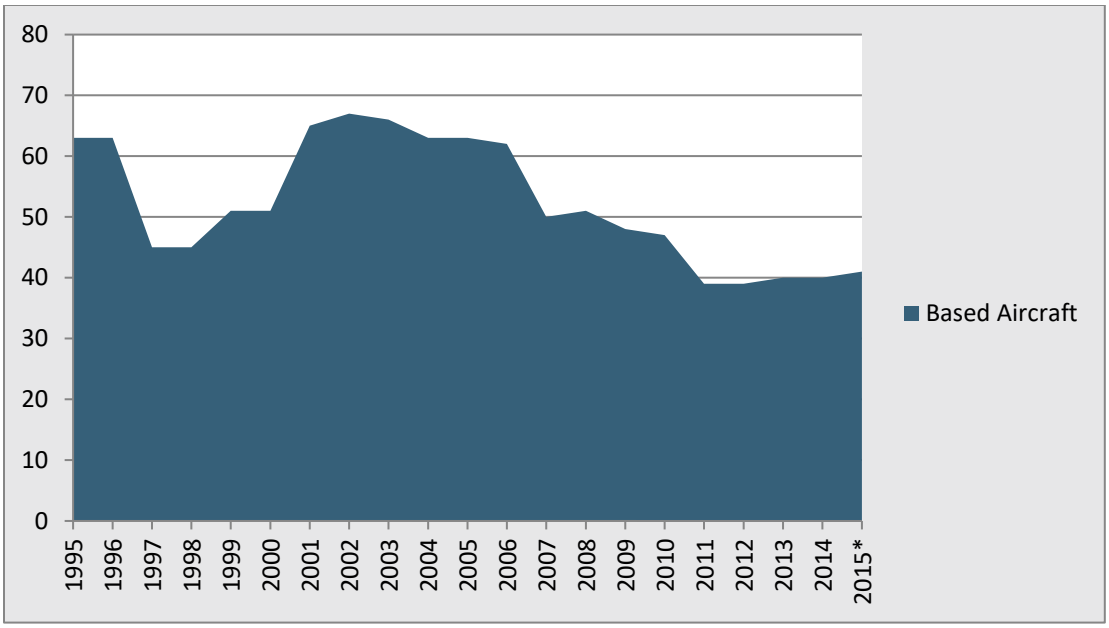
Operations reporting in the TAF show steady total growth over the last seven years. For this planning study, 2008 is the first valid data year due to the opening of the Air Traffic Control Tower. However, 2008 was a partial year and not complete with the tower operational. For statistical purposes, 2009 will be used as an accurate benchmark. Other than a slight decrease in 2013, there has been steady growth of about 1.5% annually. These operations numbers coincide directly with the military operations at the airport as shown below in **Table 2.1**. Due to the large number and share of military operations, they often share the same growth as total airport operations.

Table 2.1 Historical Operations by Type

	2008	2009	2010	2011	2012	2013	2014	2015
Total Operations	18,388	44,869	47,737	52,049	59,400	50,176	56,121	51,035
Air Taxi	298	1,180	1,331	1,499	1,859	2,847	2,700	1,824
Military	11,275	29,435	31,620	38,569	39,806	32,735	42,221	41,331
General Aviation	6,479	14,058	14,759	11,981	17,735	14,592	11,200	7,878

Based aircraft often relate to operations at an airport and frequently produce revenue and need for facilities such as hangars. However, in Victoria, there are significant itinerant operations that do not originate from aircraft based at the airport. The historical levels of based aircraft are listed in **Figure 2.5**.

Figure 2.5 Historical Based Aircraft

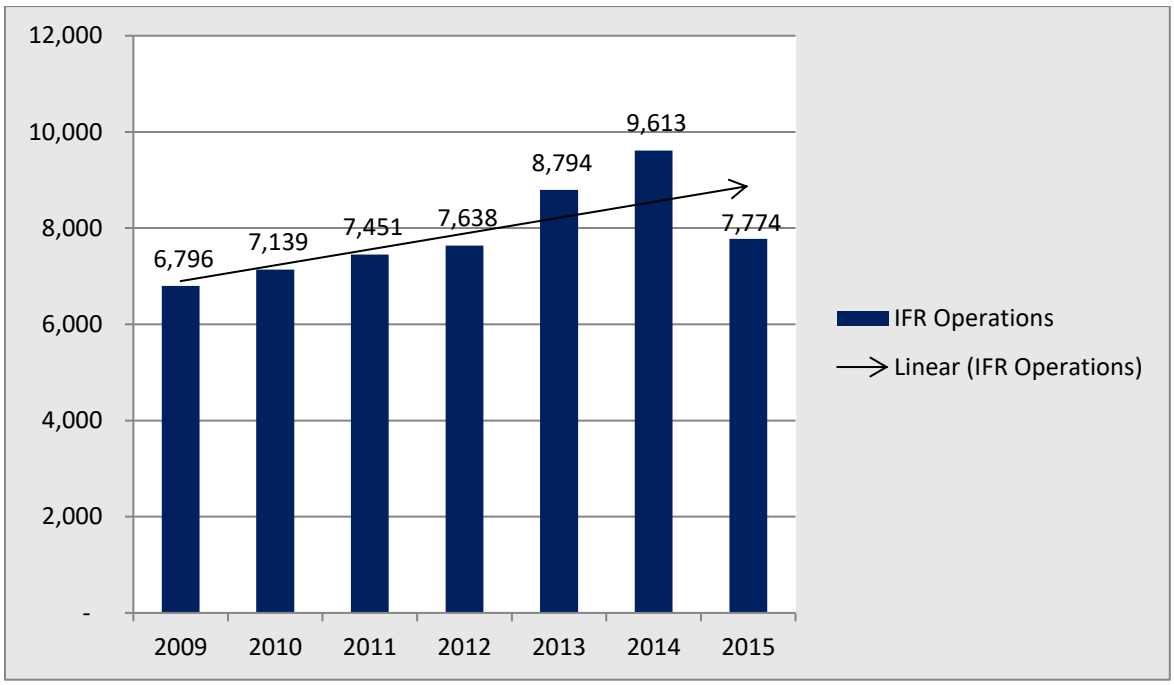


According to the TAF, the number of aircraft based at Victoria Regional Airport fluctuated over the past 20 years. From a high in 2002 of 67, to the current based aircraft count of 41, recent trends show a decline of based aicraft of almost 40% over the last ten years. This may be due to a variety of factors including reporting irregulariteis, increased aircraft ownership costs, or an aging pilot population and general aviation fleet.

As part of this study, instrument flight data from the FAA Traffic Flow Management System Counts (TFMSC) database for operations at VCT were gathered and evaluated. The review of this data provides an understanding of the volume of aircraft operating at the airport, but more importantly what type. The TFMSC is designed to provide information on traffic counts by airport or by city pair for various data groupings such as aircraft type or by hour of the day. It includes data for flights that fly under Instrument Flight Rules (IFR) and are captured by the FAA's enroute computers. Most VFR and some non-enroute IFR traffic is excluded.

As this only applies to aircraft on Instrument Flight Plans, it is only a sample, however the majority of large demanding aircraft operate by filing these flight plans. This data not only helps validate forecast assumptions, it provides an understanding on the demands for instrument approach facilities and instrumentation at Victoria. **Figure 2.6** shows historic operations of aircraft filing flight plans at VCT from 2009 to 2014.

Figure 2.6 Instrument Flight Plan (IFR) Operations



Source: FAA Traffic Flow Management System Counts (TFMSC)
Note: Operations not complete for 2015 (ending in November due to data limitations)

2.3 National General Aviation Trends – FAA Aerospace Forecast

It is important to consider national trends that can provide insight into the future potential of aviation activity and anticipated facility needs. Various data sources were examined in addition to previous airport specific data to support this analysis. Note that historic and anticipated trends related to general aviation will be important considerations in developing forecasts of demand for VCT. The sources utilized in this effort included the following:

- Federal Aviation Administration (FAA), *FAA Aerospace Forecasts, 2015-2035*
- General Aviation Manufacturers Association (GAMA), *2015 General Aviation Statistical Databook & 2016 Industry Outlook*
- National Business Aircraft Association (NBAA), Business Aviation Fact Book, 2014

FAA General Aviation Summary

FAA national GA forecasts rely heavily on discussions with industry experts conducted at industry meetings, including input from the Transportation Research Board (TRB) meetings and subcommittees along with the results of the 2013 General Aviation and Part 135 Activity Survey. The assumptions have been updated by FAA analysts to reflect more recent data and developing trends, as well as further information from industry experts.

The 2013 FAA Survey showed that between 2010 and 2013 the number of active GA aircraft went down by 10.5 percent, from 223,370 to 199,927. General aviation flight hours for 2014 are estimated based on the active fleet and other activity indicators at 23.1 million, with an increase of 0.8 percent from the previous year. After growing rapidly for most of the past ten years, and then slowing over the past few years, the most recent shipment activity indicates the modest growth continues in the overall general aviation aircraft market. Activity forecasts begin in 2015 and continue through 2035. **Table 2.2** summarizes the findings from the 2015 FAA Aerospace Forecast for GA Aircraft.

Table 2.2 FAA AEROSPACE FORECAST – Total Active Aircraft

YEAR	*Total GA Fleet*	*Total Piston*	*Total Turbine*
2015	198,780	138,945	28,410
2020	199,410	134,475	30,840
2025	201,970	130,615	34,450
2030	206,680	127,420	39,525
2035	214,260	125,935	45,905
Growth Rate:	0.4%	-0.5%	2.4%

Sources: FAA Aerospace Forecast (2015-2035)

Note: An active aircraft is one that has a current registration and was flown at least one hour during the calendar year.

Recent trends also indicate a decline of piston powered aircraft, predominately aging single engine aircraft. The FAA forecast projected a decrease at an average annual rate of 0.5 percent from the 2014 total of 139,890 to 125,935 by 2035, with declines in both single and multi-engine fixed wing aircraft. Single-engine fixed-wing piston aircraft, which are much more numerous within this group, are projected to decline at a rate of 0.6 percent, while multi-engine fixed wing piston aircraft are projected to decline by 0.4 percent a year. This is important to note as maintenance costs increase for certain piston fleet aircraft and the availability of 100LL fuel is uncertain for the future.

FAA Commercial Air Service Summary

The 2015 FAA forecast calls for U.S. carrier passenger growth over the next 20 years to average 2.0 percent per year, slightly lower than the previous forecast. Oil prices have dropped significantly over the past year and may be a catalyst for a short-lived uptick in passenger growth. Capacity as measured by Available Seat Miles (ASM) in the domestic market is expected to grow by 2.8 percent initially and then grows at an average annual rate of 1.8 percent for the remainder of the forecast period.

2.4 Commercial Service and Enplanements

Texas Sky Public Charters is a regional charter brand of Public Charters, Inc., an airline headquartered in Avoca, Pennsylvania and was started in 2009, by serving business routes between several airline hub cities offering scheduled service to travelers. In 2012, Texas Sky started shuttle service for airports and have been successfully operating into the main terminals of major airports. Texas Sky utilizes a BAE JetStream 31/32 Aircraft which is a twin-turbo propeller aircraft configured for 19 passengers.

Historically, routes served by Texas Sky at Victoria Regional Airport include Austin–Bergstrom International Airport and Dallas Fort-Worth International Airport. However, service to Dallas ceased in late 2015 and a new route to Houston Intercontinental began in January of 2016. Flights to Victoria are subsidized under the Alternative Essential Air Service program, Victoria is the second airport in the United States to receive subsidy under the Alternative program. Texas Sky plans to evaluate additional service to cities in Texas in the future.

The current flight schedule (as of Jan. 2016) is listed in **Figure 2.7** below.

Figure 2.7 Texas Sky Flight Tables

VCT ⟹ AUS (Victoria, TX to Austin, TX)

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
DEPARTURE	7:20am	7:20am	7:20am	7:20am	7:20am	7:20am
ARRIVAL	8:00am	8:00am	8:00am	8:00am	8:00am	8:00am

AUS ⟹ VCT (Austin, TX to Victoria, TX)

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
DEPARTURE	12:30pm	12:30pm	12:30pm	12:30pm	12:30pm	12:30pm
ARRIVAL	1:10pm	1:10pm	1:10pm	1:10pm	1:10pm	1:10pm

VCT ⟹ IAH (Victoria, TX to Houston, TX)

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
DEPARTURE	1:30pm	1:30pm	1:30pm	1:30pm	1:30pm	1:30pm
ARRIVAL	2:15pm	2:15pm	2:15pm	2:15pm	2:15pm	2:15pm

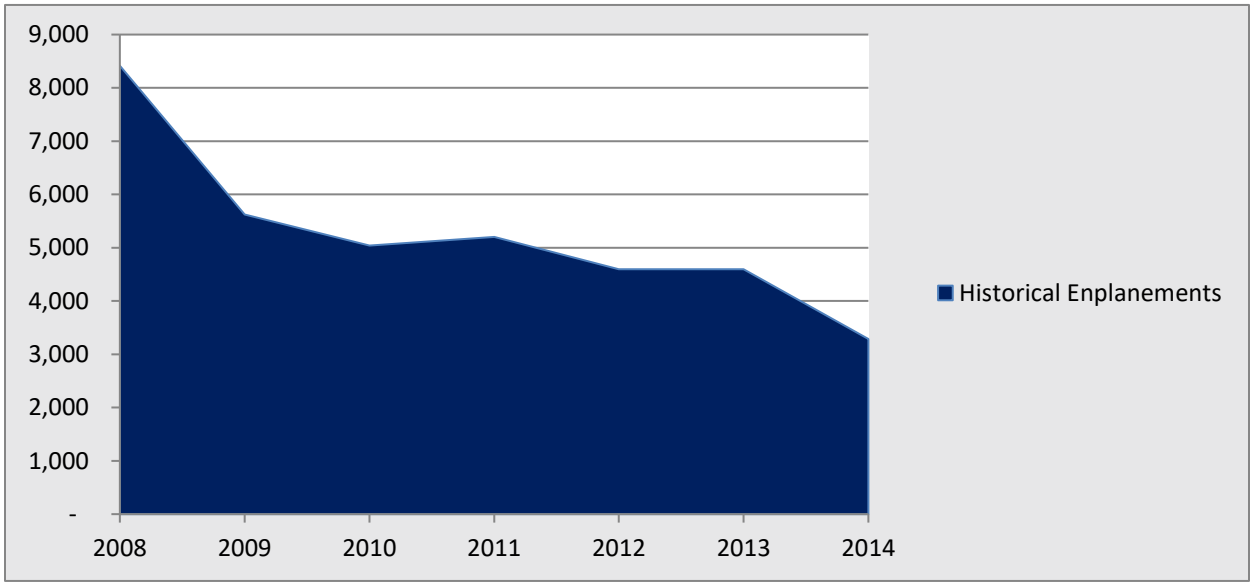
IAH ⟹ VCT (Houston, TX to Victoria, TX)

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
DEPARTURE	5:00pm	5:00pm	5:00pm	5:00pm	5:00pm	5:00pm
ARRIVAL	5:45pm	5:45pm	5:45pm	5:45pm	5:45pm	5:45pm

Source: Victoria Regional Airport (As of January 4th 2016)

The FAA prepares a database called Air Carrier Activity Information System (ACAIS), and publishes revenue enplaned passengers and cargo data for all airlines and airports. A passenger (enplanement) is generally considered a revenue paying passenger boarding an aircraft at an origin. This is important because it is collected and reported for determining airport hub status and federal grant formula allocation under Airport Improvement Program. Depending on the type of airline operator, different surveys and forms are used to report these numbers to both the airport and FAA. **Figure 2.8** includes historical passenger enplanements at VCT as reported in the ACAIS and later put in the Terminal Forecast as historical data. The trend is shown as declining quite rapidly over the last six years, nearly 35% total. This can largely be attributed to a disruption of service and multiple carriers with varying degrees of success entering the Victoria market. Previous air carriers have served different markets with smaller aircraft and sometimes with lower levels of customer service. This may have discouraged passengers from using VCT over other market airports.

Figure 2.8 Historical Passenger Enplanements



Source: FAA ACAIS and TAF

2.5 Military Training and Operations

Victoria Regional Airport is a very active military training destination for a number of different aircraft and branches of the United States Military. Given the location of nearby military installations and facilities offered at VCT, student pilots and training missions are attracted to the airport. The amount of operations at the airport by high-performance aircraft make it a complex and demanding operating environment. So much so that it partly justified the need for the Air Traffic Control Tower in 2008. Aircraft from the following installations operate at Victoria.

Randolph AFB (Joint Base San Antonio) – The base is under the jurisdiction of the 902d Mission Support Group, Air Education and Training Command (AETC) and is the headquarters of AETC's Nineteenth Air Force and the 12th Flying Training Wing. The 12th FTW is responsible for four single-source aviation pipelines including officer training, pilot instructor training, as well as remotely piloted aircraft operations. This wing consists of three flying groups and a maintenance directorate spanning more than 1,600 miles. Primarily, the 12th Operations Group conducts flight training missions to and from VCT. The most commonly seen aircraft from this group include the T-38 Talon and the T-1 Jayhawk.

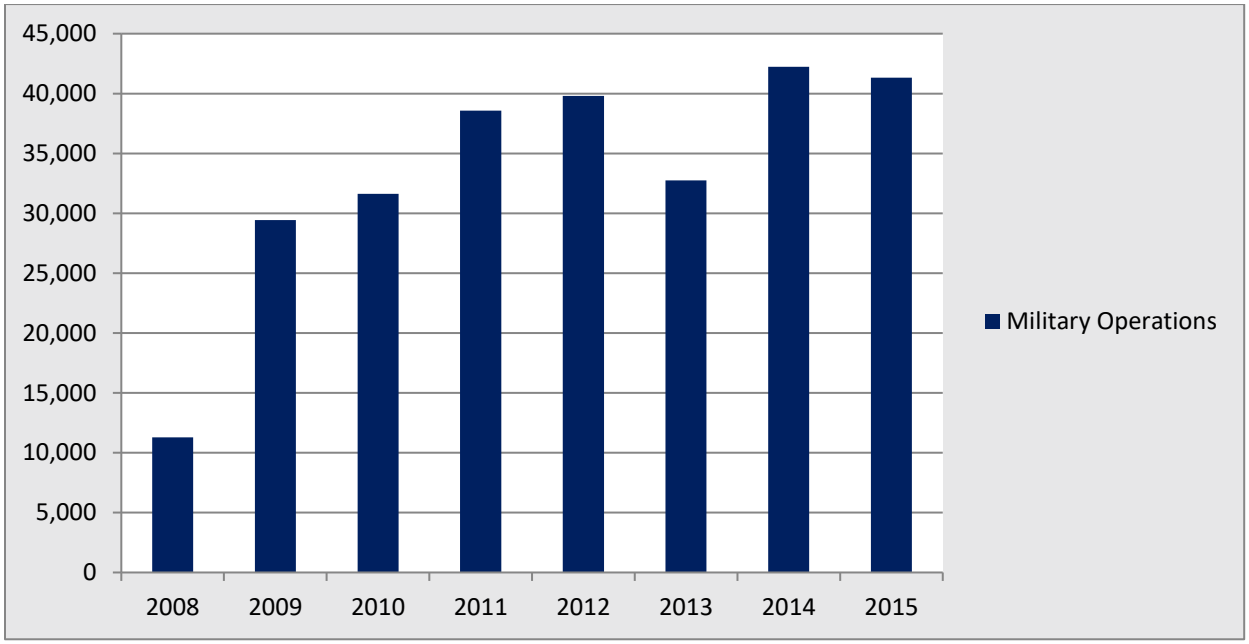
T-38 Talon
Source: 12th Flying Training Wing

NAS Corpus Christi – The Naval Air Training Command (NATRACOM) is a one star command that administers the training of student Naval Aviators, Naval Flight Officers, Naval Aircrew, aircraft maintainers and controllers. Its headquarters is located at Naval Air Station Corpus Christi, Texas, and it oversees operations in five states. Primary operations from this installation include the Beechcraft T-6 Texan II, a single-engine

turboprop aircraft built by the Raytheon Aircraft Company. Nearby Goliad Naval Outlying Field in Berclair, is also home to extensive training of the Corpus Christi T-6 fleet.

Figure 2.9 shows total military operations at Victoria Regional Airport.

Figure 2.9 Military Operations



Source: FAA Air Traffic Activity Data System (ATADS)

2.6 Projections of Aviation Demand

This section will present a variety of projections of aviation demand, or forecasts. This will include prior studies, demographics, and a recommended forecast for the planning period. By evaluating a range of forecasts, planners are more readily able to see what a "realistic" trend line would look like and try to select the most appropriate projection.

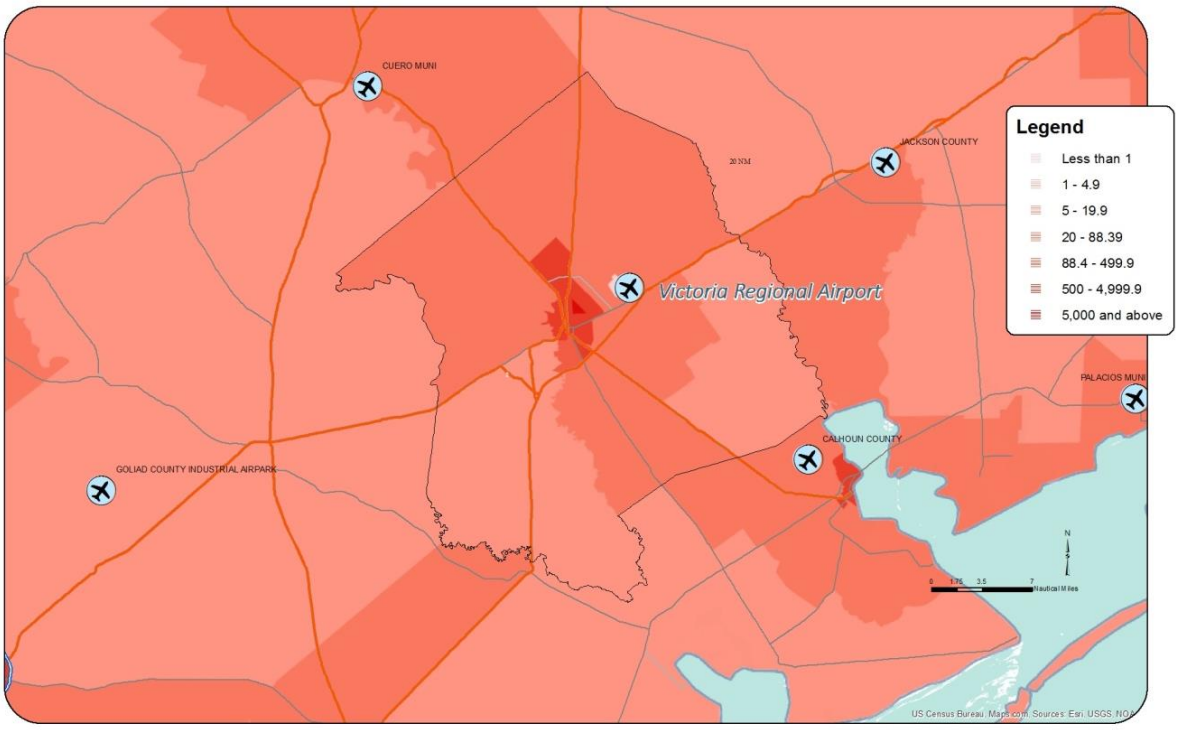
Local Demographic Trends

As previously presented, the forecast for VCT will be largely influenced by the regional demographic trends. Each metric is forecasted by corresponding growth rate to give a range of potential forecast results. The case for each influence projection is presented below with a final recommended forecast to be decided and adopted. It is important to understand the impact of surrounding areas and their current economic and demographic profiles.

Demographics including population and employment are often very strong indicators of future aviation growth. These projections may form the foundation of how the airport operations and based aircraft may look in the future. Typically, as regional demographic trends go, so will the activity level of the airport. Victoria Regional is located in heart of the surrounding market area and thus may benefit from securing the entire county and surrounding communities need for aviation activities.

Figure 2.10 displays population density in the surrounding areas red shading. This may indicate the close proximity of the airport to city centers and more densely population areas.

Figure 2.10 Regional Population Density



Source: US Census Bureau
Note: Shading indicates household population as reported by the 2010 US Census.

There are various sources of data to collect for demographic forecasts. In this study, population, employment, and income metrics were collected to use as indicators for the forecast. Trends were projected for growth rates that correspond to certain relevant demographic measures. Trends for Victoria County are shown in **Table 2.3**.

Population

Changes in area population can often be key factors in affecting aviation demand. In most market areas, there is a direct correlation between an area's population and number of based aircraft. Logically, the more people living in a market area will increase the potential for aviators. Furthermore, as that area's population grows, corresponding growth is experienced in based aircraft numbers from those aviators wishing to own and operate aircraft. A based aircraft projection was developed for VCT that reflects the anticipated population growth for the Airport's market area. Forecast population can be seen in **Table 2.3** for Victoria County. The results of the population growth methodology is included for both based and operations forecasts.

Employment

This data can be very helpful in determining how well a market area is positioned to serve business needs for aviation. Employment projections can indicate the economic viability of a market which may drive the needs of the employment base to use certain services. **Table 2.3** displays the projected employment growth for Victoria County.

Per Capita Personal Income (PCPI)

Income is a strong driver of aviation related activities. Per capita income is often used as average income; it can also be used as a measure of the wealth of a region or nation. The more disposable income a market area has, the more likely they are to spend on goods, services, and transportation options such as aviation. This may have a stronger correlation for recreational flying, commercial passenger enplanements, and based aircraft. Owning and operating aircraft can be a costly endeavor. Items such as fuel, storage, and maintenance require significant investments in most types of aircraft ownership. See **Table 2.3** for the areas PCPI growth projections.

Table 2.3 Market Area Economic Trends

YEAR	POPULATION	EMPLOYMENT	PER CAPITA PERSONAL INCOME
2015	90,353	55,760	47,859
2020	94,153	61,050	60,404
2025	97,533	66,750	79,236
2030	100,780	72,910	105,070
2035	103,597	79,660	140,544
Growth Rate:	0.9%	1.8%	5.5%

Source: Woods and Poole, Texas State Data Center

The slowest growth trend is population while income is projected to increase sharply over the next twenty years. Employment suggests moderate to slow growth, more indicative of other national trends in the aviation sector.

Forecasts

The previous master plan completed in 2007 documented a variety of different forecasts for VCR. It is important to review and understand these forecasts as context for the foundation of the updated effort. Although very rarely accurate for current years, it can be important to understand why certain projections of demand were different than actual conditions. For example, the **Table 2.4** below presents the recommended forecasts from the last master plan.

Table 2.4 Previous Master Plan Forecasts (2007)

YEAR	Operations	*Actual	Based Aircraft	*Actual	Enplanements	Actual
2005	25,537	NA	63	NA	11,117	NA
2010	68,492	47,737	67	38	12,303	5,038
2015	105,749	51,035	74	41	13,569	2,642
2025	108,741	NA	84	NA	14,827	NA
Annual Growth:	7.5%		1.5%		1.5%	

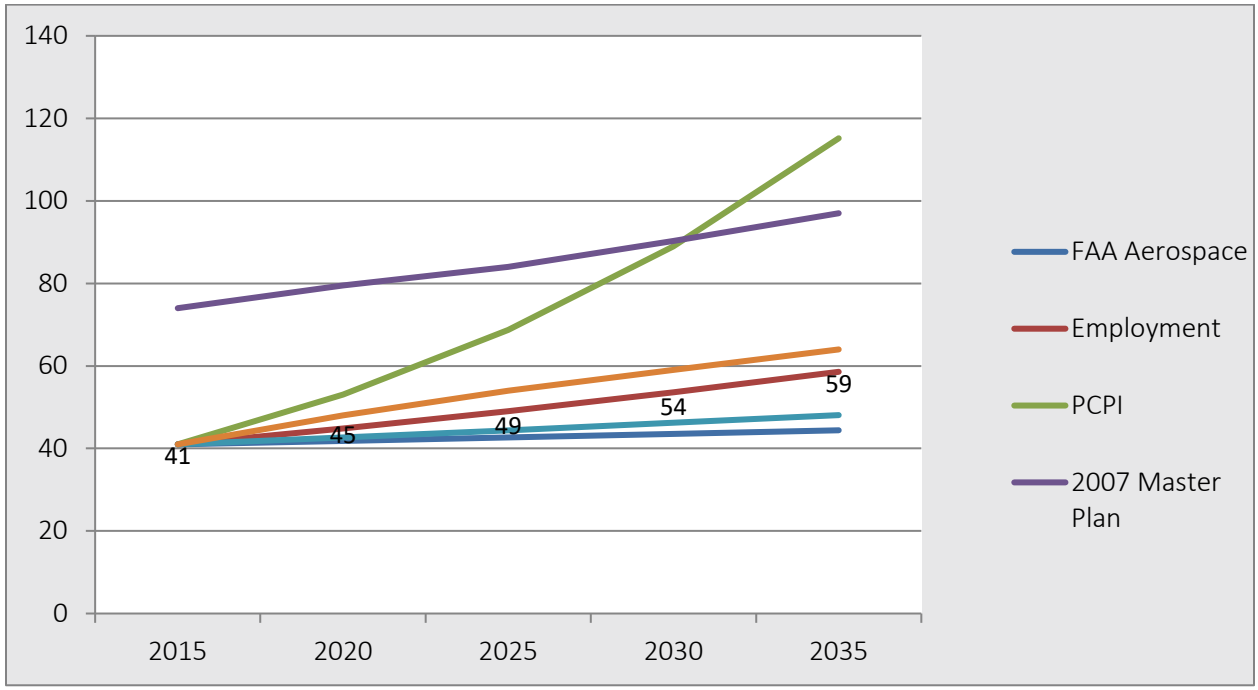
Note: Operations growth is largely due to major forecasted increase in military operations

The 2007 predictions of operations, based aircraft, and enplanements were all substantially higher than actual in 2015. This may be for a variety of reasons, including the 2008 U.S. recession that impacted all aviation activity during the following few years. Indicators suggest that this downturn is just now starting to return to levels that were anticipated.

Based Aircraft Forecast

Based aircraft are defined as those aircraft that are permanently stored at an airport, for the majority of the year. These aircraft should be in airworthy condition according to the FAA and are important to accurately count as they impact the operations, storage requirements, and fuel sales at an airport. Estimating the number and types of aircraft expected to be based at Victoria Regional Airport over the 20-year study period will impact the planning for its future facility and infrastructure requirements. Generally speaking, as the number of aircraft based at an airport increases, so too does the aircraft storage required at the facility. Based aircraft projections for VCT were established using the methodologies and demographic trends stated previously. See **Figure 2.11** and **Table 2.5.**

Figure 2.11 Based Aircraft Forecast (Total)



Preferred Forecast – Employment. Based on the growth rate spectrum, the most closely aligned with realistic projections will be the employment trend. The preferred based aircraft projection for VCT will be carried forward into the next phase of the master planning process and will be used to examine future airport facility needs.

Table 2.5 Total Based Aircraft Forecast

Year	*FAA Aerospace Forecast*	*Population*	*Employment*	*PCPI (Income)*	*FAA TAF*
Current					
2015	41	41	41	41	41
Projection					
2020	42	43	45	53	48
2025	43	44	49	69	54
2030	44	46	54	89	59
2035	44	48	59	115	64
CAGR (2015 – 2035)	0.4%	0.80%	1.8%	5.30%	2.3%

A fleet mix projection was also completed for aircraft type. Currently, the vast majority of based aircraft is single engine at roughly 85%, while multi engine account for 14% jet is only a fraction at less than 1%. It is expected in the forecast period that single engine aircraft (piston) growth will slightly decrease to coincide with national trends, while turbo prop and jet increase their share of based aircraft. The breakdown by type is presented in **Table 2.6.**

Table 2.6 Based Aircraft Forecast by Type

YEAR	Piston	Multi	Jet (Turbine)	Rotor	Total
2015	30	5	1	2	38
2020	34	5	3	3	45
2025	36	4	5	3	49
2030	38	4	8	4	54
2035	39	3	11	5	59

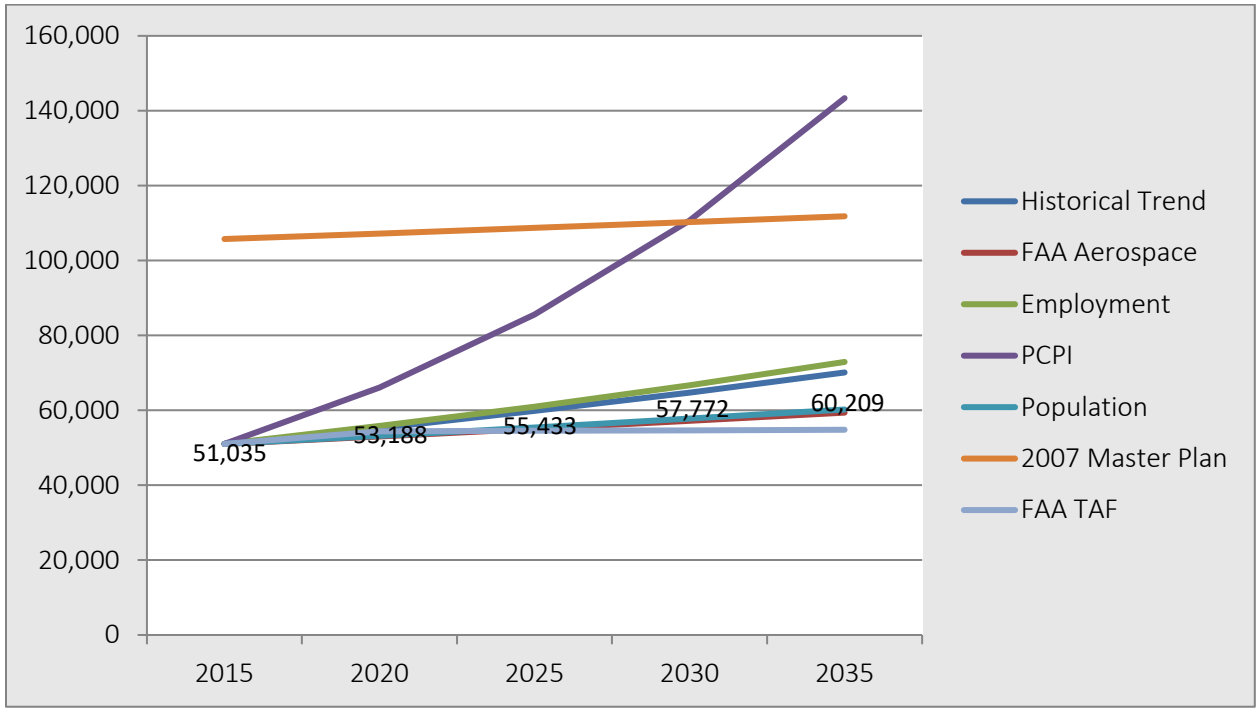
Note: Market share mix of single engine and multiengine piston decline and are reallocated to growth in turbo and jet.

The based aircraft fleet mix assumption follows the FAA national trend of single-engine fixed-wing piston aircraft, which projected to decline at a rate of 0.6 percent, while multi-engine fixed wing piston aircraft are projected to decline by 0.4 percent a year. The loss in this market share for each forecast year is reallocated to jet/turbine aircraft with a small percentage going to rotorcraft. It is important to note that the Jet (Turbine) category includes larger turboprop aircraft that require similar space requirements and Jet A fuel.

Operations Forecast

Many different factors can influence the number of aircraft operations at an airport, including, but not limited to, total based aircraft, area demographics, activity and policies at neighboring airports, and national aviation trends. Operations count as either one take-off or one landing. They are reported by type, including military, general aviation, air taxi, and air carrier. These are then often broken into local and itinerant to determine if the activity is being influenced by surrounding areas. It is important to note that a traditional operations per based aircraft methodology was not used for VCT. This is due to the large number of military itinerant operations that skew the total operations from existing local based aircraft.

Figure 2.12 Operations Forecast (Total)



Preferred Forecast – Population. Given linear trend lines and the common association with population growth and aviation activity, population was selected as the most likely forecast scenario to occur within the planning period. The PCPI and 2007 Master Plan lines are immediately dismissed as outside the normal smoothing trend line. This leaves the population growth in the middle of the remaining trends. This can be seen in **Figure 2.12** and **Table 2.7**.

Table 2.7 Operations Forecast

Year	*Historical Trend*	*FAA Aerospace Forecast*	*Employment*	*PCPI (income)*	*Population*	*FAA TAF*
Current						
2015	51,035	51,035	51,035	51,035	51,035	*54825
	-					
Projection	-					
2020	55,251	53,004	55,797	66,071	53,188	54,377
2025	59,814	55,049	61,002	85,537	55,433	54,517
2030	64,755	57,173	66,694	110,737	57,772	54,662
2035	70,104	59,379	72,916	143,362	60,209	54,807
CAGR (2015 – 2035)	1.6%	0.8%	1.8%	5.3%	0.8%	0.4%

In addition to developing projections of total aircraft operations for the airport, it is important in the master planning process to determine the types of operations that are anticipated. Using historic estimates as a basis, the percentage of total operations conducted by the major categories of operations were estimated and applied to the preferred projections of aircraft operations at Victoria Regional Airport. The average mix of general aviation military, air taxi, and air carrier operations from 2015 was assumed to remain constant throughout the planning period. See **Table 2.8**.

Table 2.8 Operations Forecast by Type

Year	*GA Local*	*GA Itinerant*	*Military*	*Air Taxi*	*Air Carrier*	*Total*
Current						
2015	1,776	6,102	41,331	1,824	2	51,035
Projection						
2020	1,596	6,383	43,082	2,128	0	53,188
2025	1,663	6,652	44,901	2,217	0	55,433
2030	1,733	6,933	46,795	2,311	0	57,772
2035	1,806	7,225	48,769	2,408	0	60,209
Average %	3%	12%	81%	4%	<1%	

Source: FAA ATADS 2015

Enplanements

The term of enplaned passenger is widely used in the aviation industry, and is loosely defined as the passengers boarding planes at a particular airport. 14 CFR Part 217 and 14 CFR Part 241 require all U.S. large certificated carriers and foreign carriers operating in U.S. to report traffic statistics, and provide the most comprehensive definition of passengers, including definitions of revenue passengers and nonrevenue passengers. A revenue passenger is defined as a passenger for whose transportation an air carrier receives commercial remuneration. The FAA (U.S. DOT) is the main source of enplanement statistics for all U.S. scheduled and nonscheduled certificated air carriers, commuter air carriers, and small certificate air carriers.

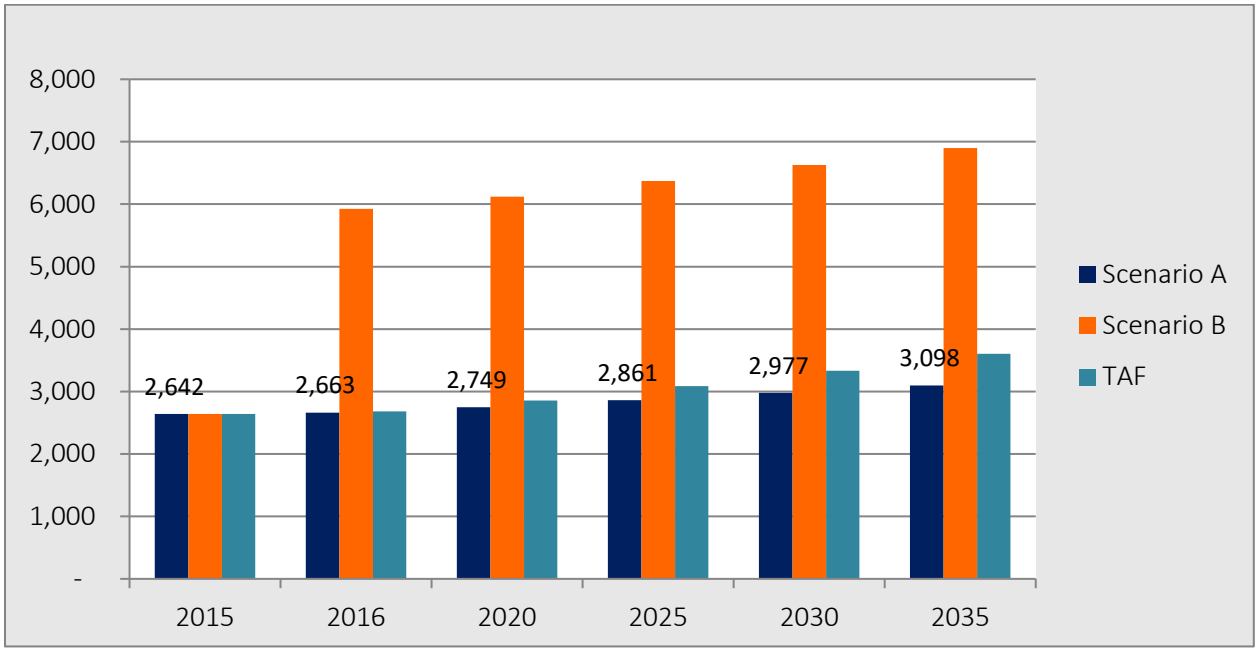
Enplanements can be difficult to project for non-primary commercial service airports due to the limited markets served by these airports, and lack of guaranteed airline service in the future. Often, the air carriers serving these airports are subsidized by the Essential Air Service or Community Air service program and operate a limited fleet of aircraft and flight schedules. Therefore, scenario based forecasting can be helpful to assess the uncertainty in the future while providing planners and airport management and idea of what may occur in the future. The enplanement forecasts are listed in **Figure 2.13.**

Scenario A – Texas Sky currently operates one 19-seat aircraft to serve its markets in the EAS program. In Scenario A, this assumption is continued throughout the planning period. Based on the total number of potential enplanement flights the current load factor compared to total possible enplanements is 48 percent. The current existing enplanement forecast is then extrapolated over the planning period with average growth factors for population driving the total numbers. This is a moderate and "status quo" growth scenario and seems the most likely based on historical and projected trends.

Scenario B – This Scenario assumes Texas Sky (or another airline) will add capacity in Victoria and increase either routes or city pairs, or add an additional similar aircraft to the fleet. It also assumes that the new Houston route will have similar load factors to the existing routes (which average at just fewer than 50 percent). This scenario is useful because it essentially doubles the existing and projected enplanements for a dramatic increase. This high scenario illustrates how a rapid growth scenario would impact needs at the airport. However, it should be noted that this scenario is unlikely and will not be the primary basis for facility requirements.

Terminal Area Forecast – The TAF is also presented as a comparison forecast for enplanements. This is developed by the FAA and is indicative of national trends that are affecting other air carrier airports. While local conditions exist that could deviate from this forecast, it is a reasonable baseline to benchmark.

Figure 2.13 Enplanements Forecast



2. 7 Summary

It is anticipated that Victoria Regional Airport will see low to moderate growth during the 20-year planning period. Market area demographic trends indicate that the airport will slightly outpace growth in based aircraft versus enplanements and total operations. Military activity is expected to continue to represent the majority of airport operations in the future.

Based aircraft are expected to increase from 41 aircraft to 59 aircraft by 2035. More importantly, there is expected to be an increase of 11 based turbine aircraft. The airport will also see an increase in the number of operations. By the end of the planning period, over 60,000 operations could be expected. It is important to note that this is an unconstrained projection, which stipulates that all facilities necessary to accommodate growth will be constructed and that nothing will limit it. The forecast summary for Victoria Regional Airport is listed in **Table 2.9**.

Table 2.9 Forecast Summary

Year	*Based Aircraft*	*Operations*	*Enplanements*
Current			
2015	38	51,035	2,642
2016 (est.)	41		
Projection			
2020	45	53,188	2,749
2025	49	55,433	2,861
2030	54	57,772	2,977
2035	59	60,209	3,098
CAGR (2015 – 2035)	1.8%	0.8%	0.8%

The next step in the master planning process will evaluate these demand projections and analyze potential enhancements to the facility needs.

Chapter 3: Facility Requirements

Chapter 3 – Facility Requirements

The purpose of this chapter is to determine and summarize capacity metrics for the existing airport facilities and support facilities while analyzing their ability to meet forecast demand for the planning horizon. A variety of facilities will be benchmarked to assess capacity with measures including:

- Airport Annual Service Volume (ASV)
- Runway Length Requirements
- Wind and Instrument Approach Analysis
- Apron and Hangar space requirements
- Terminal space and other landside facility needs such as parking and access
- Navigational Aid (NAVAID) and lighting requirements

The FAA specifically states the requirements for airports in FAA Advisory Circular (AC) 150/5300-13A Change 1, Airport Design. Although recommendations can be driven by FAA safety and design standards, demand will also dictate what needs to be built to address suggested facility requirements in this section. The findings presented here will be the foundation for putting together alternatives and selecting a recommended development plan for the airport. Sections include:

- Airfield Demand-Capacity Analysis
- Airside Facility Requirements
- Landside Capacity and Facility Requirements
- Facility Requirement Summary

3.1 Demand/Capacity Analysis

Airport capacity is a complex and variable metric. For planning purposes, many things must be considered such as airfield geometry, aircraft operations, based aircraft, and fleet mix. Support facilities are also taken into consideration based on the role of the airport and expected services that will be provided. This is largely dependent on the type of aircraft using the facility and their operational characteristics.

Operational Fleet Mix

When projecting aircraft operations, it is important to evaluate fleet mix. This is categorization of the type and use of each operation. Given the changing characteristics of certain aircraft and uses, the requirements for each may be different. By pulling and analyzing more detailed operational data, airport planners are able to more accurately reflect the needs of the airport in the future.

Victoria Regional Airport has a heavy amount of military traffic as demonstrated by the operations fleet mix by use in **Table 3.1**. The other highest use is general aviation and air carrier per the FAA flight plans filed to the airport. As important as use is the type of aircraft. **Table 3.2** describes the aircraft at VCT by type.

Table 3.1 Operations Fleet Mix By Use

YEAR	Air Carrier	Air Taxi	General Aviation	Military	Other	TOTAL
2014/2015	21%	1%	35%	42%	1%	100%

Sources: FAA TFMSC

Table 3.2 Operations Fleet Mix By Aircraft Type

YEAR	Jet	Turbine	Piston	Helo/Other
2014/2015	31%	53%	13%	3%

Sources: FAA TFMSC

Over the past year, it appears over half of the operations at Victoria Regional are by turbo prop aircraft. These may be inclusive of some of the military operations at the airport**.** A small percentage of the total operations are piston aircraft.

Capacity Scenarios by Airport Configuration

The FAA uses Advisory Circular AC: 150/5060-5 Airport Capacity and Delay for planning and design. This methodology is used for long range planning to determine whether anticipated demand will outpace capacity for a given airport. Results will dictate and justify further airport capacity enhancement projects.

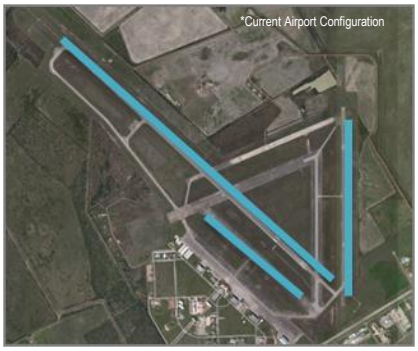
Annual Service Volume (ASV) is commonly used in master planning exercises to measure runway and airport capacity. This volume describes the total number of operations a particular runway alignment (or group of runways) can handle on an annual basis. By using this measure, it is easy to compare to current and projected annual operations numbers and analyze capacity. Although not always viable for hourly capacity or delay peak periods, this guideline is helpful for long range 20 year planning horizons.

Assumptions under the following analysis include:

- IFR Weather conditions are present approximately 10% of the time
- Roughly 80% of the time the airport is operated with the runway-use configuration which produces the greatest hourly capacity
- The percentage of aircraft classes C and D using, or expected to use, the airport is 0-20% of the annual operations.

Given these assumptions, the following runway-use configurations and corresponding ASV are listed in **Figure 3.1.**

Figure 3.1 Runway Capacity by Configuration

Single Runway (1)	Crosswind Runway (2)	Crosswind Runway and Parallel (3)
		
Annual Service Volume = **230K** Operations Hourly Capacity (ops/hr): 98 VFR / 59 IFR Current Capacity: 22% Forecast Capacity: 26%	Annual Service Volume = **270K** Operations Hourly Capacity (ops/hr): 150 VFR / 59 IFR Current Capacity: 19% Forecast Capacity: 22%	Annual Service Volume = **355K** Operations Hourly Capacity (ops/hr): 197 VFR / 59 IFR Current Capacity: 14% Forecast Capacity: 16%

Planning guidelines typically assume that when an airport meets 60% capacity, planning for capacity enhancements should begin. At 80% capacity, construction for those projects should begin. If 100% capacity is reached, serious impacts to airport operations may occur resulting in increased delay. This analysis shows that the airport will adequately support demand in the planning period for all runway configurations, with the highest demand capacity being 26% in 2035 with a single runway. However, it is also important to note that by reducing the number of runways the airport will also have plenty of available capacity per ASV. This allows flexibility with the current runway alignments. Under IFR conditions the hourly capacity remains the same for all scenarios as only one runway is available for use given the current design separation standards.

3.2 Airfield Requirements

When determining the requirements at the airport, the highest focus is the airfield/airside facilities that are required to accommodate the operation of aircraft. Safety, capacity, and design standards are extremely important as they directly relate to the operation of the airport for its sole purpose; the take-off and landing of aircraft. Planning for the future of the airport requires this foundation of airfield configuration to be the basis for additional landside development concepts. Fundamentally, the aircraft that use the airport (or are projected to use the airport) dictate the requirements for which the facilities should be designed. Aircraft are unique and have a set of characteristics that determine thresholds for pavement strength, design, and capacity.

Airport Design

There are many considerations in airport design that impact where and why portions are the airport are planned. Most criteria is based on safety and operational efficiency and can include many boundaries that are not clearly visible by simply looking at the airfield. These boundaries are necessary to establish capacity, alignments, and sizing of certain airport infrastructure.

Airport Reference Code (ARC)

The ARC is a coding system developed by the FAA to relate airport design criteria to the operational and physical characteristics of the airplane types that will operate at a particular airport. The ARC has two components relating to the airport design aircraft. The first component, depicted by a letter, is the aircraft approach category and relates to

aircraft approach speed. The second component, depicted by a Roman numeral, is the airplane design group and relates to airplane wingspan. Another distinction within groups can be the designation of the term *small aircraft* which relates to aircraft with gross weights of 12,500 pounds or less.

Generally, aircraft approach speed applies to runways and runway length related features. Airplane wingspan primarily relates to separation criteria and width-related features. Airports expected to accommodate single-engine airplanes normally fall into Airport Reference Code A-I or B-I. Airports serving larger general aviation and commuter-type planes are usually Airport Reference Code B-II or B-III. Small to medium-sized airports serving air carriers are usually Airport Reference Code C-III, while larger air carrier airports are usually Airport Reference Code D-VI or D-V. See **Table 3.3** for FAA ARC's and **Figure 3.2** for common aircraft by ARC.

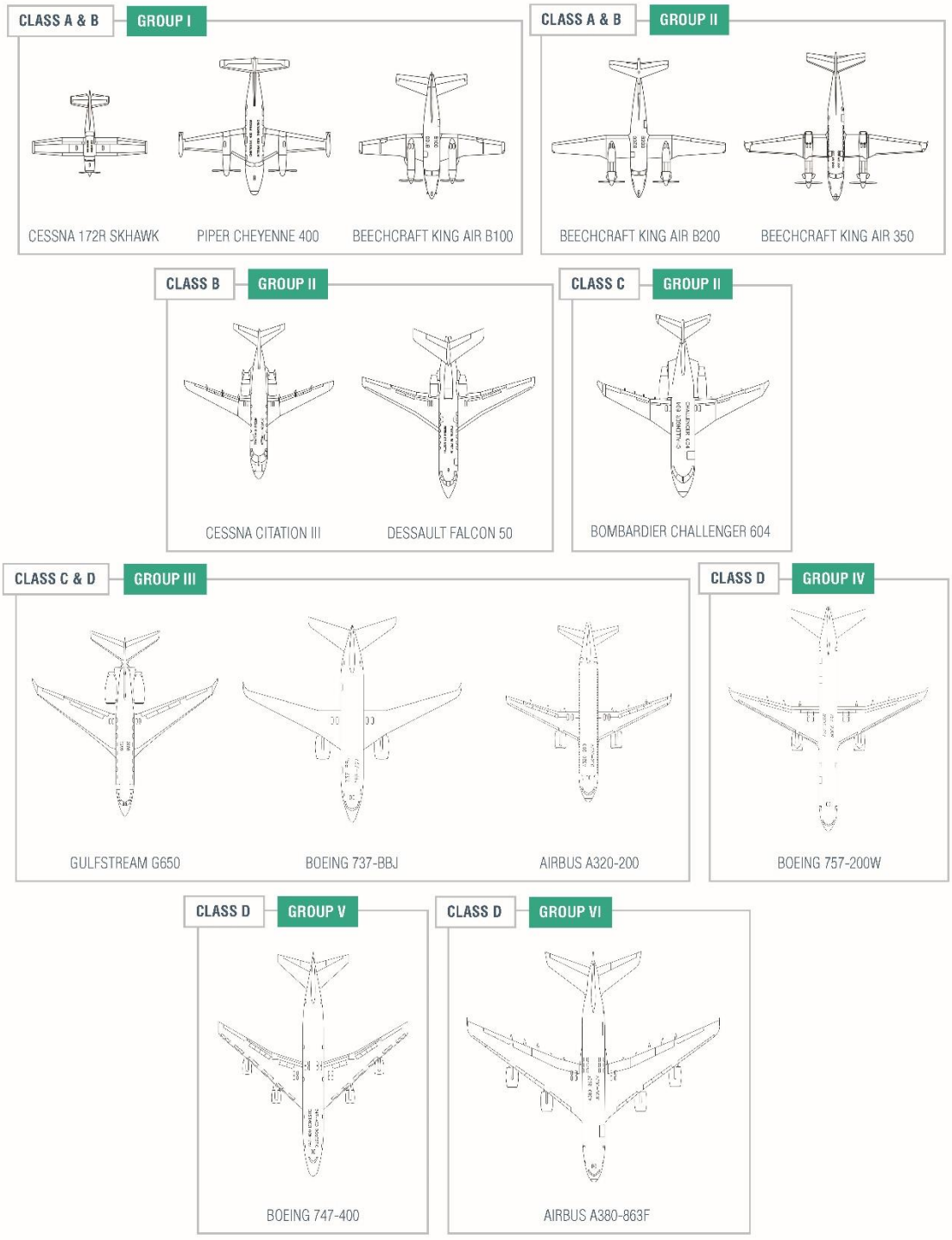
Table 3.3 Airport Reference Codes

AIRCRAFT APPROACH CATEGORY	
Approach Category	**Approach Speed**
A	< 91 knots
B	91 knots to < 121 knots
C	121 knots to < 141 knots
D	141 knots to < 166 knots
E	166 knots or more

AIRCRAFT DESIGN GROUP		
Design Group	**Tail Height**	**Wingspan**
I	<20 feet	< 49 feet
II	20 feet to < 30 feet	49 feet to < 79 feet
III	30 feet to < 45 feet	79 feet to < 118 feet
IV	45 feet to < 60 feet	118 feet to < 171 feet
V	60 feet to < 66 feet	171 feet to < 214 feet
VI	66 feet to < 80 feet	214 feet to < 262 feet

Sources: FAA AC 150/5300 -13A

Figure 3.2 Common Aircraft by Airport Reference Code



Runway and Taxiway Safety Area (RSA)

The runway safety area is an imaginary planning boundary that extends in a rectangular shape around the runway infrastructure. The area is prepared or suitable for reducing the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway. Typically, this boundary should be flat, clear or any objects or hazards around the immediate vicinity of the runway in case of aircraft overruns. The specific size of the RSA will be shown in the Airport Layout Plan. A taxiway safety area is centered on a taxiway centerline and is designed to limit the encroachment of objects onto aircraft movement areas and to allow airport emergency vehicles to readily access aircraft on a taxiway.

Runway and Taxiway Object Free Area (OFA)

The runway object free area (ROFA) is centered on the runway or taxiway centerline. The OFA clearing standard requires clearing the OFA of above ground objects protruding above the runway safety area edge elevation. Except where precluded by other clearing standards, it is acceptable to place objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes and to taxi and hold aircraft in the OFA. To the extent practicable, objects in the OFA should meet the same frangibility requirements as the RSA. Objects non-essential for air navigation or aircraft ground maneuvering purposes must not be placed in the OFA. This includes parked aircraft.

Runway Protection Zone (RPZ)

The RPZ's function is to enhance the protection of people and property on the ground. This is best achieved through airport owner control over RPZs. Control is preferably exercised through the acquisition of sufficient property interest in the RPZ and includes clearing RPZ areas (and maintaining them clear) of incompatible objects and activities.

Precision Object Free Zone (POFZ)

The precision object free zone (POFZ) is centered on the extended runway centerline and includes a volume of airspace located above and area extending from the runway threshold. The POFZ measures 200 feet long and 800 feet width. It must be kept clear when an aircraft utilizing a vertically guided instrument approach and the reported ceiling is lower than 250 feet or visibility minimums drop below ¾ mile (SM).

ILS Critical Area

The ILS critical area is comprised of the glideslope and localizer critical areas which must remain clear of all vehicles, aircraft, and other obstruction when an aircraft is between the Instrument Landing System (ILS) final approach fix and the runway threshold. Taxiways are equipped with ILS hold bars that are used to hold aircraft outside the critical area when instrument approach procedures are in use. Should an obstruction inadvertently enter the critical area while active, it could cause interference that could affect the accuracy of the glideslope and/or the localizer.

20:1 Visual Approach Area Surface

As described in Section 3.3.2c of FAA order 8260.3B the 20:1 visual approach surface is aligned with and centered on the runway centerline. It has a vertical slope of 20:1 or 2.87 degrees, beginning from the runway threshold elevation. The surface begins 200 feet prior to the runway threshold and continues until reaching the decision altitude of the specified approach.

Precision Instrument Approach Area Surface

As described in FAR Part 77, the precision instrument approach surface is aligned with and centered on the runway centerline. It has a vertical slope of 50:1 (2.0 degrees) for a horizontal distance of 10,000 feet and at a slope of 40:1 (2.5 degrees) for an additional 40,000 feet.

Taxiway Design

The FAA has updated their taxiway design requirements. Taxiway Design Groups are now used to help design appropriate spacing and size of taxiways. It is important to note that the FAA lists seven conditions which should be addressed to reduce the potential for runway incursions:

1. *Increase Pilot Situational Awareness.* Keep taxiway systems simple, using a "three-node" concept.
2. *Avoid wide expanses of pavement*. Requires placement of signs away from pilot's line of sight.
3. *Limit runway crossings*. Reduces the number of occurrences and air traffic controller workload.
4. *Avoid "high energy" intersections*. Intersections in the middle third of the runways create the potential for a high speed/energy collision.
5. *Increase visibility*. Using right angle intersections, both between taxiways and between taxiways and runways, provides the best visibility for pilots.
6. *Avoid "dual purpose" pavements*. Dual purpose runways/taxiways can lead to confusion.
7. *Indirect Access*. Taxiways leading directly from an apron to a runway without requiring a turn increase the possibility for incursions.

The size and space requirements runway design by ARC is included in **Table 3.4**.

Table 3.4 FAA Runway Design Standards Matrix

Aircraft Approach Category (AAC) and Airplane Design Group (ADG):	C/D - II			
Item	**Visibility Minimums**			
Runway Design	Visual	Not Lower than 1 mile	Not Lower than 3/4 mile	Lower than 3/4 mile
Runway Length	*See AC Guidance on Runway Length (paragraphs 302 and 304)*			
Runway Width	100 ft	100 ft	100 ft	100 ft
Shoulder Width	10 ft	10 ft	10 ft	10 ft
Blast Pad Width	120 ft	120 ft	120 ft	120 ft
Blast Pad Length	150 ft	150 ft	150 ft	150 ft
Crosswind Component	16 knots	16 knots	16 knots	16 knots
Runway Protection				
Runway Safety Area (RSA)				
Length beyond departure end	1000 ft	1000 ft	1000 ft	1000 ft
Length prior to threshold	600 ft	600 ft	600 ft	600 ft
Width	500 ft	500 ft	500 ft	500 ft
Runway Object Free Area (ROFA)				
Length beyond runway end	1000 ft	1000 ft	1000 ft	1000 ft
Length prior to threshold	600 ft	600 ft	600 ft	600 ft
Width	800 ft	800 ft	800 ft	800 ft
Runway Obstacle Free Zone (ROFZ)				
Length	*Refer to AC paragraph 308*			
Width				
Precision Obstacle Free Zone (POFZ)				
Length	NA	NA	NA	200 ft
Width	NA	NA	NA	800 ft
Approach Runway Protection Zone (RPZ)				
Length	1700 ft	1700 ft	1700 ft	2500 ft
Inner Width	500 ft	500 ft	1000 ft	1000 ft
Outer Width	1010 ft	1010 ft	1510 ft	1750 ft
Acres	29.465	29.465	48.978	78.914
Departure Runway Protection Zone				
Length	1700 ft	1700 ft	1700 ft	1700 ft
Inner Width	500 ft	500 ft	500 ft	500 ft
Outer Width	1010 ft	1010 ft	1010 ft	1010 ft
Acres	29.465	29.465	29.465	29.465
Runway Separation				
Runway centerline to:				
Parallel runway centerline	*Refer to AC paragraph 316*			
Holding position	250 ft	250 ft	250 ft	250 ft
Parallel Taxiway/Taxilane centerline	300 ft	300 ft	300 ft	400 ft
Aircraft parking area	400 ft	400 ft	400 ft	500 ft
Helicopter touchdown pad	*Refer to AC 150/5390-2*			

Source: FAA AC 150/5300-13A

Runway Width

The required width of a runway is determined by the critical aircraft and the instrumentation available for the approach. Runway 13L/31R is equipped with a precision instrument (ILS) approach as well as various non-precision approaches. Runway 18/36 and Runway 13R/31L are visual runways with no published instrument approaches.

According to FAA AC 150/5300-13A, the minimum width for an ARC C/D-II runway with a precision instrument approach is 100 feet. Runway 13L/31R is 150 feet wide and therefore, exceeds the design standards for ARC C/D-II group aircraft. For an ARC B-II runway with a visual approach, the minimum runway width requirement is 75 feet. Runway 18/36 is 75 feet wide and meets the 75-foot width design standard for ARC B-II group aircraft. Runway 13R/31L is maintained at a width of 150 feet and exceeds the 75-foot width requirement for ARC group B-II aircraft.

Runway Strength and Condition

There are several factors which influence pavement required to provide satisfactory service. These factors include, but are not limited to aircraft loads, frequency and concentration of operations, and the condition of subgrade soils. Runway pavement strength is typically expressed by common landing gear configurations. Example aircraft for each type of gear configuration are as follows:

- Single-wheel – each landing gear unit has a single tire, example aircraft include light aircraft and some business jet aircraft.
- Dual-wheel – each landing gear unit has two tires, example aircraft are the Boeing 737, Boeing 727, MD-80, CRJ 200, and the Dash 8.
- Dual-tandem – main landing gear unit has four tires arranged in the shape of a square, example aircraft are the Boeing 707 and KC135.

The aircraft gear type and configuration dictates how aircraft weight is distributed to the pavement and determines pavement response to loading. The published pavement strengths and other attributes of the runways at VCT are presented in **Table 3.5**. At present, the pavement is in classified as *good* condition on two runways, however has failed necessitating closure on 13R/31L. Runway 13L/31R has areas where tar is seeping through the asphalt from prior repairs. Overall, a pavement strength evaluation and management plan should be considered for all pavements on the airport.

Given the military history and use of the airport, there are large sections of older pavement and shoulders on the runways. This creates excess maintenance and management costs. Efforts should be considered to determine the exact strength and condition of the final recommended runway pavements. A concerted effort to reduce excess pavement should be made to eliminate hazardous conditions and maintenance burden.

Table 3.5 Runway Pavement Strength (Published)

Pavement	Runway 13L/31R	Runway 18/36	Runway 13R/31L
Length and Width	9,111' x 150'	4,908' x 75'	4,643' x 150'
Surface Type	Asphalt/Grooved	Asphalt/Grooved	Concrete
Surface Condition	Good	Good	Poor (Extensive Block Cracking)
Pavement Strength	SW 28,000 lbs	SW 28,000 lbs	SW 28,000 lbs
	DW 49,000 lbs	DW 49,000 lbs	DW 49,000 lbs

Source: FAA 5010 Airport Master Record

Taxiways

The taxiway system at Victoria Regional Airport is based on the old military airfield layout. This is common for airports in Texas that were previously used for military training. Often, the original triangle system of runways is utilized to create a parallel taxiway system.

Taxiway A is the primary parallel taxiway and serves both Runway 13L/31R and 13R/31L. It is non-standard for separation ad alignment as a parallel taxiway. Taxiway A also extends on the north side of the terminal apron. Taxiways B, C, D, and E are all connector taxiways serving both runways as well.

Taxiway F is the parallel taxiway serving Runway 18/36. It is also non-standard due to its separation and width. This taxiway also does not offer 90 degree intersections at the thresholds, which can present a challenge for aircraft wishing to taxi to the departure ends of the runway. **Table 3.6** highlights the attributes of the existing taxiway system. It is highly recommended that the taxiway system be redesigned to meet current FAA design standards and reduce confusion on the airfield.

Table 3.6 Taxiway System

Taxiways	**Taxiway A**	**Taxiways B, C, D, E**	**Taxiway F**	**Taxiway G**
Associated Runway	Runway 13L/31R	Runway 13L/31R Runway 13R/31L	Runway 18/36	Runway 18/36
Type	Partial Parallel	Connectors	Full Parallel	Connector
Location	Westside	Westside	Eastside	Eastside
Length	11,000'	Varied (500'-700')	5,500'	675'
Width	75'	Varied (60'-100')	50' - 75' (maint.)	35'
Separation	790' Min	NA	750'	NA

Critical Aircraft

The FAA requires identifying a critical (or design) aircraft when planning airports. This helps determine the most demanding aircraft that will use the facility and justifies what ARC should be applied to the airport. These dimensional requirements will ensure an airport is adequate to accommodate this aircraft including the distance between taxiways and runways, and the size of certain areas protecting the safety of aircraft operations and passengers. The critical aircraft must use the airport regularly to qualify. A general rule of thumb indicates 500 annual operations is sufficient to be deemed regular use of the airport (excluding touch-and-goes).

Recent guidance from the FAA indicates that it may not be necessary to have one single type of aircraft meet the 500 annual operations requirement, but more importantly that aircraft with similar characteristics can be grouped to create a "composite" critical aircraft. This refers to the practice of grouping aircraft by comparable operational and/or physical characteristics together instead of requiring a single aircraft type to exceed the regular use threshold alone.

Data was pulled from the Traffic Flow Management System Counts (TFMSC) for VCT which records IFR flight operations. This accurately documents the type and frequency of the most demanding aircraft using the airport. Importantly, military aircraft operations were not included in this analysis. Although certain high performance military aircraft use the airport, they cannot be considered solely for design purposes as Victoria Regional is a civilian airport. It is determined that the composite critical aircraft for VCT is a Cessna Citation X. This aircraft is Airport Reference Code C-II and its dimensions can be seen in **Figure 3.3**

Figure 3.3 Critical Aircraft Specifications

Cessna Citation X and X+

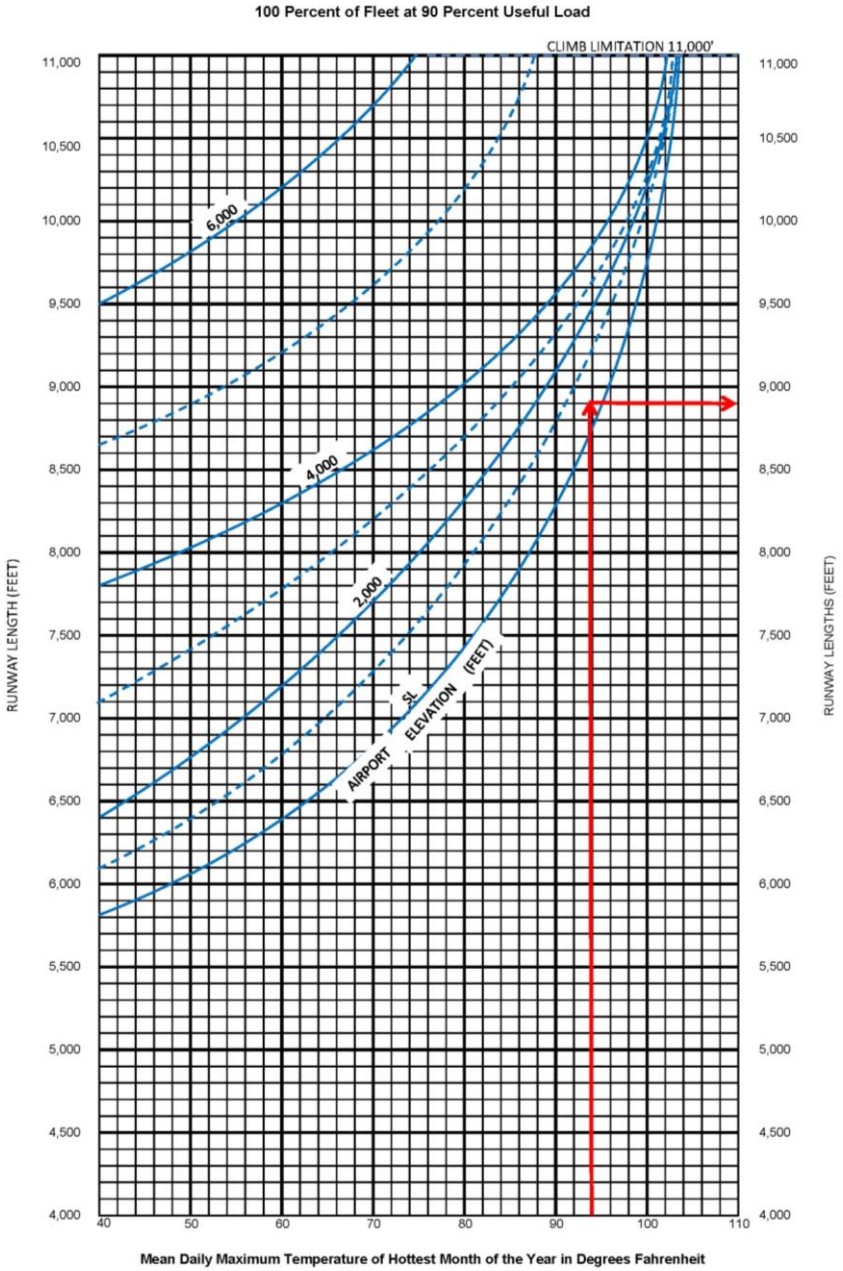
Source: Cessna Aircraft

The Cessna Citation X falls within ARC C-II. Therefore the airport should be designed to meet these standards and is expected to remain a C-II for the duration of the planning forecast period.

Runway Length Requirements

A common method for calculating runway length requirements, explained in FAA AC 150/5325-4B, is based on performance curves developed from FAA-approved airplane flight manuals from aircraft. Based on this analysis, a runway length of at least 8,900 feet is recommended to accommodate 100 percent of the fleet at 90 percent useful load presented in **Figure 3.4.** This scenario was used to demonstrate that even in the most stringent flight envelopes for aircraft, the runway length at VCT is sufficient to accommodate business and commercial users during the planning period.

Figure 3.4 Runway Length Requirements 100% Fleet at 90% Useful Load



Another practical example to determine runway length is using the critical aircraft operating handbook requirements for takeoff field length. For VCT, the planning airplane will be a Cessna Citation X. By comparing other FAA guidelines with the actual manufacturer operating requirements, a real world example can be used to benchmark runway length. The following analysis was conducted using the Cessna Citation X Flight Planning Guide.

Figure 3.5 Critical Aircraft Takeoff Field Length Requirements

Elevation = Sea Level

Ambient Temp °C / °F	Takeoff Weight (lb) 36,100	35,000	34,000	33,000	31,000	29,000	27,000	25,000
0 / 32	4,890	4,610	4,340	4,080	3,680	3,520	3,440	3,360
10 / 50	5,050	4,760	4,490	4,220	3,800	3,620	3,520	3,440
15 / 59	5,140	4,850	4,560	4,300	3,850	3,670	3,560	3,480
20 / 68	5,230	4,930	4,640	4,370	3,920	3,730	3,600	3,510
25 / 77	5,340	5,030	4,740	4,460	3,990	3,800	3,640	3,550
30 / 86	5,480	5,150	4,850	4,560	4,060	3,870	3,690	3,600
35 / 95	5,910	5,520	5,200	4,890	4,260	3,890	3,710	3,560
40 / 104	6,450	6,000	5,620	5,270	4,580	3,970	3,730	3,530
45 / 113	—	—	6,110	5,720	4,950	4,280	3,730	3,540
50 / 122	—	—	—	—	5,390	4,630	3,990	3,550
Climb Wght Temp Limits °C/°F	41/106	43/109	46/115	48/118	54/129	54/129	54/129	54/129
Field Length at Temp Limits (ft)	6,580	6,330	6,220	6,030	5,780	4,950	4,260	3,630

Source: Cessna Citation X Flight Planning Guide, January 2011
Assumptions: 15° Flaps, 35' obstacle clearance, dry Runway, zero wind, Anti-Ice Off, Cabin Bleed Air On

According to the manufacturer specifications in the operating manual, a total required takeoff field length of 5,910 would be required at max takeoff weight with 15° of flaps.

3.3 Runway Orientation and Wind Analysis

One of the most fundamental impacts on runway orientation is wind. The number of runways and alignment depend largely on prevailing winds and their impact on specific types of aircraft operating at the airport. As aircraft are required to take off and land into the wind, any direct crosswind to a certain runway alignment may have major effects on certain size aircraft. Crosswinds are quantified by a specific component of velocity based on resultant vector from a right angle to the runway. These components are the basis for allowable operations for aircraft. In general, the smaller the aircraft, the smaller the allowable crosswind component for safe operations.

In order to determine if a certain runway (or group of runways) are adequate for these crosswind components, a wind analysis must be undertaken. FAA AC 150/5300-13, Change 5, Airport Design, recommends that at least 95 percent crosswind coverage be provided by the runway system (one or more runways) at any airport. This means for planning purposes the airport and its resulting runway(s) must accommodate aircraft operating in 95% of the existing wind conditions without exceeding operation limitations.

As wind direction changes constantly, it must be quantified over a period of time to create average velocities, direction, and duration for wind at a given airport location to determine the likelihood the runway alignments cover a majority of the conditions. Data is pulled from the National Climate Data Center for the last 10 years to be put in the FAA's Wind

Analysis tool that summarizes wind data by velocity and direction. This is then overlaid with the runway configuration to determine coverage percentage by crosswind component. Typical crosswind components for consideration in FAA analysis include *10.5 knots*, *13 knots*, and *16 knots*. With *10.5 knots* being able to accommodate a large portion of the general aviation aircraft fleet (predominately single engine aircraft).

Table 3.7 Allowable Crosswind Component Per Runway Design Code

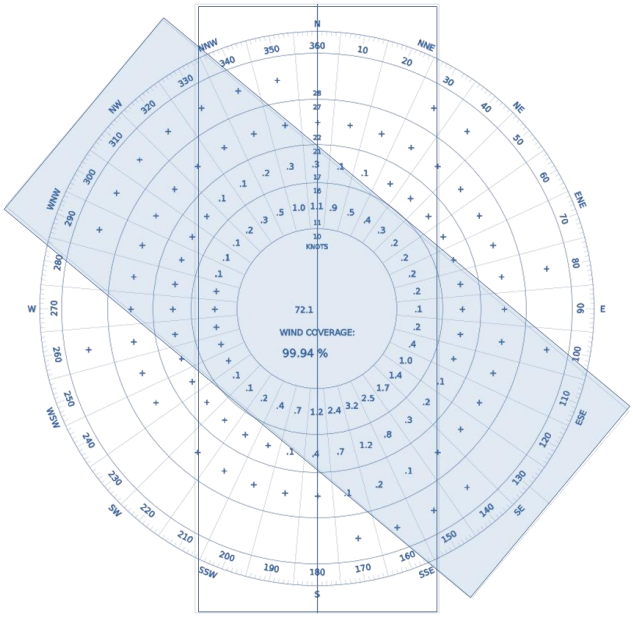
RDC	Allowable Crosswind Component
A-I and B-I *	10.5 knots
A-II and B-II	13 knots
A-III, B-III, C-I through D-III D-I through D-III	16 knots
A-IV and B-IV, C-IV through C-VI, D-IV through D-VI	20 knots
E-I through E-VI	20 knots

Source: FAA AC 15/5300-13A

Figure 3.7 shows the all-weather wind rose diagram results for Victoria Regional Airport taken from the FAA's Airports Geographic Information System (Airports GIS) wind analysis tool. The wind rose indicates that the Airport's current runway configuration is adequate to meet the wind coverage demands. The FAA recommends that an airport's runway configuration provides wind coverage during 95 percent of all possible weather conditions based on the airport's design aircraft. The wind coverage provided by the runway ranges from 99.16 percent to 99.94 percent, depending on the wind speed and direction. The FAA calculates the allowable crosswind component based on runway design code (RDC) which considers aircraft approach category, design group and visibility minimums.

Due to the large mix of airport activity, it is important to have proper wind coverage. Most aircraft operating at VCT fall within the A-I through D-II aircraft approach category and design group, whereby the 10.5, 13, and 16 knot crosswind components are considered in the wind analysis. These aircraft represent almost all general aviation aircraft and most military aircraft, ranging from small single engine piston to large multi-engine jet aircraft. Aircraft that fall into the lower categories, such as light single engine aircraft have a lower allowable crosswind component. As the size and speed of aircraft increase, so too does the allowable crosswind component.

Figure 3.7 VCT Wind Rose



Source: FAA AGIS Wind Analysis Tool, National Climate Data Center (NCDC)
Note: Wind Rose shown is for current runway configuration at 16 knots crosswind component

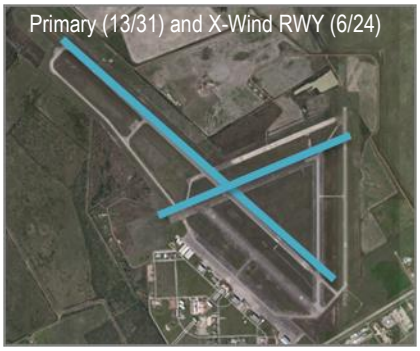
10.5 Knots	13 Knots	16 Knots
99.16%	99.73%	99.94%

Although the current airfield orientation is adequate an analysis was performed for three separate alignments that help give a comprehensive view of the wind coverage needs at Victoria Regional Airport. By evaluating these different alignments, it will help direct alternatives for the step in the planning process. The following runway alignments and their subsequent coverage is shown in **Figure 3.8**.

Figure 3.8 Wind Coverage by Runway Orientation

10.5 knots = **92.09%**
13 knots = 96.5%
16 knots = 99.23%

10.5 knots = 99.16%
13 knots = 99.73%
16 knots = 99.94%



10.5 knots = **95.04%**
13 knots = 98.57%
16 knots = 99.73%

The wind analysis shows that without a crosswind runway, the primary runway alignment of 13/31 will not be sufficient at 10.5 knots to obtain 95% wind coverage. However, with either the current existing 18/36 crosswind alignment or previous 6/24 runway alignment, the airport would achieve 95% coverage across all crosswind conditions. This is important as it demonstrates the need to keep at least one crosswind runway alignment operational at all times to accommodate air traffic.

3.4 Lighting and NAVAIDS

Navigational aids (NAVAIDs) are any visual or electronic devices, airborne or on the ground, that provide point-to-point guidance information or position data to aircraft in flight. Airport NAVAIDs provide guidance to a specific runway end or to an airport. An airport is equipped with precision, non-precision, or visual capabilities in accordance with design standards that are based on safety considerations and airport operational needs. The type, mission, and volume of activity used in association with meteorological, airspace, and capacity considerations determine an airport's eligibility and need for various NAVAIDs.

Instrument NAVAIDs

This category of NAVAID provides assistance to aircraft performing instrument approach procedures to an airport. An instrument approach procedure is defined as a series of predetermined maneuvers for guiding an aircraft under instrument flight conditions from the beginning of the initial approach to a landing, or to a point from which a landing may be made visually.

Runway 13L is equipped with an Instrument Landing System (ILS) which provides precision (vertical and lateral) guidance to the runway to allow pilots to attempt a landing with visibility of at least one-half mile. This runway is also served by two additional approaches - RNAV (GPS) and Very-High Frequency Omnidirectional Radio (VOR). These approaches provide non-precision guidance and require a visibility minimum of no lower than one mile with higher It is supported by a Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR) which is installed on the north side of the airport in the runway approach zones along the extended centerline of the runway.

Runways 31R is equipped with RNAV (GPS) and VOR/DME approaches. These runways are higher minimums and non-precision. Runway 18/36 and Runway 13R/31L are not served by instrument approaches and are visual only.

The approach minima and complexity of instrument approach capabilities at VCT are deemed adequate for the level and type of service offered by the Airport. It is recommended that the Airport continue to maintain these approaches and their ancillary support features, including the lighting systems.

While precision capabilities provide enhanced access during inclement weather, the existing satellite-based approaches are becoming increasingly relied upon. One of the existing RNAV (GPS) approaches at VCT provides vertical and horizontal guidance, the cornerstone to precision approach capabilities, although they are still categorized as non-precision approaches. Within the 20-year planning period, it is likely that enhanced GPS approach capabilities will gain widespread acceptance and visibility minimums will be reduced to achieve precision-level accuracy as more advanced systems come on-line.

Automated Weather

Victoria Regional Airport has an onsite Automated Surface Observing System (ASOS) which can be tuned on frequency 119.025 or by phone at (361) 578–9916. An ASOS is a complex computer based observation system designed to replicate human observations of the weather. The sensors sample for cloud coverage; temperature and dew point; wind direction and velocity; visibility; and precipitation. ASOS systems are more complex than AWOS systems (or automated weather observation systems) and this system is considered adequate for the role and level of service at the airport.

FAA Part 139 Requirements

Victoria Regional Airport is certified by the FAA to accommodate commercial service air carrier and air taxi operations. The airport operates under the FAA Part 139 Index: I A S 09/1982. This states a specific set of requirements that the airport must met in order to continue to serve these commercial service activities serving scheduled air carrier operations in aircraft with 10-30 seats. The airport is required to meet standards spelled out in their Airport Certification Manual (ACM).

Airport Rescue and Firefighting (ARFF) Operators of Part 139 airports must provide aircraft rescue and firefighting (ARFF) services during air carrier operations that require a Part 139 certificate. It is assumed that the airport will meet requirements as defined in the FAA Part 139 Airport Certification Manual for ARFF. Based on the need for ARFF facilities to optimize lower emergency response times, the location of the existing ARFF facility is ideal because it is centrally located.

3.5 Landside Capacity and Facility Requirements

With projected demand increasing the number of based aircraft in the planning period, consideration should be given to increasing aircraft storage and apron space. Hangars on the airport need to accommodate nearly all based aircraft on the field. Many owners require hangar space as way to keep their aircraft secure, out of the weather, and allow for maintenance of the aircraft. The size and type of hangar largely depends on the type of aircraft and its use.

Table 3.7 General Hangar Space Guidelines

Aircraft Type	Required Hangar Space
Single Engine Piston	1,200 square feet
Multi Engine (Piston and Small Turbo)	1,200 to 3,000 square feet (avg. 2,100 square feet)
Jet	3,000+ square feet
Rotor (Helo)	2,500

Source: FAA AC150/1300-13A, ACRP 113 Guidebook for General Aviation Facility Planning, KSA

T-Hangars – these hangars are predominately for single engine piston aircraft. Although light twins can be accommodated in these hangars, for the purpose of the forecast and facility requirements, twin engine aircraft are anticipated to be larger turboprop aircraft that would most likely be located in box hangars. For this reason, T-hangars are only calculated based on the forecast single engine aircraft. Requirements for these hangars are shown in total square footage, but helpful is the unit size. It was assumed that similar to existing hangars at the airport, a 10 unit nested T-Hangar is recommended to accommodate new aircraft.

Conventional Box Hangars – these hangars come in a variety of sizes and can accommodate a mix of larger aircraft. The size and amenities for these hangars are based on the aircraft use and size. Some will need dedicated maintenance space, others will require office and crew space. Often, these hangars are shared with multiple owners. For the purpose of facility requirements, the projected multi engine, jet, and rotor are included in the square footage requirements. However, multiple unit sizes are shown based on square footage.

Table 3.8 Hangar Storage Requirements

Hangar Space Requirements	Existing	2020	2025	2030	2035
T- Hangar (sq. ft.)	23,600	40,800	43,200	45,600	46,800
Units (10 unit nested)	3	3	4	4	4
Conventional Hangar (sq. ft.)	89,100	27,000	30,900	42,400	51,800
60x60 (Units)	-	8	9	12	14
80x80 (Units)	-	4	5	7	8
100x100 (Units)	-	3	3	4	5

Currently there are three 20,000 square foot hangars, one approximately 30,000 square foot hangar, and one 4,800 square foot executive hangar. Existing total hangar square footage exceeds the needs in the forecast, however it may be assumed new hangars should be built to accommodate new aircraft as not all hangars are "community".

Apron

The main apron is located in the terminal area at Victoria Regional Airport. This expansive apron is rectangular and located in front of all current hangar and terminal buildings. In total (and including taxilanes), it is approximately 2 million square feet (or almost 50 acres). This apron has marked aircraft tie-downs. Since the majority of based aircraft at the Airport are located in hangars, these tie-downs are currently used primarily for transient aircraft.

Although at first glance there is adequate apron space at Victoria Regional, it doesn't necessarily negate the need for additional apron during the forecast period. This will largely be dependent on where new development is recommended in Chapter 4. However, consideration should be given to maximizing the existing apron. Pavement apron current exceeds capacity for the based aircraft needs. However, development outside the immediate existing terminal area may require rehabilitation.

Commercial Passenger Terminal

The current commercial service passenger terminal and administration building at the airport was built in 1992. It is approximately 15,000 square feet and consists of one ticketing counter and security checkpoint. There is one gate to serve commercial air service.

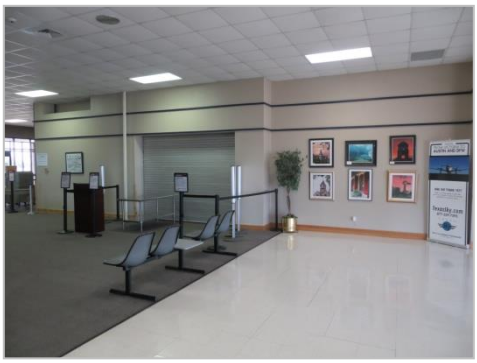
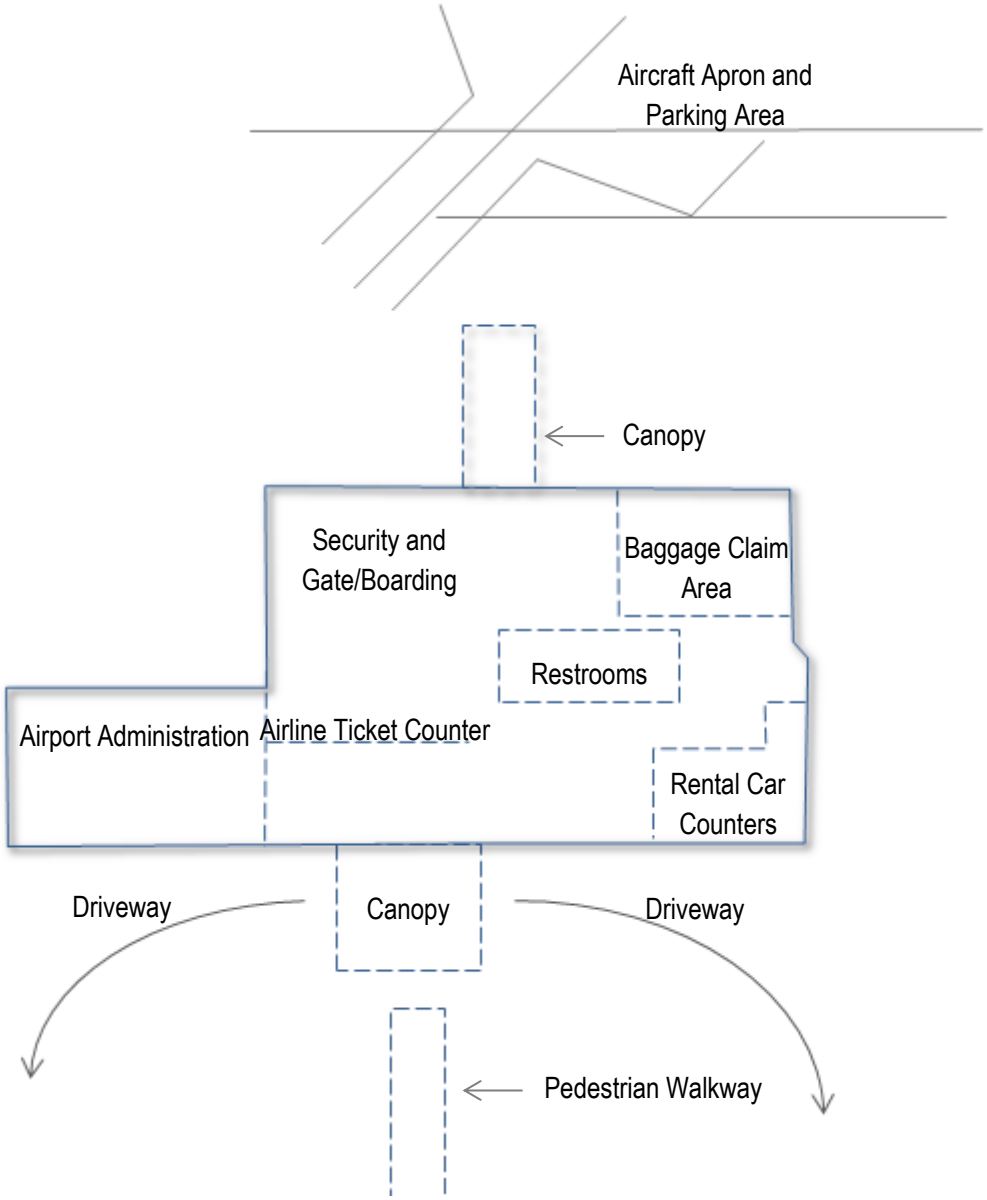


Figure 3.8 Terminal Building Layout



An estimated 15,000 square feet of terminal space would be required to accommodate a regional jet aircraft with a configuration of 50 seats, assuming that air carrier flights would not overlap one another, meaning that the terminal would accommodate one flight at a time. The estimate provided above is also consistent with rule-of thumb space requirements established in FAA AC 150/5360-13. Given that the current terminal is approximately this size and enplanements projected to slowly increase the preferred scenario, it is not anticipated that a terminal expansion will be needed in the 20 year planning horizon. Although the potential exists for a 100% increase or more in total enplanements (Forecast Scenario B), the terminal will still be adequate and return to previous levels in 2009 and 2010. In essence, even if the highest forecast scenario comes to fruition, it will only return passenger needs to what they were previously accommodating with the existing terminal size. Given these assumptions, there is preserved space for expansion,

however it is not planned or programmed in this master plan. However, renovations may be necessary during this period and funding should be set aside to update the terminal's major systems.

Parking

Based on general planning guidelines, which recommends 1.5 parking spaces per peak hour enplaned passenger, the 50 parking spaces located near the terminal building are adequate to meet the demands of existing commercial service at VCT. If commercial passenger operations at VCT were to expand into regional jet service, approximately 20 additional parking spaces near the terminal building would be necessary if those operations were accommodated at the existing terminal building. Note, however, it was determined earlier in this chapter, that additional terminal space would also be required if commercial service at VCT were to expand. Therefore, temporary modifications to the existing terminal to accommodate additional passenger service would also include parking modifications.

Automobile parking at the FBO is adequate within the planning period. If the FBO is relocated in the future, it is recommended that 20 automobile parking spaces be provided, consistent with its current number of spaces, and in-line with expected demand. Any future commercial/corporate hangar development should include enough parking to accommodate staff, pilots, passengers and visitors. Typically, parking area equivalent to half the commercial/corporate hangar area is adequate under most circumstances.

3.6 Summary Needs

Victoria Regional Airport's military history has left behind a vast amount of infrastructure. It is of value largely for apron space and existing taxiway and runway systems.

Table 3.9 Summary Requirements

Facility	*Planning Period Requirements*	*Justification*
Runway 13L/31R	Runway length is adequate for the planning period. Rehabilitation is necessary to fix pavement condition.	The current primary runway length, width, and instrument approach access is adequate for the planning period.
Runway 18/36	This runway needs to be maintained in order to meet wind requirements.	Runway length and width are adequate and is needed for wind coverage.
Runway 13R/31L	It is recommended this runway be closed and converted to a parallel taxiway for 13L/31R.	Runway is currently in poor condition and certain portions have failed. It is not needed for capacity and would allow for better access to the primary runway as a taxiway.
Apron	Current apron area is adequate for new development, however rehabilitation is needed in areas and new hangar apron may be necessary in other areas outside the terminal area.	Existing infrastructure is vast and needs to be utilized to minimize future pavement investment costs.
Taxiways	Taxiways should be redesigned to meet standards including connector taxiways. Further evaluation of new taxiway alignments will be discussed in the alternatives portion of this plan.	Current design standards describe criteria that are currently not being met for the taxiway system. This includes direct access from aprons to runways and perpendicular taxiway connectors on full length parallels.
Conventional Hangars	A variety of conventional hangars may be necessary during the period. This will vary in size by aircraft but will need to accommodate new based jet/turbine aircraft.	Although excess hangar space exists currently, there is no guarantee that new based aircraft will be accommodated by the existing hangars. Hangars should be built as needed for future tenants.
T-Hangars	One 10 unit T-Hangar will be needed in the forecast period.	Forecast period will need to accommodate new single engine aircraft.
Terminal Building	Maintain current space but evaluate need for remodeling and replacement of major components such as HVAC and Utilities	Given projected levels of enplanements, the existing terminal will be adequate even if passenger levels rise to peak periods in historical activity.
Parking	Parking is adequate in existing areas but may be needed for new hangar development as necessary.	As new conventional hangars are built, parking should be accommodated for the new tenant.
NAVAIDS	No additional NAVAIDS necessary	ILS, ASOS, and lighting are adequate.

Chapter 4: Development Alternatives

Chapter 4 – Development Alternatives

As part of the facility requirements analyzed in the previous chapter, recommendations have been made for airside, landside and terminal area alternatives based on demand and capacity data at Victoria Regional Airport. The focus of this chapter is to evaluate benefits and shortcomings of these alternatives and provide an informational structure for determining a preferred airport development plan. This preferred alternative will then be depicted in the Airport Layout Plan (ALP) drawings and submitted for approval by the FAA and TxDOT.

Victoria Regional Airport is unique in the fact that it has vast amounts of prior military infrastructure and was originally designed for a military purpose. Therefore, the alternatives presented will need to be creative and respective to airfield design and ensure development meets updated FAA design standards. These options should also adequately accommodate project forecast based aircraft, operations, air service, and other demands expected over the planning period. Compliance with compatible with local planning initiatives, as well as the goals of the airport, while soliciting input from stakeholders and users was completed during this analysis. The process for selecting appropriate alternatives is based on technical, economical, and practical applications as well as the most favorable airport improvement option. In order to determine the course of action, factors such as development and evaluation of design options should be assessed. These factors include:

- Compliance with FAA airport design standards and airspace criteria.
- The short and long-term development cost of these alternatives.
- Compatibility with existing and proposed land uses, with respect given to zoning ordinances and neighboring off-airport uses.
- Minimization of environmental impacts on and off-airport, with consideration given to potential mitigation from any significant environmental impact.
- Ability to meet facility requirements as outlined

It is important to remember the options presented in this chapter are designed to present potential development concepts and may not necessarily dictate how the airport evolves. Some are intended to prove or disprove the possible infrastructure changes discussed and present options for consideration in the next 20 years.

4.1 Facility Requirements Summary

The alternative presented should, at a minimum, address the following facility requirements identified in the previous chapter. Some portions of either airside or landside alternatives may go beyond the requirements set forth in the planning period and may be used for ultimate consideration for facility planning. **Table 4.1** summarizes these requirements.

Table 4.1 Summary of Facility Requirements

Facility	*Planning Period Requirements*	*Justification*
Runway 13L/31R	Runway length is adequate for the planning period. Rehabilitation is necessary to fix pavement condition.	The current primary runway length, width, and instrument approach access is adequate for the planning period.
Runway 18/36	This runway needs to be maintained in order to meet wind requirements.	Runway length and width are adequate and is needed for wind coverage.
Runway 13R/31L	It is recommended this runway be closed and converted to a parallel taxiway for 13L/31R.	Runway is currently in poor condition and certain portions have failed. It is not needed for capacity and would allow for better access to the primary runway as a taxiway.
Apron	Current apron area is adequate for new development, however rehabilitation is needed in areas and new hangar apron may be necessary in other areas outside the terminal area.	Existing infrastructure is vast and needs to be utilized to minimize future pavement investment costs.
Taxiways	Taxiways should be redesigned to meet standards including connector taxiways. Further evaluation of new taxiway alignments will be discussed in the alternatives portion of this plan.	Current design standards describe criteria that are currently not being met for the taxiway system. This includes direct access from aprons to runways and perpendicular taxiway connectors on full length parallels.
Conventional Hangars	A variety of conventional hangars may be necessary during the period. This will vary in size by aircraft but will need to accommodate new based jet/turbine aircraft.	Although excess hangar space exists currently, there is no guarantee that new based aircraft will be accommodated by the existing hangars. Hangars should be built as needed for future tenants.
T-Hangars	One 10 unit T-Hangar will be needed in the forecast period.	Forecast period will need to accommodate new single engine aircraft.
Terminal Building	Maintain current space but evaluate need for remodeling and replacement of major components such as HVAC and Utilities	Given projected levels of enplanements, the existing terminal will be adequate even if passenger levels rise to peak periods in historical activity.
Parking	Parking is adequate in existing areas but may be needed for new hangar development as necessary.	As new conventional hangars are built, parking should be accommodated for the new tenant.
NAVAIDS	No additional NAVAIDS necessary	ILS, ASOS, and lighting are adequate.

4.2 Evaluation Criteria

When reviewing alternatives, a set of criteria was established for which each one would be evaluated. Then an assignment of the relative importance to each criterion should be decided and will assist in making recommendations on the final recommended alternative. Criterion may include but not be limited to:

Criterion	Weighted Factor
• Safety and efficiency of aviation operations	x**2**
• Ability to accommodate expected general aviation demand	x1
• Acceptability to users, the TxDOT, FAA, and the community at large	x**2**
• Land availability and ownership	x1
• Environmental factors	x1
• Airspace/obstruction requirements	x1
• Consistency with area wide plans	x1
• Political, jurisdictional, and implementation factors	x1
• Economic feasibility	x**2**
• Accessibility	x1

Some of this criterion is inherently of higher importance. For instance, safety should always be evaluated at the highest importance, while convenience or efficiency would be a lower priority. Financial feasibility is also a major factor when determining the likelihood that the plans presented in the alternative will actually be built over the master plan period. However, due to the uncertainty of long term cost estimates, a higher priority should be placed on the possible of funding eligibility by funding agencies such as the FAA and TxDOT. Although total cost is important, the applicability to grant shared expense will highly impact the ability of a project to gain support.

To quantify this criterion, a scoring matrix will be provided for each of the airside alternatives. A scaling system of 1-3 has been developed with the following scoring in mind:

1= Negative Impact

2= No Impact

3 = Positive Impact

In order to weight the scoring criteria, each individual criterion will be multiplied by a factor of one or two based on its relative importance. This will help ensure the most important factors are relative to one another and an accurate scoring method can be presented. Keeping in mind these scores are subjective in nature, they are only intended to help planners evaluate the best option from a long range planning perspective and may not necessarily impact the ability of the airport to use other alternatives or projects.

4.3 Airside Considerations

When determining the requirements at the airport, the highest focus is the airfield/airside facilities that are required to accommodate the operation of aircraft. Safety, capacity, and design standards are extremely important as they directly relate to the operation of the airport for its sole purpose; the take-off and landing of aircraft. Planning for the future of the airport requires this foundation of airfield configuration to be the basis for additional landside development concepts. Fundamentally, the aircraft that use the airport (or are projected to use the airport) dictate the requirements for which the facilities should be designed. Aircraft are unique and have a set of characteristics that determine thresholds for pavement strength, design, and capacity.

Safety

Victoria Regional Airport was originally designed for military training operations. Developed in the late 1940's many design standards that are enacted today for modern airport design are not in compliance. As previously outlined in Chapter 3 – Facility Requirements, there are many portions of the airport taxiway system that don't meet current design standards. Often, the original triangle system of runways is utilized to create a parallel taxiway system. This is not uncommon for a majority of older airports especially those redesigned from military to civilian use. However, as set forth by the FAA and TxDOT, all master planning efforts should strive to improve safety and adhere to the latest FAA Design Standards.

Today, the airport only requires two runways to achieve both capacity and wind coverage requirements. However, previous infrastructure alignments include multiple crosswind runways and additional taxiway configurations. This design can lead to confusing runway crossings, taxiway separations, and holding locations that may result in loss of pilot situational awareness therefore increasing the potential for runway incursions.

Taxiway Design

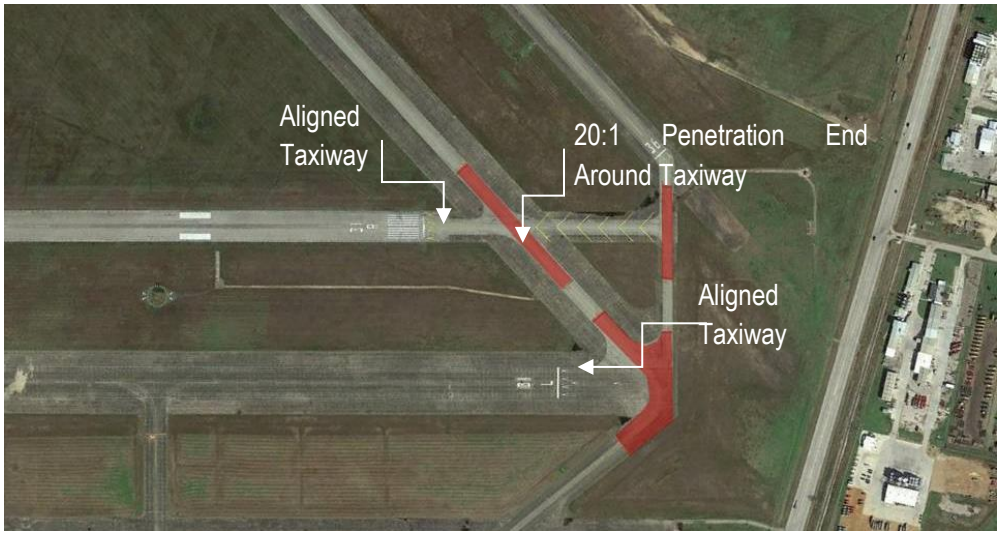
Taxiway A is the primary parallel taxiway and serves both Runway 13L/31R and 13R/31L. It is non-standard for separation and alignment as a parallel taxiway. Taxiway A also extends on the north side of the terminal apron. Taxiways B, C, D, and E are all connector taxiways serving both runways as well.

Taxiway F is the parallel taxiway serving Runway 18/36. It is also non-standard due to its separation and width. This taxiway also does not offer 90 degree intersections at the thresholds, which can present a challenge for aircraft wishing to taxi to the departure ends of the runway. It is highly recommended that the taxiway system be redesigned to meet current FAA design standards and reduce confusion on the airfield.

Of the highest priority, the taxiway alignment at the south end of the airport needs to be addressed. Taxiway F is aligned within 500' of the extended centerline of the primary runway (13L/31R) and is within the Runway Safety Area, ILS/Localizer Critical Area, and Runway Protection Zone. As currently aligned, taxiing aircraft also may penetrate the Visual Approach 20:1 approach slope as well as departure for instrument procedures on 13L.

Figure 4. 1 Example Illustrations of Pavement Condition and Taxiway Alignment Deficiencies

Runway 31R and 31L: Taxiway F: Taxiway F crosses through the RSA and RPZ of Runway 31L and 31R while also aligning with the runway threshold. This does not meet current FAA design standards for taxiway design. Taxiway F also crosses through the 20:1 and 40:1 approach surfaces for the Runway 31L creating obstructions to approaches to the runway.



Close-up of aligned taxiway and threshold crossings of Taxiway F to Runway 31L. This configuration also creates confusion when navigating the taxiway system and hold positions between the two runways. In this configuration, there are two areas of holding locations that are very short distances apart creating non-standard holding bar locations leading to loss of pilot situational awareness that could lead to runway incursions.

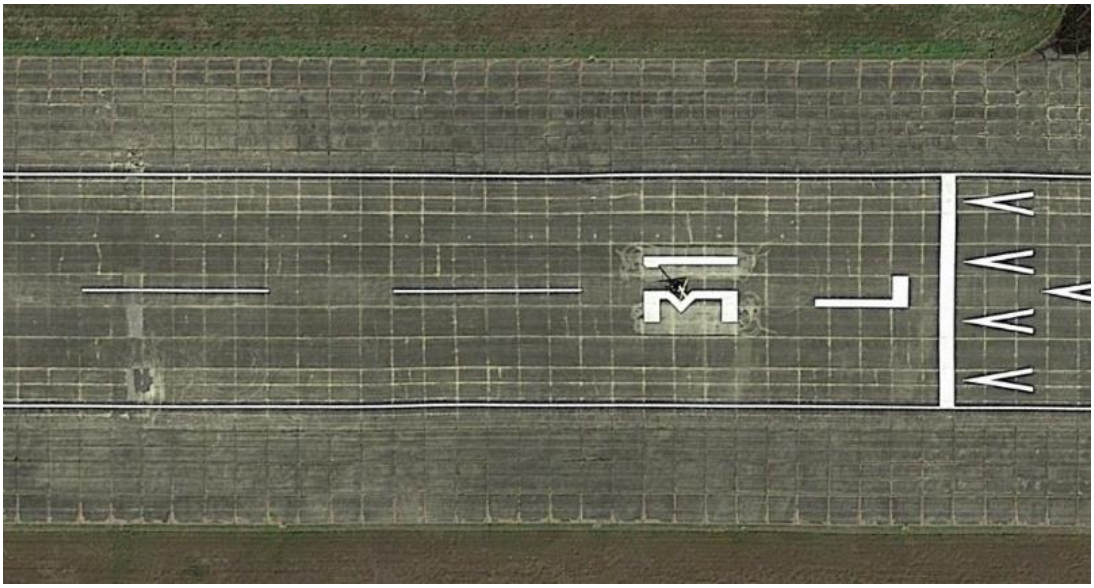
4.4 Runway 13R/31L Evaluation

During the course of the airport master plan, a section of pavement on Runway 13R/31L failed due to the collapse of underground drainage culvert and subsequently the runway was closed for safety. A Pavement Assessment was completed after the closure and indicated a second drainage culvert on the north end of the airport may also be at risk for failure. The overall condition of the runway is listed in the Airport Master Record (5010) as poor condition. In short, it has been determined that the runway will need significant investment to meet FAA safety standards and achieve operational status.

While evaluating the alternatives for airport development, the master plan considered the conversion of the closed runway to a full length parallel taxiway for Runway 13L/31R. This conversion would be considered as an enhancement and design improvement to the Primary Runway. Per the Texas Airport System Plan Design Standards, a recommended requirement for all commercial service or business corporate GA airports includes a full length parallel taxiway to a primary runway (especially if the primary runway is a precision instrument runway). The conversion project will therefore increase the safety and design standards for the primary runway by providing the opportunity for the runway to have a standardized entrance and full length parallel taxiway system.

Given the existing closure/failure, many of the alternatives presented in this plan will detail ways to repair and/or repurpose this runway for the future. However, it is not intended to preclude the airport from reopening this runway in the future. Important to note is that this runway is considered an "additional" runway and is not eligible for federal grant support, further illustrating the need for presenting alternatives without this runway open. This will be discussed further in the Financial Program portion of this plan.

Figure 4.2 Aerial of Closed Runway 13R/31L



Impact to Operations

The airport has been operating with a two runway configuration - Primary Runway 13L/31R and Crosswind Runway 18/36 - for approximately 18 months. There have been no incidents reported during this time due to aircraft operational mix as reported by Air Traffic Control.

For context, over half of the General Aviation Reliever Airports in the state of Texas operate with only one runway. Largely, these airports have Air Traffic Control Towers, although some do not. Approximately 75% of these airports have annual aircraft operations that exceed 90,000 and include a mix of corporate jet, training, and even rotorcraft operations. Many civilian aircraft have similar approach speeds to the military operations at the Victoria Regional Airport (i.e. J-1 Jayhawk/Beechjet 400, T-6 II/Pilatus PC-12 etc.). It is reasonable to ascertain that the majority of these military aircraft fit in similar approach speed categories as other general aviation airports operating with a varied fleet mix. The T-38 Talon does present one exception as it falls in the D-II category that is outside the design grouping for the Victoria Regional Airport. However, this aircraft represents only a small portion of the total military operations. Per the FAA Traffic Flow Management System Counts (TFMSC), the T-38 Talon had 273 operations reported during the period of June 2016 through June 2017.

Alternatives to Runway Closure

When evaluating the impact of closure of the runway, alternatives have been considered to help assess the feasibility of these actions and evaluate all possible options for keeping the runway open. The following options were presented and discussed by airport staff, airport planners, TxDOT, and stakeholders.

***Displaced Threshold**:* During the planning process, it was presented as an alternative that the runway could use a displaced threshold in order to avoid the pavement area that has failed. The existing failure includes a section of pavement that is approximately 500' from the threshold of 31L.

While the operational surface of the runway may be clear of the failure, displacing the threshold would require that the area beyond the threshold meet the minimum distance and guidelines for the Runway Safety Area. Per FAA guidance (AC 150/5300-13A) Paragraph 3079(b) the RSA must be:

- Cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations;
- Drained by grading or storm sewers to prevent water accumulation.

The RSA for this runway extends a distance for 300 feet beyond the runway threshold. Under these requirements, it would be logical to expect an investment in pavement and drainage improvements to safely meet the RSA standards. This cost would be a 100% local obligation as the runway is not eligible for grant assistance at the time of this planning effort (see following section – *Financial Implications*).

Additionally, when moving any runway threshold, current FAA design standards must be applied. This includes the policy pertaining to Runway Protection Zone and Taxiway Design (AC 150/5300-31A paragraph 401). In the existing runway and taxiway configuration, the only way to access Runway 31L is by Taxiway A via an aligned taxiway to the threshold. This runway therefore violates guidance for aligned taxiways, end around taxiway separation, and has also precluded the primary runway from meeting standard entrance taxiway design standards. The current configuration with aligned Taxiway A serving Runway 31L would also require pavement improvements regardless of design standards for the use of taxiing aircraft wishing to depart to the north.

Without investment in Runway Safety Area and taxiway infrastructure, the proposal of a displaced threshold would not be viable.

New Runway Alignments: Other options for relocating, replacing, or adding new runway infrastructure to keep 13R/31L open have been discussed during the planning process. The master plan evaluated moving runways, reopening old crosswind runways, and even relocating the terminal area of the airport. Some ideas included adding another parallel runway to the north of the existing Runway 13L/31R. This was considered to increase spacing between the two runways to allow for taxiway access to both runways.

After review and evaluation, adding any **new runway infrastructure is not feasible** for the following reasons:

- This would require the construction of new runway pavement infrastructure (estimated in the tens of millions of dollars) that would not be eligible for FAA AIP funding based on the previously referenced AIP Handbook guidelines.
- It would require the purchase of additional airport property to gain control of new Runway Safety Areas, Runway Protection Zones, and approach lighting systems.
- Costs associated with the relocation of all the Instrument Landing System (ILS) equipment would be required including the localizer and glideslope, approach lighting system, and runway edge and threshold lighting.
- It would preclude landside airport development creating an extremely remote runway operation not served by existing airport services.

Intersection Takeoffs/Landings*:* As an alternative for smaller piston aircraft using the proposed converted parallel taxiway for Runway 13L/31R, aircraft can use Taxiway C or Taxiway B for intersection takeoffs. The use of intersection takeoffs may be implemented for smaller single-engine piston aircraft using Taxiway B for a southerly takeoff (Runway 13L) and yield approximately 6,000 feet of takeoff run. Aircraft using Taxiway C for a northerly takeoff (Runway 31R) would also have approximately 6,000' of available runway.

Conversely, light aircraft will be also be able to safety land and clear the runway by exiting on Taxiway B or Taxiway C, leaving approximately 3,000 feet of landing distance from either approach runway end. This will help clear aircraft quickly from the active runway. There will be no need to land and hold due to operations on the previously used parallel runway.

Financial Implications

The airport has significant infrastructure needs including rehabilitation for the primary runway (13L/31R). The FAA project justification and priority ranking clearly indicates that safety projects will take precedent over all other airport needs and begins with the centerline of the primary runway working outward for funding priorities.

Clearly defined in *FAA Order 5100.38D AIP Handbook*, FAA Policy is only to financially support one runway (Primary) unless additional runway infrastructure is needed for wind coverage *or* capacity. This requirement pertains to airports in which the following conditions exist:

For the following runway type…	Must meet all of the following criteria…	And is…
a. Primary Runway	**(1)** A single runway at an airport is eligible for development consistent with FAA design and engineering standards.	Eligible
b. Crosswind Runway	**(1)** The wind coverage on the primary runway is less than 95%.	Eligible if justified
c. Secondary Runway	**(1)** There is more than one runway at the airport. **(2)** The non-primary runway is not a crosswind runway. **(3)** Either of the following: **(a)** The primary runway is operating at 60% or more of its annual capacity, which is based on guidance developed by APP-400 as the threshold for considering when to plan a new runway, or **(b)** APP-400 has made a specific determination that the runway is required for operation of the airfield.	Eligible if justified.
d. Additional Runway	**(1)** There is more than one runway on the airport. **(2)** The ADO has determined that the nonprimary runway does not meet the requirements to be designated a crosswind runway. **(3)** The ADO has determined that the nonprimary runway does not meet the requirements to be designated a secondary runway.	Ineligible.

Source: FAA Order 5100.38D AIP Handbook

At Victoria Regional Airport, Runway 18/36 serves the airport in order to meet 95% wind coverage. Runway 13R/31L utilizes the same alignment as the primary runway and therefore does not contribute to wind coverage requirements. It is only considered for capacity needs for a Secondary Runway. Under this condition, the runway is only eligible if the primary runway is operating at 60% capacity. Currently, it determined that the runway is operating at less than 25% capacity. Therefore, the parallel runway is not eligible for AIP funding.

As detailed in the business planning portion of this plan, the airport has been operating with a financial deficit. Financial self-sufficiency should be a goal for all federal obligated airports set forth in the Federal Airport Sponsors Grant Assurances (Assurance 24). It is in the best interest of all users of the airfield to invest in future projects that are eligible for federal/state funding to leverage the highest and best us of local matching funds. Estimates for reopening the runway range from a $100,000 to $1 Million and would be a 100% local obligation. However, other eligible projects on

the airport are expected to be covered by 90% grant dollars. Therefore, projects covered by grant funding are worth 10 times the amount paid by the airport and could enhance much larger aspects of the facility.

It is in the best interest of all users of the airfield to invest in future projects that are eligible for federal/state funding that will enhance the safety and infrastructure at the airport. These projects also provide an ancillary benefit to the community including job creation, economic impact, and safer operating environment for air carrier passengers.

Runway 13R/31L Recommendations

The closure of Runway 13R/31L would allow the airport to enhance the safety and improve geometry of the entire airport. A realigned Taxiway A would provide a full length parallel taxiway to the airports most vital asset, the Primary Precision Instrument Runway 13L/31R and adhere to the FAA design standards outlined in Advisory Circular (AC) 150/5300-31A, *Airport Design* increasing safety and enhancing the attractiveness for the entire airport.

VCT currently possesses the runway length (9,111 ft.) necessary to accommodate the current and forecasted operations, however, Runway 13L/31R currently lacks the pavement strength required to support an increase in Military, Large Corporate Jet, Air Carrier, and MRO facility operation. The ability of the airport to match runway strength to the available length will be a crucial factor in attracting new interest to the State of Texas and VCT. An increase in pavement strength will require the primary runway to be closed for a period of time, significantly limiting operations. Therefore, it would be beneficial to have a full length parallel taxiway from the conversion of Runway 13R/31L that is designed in a manner that will allow for the future full length parallel taxiway to use as a temporary runway. This would ensure that operations would not be impacted during the rehabilitation which will limit the effects on airport revenue until construction is completed.

Ultimately, the recommended development concept should include the proposed conversion and enhancements to Taxiway A that will greatly improve the capabilities of VCT. A standardized and complete runway and taxiway system will benefit all users of the airport and create a safer operating environment.

4.5 Airside Alternatives

The most critical element of alternatives for an airport involve the airside or airfield geometry and facilities that will meet the expectations of future demand from safety and capacity objectives. For this reason that the airside alternatives are separated from other landside development such as hangars and aprons. During the planning for alternatives, many areas are considered for the potential realignment of existing runways in order to maximize space and enhance capacity. Given the vast amount of airport property, creative alignments and alternatives can be considered to present holistic approach to the airport layout and is founded on the requirements for airfield capacity and runway configuration in the Facility Requirements.

Airside configurations can have an impact on where support facilities are located and the following airside alternatives shown provide a variety of land uses. This is due to the impacts of runway and taxiway configurations on relative airport property. The following alternatives were intended to help identify which areas of airport property will be needed for aeronautical and potentially non-aeronautical land uses. In this analysis, a variety of runway and taxiway configurations are presented based on input from stakeholders in the planning process. Additionally, enhancements to taxiway standards were a major element in alternatives. For this exercise, many different configurations were evaluated including utilizing past runway configurations. By showing broad based conceptual alternatives, it helps planners and airport staff realize what is feasible and how ideas for airport development may impact other elements in the Master Plan.

Each of the following alternatives will be presented with the scoring matrix and criteria previously described. This will help quantify the elements of each alternative and their impacts to the core mission of the airport.

NOTE: The airside alternatives presented largely show the conversion of the close Runway 13R/31L to a full length parallel taxiway for the primary Runway 13L/31R for the reasons described in the previous section. This assumption was made during the alternatives analysis because of the current runway closure at the time of this planning exercise. The planned conversion would enhance the airfield configuration and meet standards for taxiway design the primary instrument runway. However, it is not assumed that this will preclude the reopening of the runway. By planning for the potential conversion in the master planning process, the airport sponsor will have the ability to seek funding for eligible projects detailed in this plan. It is the sole responsibility of the airport sponsor to make the decision in how to implement these recommendations.

Airside Alternative One

Alternative 1 **(Figure 4.2)** presents options for enhancing the taxiway system while utilizing the existing runway alignments (13/31 and 18/36). Primarily the goal of this alternative is to remove the Taxiway F alignment traversing the threshold of the primary runway 13L/31R while showing a displaced threshold of the relocated Runway 18/36 to meet separation requirements (700') for the runway centerlines. This would also require an extension to the north for Runway 18/36 to maintain current length. By utilizing the existing Taxiway F pavement, which was originally designed as a runway, the repurposing would be cost effective. However, additional costs will be needed to extend the runway and add additional taxiway connections. A Summary of the airfield modifications are below:

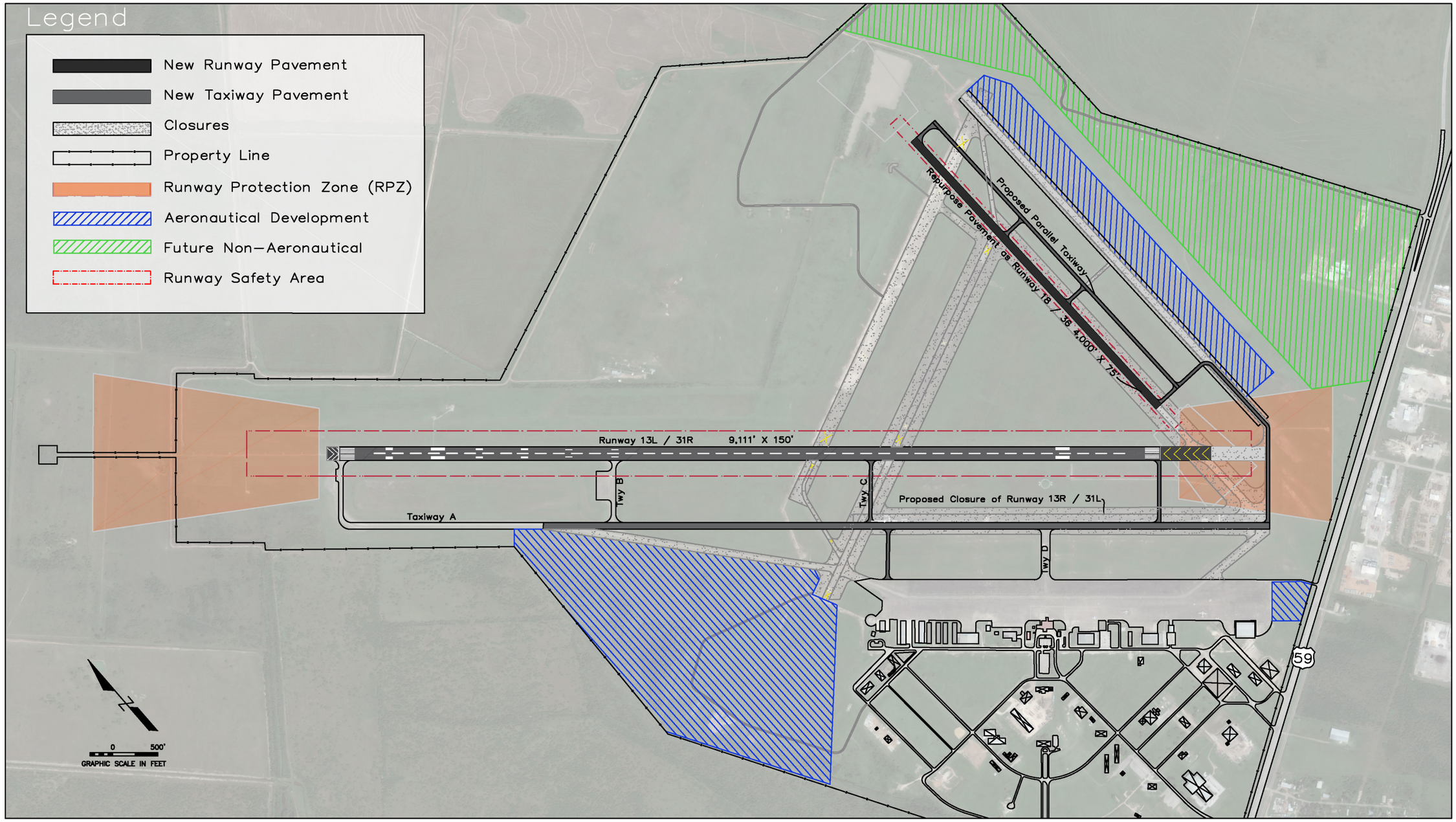
Design Considerations:

- Relocation of Runway 18/36 to Taxiway F
- Addition of new standard parallel taxiway to relocated Runway 18/36
- Construction of an end-around taxiway (EAT) serving Runway 36
- Construction of a partial length parallel taxiway to the east of runway 17/35
- Reconfiguration of Taxiways A, A1, & B

Criteria	Score (Multiplier)
Safety and efficiency of aviation operations	3 (x2)
Ability to accommodate expected general aviation demand	1
Acceptability to users, FAA, and the community	2 (x2)
Land availability and ownership	3
Environmental Factors	2
Airspace/obstruction requirements	2
Political, jurisdictional, and implementation factors	2
Economic Feasibility	1 (x2)
Phasing and constructability considerations	2
Accessibility	2
Total	**24/39**

This alternative scored the highest in the safety and efficiency category based on its taxiway improvements to 18/36 and Runway 31R. However, scored low in the economic feasibility due the added cost of a runway extension to the relocated 18/36 and additional a parallel taxiway. It will be hard to gain the additional runway length on a relocated Runway 18/36 as it is a secondary runway.

Figure 4.2 Airside Alternative One



Airside Alternative Two

Alternative 2 **(Figure 4.3)** will feature the construction full length standard parallel taxiway to Runway 18/36 and conversion of the closed Runway 13L/31R to a full length parallel taxiway for Runway 13R/31L. This taxiway will satisfy the design standards outlines in FAA AC 150/5300-13A and the realignment of Taxiway F will help alleviate impacts to the primary runway as it will be located further away from the threshold of Runway 31R. Also included in Alternative 2 is the recommended demolition of the portions of Taxiway F & A located near the thresholds. This alternative shows preservation of the infield area of the airport as future aeronautical use based on the reopening of Taxiway C that may one day serve as an area of development.

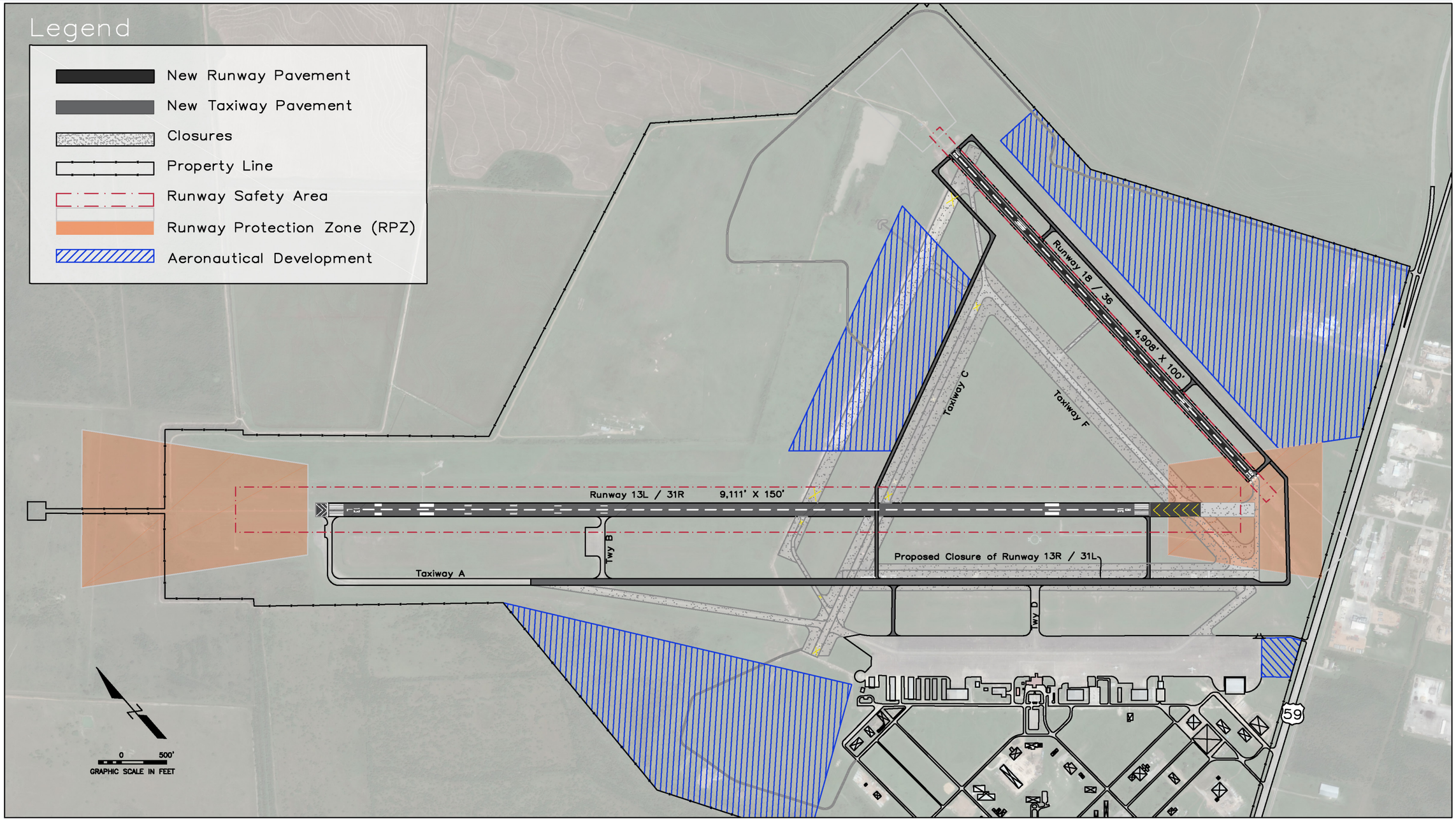
Design Considerations:

- Relocation of Taxiway F to Runway 18/36 to
- Addition of new standard parallel taxiway to relocated Runway 18/36
- Construction of a partial length parallel taxiway to the east of runway 18/36
- Reconfiguration of Taxiways A, F, & E
- Reopening of Taxiway C connector to Runway 18

Criteria	Score
Safety and efficiency of aviation operations	2 (x2)
Ability to accommodate expected general aviation demand	2
Acceptability to users, FAA, and the community	3 (x2)
Land availability and ownership	3
Environmental Factors	2
Airspace/obstruction requirements	2
Political, jurisdictional, and implementation factors	2
Economic Feasibility	3 (x2)
Phasing and constructability considerations	2
Accessibility	2
Total	**31/39**

This alternative scored high in economic feasibility as it has minimal adjustment to the overall infrastructure and keeps the existing runway locations. However, it doesn't fully serve to address the safety issues with taxiway F near the threshold of Runway 31R. Although high on accessibility by using Taxiway C, the parallel taxiway to runway 18/36 will limit any additional development on the east side of the airport.

Figure 4.3 Airside Alternative Two



Airside Alternative Three

Alternative 3 **(Figure 4.4)** considers a large shift in the design of the terminal area of the airport and largely assumes the large growth rate of the commercial air service operations would dictate additional services. This alternative redesigns the open "v" runway design to allow for taxiways on the interior of the runway configurations improving safety and design standards. The construction includes a full length standard parallel taxiway to Runway 18/36 and as well as an additional east side full length parallel taxiway for 13L/31R. There are additional connections using existing close Taxiway C to provide interior access to both runways. Additionally, full length parallel taxiways are shown on both sides of Runway 18/36 to provide development opportunities on the east side of the airport. This alternative also suggests improvements to the entrance road and relocates the primary airport entrance.

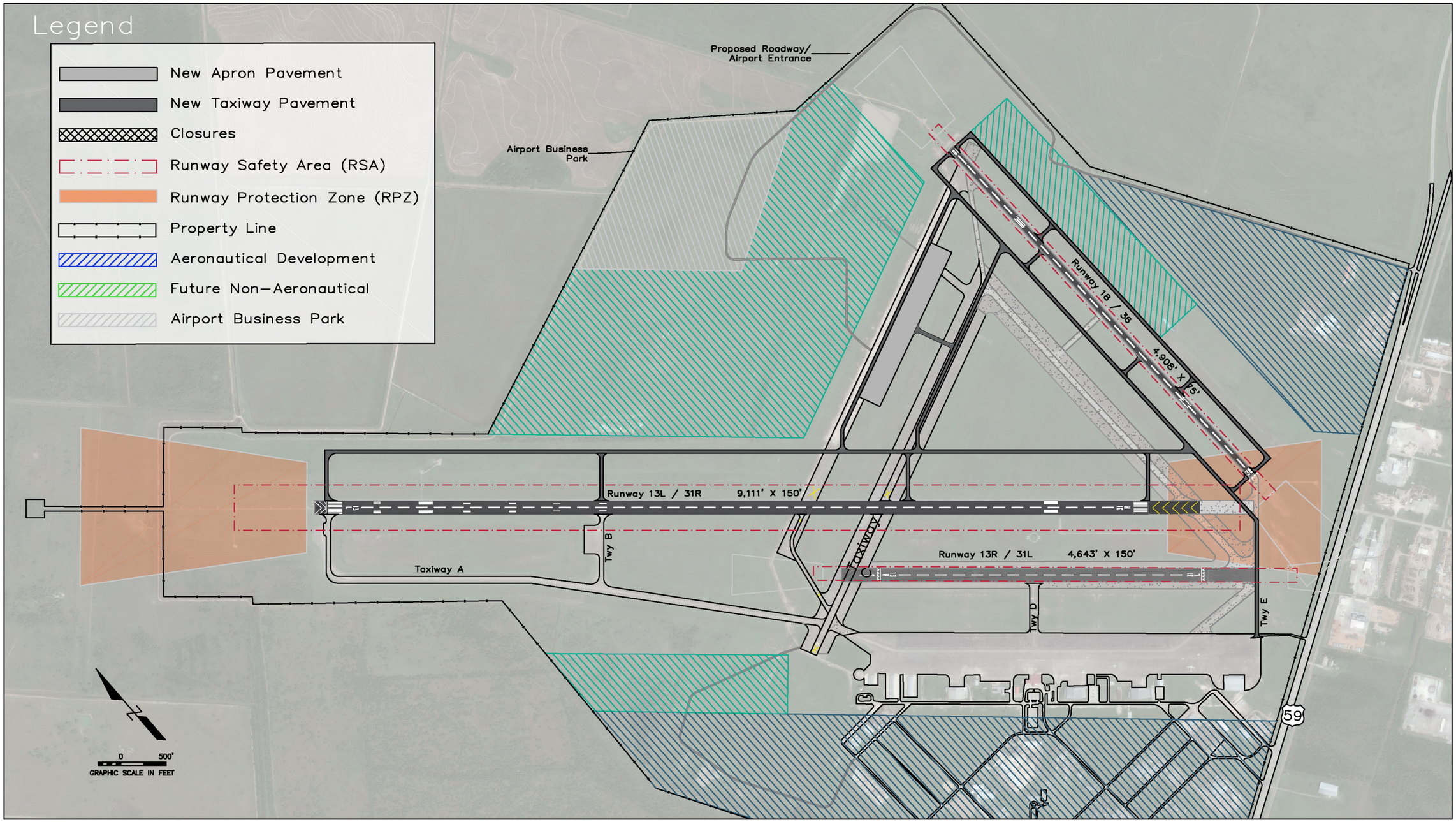
Design Considerations:

- Addition of new east side standard full length east parallel taxiway to Runway 13L/31R
- New terminal area and apron between Runway 13L/31R and Runway 18/36
- Construction of a partial length parallel taxiway to the east of runway 18/36
- Reconfiguration of Taxiways A, F, & E
- Reopening of Taxiway C connector to Runway 18

Criteria	Score
Safety and efficiency of aviation operations	3 (x2)
Ability to accommodate expected general aviation demand	3
Acceptability to users, FAA, and the community	2 (x2)
Land availability and ownership	2
Environmental Factors	1
Airspace/obstruction requirements	2
Political, jurisdictional, and implementation factors	2
Economic Feasibility	1 (x2)
Phasing and constructability considerations	1
Accessibility	2
Total	**24/39**

Although this alternative scored very high on the ability to accommodate demand, it is very costly and would require significant investment in taxiway, apron, and additional support facilities. This alternative should be viewed as a long term goal only if the airport experiences significant growth in airline or air service operations resulting in higher FAA Primary Airport entitlement funding.

Figure 4.4 Airside Alternative 3



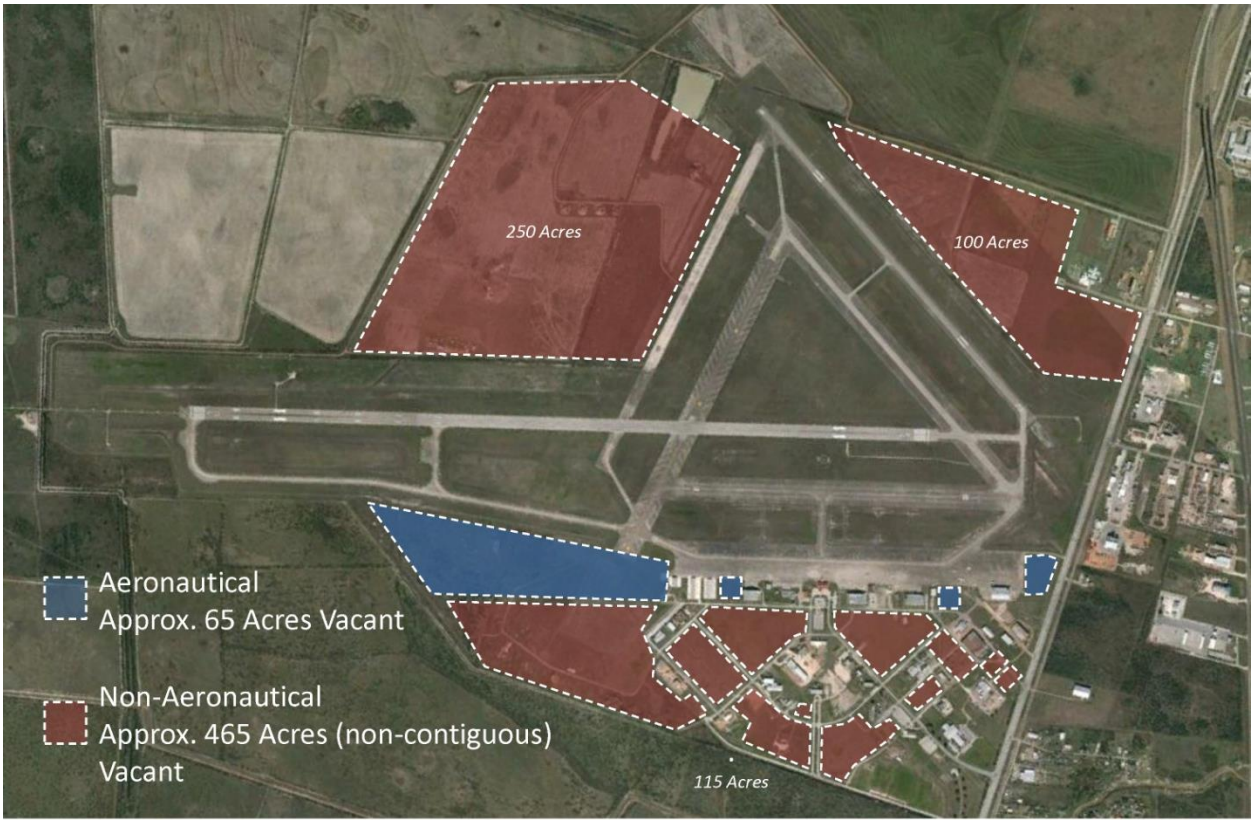
4.6 Terminal Area/Landside Aeronautical Development Alternatives

This section will evaluate options for placing landside facilities for the airport. Mainly, this will include hangar storage space for additional based aircraft as identified in the facility requirements. In addition, the large areas of vacant land not suitable for aeronautical development will be identified and options for non-aeronautical land uses will be considered. These alternatives will be tied to the business planning effort for increasing revenue streams for the airport.

Terminal Area Considerations

Victoria Regional Airport has an abundance of property. At over 1,700 acres there are many areas that can be identified for future land development. However, much of the airport property is currently not used or not accessible for aeronautical activity. The Figure below shows existing vacant land for development considerations by type.

Figure 4.5 Existing Developable Land by Type



There is much more non-aeronautical land available to be developed based on the current runway and taxiway configuration. Therefore, focus will be put on finding aeronautical space in the existing terminal area for hangar development (marked in blue above). The airside alternatives presented have also identified potential uses for the other vacant areas of the airport and may be developed based on the selection of a preferred development plan.

Utility Master Plan

Important to consider is also the availability of existing utilities that may be able to support additional development plans. Water, sewer, and electricity are all required for most landside development and will be costly if not already in place.

Existing Sanitary Sewer Collection System

The sanitary sewer waste generated on Victoria Regional Airport property is collected by a network of county owned gravity sewer mains, two county owned lift stations, and two county owned sewer force mains. All wastewater flows are ultimately conveyed to county owned sanitary sewer Lift Station #1, which is located on the west side of the property. Waste is then metered and pumped, via a 10" force main, to a City of Victoria owned sanitary sewer manhole and 18" gravity main, located near the intersection of US 59B and Amhurst Street. It is then conveyed by the city owned facilities to the city's Victoria Regional Wastewater Treatment Plant. Lift Station #2 is located near the southeast corner of the Airport, on Hwy 59B, between Progress Dr. and Perimeter Rd. This lift station collects sanitary sewer waste from three commercial tenants located in the area. Waste is then pumped, via a 6" force main, to the county owned 12" gravity main located near the intersection of Dormitory Ave. and Corpus Christi Dr and then conveyed by gravity main to Lift Station #1.

Existing Water Distribution System

Water for domestic use and fire protection at Victoria Regional Airport is purchased from the City of Victoria. The majority of the flow is metered as it enters the property through two – 10" meters and is distributed to airport tenants by a network of county owned water mains. Four tenants on the airport currently obtain water service directly from the City of Victoria, through city owned water mains. Those tenants are Victoria County Juvenile Center, Victoria Animal Control, Dorothy H. O'Connor Pet Adoption Center, and Tejas Production Service, Inc.

The airport is located at the extreme eastern end of the city's water distribution system and is within the city's "south pressure zone". The south pressure zone operates with a maximum/minimum water tower level of 220/200 feet, and is best suited for serving areas with a natural ground elevation below elevation 100. The ground elevations at the airport range from 96 to 110. Although the 12" looped water mains in the area are adequate to serve the demands, the relationship between the tower elevation and the ground elevations results in a low water pressure at the airport. Static pressures in the city mains serving the airport range from 45 psi to 50 psi. Pressures on the airport typically range between 40 psi and 45 psi.

Future Development

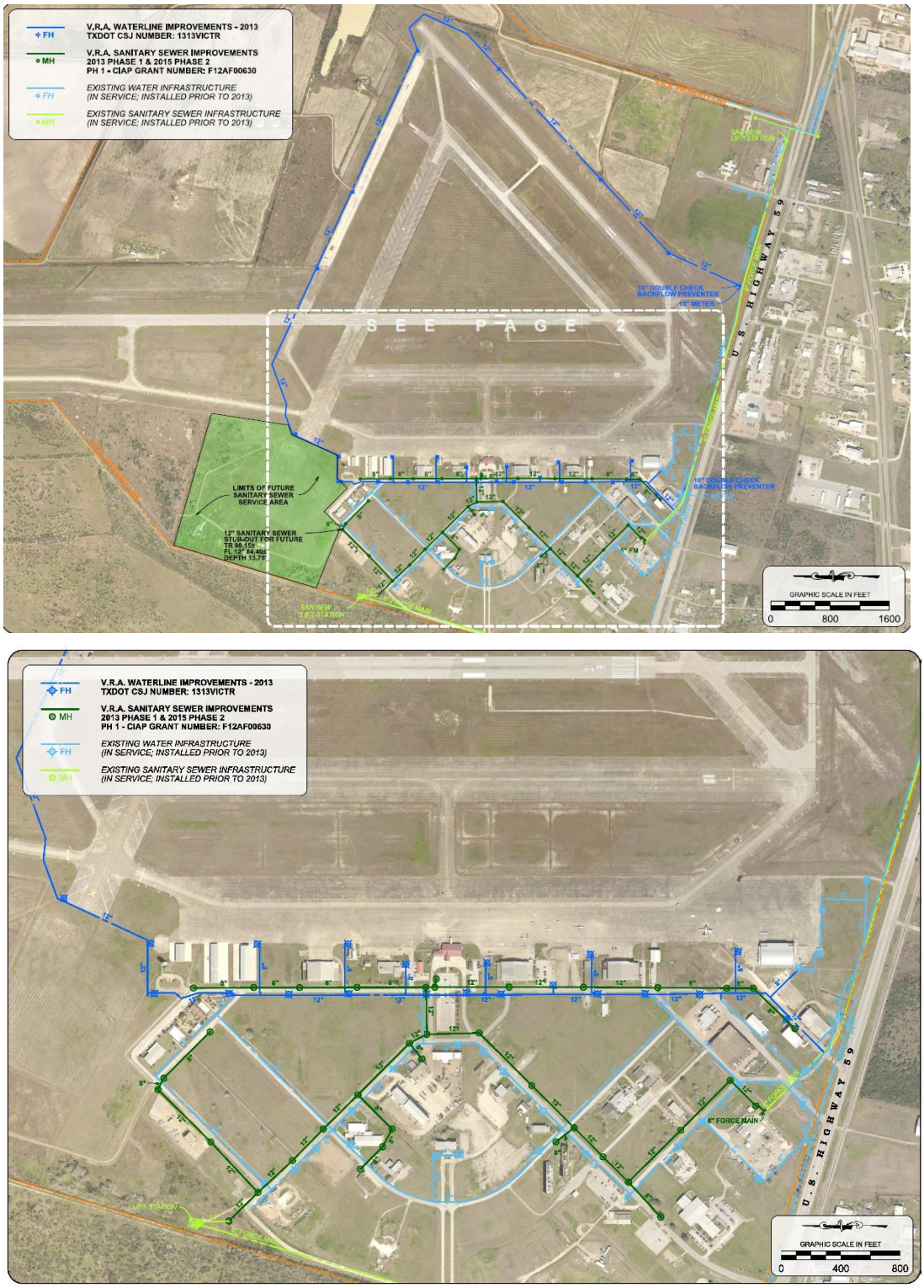
For the purpose of this study, the potential future development areas at the airport have been labeled 1-3 on the accompanying Master Water Plan and Master Sanitary Sewer Plan. A recommendation for expansion of the existing water distribution and sanitary sewer collection system has been provided on each of the master plans.

Water distribution for both domestic and fire flows can be expanded in each of the three service areas independently as growth occurs. We recommend looped 8" water mains for distribution and independent booster pumps per tenant if pressure or flow requirements dictate.

Sanitary sewer collection for Service areas 1 and 2 can be expanded using only gravity mains and connection to the existing county owned system. Service area 3 will require the construction of new lift station in order to maintain the adequate service depth.

The following figures shows the existing utilities on the airport.

Figure 4.6 Existing Airport Utilities



Hangar Facility Requirements Summary

The following aeronautical hangar needs were identified in the facility requirements portion of the airport master plan and will dictate the amount of needs for the area. Alternatives may include development over and beyond the needs in the plan to help identify areas that should be preserved for landside development. This will ensure that the areas shown for non-aeronautical development do not limit the airports long term growth potential.

T-Hangars - 10 unit nested needed in near term or approximately 48,000 sf

Box Hangars - 150,000 sf

Other Buildings:

- Potential for Terminal Expansion (not needed in 20 yr plan)
- New GA Terminal Building/FBO
- Relocated Restaurant (revenue potential)

Apron – all associated hangar development should strive to maximize the large apron areas already present on the airport. However, new facilities will be planned with enough apron space to serve the hangars and anticipated aircraft types for the airport.

Access:

- New airport entrance and road widening to accommodate new development will be needed. This may include realignment of existing roads.
- Parking spaces for new hangars - 55 estimated

Landside Alternative One

Given the vast amount of apron space existing at the airport, special consideration was given to utilizing pavement areas that will not require additional apron infrastructure if possible. Landside Alternative One considers this by expanding hangar development on the existing apron area from both the north and sound side of the terminal area. The majority of this alternative exceeds the requirements for hangar space and is intended to look at the maximum potential of hangar development in the terminal area **(see Figure 4.7)**.

By adding hangars on the existing apron, costs are limited with no requirement of new pavement, however the layouts will limit the mobility of the existing taxiway system and may require the addition of taxiway connectors. This is shown to ensure that automobile and parking access to the hangars will not conflict with taxiing aircraft.

Total Hangar Space by Type:

T-Hangar:	5 New 10 Unit Hangars
Executive Hangar:	12 (80’ x 80’) units
Corporate (Box) Hangar:	6 (120’ x120’) units
Apron:	N/A
Support Facilities:	Relocated Restaurant and Expanded GA FBO Terminal

Figure 4.7: Landside Alternative One

Landside Alternative Two

This incorporates an expanded terminal apron to the north and minimal other flight light development other than in-fill hangars. Enhanced FBO and Passenger terminal space is provided along with new restaurant locations. Corporate hangars are shown on both ends of the existing apron **(see Figure 4.8)**.

Total Hangar Space by Type:

T-Hangar:	2 (10 Unit) Hangars
Executive Hangar:	3 (80' x 80') Units
Corporate (Box) Hangar:	6 (120' x 120') Units and 1 (120' x 80')
Apron:	New apron addition to the north terminal area
Support Facilities:	Expanded FBO, Passenger Terminal, and Restaurant

Figure 4.8: Landside Alternative Two

Landside Alternative Three

Alternative Three has the most development shown and includes a proposed taxilane addition to the south of the terminal area. This will require significant new infrastructure and would change the current flight line. However, the concept allows for maximum development potential and could be the best way to expand the south terminal area if needed **(see Figure 4.9)**.

Total Hangar Space by Type:

T-Hangar:	2 New 15 Unit Hangars and 2 expanded 5 units
Executive Hangar:	19 (80' x 80') units
Corporate (Box) Hangar:	9 (120' x 120') units, 4 (120' x 80') units
Apron:	North apron expansion and associated new south taxilane
Support Facilities:	Relocated maintenance building, relocated Restaurant and Expanded GA FBO Terminal

Figure 4.9: Landside Alternative Three

East Side Development

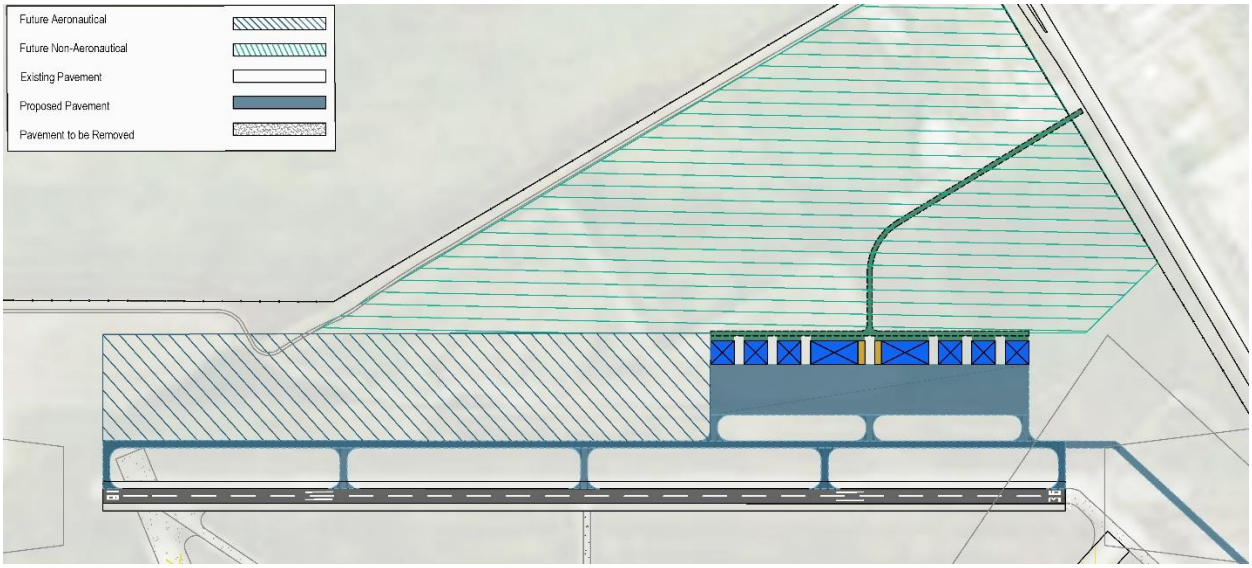
During the planning process there was a need to preserve space for the possibility of attracting a major tenant such as a Maintenance, Repair, and Overhaul (MRO) operation. A site plan was created for the east side of the airport serving Runway 18/36 for large scale hangar development and apron space. The following concept was provided to help ensure adequate aeronautical space was secured for this type of operation **(see Figure 4.10)**.

Typically, these types of operations serve avionics, airframe and powerplant, and other maintenance related to certification for larger aircraft types. These businesses can be major employers with the ability to create jobs, airport revenue, and support a tax base for the community. Ideally, these aircraft come in the airport and stay for long periods of time while being serviced. Therefore, a location that is somewhat isolated and requires limited primary runway use would be ideal.

Typical Support Facilities:

- Large Corporate Box Hangars
- Small Box and Executive Hangars
- Large Apron Space
- Parking and Tie Down
- Office Space
- Paint Hangars
- Supply Warehouses

Figure 4.10: East Side MRO Development Plan



4.7 Non-Aeronautical/Commercial Development

A large amount of non-aeronautical tenants are located on the west side of the airport. This area is largely consistent of the previous military base infrastructure and has been redeveloped over periods of time to clear old buildings and create new areas for development. Over previous planning studies this area has been proposed for industrial park and commercial site development. This land presents a tremendous opportunity for the airport to create sustainable long term lease revenue that will assist the airport with aeronautical improvements and should be considered an asset.

As studied in previous planning efforts, the portion of land on the west side of the airport will best be suited for continued industrial or business park development. Given the existing tenant base and areas of vacant land, there are many options for developing a cohesive site plan that will be marketable for development. This area should be considered for non-aeronautical development compatible development. The following strategies should be considered by airport management for the site.

Option 1: Airport Ownership and Leasing

Perhaps the most lucrative and long term financial strategy for the airport is to continue to own and lease non-aeronautical property for this area of the airport. Currently, the airport maintains land leases with many businesses that contribute to the financial goals of the airport. By continuing to own the entire property the airport can develop sites over time with interested parties on their own terms allowing control over the development and revenue generation. However, this may limit the attractiveness for certain types of businesses wishing to own rights to the land.

Option 2: Partial Sale

With numerous vacant parcels of land in this portion of the airport property, interest could materialize from individual tenants to buy and develop pieces of land for business purposes.

Option 3: Master Planned Redevelopment

Interest may exist in the future to use a holistic development approach for the entire site. Redevelopment for a specific use by a major developer or corporate entity would provide a complete new. This is typically done with the intent to master plan an area of land with proposed tenants and land uses that would be

Support from local Economic Development Corporations and partnerships with private developers can facilitate this type of development. In essence, the airport would be a partner in a transaction that would allow the outright sale of the entire set of parcels and properties that would be transferred to a developer.

This option would require close coordination with local planning and zoning authorities, economic development corporations, and the FAA for a potential land release. Only in the best interest of the airport would be feasible to consider this option.

Partnerships

Continued efforts to partner with the Victoria Economic Development Corporation should be pursued to market specific uses and properties available for development on the airport **(see Figure 4.11)**. This includes working with targeted audiences for uses at the airport and for business that may have synergy with the airport either by location or function. Available vacant and existing properties should be marketed for development opportunities that are consistent with the airport development and planning goals. In addition, the concepts provided in this plan should be used as a guide to best suite development and potential tenants.

Figure 4:11: Existing VEDC Marketed Airport Property

VEDC
VICTORIA ECONOMIC DEVELOPMENT CORPORATION

Property For: Lease
Acreage: 1.75
Rail Access: No
Office Sq. Footage: 750 SF
Warehouse Sq. Footage: 7,472 SF
Total Square Footage: 8,222 SF
Number of High Loading Docks: 12
Date Available: August 20, 2014
Raw water available: No

Commercial Site Development Concept:

Special consideration was given to the existing tenant base in this area of the airport. There are many strong businesses that contribute to the airport's financial land lease structure and will be viable for the future. However, there are many vacant parcels of land including some dilapidated structures that have been considered for redevelopment and repurposing. These areas should be marketed as part of the overall development strategy for this portion of the airport **(see Figure 4.12)**.

The following concept includes the following non-aeronautical land uses:

- Industrial
- Mixed Use
- Retail
- Commercial
- Hotel
- Academic Institution
- Vacant/Open Space

Locations for business are conceptual and should not dictate the location of interested developers. The overall accessibility, space requirements, and lease boundaries should be tailored for individual user and may change over time. Frontage lots should be given higher profile business uses and associated lease rates as these will be highly desirable. Lots along U.S. Highway 59 are preserved for more community oriented retail including hotel space and office space.

Figure 4.12: Proposed Commercial Development Complex

East Side Mixed-Use Site Plan

The existing perimeter of the airport on the east side of Runway 18/36 was shown as potential non-aeronautical development. The existing portion off of HWY 59 includes existing non-aeronautical businesses with supporting infrastructure. This portion of the airport is ideal to develop for land uses that will be compatible with the airport and the existing businesses **(see Figure 4.13)**.

The following conceptual site plan shows the potential for development of individual parcels of land that would be attract for businesses.

Figure 4.13: East Side Mixed-Use Site Plan

Source: KSA

This portion of the airport may be a good candidate for land release on a case-by-case basis for office space, retail, and commercial development. The existing access and infrastructure makes it a prime location to market to potential businesses. Consideration should be given to the preservation of access to the aeronautical portion of the airport for future development.

Note: Please see the FAA Land Release Guidelines for any future sale of land in this area for airport compliance as noted in Chapter 7 of this document.

4.8 Recommended Development Concept

During the evaluation of these alternatives, many considerations were discussed for identifying one comprehensive recommended development concept. Parts of each alternative were reviewed to see how they may best be suited for implementation **(see Figure 4.14)**.

Through discussion with stakeholders at various advisory meetings and public workshops, it was clear that the users of the airport wanted the option to keep Runway 13R/31L open in the future. Although it is currently closed during the publication of this document, the ability to reopen the parallel runway for general aviation traffic needs to be considered in the final development concept. In order to do this, flexibility must be given to how it may phased into other improvements in the plan.

Recommended Concept Highlights

Airside:

1. The current runway configurations and lengths will remain intact with no planned extensions or realignments.
2. Parallel Runway 13R/31L is shown for proposed conversion for a full length parallel Taxiway A for Runway 13L/31R. It is deemed that the new full length taxiway will need to be designed to accommodate use as a temporary visual runway in the event the primary runway is under reconstruction or closed for any period of time.
3. A new pavement section is shown to connect the existing north side of Taxiway A with the converted Runway 13R/31L.
4. Although the concept for conversion into a full length parallel taxiway to Runway 13L/31R is shown as the recommended concept, it will not preclude this runway from reopening for a period of time if needed prior to conversion.
5. For purposes of clarification, henceforward the primary runway as shown in the concept will be referenced as 13/31.
6. Taxiway modifications are made to the south end of the airport to allow for realigned entrance and End Around Taxiway crossings. By moving Taxiway F and E there will be no aircraft traversing the threshold of Runway 31 and will allow for a standard entrance taxiway to Runway 36.
7. Taxiway C realignments (both from apron and from taxiway to runway).
8. Addition of standard entrance taxiway to Runway 31 and realigned taxiway connector to the south apron.
9. Parallel Taxiway to Runway 18/36. Providing access to the east side of this runway is necessary to allow for future development opportunities and to enhance taxiway crossings from the terminal area and runway thresholds.
10. Closure and ultimate removal of all old existing interior taxiway pavements.

Landside:

1. Corporate Hangars 100' x 100' (10,000 sq.ft.) are shown on the north end of the terminal apron north of the ATCT. This provides a linear progression of the building and flight line with minimal effort to extend auto access.

2. Two 10 Unit T-Hangars are shown in the in-fill terminal area.

3. East side MRO and GA Facility Complex is shown including apron, large box hangars, and taxiway connections. This development also requires additional roadway access.

4. Apron expansion is provided for only areas where new hangars are to be built. This is apparent on the northern end of the existing west side terminal area apron.

5. Future aeronautical land has been preserved surrounding the immediate runway and taxiway infrastructure to help secure space for additional landside development outside of this planning period.

6. Non-aeronautical space has been identified along out the existing west side development beyond the terminal area, areas on the north side of previously closed taxiway infrastructure, and on the east side where existing development off airport has occurred.

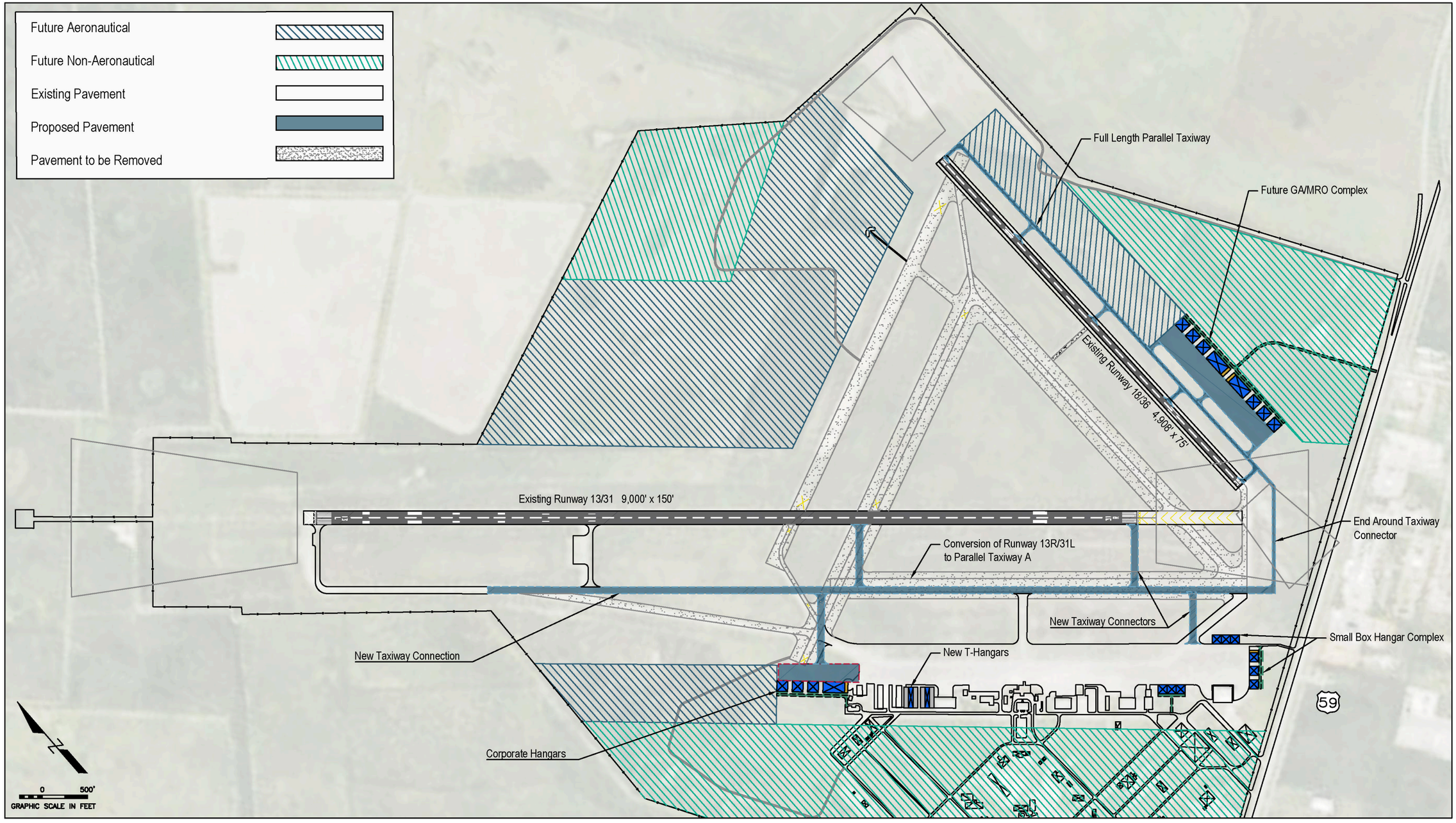
7. Additional infill space has been preserved for certain aspects of landside alternatives to be included such as expanded FBO building facility, future airport administration buildings, a relocated airport restaurant, and additional parking for hangar facilities.

Planning Considerations for Implementation

It is important to note that the recommended concept shows ultimate development with flexibility to evolve over time and be tailored to individual airport needs. This concept is shown with additional landside layouts that may exceed the immediate planning horizon for needs but can be used to preserve land and attract major tenants as necessary.

This plan will be used to update the Airport Layout Plan and ensure all potentially eligible grant projects be identified. It is not a guarantee that the plan as shown will be implemented, funded, or designed exactly as presented. It will be important to ensure proper phasing when programming airside improvements such as the conversion of the parallel runway so that operations and airport compliance are not impacted.

Figure 4.14: Recommended Development Concept



Chapter 5: Environmental Overview

Chapter 5 – Environmental

The identification of environmental sensitivities is crucial when developing a long-term development plan. This section will outline several categories of environmental considerations near and within the Victoria Regional Airport.

Inventory

Air Quality

According to the U.S. Environmental Protection Agency (EPA) Victoria County currently meets all the pertinent standards with a "good" air quality ranking and is classified as an attainment area for all criteria pollutants carbon monoxide (CO), lead (Pb), oxides of nitrogen (NO2), ozone (O3), particulate matter (PM10 and PM2.5), and sulfur dioxide (SO2).

Source:https://www3.epa.gov/myenv/myenview2.html?minx=-97.18849&miny=28.72973&maxx=-96.80740&maxy=28.88316&ve=11,28.80593,-97.00357&pSearch=Victoria,%20TX

Coastal Resources

Victoria Regional Airport is not located within a coastal boundary. Part of the eastern portion of Victoria County is located in a coastal boundary approximately 20 miles away from VCT

Source: http://www.glo.texas.gov/coast/coastal-management/forms/files/CoastalBoundaryMap.pdf

Department of Transportation Act 4(f)

The City of Victoria has a variety of historical houses and buildings. Many of the listed historical sites are located near downtown Victoria approximately 6 miles from VCT.

Source: http://npgallery.nps.gov/nrhp/Download?path=/natreg/docs/Download.html#all

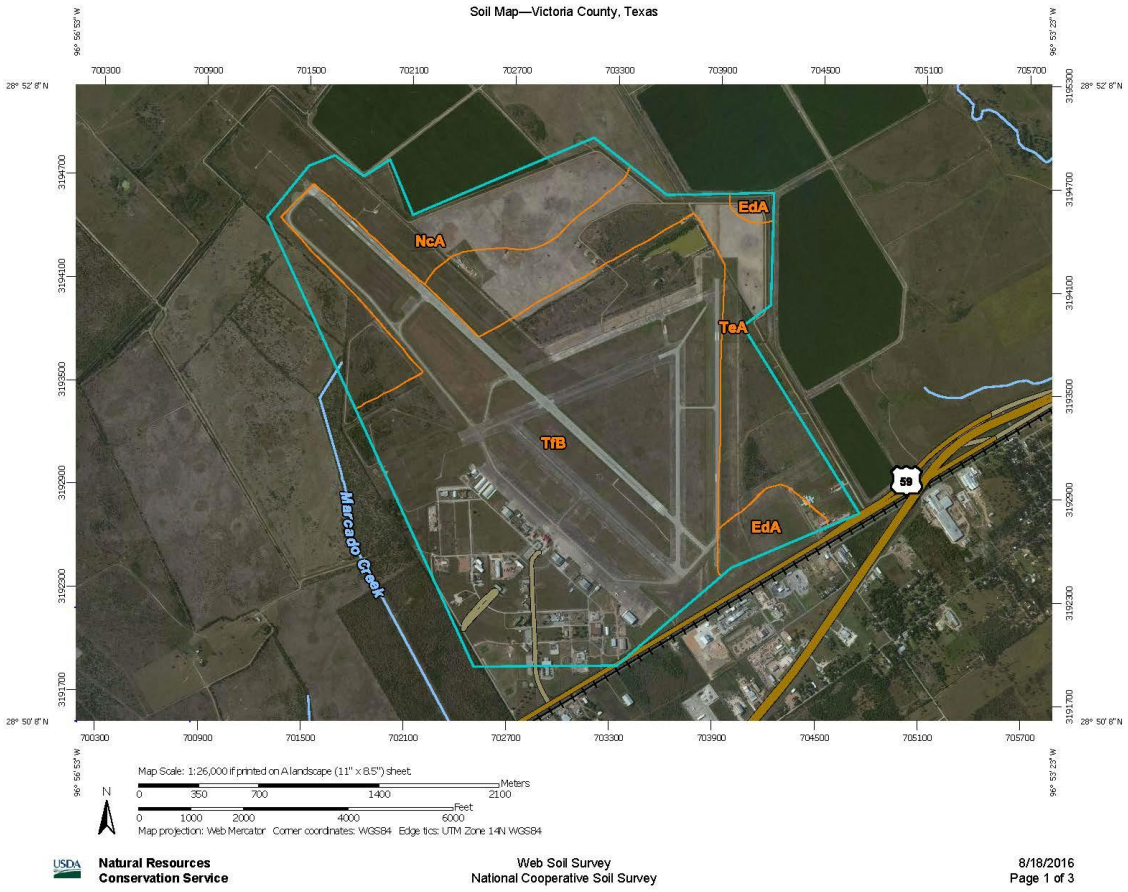
Farmlands

According to the U.S. Department of Agriculture Soil Survey, soils within Victoria Regional Airport property include both prime and non-prime farmland. All soils present on airport property are listed below.

- EdA, Edna loam, 0 to 1 percent slopes
- NcA, Nada-Cieno complex, 0 to 1 percent slopes
- TeA, Telferner fine sandy loam, 0 to 1 percent slopes
- TfB, Telferner-Urban land complex, 0 to 3 percent slopes

TeA is considered prime farmland and is located on 304 acres of land east and north of Runway 18/36. EdA is considered farmland of statewide importance and is located on 53 acres of land southeast of Runway 18/36. See **Exhibit 5.1** for more details.

Figure 5.1 Soil Map



Source: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

Fish, Wildlife and Plants

Migratory birds may nest, winter, or migrate throughout the area. According to the Service, migratory birds that may be affected by projects at the Airport are as follows: Bald Eagle American Oystercatcher, Black Rail, Burrowing Owl, Dickcissel, Fox Sparrow, Harris's Sparrow, Hudsonian Godwit, Lark Bunting, Le Conte's Sparrow, Least Bittern, Lesser Yellowlegs, Loggerhead Shrike, Long-billed, Curlew, Marbled Godwit, Peregrine Falcon, Red Knot, Red-headed Woodpecker, Rusty, Blackbird, Sedge Wren, Short-eared Owl, Snowy Plover, Solitary Sandpiper, Sprague's Papit, Swainson's Warbler, White-tailed Hawk, Worm Eating Warbler, and Yellow Rail.

There are no designated critical habitats or National Wildlife Refuges within the vicinity of the Airport. Potential federal and state protected species of concern are listed in **Table 5.1.**

Table 5.1
Federal or State Listed Potentially Endangered Species

Species	*Federal Listing*	*State Listing*
The Attwater's Prairie Chicken	Endangered	Endangered
Least Tern	Endangered	Not listed
Piping Plover	Threatened	Not Listed
Red Knot	Threatened	Not Listed
Whooping Crane	Endangered	Endangered

Sources: http://tpwd.texas.gov/gis/ris/es/ES_Reports.aspx?county=Bell
https://ecos.fws.gov/ipac/project/LKHM35GFRZF45E24ASOMQ26ULU/resources

Floodplains

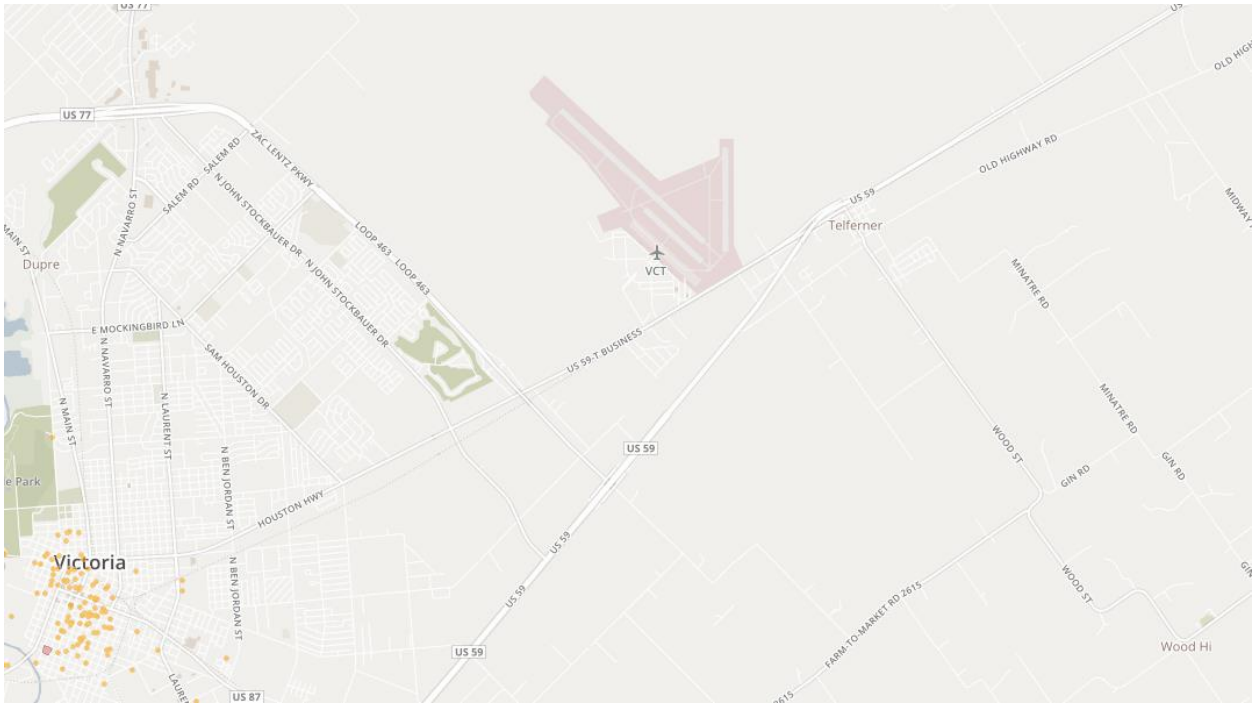
There are no 100-year floodplains within or near the Victoria Regional Airport according to Federal Emergency Management Agency (FEMA) flood hazard mapping. VCT is located within two flood mapping parcels; 4806370125D and 4806370150B.

Source: http://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping

Historical, Architectural, Archaeological and Cultural Resources

The City of Victoria has a variety of historical houses and buildings. The majority of historical sites are located near downtown Victoria approximately 6 miles from VCT. These sites are depicted in **Exhibit 5.2**.

Figure 5.2 Nation Register of Historic Places



Source: https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466

Water Quality

Two sub watersheds are located along Runway 13L/31R: Marcado Creek-Gracitas Creek (HUC12 # 121004020104) and Casa Blanca Creek (HUC12 # 121004020103) According to the EPA's online My WATERs Mapper, these do not contain waters listed on the Clean Water Act Section303(d) list of impaired waters.

Source: https://watersgeo.epa.gov/mwm/

Wetlands/waters of the United States

According to the National Wetlands Inventory there are no wetlands within the vicinity of Victoria Regional Airport. Several freshwater emergent wetlands exist on the north side of the airport between the RWY 13L and RWY 18 thresholds. An 8.34-acre freshwater pond is located 700 feet from the RWY 18 threshold. These areas are shown in **Exhibit 5.3.**

Figure 5.3 Wetlands Mapper

Source: https://www.fws.gov/wetlands/data/mapper.html

Wild and Scenic Rivers

According to the National Wild and Scenic Rivers System website, there are no Wild or Scenic Rivers designated within the vicinity of Victoria Regional Airport. The only designated Wild or Scenic River in Texas is the Rio Grande.

Source: https://www.rivers.gov/texas.php

Formally Used Defense Sites (FUDS)

Victoria Regional Airport (VCT) was previously a military base, like many other airports around the country, and as a military base it was known as Foster Air Force Base until 1960 when it became Victoria County Airport and in 1976 became Victoria Regional Airport. Due to being a military base prior to October 1986, the property is known as a Formally Used Defense Site (FUDS) and the Department of Defense (DOD) is responsible for the environmental restoration of this site. The lead agency for the FUDS program is the US Army, but the program is run by the US Army Corps of Engineers (USACE). Part of the FUDS program includes that the USACE will investigate each property identified as a FUDS and, if necessary, clean up possible contamination and munitions that could still be present on previous DOD properties to protect the human health and the environment.

The USACE conducted a study at VCT to determine how many FUDS sites are present. This study concluded that as of September 30, 2013 there were five FUDS sites present at VCT. **Table 5.2** illustrates the location, property number, and site number for each of the sites at VCT.

Table 5.2 Formally Used Defense Sites (FUDS)

State	City	County	Property Name	Site	FUDS Property Number	Category	USACE Division
TX	Victoria	Victoria County	Foster Air Force Base	01	K06TX0601	CON/HTRW[1]	SWD
TX	Victoria	Victoria County	Foster Air Force Base	02	K06TX0601	BD/DR[2]	SWD
TX	Victoria	Victoria County	Foster Air Force Base	03	K06TX0601	HTRW[3]	SWD
TX	Victoria	Victoria County	Foster Air Force Base	04	K06TX0601	MMRP[4]	SWD
TX	Victoria	Victoria County	Foster Air Force Base	05	K06TX0601	HTRW[3]	SWD

Source: USACE FUDS Report, 2010
Notes: 1 Containerized Hazardous, Toxic, or Radioactive Waste
2 Building Demolition and Debris Removal
3 Hazardous, Toxic, and Radioactive Waste
4 Military Munitions Response Program

Definitions used in this section include:

- Munitions and Explosives of Concern: munitions that pose explosive risks such as unexploded ammunition
- Munitions Debris: remaining or left behind ammunition shells, casings, penetrators, or projectiles
- Munitions Response Site: designated area known to require investigation, removal actions, or remedial actions
- Unexploded Ordnance: ammunition that has been primed, fused, or armed for action, ammunition that remains unexploded

Site 01

To be determined

Site 02

To be determined

Site 03

This area is identified as a skeet and small arms range that has been used by the Victoria County's Sheriff's department for training. The 1995 report indicated that no live or unexploded ordnances were identified.

Site 04

In 2010, the USACE conducted a Site Inspection of Victoria Regional Airport (formally Foster Air Force Base). This study concentrated on Site Four, the Shoot-in-Butt Munitions Response Site.

The investigation included qualitative reconnaissance, soil sampling and analyses, as well as general observation. This munitions response site was only minimally used for aircraft weapon sighting; however, it was observed that there were several munitions debris present including 20-milimeter target practice ammunition and .45-caliber ammunition (also known as general small arms ammunition). Unexpended 20-milimeter target practice ammunition is considered

munitions and explosives of concern, but no unexpended rounds or munitions and explosives of concern have been found within or in the vicinity of this munitions response site during this investigation.

Site 05

The Skeet Range Munitions Response Site was only identified and not investigated further as the USACE had already conducted remedial action under the Hazardous and Toxic Waste (HTW) Program.

Sources:
http://www.usace.army.mil/Missions/Environmental/Formerly-Used-Defense-Sites/FUDS-Inventory/
http://www.usace.army.mil/Portals/2/docs/Environmental/FUDS/FUDS_Inventory/FUDS_Inventory_Texas.pdf
http://www.usace.army.mil/Missions/Environmental/Formerly-Used-Defense-Sites/
http://rsgisias.crrel.usace.army.mil/apex/f?p=516:2:0

Overview

The following section provides an analysis of potential environmental impacts of the proposed development actions as discussed in the previous chapters. The primary purpose of this environmental overview is to identify significant thresholds for the resource categories listed in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4B, *National Environmental Policy Act* (NEPA) *Implementation Instructions for Airport Actions*. The overview will evaluate the Recommended Development Plan to determine whether proposed actions could affect environmental quality.

The proposed improvements depicted on the preferred development plan will require compliance with NEPA to qualify for federal financial assistance. Projects not "categorically excluded" under FAA Order 1050.1F, compliance with NEPA is satisfied through the preparation of an Environmental Assessment (EA). Should significant environmental impacts be experienced, an Environmental Impact Statement (EIS) may be required.

Potential Environmental Concerns

Table 5.3 summarized the potential environmental concerns associated with implementation of the Preferred Development Master Plan Concept. Analysis under NEPA includes direct, indirect, and cumulative impacts.

Table 5.3: Summary of Potential Environmental Concerns

Environmental Impact Category	***Significance Threshold/Factors to Consider***	***Potential Concern***
Air Quality	Threshold: The action has the potential to cause pollutant concentrations to exceed one or more of the National Ambient Air Quality Standards (NAAQS), as established by the United States Environmental Protection Agency (EPA) under the Clean Air Act, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.	It is not anticipated that the proposed improvements will result in increased emissions at the Airport. While operations are projected to increase over the planning period, Victoria County currently meets NAAQS standards and therefore, general conformity review per the *Clean Air Act* is not required. Construction emissions may require an emissions inventory per NEPA guidelines, dependent upon the type of environmental review required for the

		proposed improvements. All reasonable mitigation measures will be used to lessen the effect of construction emissions.
Biological	Threshold: The U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS) determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species, or would result in the destruction or adverse modification of federally designated critical habitat. FAA has not established a significance threshold for non-listed species. However, factors to consider are if an action would have the potential for: • Long term or permanent loss of unlisted plant or wildlife species; • Adverse impacts to special status species or their habitats; • Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or • Adverse impacts on a species' reproductive rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance.	For federally-listed species: There are currently five federally-listed birds, the Atwater's Prairie Chicken, Least Tern, Piping Plover, Red Knot, and Whopping Crane, that have the potential to occur within the vicinity of the Airport. Prior to any ground disturbance, the potential for occurrence of these species will be evaluated. Federally-listed species known to occur in the County that are dependent upon aquatic resources, for example, the Whooping Crane, are not as likely to be present at the Airport, but should also be evaluated on a project-specific basis. There is currently no designated critical habitat located at or near the Airport. For non-listed species: Non-listed species of concern include those protected by the *Migratory Bird Treaty Act* as well as those listed by the State of Texas.
Climate	FAA has not established a significance threshold for Climate; refer to FAA Order 1050.1F's Desk Reference.	An increase in greenhouse gas (GHG) emissions has the potential to occur over the course of the planning period. Project-specific analysis may be required per the FAA Order 1050.1F Desk Reference.
Coastal	FAA has not established a significance threshold for Coastal Resources. Factors to consider are if an action would have the potential to: • Be inconsistent with the relevant stat coastal zone management plan(s); • Impacts a coastal barrier resources system unit; • Pose an impact to coral reef ecosystems; • Cause an unacceptable risk to human safety or property; or	None. The Airport is not located within a designated Coastal Zone.

	• Cause adverse impacts to the coastal environment that cannot be satisfactorily mitigated.	
Department of Transportation (DOT) Act: Section 4(f)	Threshold: The action involves more than a minimal physical use of a Section 4(f) resource or constitutes a "constructive use" based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource. Resources that are protected by Section 4(f) are publicly owned land for a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance; and publicly or privately owned land from a historic site of national, state, or local significance. Substantial impairment occurs when the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished.	None. There are currently no DOT Section 4(f) resources within the vicinity of the Airport.
Farmlands	Threshold: The total combined score on Form AD-1006, *Farmland Conversion Impact Rating*, ranges between 200 and 260. (Form AD-1006 is used by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) to assess impacts under the *Farmland Protection Policy Act* (FPPA). Factors to consider are if an action would have the potential to convert important farmlands to non-agricultural uses. Important farmlands include pastureland, cropland, and forest considered to be prime, unique, or statewide or locally important land.	Per the U.S. Department of Agriculture Soil Survey, soils located within the Victoria Regional Airport property boundary include both prime and non-prime farmland. Many of the prime soils are located in developed portions of the airfield and are therefore not considered important farmland.
Hazardous Materials, Solid Waste, and Pollution Prevention	FAA has not established a significance threshold for Hazardous Materials, Solid Waste, and Pollution Prevention. However, factors to considered are if an action would have the potential to: • Violate applicable federal, state, tribal, or local laws or regulations and/or solid waste management; • Involve a contaminated site; • Produce an appreciably different quantity or type of hazardous waste; • Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or • Adversely affect human health and the environment.	The Airport utilizes a fuel-farm and provides opportunity for aircraft maintenance activity that could involve fossil fuels or other types of hazardous materials or wastes; these operations are regulated and monitored by the appropriate regulatory agencies, such as the U.S. EPA, the State of Texas, and Victoria County. The Preferred Development Concept does not anticipate projects that would produce hazardous waste. However, should this type of land use be proposed, further NEPA review and/or permitting would be required. Currently, there are no known hazardous materials or waste contamination sites at the Airport.

Historical, Architectural, Archaeological, and Cultural Resources	FAA has not established a significance threshold for Historical, Architectural, Archaeological, and Cultural Resources. Factors to consider are if an action would result in a finding of "adverse effect" through the Section 106 process. However, an adverse effect fining does not automatically trigger preparation of an EIS (i.e., a significant impact).	None. There are no known cultural resources located at the Airport. All places listed on the National Register of Historic Places are located in downtown Victoria, and therefore are will not be impacted by the proposed improvements.
Land Use	FAA has not established a significance threshold for Land Use. There are also no specific independent factors to consider. The determination that significant impacts exist is normally dependent of the significance of other impacts.	None. The currently property line is sufficient for the proposed improvements through the planning period.
Socioeconomics	The FAA has not established a significance threshold for Socioeconomics. However, factors to consider are if an action would have the potential to: • Induce substantial economic growth in an area, either directly or indirectly (e.g. through establishing projects in an undeveloped area); • Disrupt or divide the physical arrangement of an established community; • Cause extensive relocation when sufficient replacement housing is unavailable; • Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities; • Disrupt local traffic patterns and substantially reduce the levels of service of roads serving the airport and its surrounding communities; or • Produce a substantial change in the community tax base.	The proposed improvements shown on the Preferred Development Concept are located on Airport property and would not result in substantial economic growth or a physical disruption within Victoria County. No relocation of housing or community businesses, disruption of local traffic patterns would occur as a result.
Environmental Justice	FAA has not established a significance threshold for Environmental Justice. However, factors to consider are if an action would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population, i.e., a low-income or minority, due to: • Significant impacts in other environmental impact categories; or • Impacts the physical or natural environment that affect an environmental justice population in a way that FAA determines are unique to the environmental justice population and significant to that population.	None. The proposed improvements will have no impact on any low-income/minority populations. All improvements are located on Airport property.
Wetlands	Threshold: The action would:	Per the U.S. Fish and Wildlife National Wetlands Inventory (NWI) there are no

	1. Adversely affect a wetlands function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers; 2. Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected; 3. Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff	wetlands located on Airport property. Several freshwater emergent wetlands exist off the Airport between the Runway 13L and 18 thresholds. An 8.34-acre freshwater pond is located 700 feet from the Runway 18 threshold. The improvements proposed on the Preferred Development Plan will not impacts the above-mentioned wetlands.
Floodplains	Threshold: The action would cause notable adverse impacts on natural and beneficial floodplain values. Natural and beneficial floodplain values are defined in Paragraph 4.k of DOT Order 5650.2, *Floodplain Management and Protection*.	None. There are no 100-year floodplains located on the Airport.
Groundwater	Threshold: The action would: 1. Exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies; or 2. Contaminate an aquifer used for public water supply such that public health may be adversely affected. Factors to consider are when a project would have the potential to: • Adversely affect natural and beneficial groundwater values to a degree that substantially diminishes or destroys such values; • Adversely affect groundwater quantities such that the beneficial uses and values of such groundwater are appreciable diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily maintained; or • Present difficulties based on water quality impacts when obtaining a permit or authorization.	None. The proposed improvements will not substantially change the amount of water used by the Airport, which receives its water from the City of Victoria.
Wild and Scenic Rivers	FAA has not established a significance threshold for Wild and Scenic Rivers. Factors to consider are when an action would have an adverse impact on the values for which a river was designated (or considered for designation) through: • Destroying or altering a river's free-flowing nature; • A direct and adverse effect on the values for which a river was designated (or under study for designation);	None. There are no designated Wild and Scenic rivers listed in the NRI within Victoria County.

	• Introducing a visual, audible or other type of intrusion that is out of character with the river or would alter outstanding features of the river's setting; • Causing the river's water quality to deteriorate; • Allowing the transfer or sale of property interests without restrictions needed to protect the river or the river corridor; or • Any of the above impacts preventing a river on the Nationwide Rivers Inventory (NRI) or a Section 5(d) river that is not included in the NRI from being included in the Wild and Scenic River System or causing a downgrade in its classification (e.g., from wild to recreational)	

Table 5.4 outlines the anticipated NEPA environmental review for the proposed improvements in this Airport Master Plan. All of the proposed improvements will occur on existing airport property and therefore, unless extraordinary circumstances exist, will be evaluated using one of the "categorical exclusions" listed in FAA Order 1050.1F.

Table 5.4 Anticipated NEPA Review

Recommended Project	***Initial NEPA Action***
Short-Term Projects	
Runway 13L/31R Rehabilitation	CatEx
Runway 31R Entrance Taxiway	CatEx
Runway 13R/31L Reconstruction	CatEx
Taxiway A and B Rehabilitation	CatEx
Drainage Improvements	CatEx
Mid-Term Projects	
Apron Rehabilitation	CatEx
Runway 18/36 Rehabilitation	CatEx
Construct Runway 13R-31L Parallel Taxiway	CatEx
Construct 10 Unit T-Hangar	CatEx
Construct 3 Box Hangars	CatEx
Long-Term Projects	
Construct Runway 18/36 Parallel Taxiway and EAT	CatEx
Construct 8 Box Hangars (6 @ 120'x120')(2 @ 120'x240')	CatEx
Construct 4 Box Hangars (3 @ 120'x120')(1 @ 120'x240')	CatEx
Construct 10 Unit T-Hangar	CatEx
Air Traffic Control Tower Renovation	CatEx

Chapter 6: Airport Layout Plan

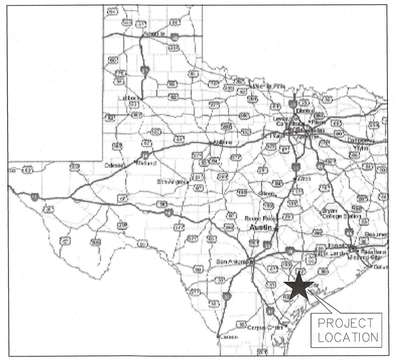
Chapter 6 – Airport Layout Plan

As required by the FAA and TxDOT, an Airport Layout Plan set was prepared to graphically depict the airport environs and the subsequent recommendations for development described in this Airport Master Plan. Recommendations for airfield geometry, airspace and obstructions, landside development are described in the following set of 5 plan sheets:

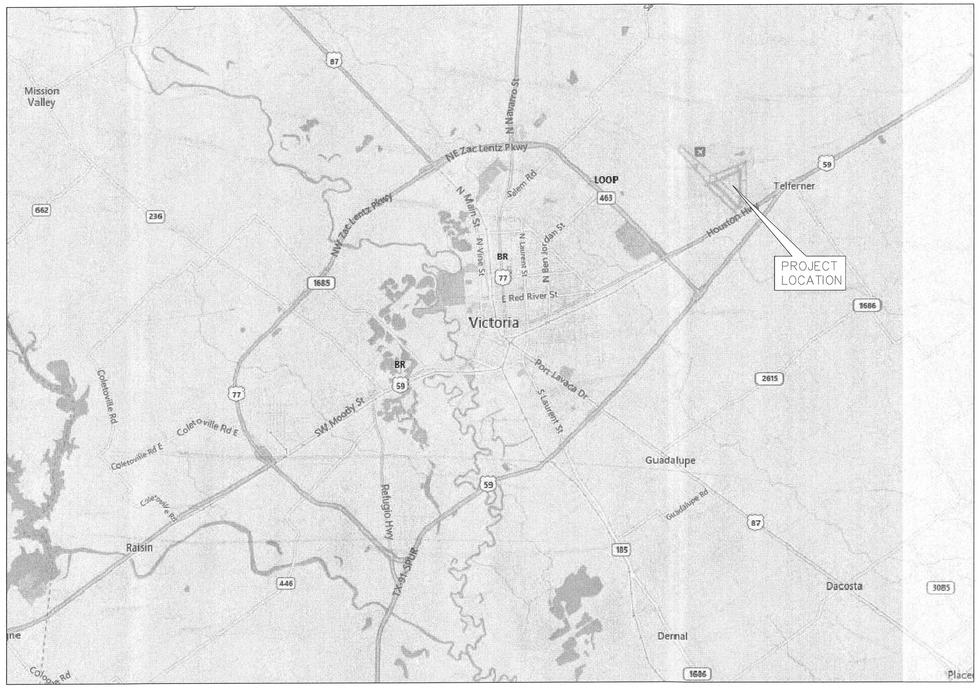
1. Cover Sheet
2. Airport Layout Drawing
3. Inner Portion of the Approach Surface Drawing 13/31
4. Inner Portion of the Approach Surface Drawing 18/36
5. Terminal Area Drawing
6. Exhibit A - Airport Property Map
7. Land Use Plan

The drawing set was prepared according with FAA Advisory Circular 150/5070 6B, FAA SOP 2.0, and TxDOT Aviation standards.

AIRPORT LAYOUT PLAN
FOR
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS



LOCATION MAP



VICINITY MAP

SHEET INDEX	
NO.	TITLE
1	TITLE SHEET
2	AIRPORT LAYOUT DRAWING
3	INNER PORTION OF THE APPROACH SURFACE DRAWING – RUNWAY 13L
4	INNER PORTION OF THE APPROACH SURFACE DRAWING – RUNWAY 13R (EXISTING)
5	INNER PORTION OF THE APPROACH SURFACE DRAWING – RUNWAY 18
6	INNER PORTION OF THE APPROACH SURFACE DRAWING – RUNWAY 31L (EXISTING)
7	INNER PORTION OF THE APPROACH SURFACE DRAWING – RUNWAY 31R
8	INNER PORTION OF THE APPROACH SURFACE DRAWING – RUNWAY 36
9	TERMINAL AREA DRAWING
10	AIRPORT PROPERTY MAP
11	LAND USE DRAWING

REV	DESCRIPTION	DATE	APPROVED

TEXAS DEPARTMENT OF TRANSPORTATION
AVIATION DIVISION

ALP APPROVED ACCORDING TO FAA AC 150/5300-13 CHANGE 16 PLUS THE REQUIREMENTS OF A FAVORABLE ENVIRONMENTAL FINDING AND FAA NRA STUDY PRIOR TO THE START OF ANY LAND ACQUISITION OR CONSTRUCTION ON AIRPORT PROPERTY.

12-3-2018
DAVID FULTON, DIRECTOR, AVIATION DIVISION — DATE

AIRPORT SPONSOR

CURRENT AND FUTURE DEVELOPMENT DEPICTED ON THIS ALP IS APPROVED AND SUPPORTED BY AIRPORT SPONSOR

SPONSOR ACKNOWLEDGES APPROVAL OF ALP BY TXDOT DOES NOT CONSTITUTE A COMMITMENT TO FUNDING.

11/27/2018
SIGNATURE — DATE

EXECUTIVE DIRECTOR, VINICIO LLERENA, A.A.E.
TITLE, AIRPORT SPONSOR'S REPRESENTATIVE

PREPARED BY:

KSA
8875 Synergy Drive
McKinney, Texas 75070
T.972-542-2995
F.972-542-6750
www.ksaeng.com

M MALLONEE — SEPTEMBER 2017
DESIGNED BY — DATE

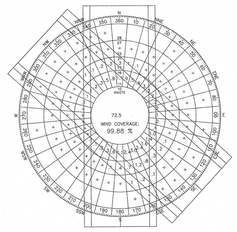
J PENNINGTON — SEPTEMBER 2017
DRAWN BY — DATE

TITLE SHEET
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

Texas Department of Transportation
Aviation Division

ALD LEGEND

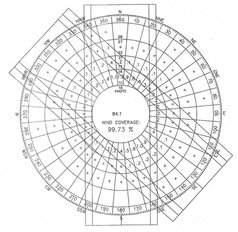
FEATURE	EXISTING	ULTIMATE
RUNWAY/TAXIWAY OUTLINE		
RUNWAY/TAXIWAY TO BE REMOVED		
BUILDINGS/FACILITIES		
AIRPORT PROPERTY LINE		
AIRPORT PROPERTY LINE w/FENCE		
FENCE LINE		
BUILDING RESTRICTION LINE (BRL)		
AIRPORT REFERENCE POINT		
WIND CONE & SEGMENTED CIRCLE		
THRESHOLD LIGHTS		
RW END IDENTIFIER LIGHTS (REILS)		
C&G BEACON		
VGSI		
HOLD POSITION AND SIGN		
ASOS/AWOS		
PACS AND SACS MARKERS		
GROUND CONTOURS		
SIGNIFICANT OBJECT LOCATION		
TREES/BRUSH		
NONDIRECTIONAL BEACON (NDB)		



AWWR WIND COVERAGE

RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS
RUNWAY 13L–31R RUNWAY 13R–31L	92.69%	96.80%	99.30%
RUNWAY 18–36	95.27%	98.08%	99.57%
COMBINED COVERAGE	**99.86%**	**99.88%**	**99.94%**

STATION 722550, VICTORIA REGIONAL AIRPORT
137,874 OBSERVATIONS
JAN. 2001 – DEC 2016
WWW.NCDC.NOAA.GOV



IFR WIND COVERAGE

RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS
RUNWAY 13L–31R RUNWAY 13R–31L	94.43%	97.34%	99.26%
RUNWAY 18–36	96.27%	98.14%	99.38%
COMBINED COVERAGE	**98.78%**	**99.49%**	**99.73%**

STATION 722550, VICTORIA REGIONAL AIRPORT
24,635 OBSERVATIONS
JAN. 2001 – DEC 2016
WWW.NCDC.NOAA.GOV

MAGNETIC DECLINATION JUNE–2017
3°27' E, CHANGING BY 0°7' PER YEAR

600' 0 600' 1200'
GRAPHIC SCALE IN FEET

PART 77 (EX)
500 X 5000 X 1500

RPZ (EX AND ULT)
500 X 700 X 1000

TSS (EX)
400 X 1000 X 10000

EXISTING RUNWAY 18 END
LAT: N 28° 51' 32.16"
LONG: W 96° 54' 35.12"
ELEV: 106.40'
RUNWAY HIGH POINT

RUNWAY 18
TOUCHDOWN ZONE
ELEV. 106.6' (EX)

PERIMETER RD

COUNTY FACILITIES

RUNWAY 36
TOUCHDOWN ZONE
ELEV. 105.9' (EX)

EXISTING RUNWAY 36 END
LAT: N 28° 50' 43.57"
LONG: W 96° 54' 34.99"
ELEV: 102.90'
RUNWAY LOW POINT

RUNWAY PROTECTION ZONE
(EX AND ULT)
500 X 700 X 1000

PART 77
(EX AND ULT)
1000 X 4000 X 10000

TSS
(EX AND ULT)
800 X 3800 X 10000

GQS (EX)
350 X 1520 X 10000

PART 77
(EX AND ULT)
1000 X 16000 X 50000

EXISTING RUNWAY 13L END
LAT: N 28° 51' 49.50"
LONG: W 96° 56' 02.68"
ELEV: 115.10'
RUNWAY HIGH POINT

EXISTING DISPLACED RUNWAY 13R END
LAT: N 28° 51' 03.24"
LONG: W 96° 55' 17.75"
ELEV: 104.50'
RUNWAY HIGH POINT

ARP
LAT: N 28° 51' 09.16"
LONG: W 96° 55' 06.56"

RPZ (EX)
1000 X 1510 X 1700

EXISTING RUNWAY 31R END
LAT: N 28° 50' 48.62"
LONG: W 96° 54' 47.09"
ELEV: 103.50'
RUNWAY LOW POINT

EXISTING RUNWAY 13R END
LAT: N 28° 51' 06.19"
LONG: W 96° 55' 21.41"
ELEV: 103.60'

RUNWAY 31R
TOUCHDOWN ZONE
ELEV. 106.4' (EX)

ASOS (EX)
GS SIDE SLOPE

EX AND ULT 9111' X 150'

TRUE AZIMUTH 132.45°

RUNWAY 13L
TOUCHDOWN ZONE
ELEV. 115.2' (EX)

RUNWAY 13R–31L
TOUCHDOWN ZONE
ELEV. 104' (EX)

RPZ (EX)
100 X 1510 X 1700

LOCALIZER

HALLIBURTON BUILDINGS

INCOMPATIBLE LAND
WITHIN RPZ

RPZ (EX)
500 X 700 X 1000

TSS (EX)
400 X 1000 X 10000

PART 77 (EX)
500 X 1500 X 5000

GQS (EX)
350 X 1520 X 10000

RPZ (EX)
500 X 700 X 1000

EX 464.1' X 150'
TRUE AZIMUTH 132.44°
RUNWAY TO BE CONVERTED TO TAXIWAY

NATIONAL GEODETIC SURVEY
MONUMENT (EST. 1944)
LAT: 28° 50' 44"
LONG 96° 55' 10"

EXISTING DISPLACED RUNWAY 31L END
LAT: N 28° 50' 38.85"
LONG: W 96° 54' 47.46"
ELEV: 102.30'

EXISTING RUNWAY 31L END
LAT: N 28° 50' 35.17"
LONG: W 96° 54' 42.89"
ELEV: 102.30'
RUNWAY LOW POINT

PART 77 (EX)
500 X 1500 X 5000

TSS (EX)
400 X 1000 X 10000

RPZ (EX AND ULT)
1000 X 1750 X 2500

TSS
(EX AND ULT)
800 X 3800 X 1000

TSS (EX)
400 X 1000 X 10000

PART 77 (EX)
500 X 700 X 1000

RPZ (EX)
500 X 700 X 1000

HANGAR DR. N

HANGAR DR. S

BACHELOR DR.

ORDNANCE AVE.

BEEVILLE CIR.

VICTORIA BLVD.

DORMITORY AVE.

MANCHE DR. S

GALVESTON DR.

AIRLINE RD.

BIG BEND RD.

FOSTER FIELD DR.

TWY A

TWY B

TWY C

TWY D

TWY E

TWY F

RUNWAY DATA TABLE

	RW 13L–31R		RW 18–36				RW 13R–31L		
	EXISTING	ULTIMATE	EXISTING		ULTIMATE		EXISTING		ULTIMATE
RUNWAY ARC	C–II	C–II	B–II		B–II		B–II		TO BE CONVERTED TO TAXIWAY
DESIGN AIRCRAFT & ARC	FALCON 900EX (CII)	FALCON 900EX (CII)	CESSNA 560 (BII)		CESSNA 560 (BII)		CESSNA 560 (BII)		
RUNWAY LENGTH & WIDTH (ft.)	9111' X 150'	9111' X 150'	4908' X 75'		4908' X 75'		4643' X 150'		
PAVEMENT DESIGN STRENGTH (1000 lbs.)	28 SW 87 DTW	28 SW 87 DTW	28 SW 87 DTW		28 SW 87 DTW		28 SW 87 DTW		
RUNWAY LIGHTING	HIRL	HIRL	MIRL		MIRL		NONE		
PERCENT EFFECTIVE GRADIENT	0.13%	0.13%	0.06%		0.06%		0.03%		
PERCENT WIND COVERAGE	99.94% 16 kts	99.94% 16 kts	99.94% 16 kts		99.94% 16 kts		99.94% 16 kts		
MAXIMUM ELEVATION ABOVE MSL	115.2'	115.2'	106.6'		106.4'		104.6'		
RW SURFACE TYPE	ASPH		ASPH–GRVD		ASPH–GRVD		CONCRETE		
RSA – LENGTH BEYOND RW END	1000'	1000'	300'		300'		300'		
RSA – WIDTH	500'	500'	150'		150'		150'		
RPZ – LENGTH BEYOND RW END	200'	200'	200'		200'		200'		
RPZ – DIMENSIONS	1000 X 1750 X 2500	1000 X 1750 X 2500	500 X 700 X 1000		500 X 700 X 1000		500 X 700 X 1000		
OFA – LENGTH BEYOND RW END	1000'	1000'	300'		300'		300'		
OFA WIDTH	800'	800'	500'		500'		500'		
OFZ – LENGTH BEYOND RW END	200'	200'	200'		200'		200'		
OFZ WIDTH	400'	400'	400'		400'		400'		
RUNWAY END	13L	31R	18	36	18	36	13R	31L	
APPROACH TYPE	PRECISION	PRECISION	VISUAL	VISUAL	VISUAL	VISUAL	VISUAL	VISUAL	
APPROACH VISIBILITY MINIMA	1/2 MILE	3/4 MILE	VISUAL	VISUAL	VISUAL	VISUAL	VISUAL	VISUAL	
THRESHOLD SITING SURFACE & SLOPE	#7 34:1	#6 20:1	#3 20:1	#3 20:1	#3 20:1	#3 20:1	#3 20:1	#3 20:1	
RUNWAY MARKING	PIR	NPI	BASIC	BASIC	BASIC	BASIC	BASIC	BASIC	
RUNWAY VISUAL AIDS	MALSR	PAPI	PAPI REIL	PAPI REIL	PAPI REIL	PAPI REIL	NONE	NONE	
TOUCHDOWN ZONE ELEVATION	115.2'	106.4'	106.6'	105.9'	106.6'	105.9'	104.6'	104.4'	
FAR PART 77 APPROACH CATEGORY	PIR	D	PIR	D	B(V)	B(V)	B(V)	B(V)	
FAR PART 77 APPROACH SURFACE SLOPE	50:1	34:1	50:1	34:1	20:1	20:1	20:1	20:1	
TAKE–OFF DISTANCE AVAILABLE (TODA)	9111'	9111'	9111'	9111'	4908'	4908'	4908'	4908'	4643' 4643'
ACCELERATE STOP DISTANCE AVAIL. (ASDA)	9111'	9111'	9111'	9111'	4908'	4908'	4908'	4908'	4643' 4643'
LANDING DISTANCE AVAILABLE (LDA)	9111'	9111'	9111'	9111'	4908'	4908'	4908'	4908'	4202' 4092'

AIRPORT DATA TABLE

	EXISTING	ULTIMATE
AIRPORT ELEVATION (MSL)	115.2'	115.2'
AIRPORT NAVIGATION AIDS	ILS,GPS,VOR,BEACONS	ILS,GPS,VOR,BEACONS
MEAN MAX TEMP (Hottest Month °F)	94°	94°
AIRPORT REFERENCE CODE (ARC)	C–II	C–II
CRITICAL AIRCRAFT	CITATION–X	CITATION–X
NPIAS's SERVICE LEVEL	NATIONAL / REGIONAL	NATIONAL / REGIONAL
TxDOT SERVICE ROLE	COMMERCIAL SERVICE	COMMERCIAL SERVICE
AIRPORT REFERENCE POINT COORDINATES	28°51'09.17" N 96°55'06.56" W	28°51'09.17" N 96°55'06.56" W

NOTES

DATUM COORDINATE SYSTEMS – HORIZONTAL DATUM NAD 1983 State Plane Texas South Central 4204 Feet, VERTICAL DATUM NAVD88.

NO KNOWN OFZ OBJECT PENETRATIONS

NO SURVEY WAS COMPLETED DURING THE COMPLETION OF THIS ALP – NO INNER PORTION DRAWINGS ARE INCLUDED SINCE THERE IS NO OBSTRUCTION DATA.

TAXIWAY DATA TABLE

	EXISTING	ULTIMATE
TAXIWAY MARKING	STD W/℄REF	STD W/℄REF
TAXIWAY LIGHTING	MITL	MITL
TAXIWAY / TAXILANE WIDTH	35'	35'
TAXIWAY SAFETY AREA	79'	79'
TAXIWAY OBJECT FREE AREA	131'	131'

RUNWAY END COORDINATES AND ELEVATIONS

RUNWAY END	LATITUDE	LONGITUDE	ELEVATION
EXISTING END OF RWY 13L	28°51'49.5005" N	96°56'02.6813" W	115.1'
EXISTING END OF RWY 31R	28°50'48.6159" N	96°54'47.0888" W	103.5'
EXISTING END OF RWY 18	28°51'32.1613" N	96°54'35.1165" W	106.4'
EXISTING END OF RWY 36	28°50'43.5677" N	96°54'34.9915" W	102.9'
EXISTING END OF RWY 13R	28°51'06.1919" N	96°55'21.4095" W	103.6'
DISPLACED END OF RWY 13R	28°51'03.2443" N	96°55'17.7498" W	104.5'
EXISTING END OF RWY 31L	28°50'35.1666" N	96°54'42.8930" W	102.3'
DISPLACED END OF RWY 31L	28°50'38.8491" N	96°54'47.4641" W	102.3'

MODIFICATION TO STANDARDS

NONE REQUIRED

REV	DESCRIPTION	DATE	APPROVED

TEXAS DEPARTMENT OF TRANSPORTATION
AVIATION DIVISION

ALP APPROVED ACCORDING TO FAA AC 150/5300–13 CHANGE 16 PLUS THE REQUIREMENTS OF A FAVORABLE ENVIRONMENTAL FINDING AND FAA NRA STUDY PRIOR TO THE START OF ANY LAND ACQUISITION OR CONSTRUCTION ON AIRPORT PROPERTY.

12-3-2013
DAVID FULTON, DIRECTOR, AVIATION DIVISION — DATE

AIRPORT SPONSOR

CURRENT AND FUTURE DEVELOPMENT DEPICTED ON THIS ALP IS APPROVED AND SUPPORTED BY AIRPORT SPONSOR

SPONSOR ACKNOWLEDGES APPROVAL OF ALP BY TXDOT DOES NOT CONSTITUTE A COMMITMENT TO FUNDING.

SIGNATURE — DATE

TITLE, AIRPORT SPONSOR'S REPRESENTATIVE

PREPARED BY:

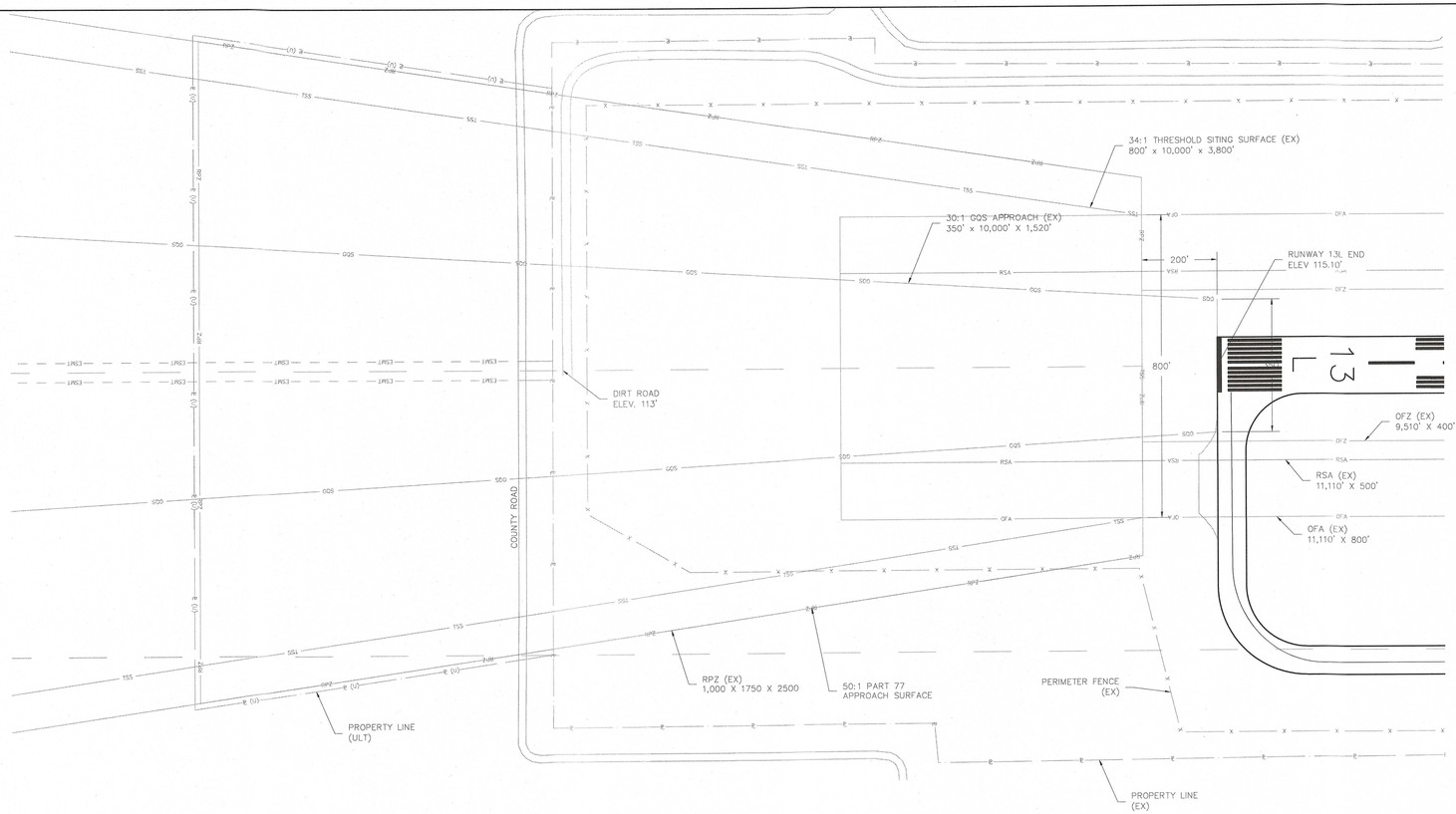
KSA
8875 Synergy Drive
McKinney, Texas 75070
T.972-542-2995
F.972-542-6750
www.ksaeng.com

M MALLONEE — SEPTEMBER 2017
DESIGNED BY — DATE

J PENNINGTON — SEPTEMBER 2017
DRAWN BY — DATE

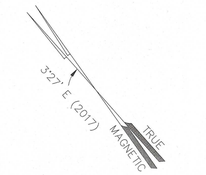
AIRPORT LAYOUT DRAWING
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

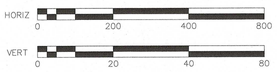
Texas Department of Transportation
Aviation Division

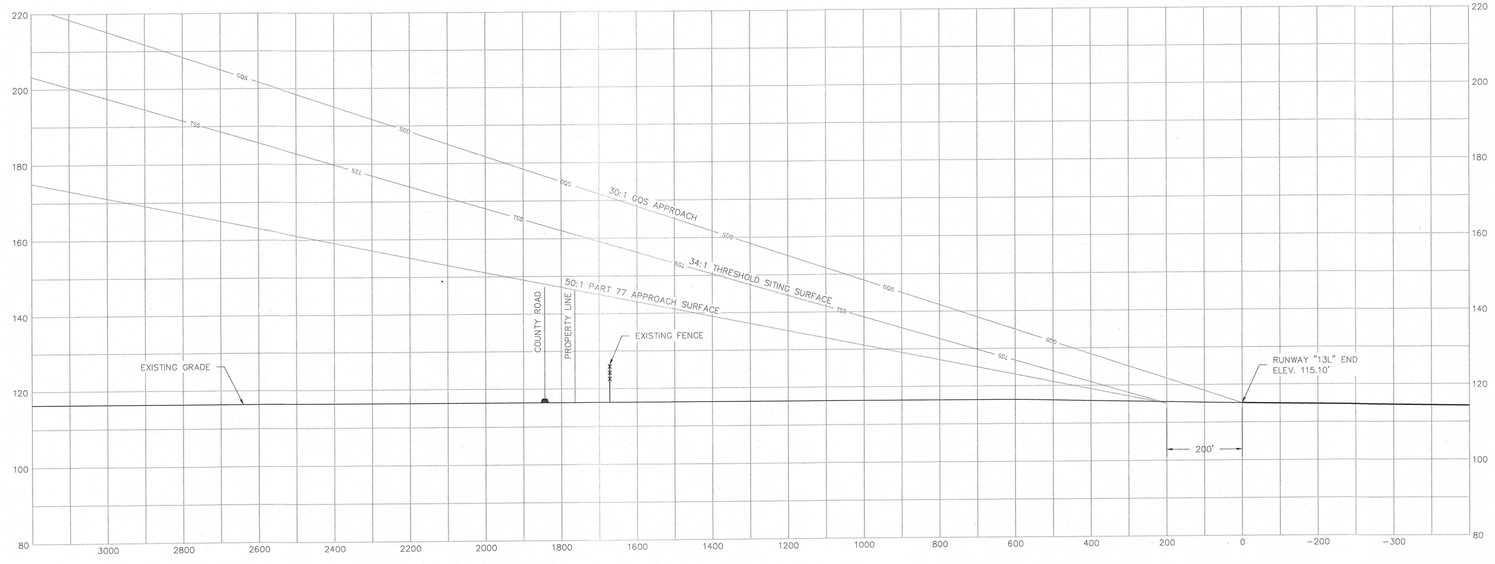


RWY 13L OBSTRUCTION TABLE								
No.	Object Description	Latitude (N)	Longitude (W)	Distance fm RW end	Offset fm RW C/L*	Top Elevation**	Amt of Penetration (TSS)	Amt of Penetration (GQS)	REMEDIATION
				THERE ARE NO OBSTRUCTIONS					

MAGNETIC DECLINATION JUNE–2017
3°27'E, CHANGING BY 0°7' PER YEAR







REV	DESCRIPTION	DATE	APPROVED

TEXAS DEPARTMENT OF TRANSPORTATION
AVIATION DIVISION

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DAVID FULTON, DIRECTOR, AVIATION DIVISION — DATE 12-3-2018

AIRPORT SPONSOR

CURRENT AND FUTURE DEVELOPMENT DEPICTED ON THIS ALP IS APPROVED AND SUPPORTED BY AIRPORT SPONSOR

SPONSOR ACKNOWLEDGES APPROVAL OF ALP BY TXDOT DOES NOT CONSTITUTE A COMMITMENT TO FUNDING.

SIGNATURE — DATE

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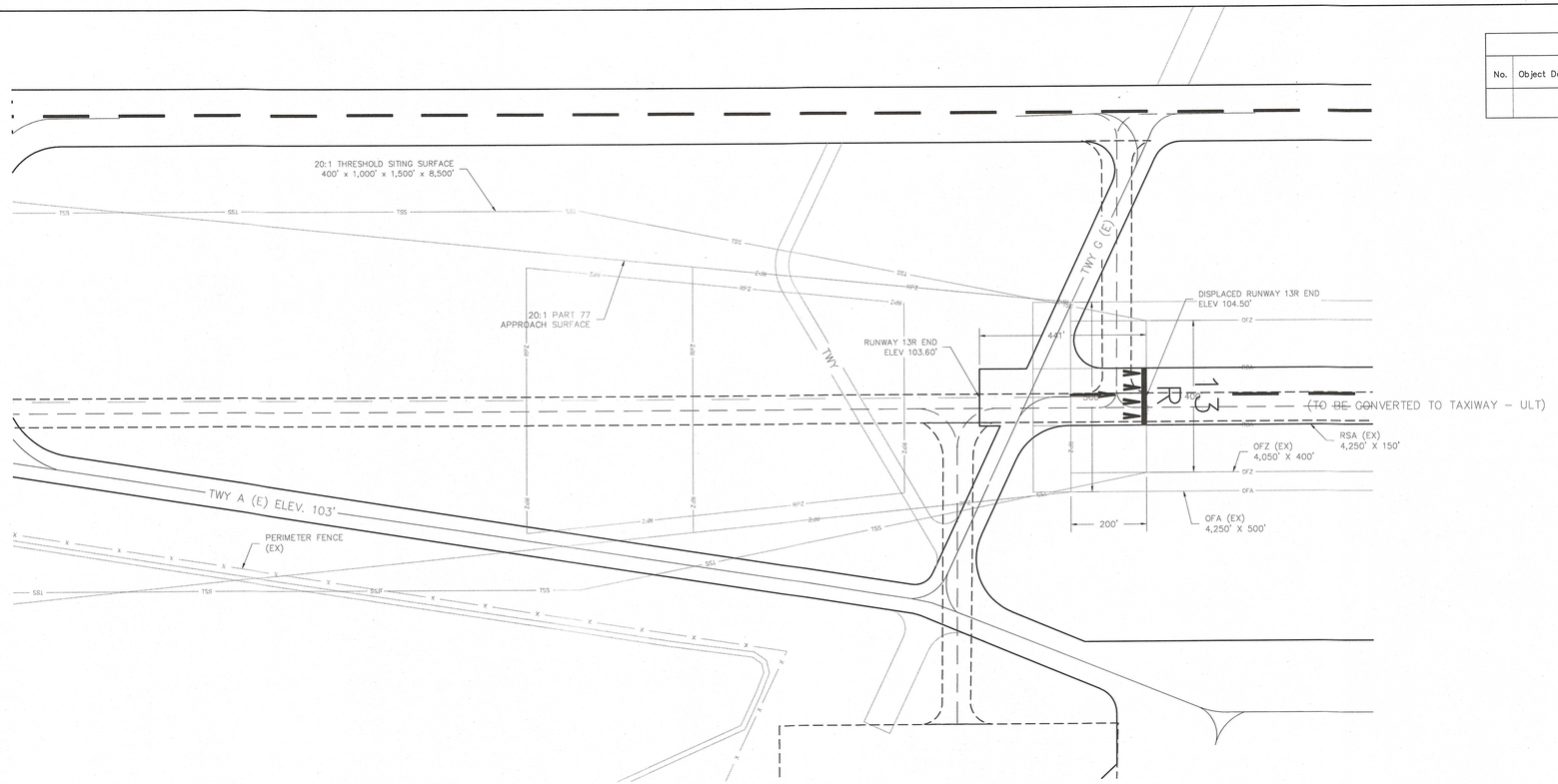
McKinney, Texas 75070
T.972-542-2995
F.972-542-6750
www.ksaeng.com

M MALLONEE — SEPTEMBER 2017
DESIGNED BY — DATE

J PENNINGTON — SEPTEMBER 2017
DRAWN BY — DATE

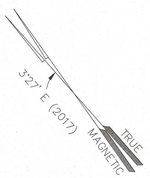
IPASD RWY 13L
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

Texas Department of Transportation
Aviation Division



RWY 13R OBSTRUCTION TABLE								
No.	Object Description	Latitude (N)	Longitude (W)	Distance fm RW end	Offset fm RW C/L*	Top Elevation**	Amt of Penetration (TSS)	Amt of Penetration (GQS)	REMEDIATION
				THERE ARE NO OBSTRUCTIONS					

MAGNETIC DECLINATION JUNE–2017
3°27'E, CHANGING BY 0°7' PER YEAR



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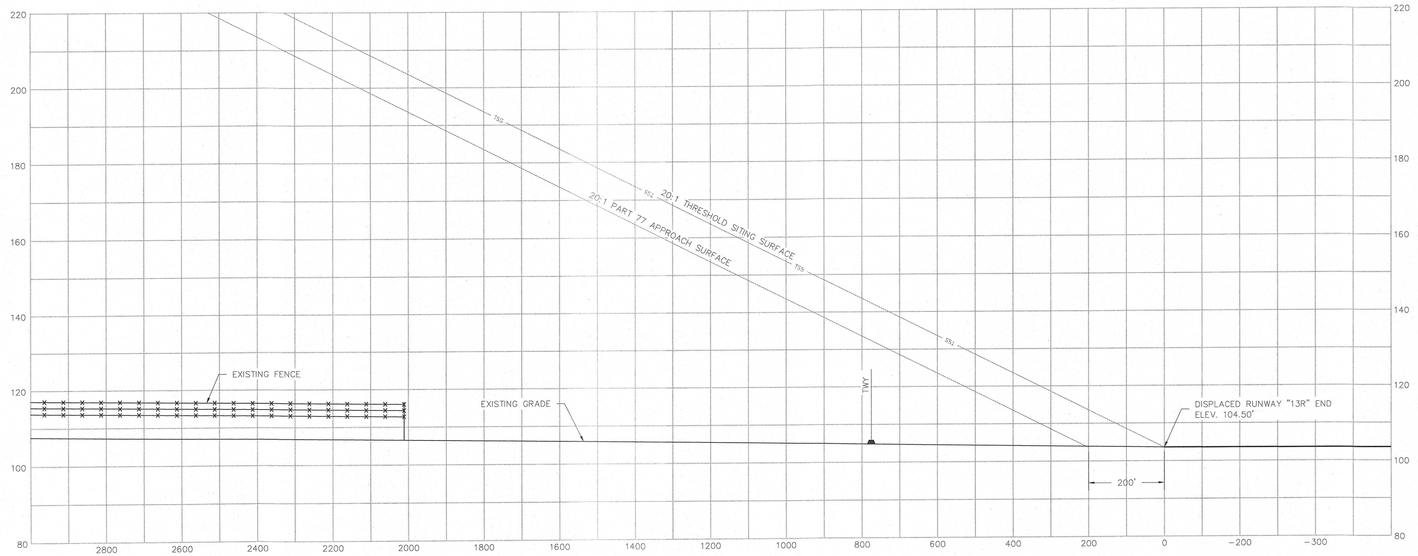

REV	DESCRIPTION	DATE	APPROVED

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AVIATION DIVISION

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12-3-2019
DAVID FULTON, DIRECTOR, AVIATION DIVISION — DATE

AIRPORT SPONSOR

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SIGNATURE — DATE

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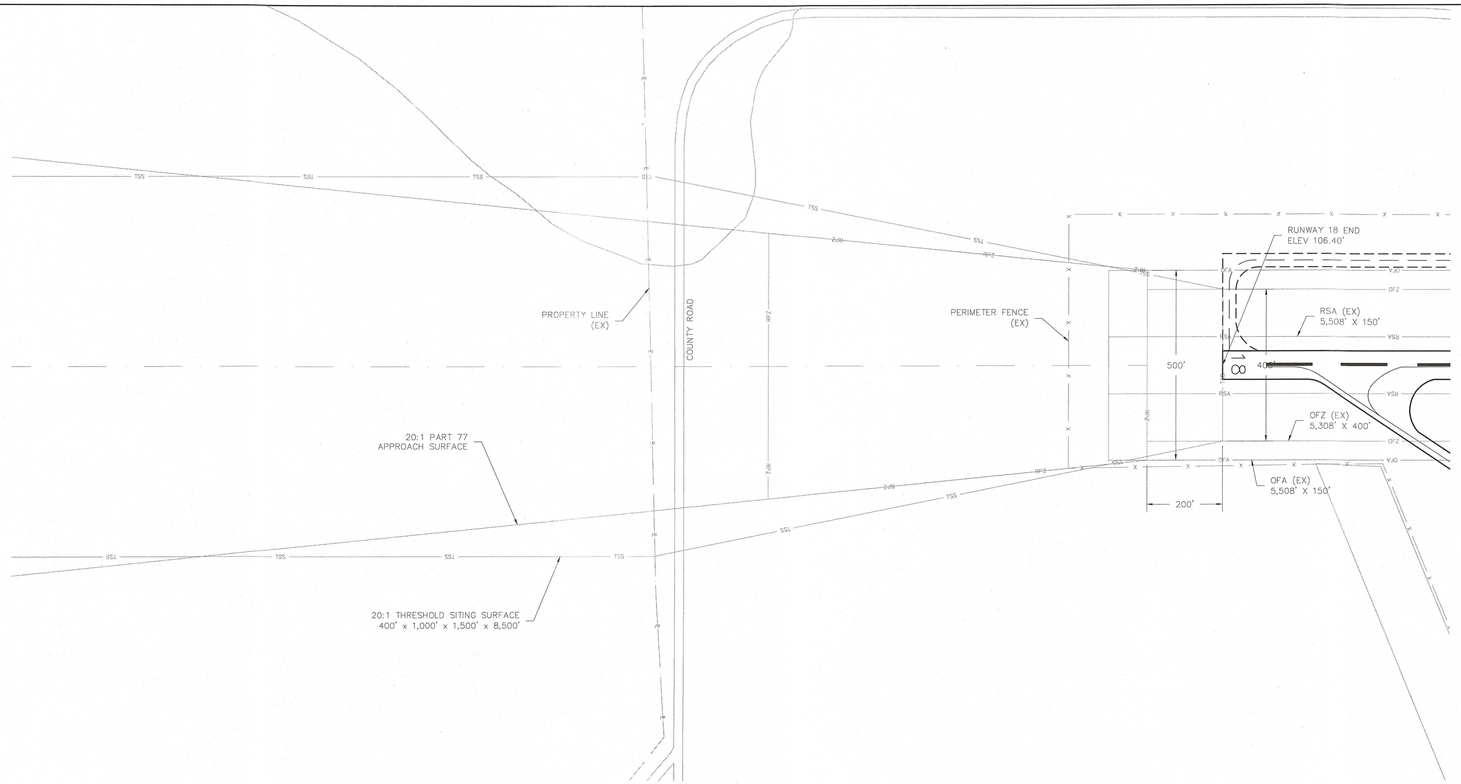
M. MALLONEE — SEPTEMBER 2017
DESIGNED BY — DATE

J. PENNINGTON — SEPTEMBER 2017
DRAWN BY — DATE

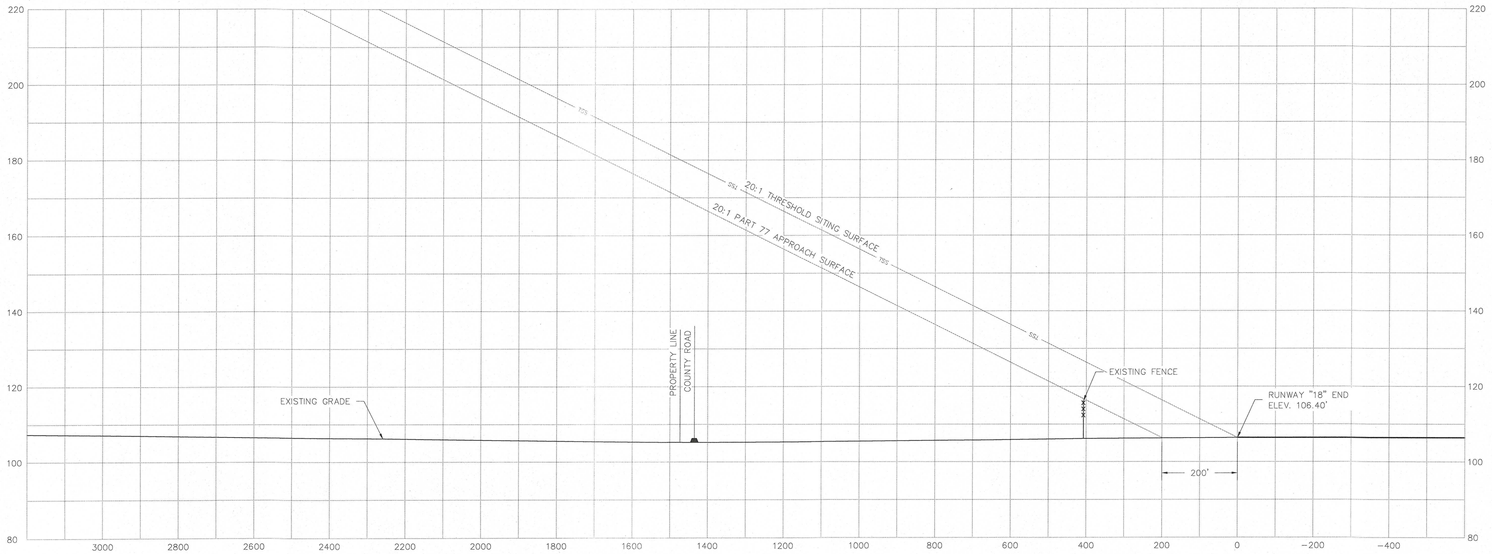
IPASD RWY 13R (EXISTING)
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

Texas Department of Transportation
Aviation Division



RWY 18 OBSTRUCTION TABLE									
No.	Object Description	Latitude (N)	Longitude (W)	Distance fm RW end	Offset fm RW C/L*	Top Elevation**	Amt of Penetration (TSS)	Amt of Penetration (GQS)	REMEDIATION
				THERE ARE NO OBSTRUCTIONS					

MAGNETIC DECLINATION JUNE–2017
3°27'E, CHANGING BY 0°7' PER YEAR



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AVIATION DIVISION

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DAVID FULTON, DIRECTOR, AVIATION DIVISION — DATE 12-03-2018

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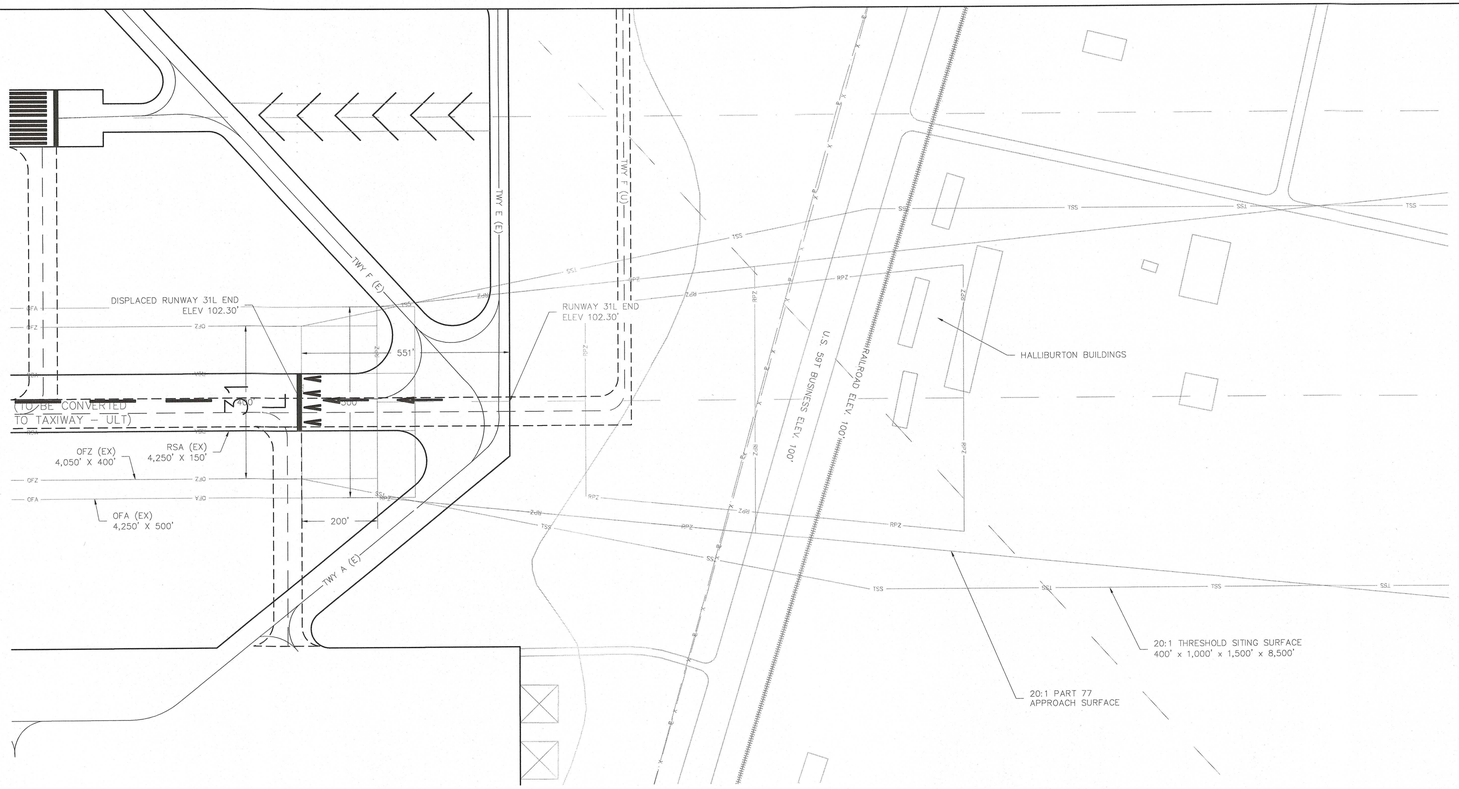
M MALLONEE — DESIGNED BY — SEPTEMBER 2017 DATE

J PENNINGTON — DRAWN BY — SEPTEMBER 2017 DATE

IPASD RWY 18
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

Texas Department of Transportation
Aviation Division



RWY 31L OBSTRUCTION TABLE									
No.	Object Description	Latitude (N)	Longitude (W)	Distance fm RW end	Offset fm RW C/L*	Top Elevation**	Amt of Penetration (TSS)	Amt of Penetration (GQS)	REMEDIATION
				THERE ARE NO OBSTRUCTIONS					

MAGNETIC DECLINATION JUNE–2017
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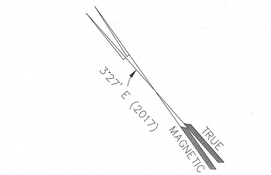

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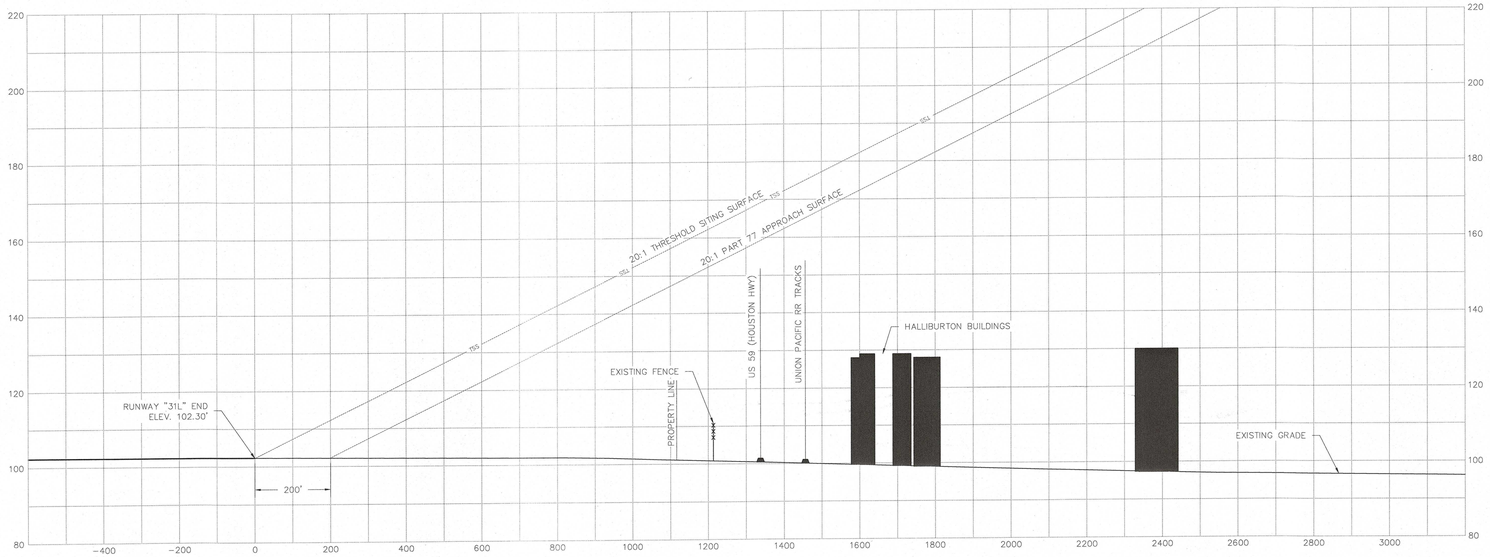

REV	DESCRIPTION	DATE	APPROVED

TEXAS DEPARTMENT OF TRANSPORTATION
AVIATION DIVISION

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12-05-2018
DAVID FULTON, DIRECTOR, AVIATION DIVISION — DATE

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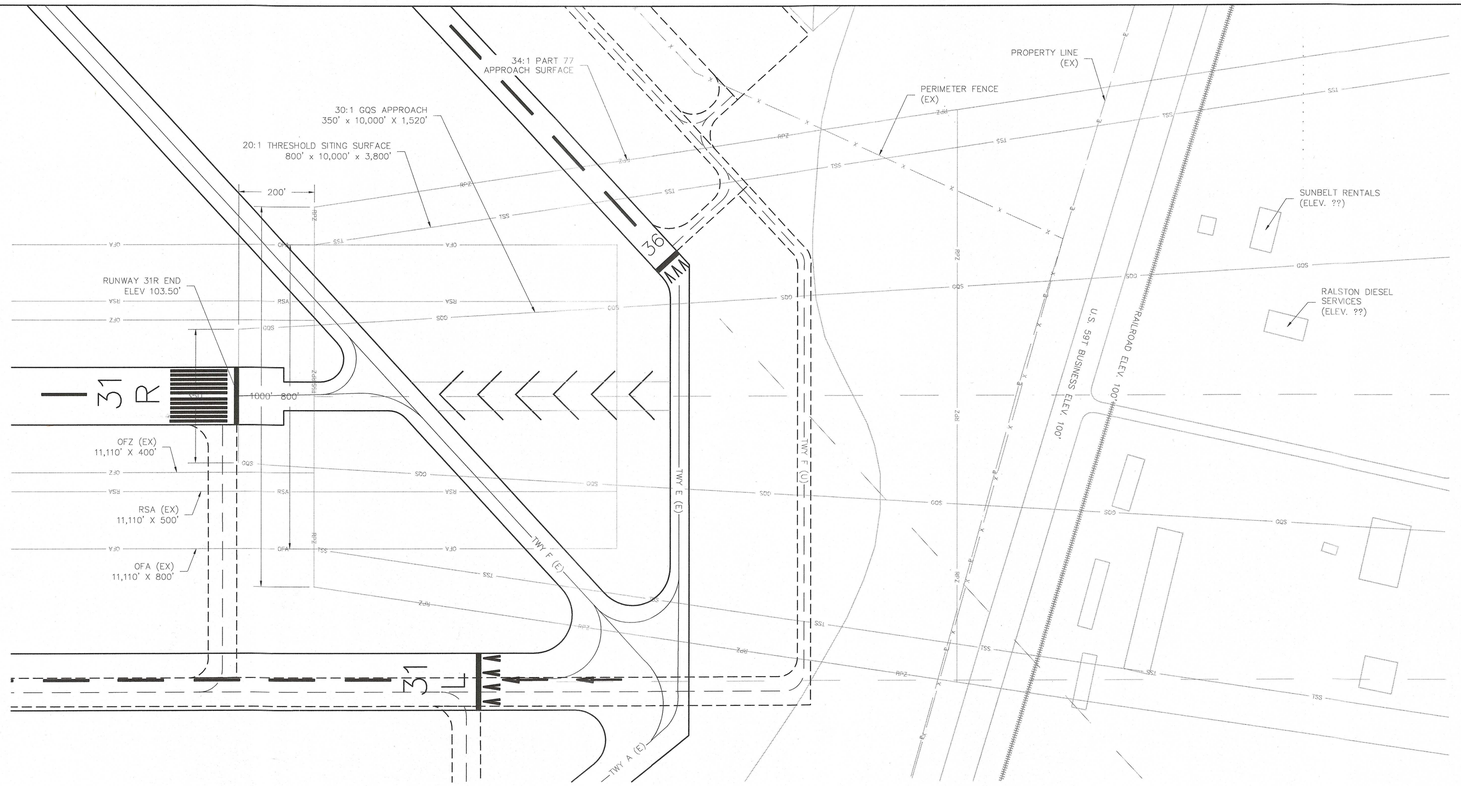
M. MALLONEE — DESIGNED BY — SEPTEMBER 2017 DATE
J. PENNINGTON — DRAWN BY — SEPTEMBER 2017 DATE

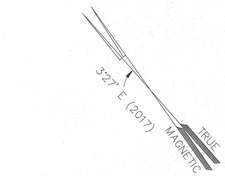
IPASD RWY 31L (EXISTING)
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

Texas Department of Transportation
Aviation Division



RWY 31R OBSTRUCTION TABLE									
No.	Object Description	Latitude (N)	Longitude (W)	Distance fm RW end	Offset fm RW C/L*	Top Elevation**	Amt of Penetration (TSS)	Amt of Penetration (GQS)	REMEDIATION
				THERE ARE NO OBSTRUCTIONS					

MAGNETIC DECLINATION JUNE–2017
3°27'E, CHANGING BY 0°7' PER YEAR



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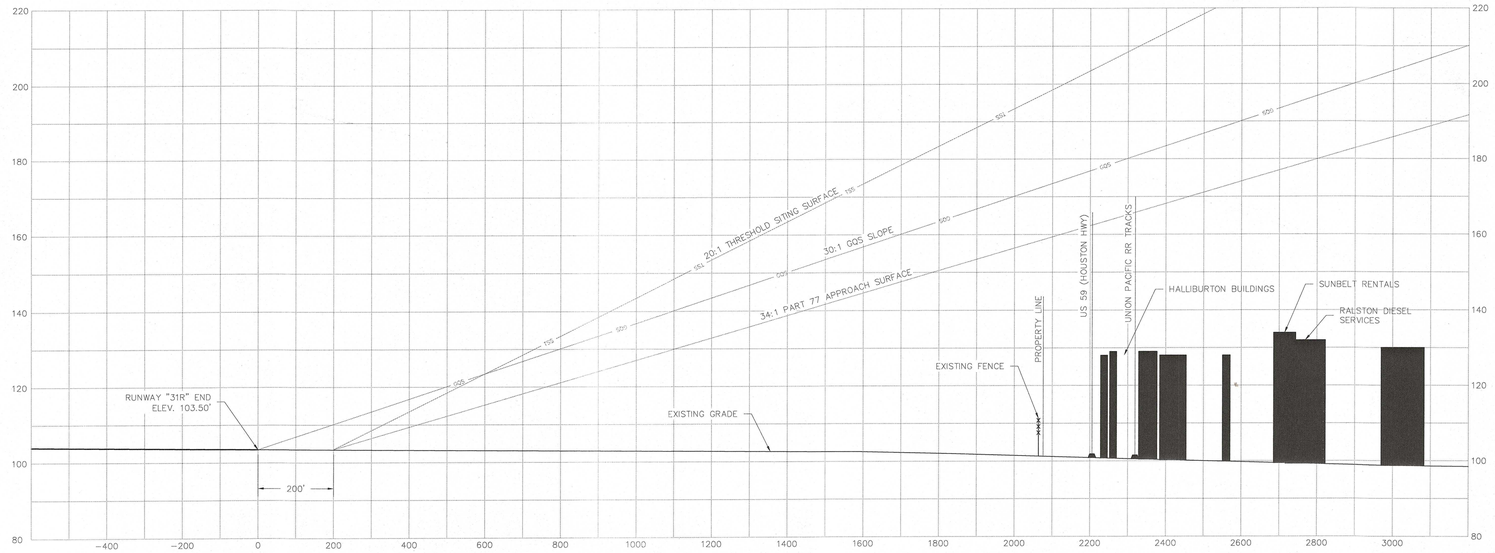

REV	DESCRIPTION	DATE	APPROVED

TEXAS DEPARTMENT OF TRANSPORTATION
AVIATION DIVISION

ALP APPROVED ACCORDING TO FAA AC 150/5300-13 CHANGE 16 PLUS THE REQUIREMENTS OF A FAVORABLE ENVIRONMENTAL FINDING AND FAA NRA STUDY PRIOR TO THE START OF ANY LAND ACQUISITION OR CONSTRUCTION ON AIRPORT PROPERTY.

DAVID FULTON, DIRECTOR, AVIATION DIVISION — DATE 12-03-2018

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PREPARED BY:

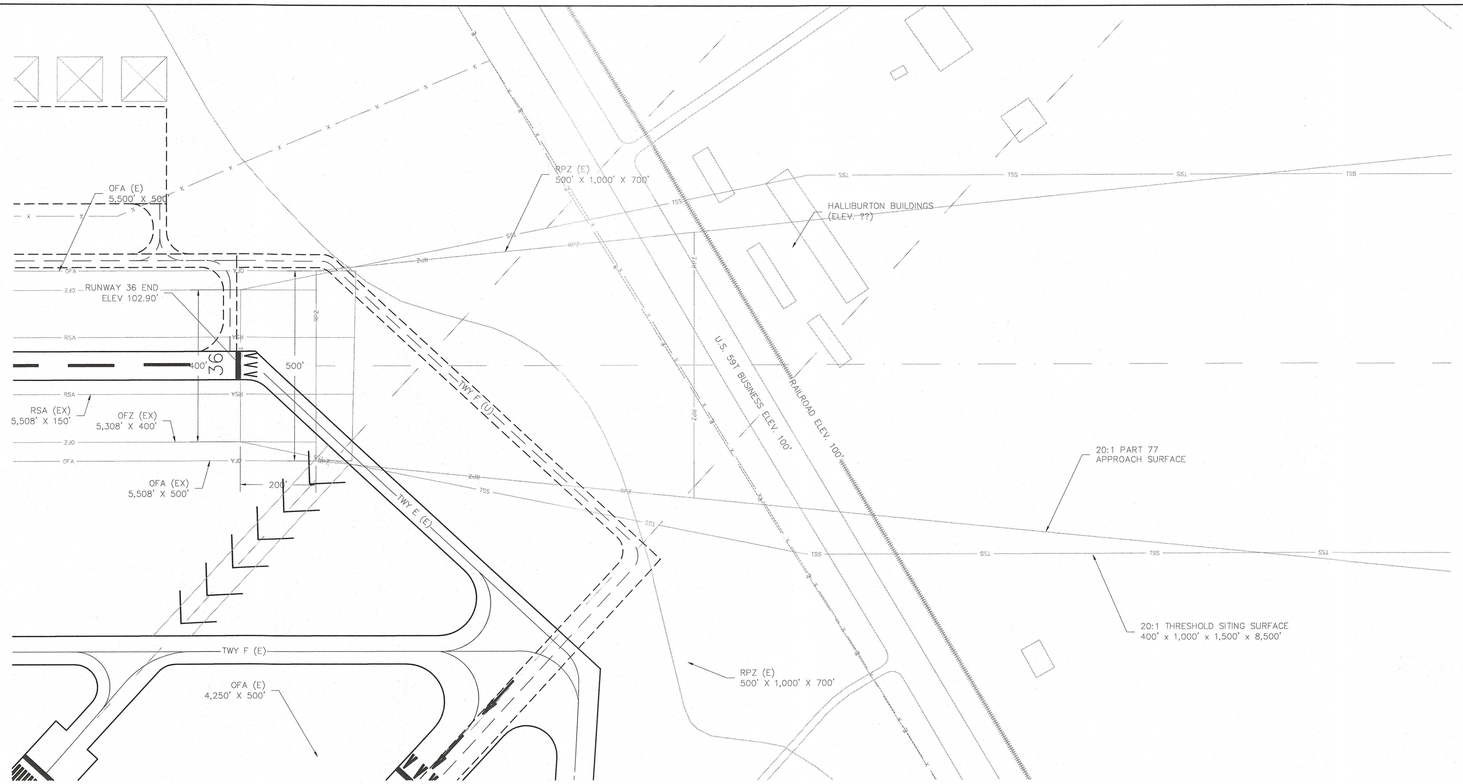
KSA
8875 Synergy Drive
McKinney, Texas 75070
T.972-542-2995
F.972-542-6750
www.ksaeng.com

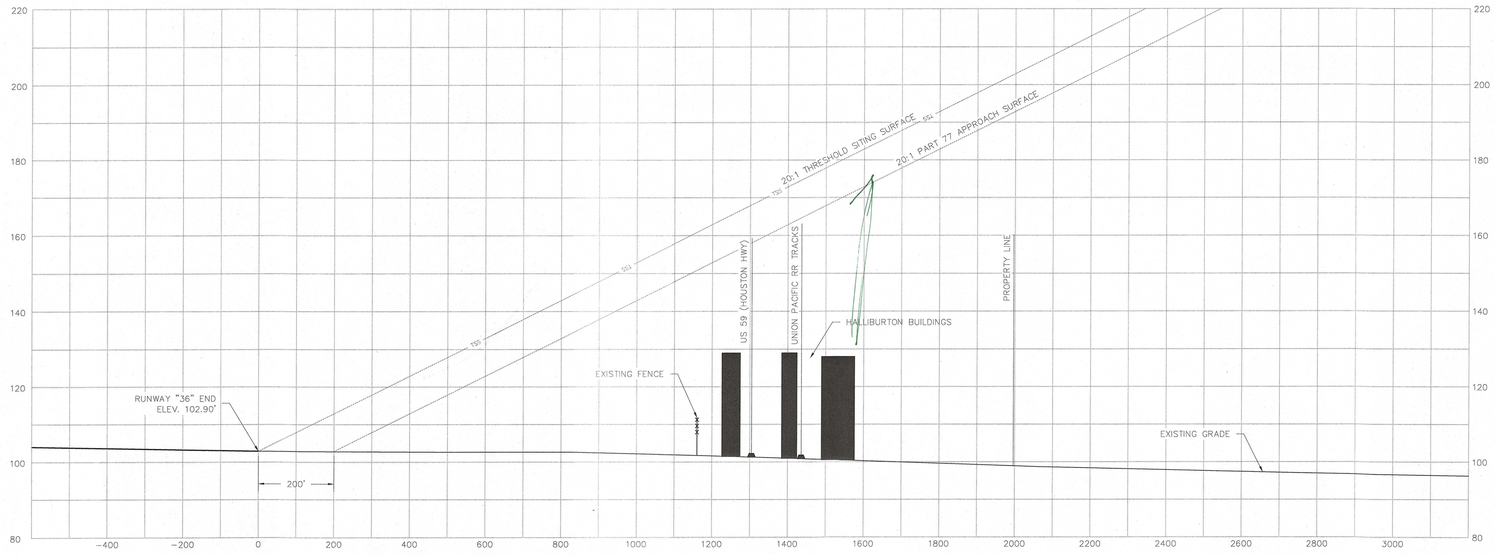
M MALLONEE — DESIGNED BY — SEPTEMBER 2017 DATE

J PENNINGTON — DRAWN BY — SEPTEMBER 2017 DATE

IPASD RWY 31R
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

Texas Department of Transportation
Aviation Division

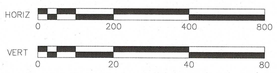




RWY 36 OBSTRUCTION TABLE

No.	Object Description	Latitude (N)	Longitude (W)	Distance fm RW end	Offset fm RW C/L*	Top Elevation**	Amt of Penetration (TSS)	Amt of Penetration (GQS)	REMEDIATION

MAGNETIC DECLINATION JUNE-2017
3°27'E, CHANGING BY 0°7' PER YEAR



REV	DESCRIPTION	DATE	APPROVED

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8875 Synergy Drive
McKinney, Texas 75070
T.972-542-2995
F.972-542-6750
www.ksaeng.com

M MALLONEE — DESIGNED BY — SEPTEMBER 2017 DATE

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IPASD RWY 36
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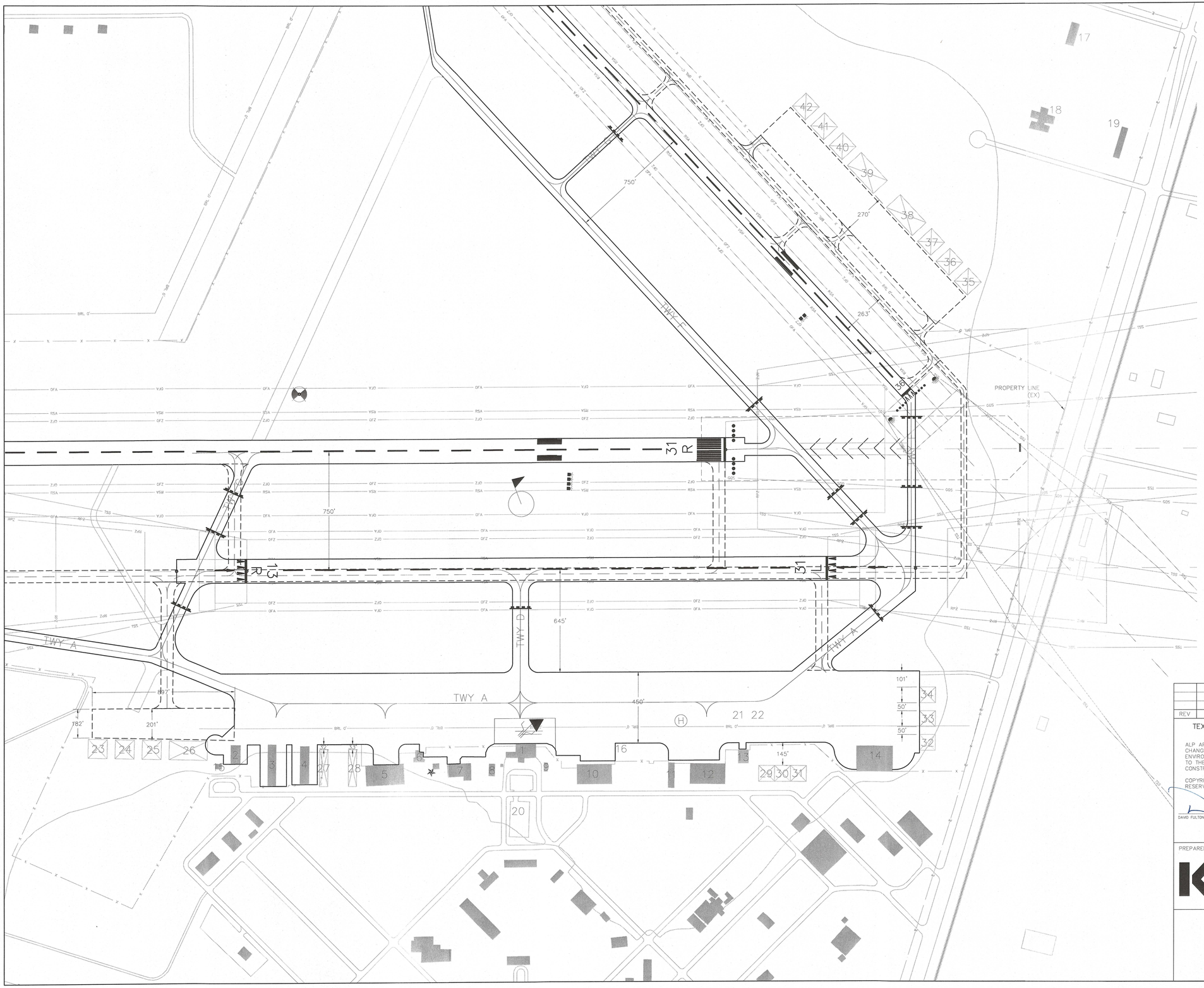
VICTORIA, TEXAS (VCT)

Texas Department of Transportation
Aviation Division



BUILDING TABLE			
BUILDING NUMBER	DESCRIPTION		TOP ELEVATION
	EXISTING	ULTIMATE	
1	TERMINAL/ADMINISTRATION BUILDING		139'
2	T-HANGAR		129'
3	T-HANGAR		129'
4	T-HANGAR		129'
5	BOX HANGAR		165'
6	ARFF		
7	MAINT SHOP		135'
8	OFFICE - TSA/FIRE MARSHAL		133'
9	UNKNOWN		127'
10	BOX HANGAR		165'
11	UNKNOWN		127'
12	BOX HANGAR		165'
13	BOX HANGAR		
14	BOX HANGAR		165'
15	AIR TRAFFIC CONTROL TOWER		175'
16	FUEL FACILITY		
17	VICTORIA ANIMAL CONTROL		
18	PET ADOPTION CENTER		
19	TEJAS PRODUCTION SERVICES		
20	AUTO PARKING AND ENTRANCE		
21	TIE DOWNS		
22		TIE DOWNS	
23		BOX HANGAR	
24		BOX HANGAR	
25		BOX HANGAR	
26		BOX HANGAR	
27		T-HANGAR	
27		T-HANGAR	
28		T-HANGAR	
29		BOX HANGAR	
30		BOX HANGAR	
31		BOX HANGAR	
32		BOX HANGAR	
33		BOX HANGAR	
34		BOX HANGAR	
35		BOX HANGAR	
36		BOX HANGAR	
37		BOX HANGAR	
38		BOX HANGAR	
39		BOX HANGAR	
40		BOX HANGAR	
41		BOX HANGAR	
42		BOX HANGAR	

3°27' E (2017)
TRUE
MAGNETIC

MAGNETIC DECLINATION JUNE-2017
3°27'E, CHANGING BY 0°7' PER YEAR

0 300 600 900

REV	DESCRIPTION	DATE	APPROVED

TEXAS DEPARTMENT OF TRANSPORTATION
AVIATION DIVISION

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8875 Synergy Drive
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M MALLONEE — SEPTEMBER 2017
DESIGNED BY — DATE

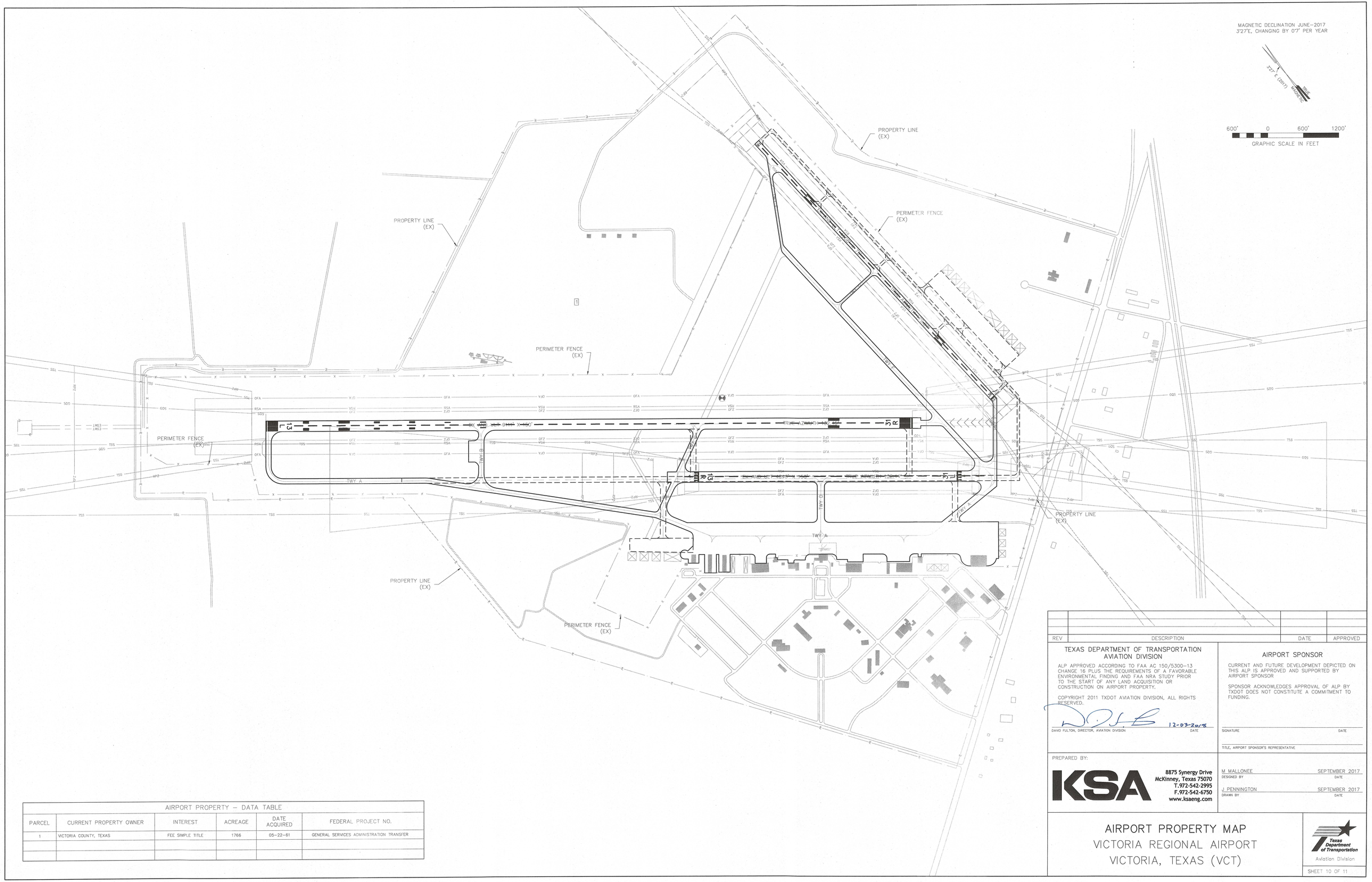
J PENNINGTON — SEPTEMBER 2017
DRAWN BY — DATE

TERMINAL AREA DRAWING

VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

Texas Department of Transportation
Aviation Division

SHEET OF



AIRPORT PROPERTY – DATA TABLE					
PARCEL	CURRENT PROPERTY OWNER	INTEREST	ACREAGE	DATE ACQUIRED	FEDERAL PROJECT NO.
1	VICTORIA COUNTY, TEXAS	FEE SIMPLE TITLE	1766	05–22–61	GENERAL SERVICES ADMINISTRATION TRANSFER

REV	DESCRIPTION	DATE	APPROVED

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12-03-2018

DAVID FULTON, DIRECTOR, AVIATION DIVISION — DATE

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8875 Synergy Drive
McKinney, Texas 75070
T.972-542-2995
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M MALLONEE — SEPTEMBER 2017
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AIRPORT PROPERTY MAP
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

Texas Department of Transportation
Aviation Division

SHEET 10 OF 11

MAGNETIC DECLINATION JUNE–2017
3°27'E, CHANGING BY 0°7' PER YEAR

600' 0 600' 1200'

GRAPHIC SCALE IN FEET

LEGEND

	AERONAUTICAL
	AGRICULTURAL
	NON–AERONAUTICAL / INDUSTRIAL

REV	DESCRIPTION	DATE	APPROVED

TEXAS DEPARTMENT OF TRANSPORTATION
AVIATION DIVISION

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12-03-2014
DAVID FULTON, DIRECTOR, AVIATION DIVISION — DATE

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KSA
8875 Synergy Drive
McKinney, Texas 75070
T.972-542-2995
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M MALLONEE — SEPTEMBER 2017
DESIGNED BY — DATE

J PENNINGTON — SEPTEMBER 2017
DRAWN BY — DATE

LAND USE DRAWING
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

Texas Department of Transportation
Aviation Division

Chapter 7: Financial Plan

Chapter 7 – Financial Plan

7.1 Project Costs and Phasing

With the selection of the Recommended Development Plan, this chapter presents a summary of the airport improvements identified in the master plan capital improvement program (CIP), its anticipated phasing and funding sources. The analysis provides estimates of the local share of project costs and the total amount of capital investment that may be required from the airport sponsor over the planning period. These costs and associated funding sources are for planning purposes and may change at the time of implementation based on current construction costs, bidding, and project scope.

Additionally, the phasing and timing for future projects is important and will be subject to funding availability, sponsor contributions, and needs of the users of the airport. Projects may be chosen from this plan and implemented accordingly based on dynamic market conditions and needs. The chapter is intended to be a guide for implementing the recommended development and may be flexible based on real world factors and conditions.

Cost Estimates

Cost estimates for individual projects have been prepared for improvements that have been identified as necessary during the 20-year planning period. Facility costs have been formulated using unit prices extended by the size of the particular facility and tempered with specific considerations related to the region, the airport, and the development site. These estimates are intended for planning purposes only and should not be construed as construction costs estimates, which can only be compiled following the preparation of detailed engineering plans and specifications. All cost estimates presented in this report are based on the most recent 2017 costs.

The estimates are presented by the total cost for each development project that is part of the total cost anticipated to have FAA funding, that part to be borne by the Victoria Regional Airport, and that portion expected from private individuals or businesses. In addition to the airport funds, the local share can include sources such as state or local economic development funds, regional commissions and organizations, and other units of local government.

As presented in the respective tables, the cost estimates for the 20-year planning period amount to approximately $88.5 million. The anticipated FAA share is some $20 million and the local funding is approximately $67.7 million. Of the local share, approximately $62 million is expected to be spent on projects that will generate revenue and are typically funded by tenants or private developers. However, in some cases where it is justified by projected revenue, these projects could be financed by revenue bonds or special tax assessments. **Table 7.1** outlines these cost estimates.

Table 7.1 – Cost Estimates Project Description	Design (10%)	Construction Admin (12%)	Construction	Total Construction	Total Project
Runway 13L31R Rehabilitation	$202,981	$243,557	$1,583,274	$1,826,831	$2,029,812
Runway 31R Entrance Taxiway	$140,274	$168,329	$1,094,140	$1,262,469	$1,402,743
Runway 13R/31L Reconstruction	$222,151	$266,582	$1,732,782	$1,999,364	$2,221,515
Taxiway A and B Rehabilitation	$181,317	$217,581	$1,414,279	$1,631,860	$1,813,177
Drainage	$20,000	$24,000	$156,000	$180,000	$200,000
Air Traffic Control Tower Renovation	$30,000	$36,000	$234,000	$270,000	$300,000
Apron Rehabilitation	$66,750	$80,100	$520,650	$600,750	$667,500
Runway 18/36 Rehabilitation	$8,500	$10,200	$66,300	$76,500	$85,000
Runway 13R/31L Parallel Taxiway	$1,050,266	$1,260,320	$8,192,077	$9,452,397	$10,502,663
Construct Two - 10 Unit T-Hangars	$242,918	$291,502	$1,894,760	$2,186,262	$2,429,180
Construct 3 Box Hangars (100'x100')	$593,931	$712,718	$4,632,664	$5,345,382	$5,939,313
Runway 18/36 Parallel Taxiway and End-Around	$611,209	$733,450	$4,767,426	$5,500,876	$6,112,085
Construct 8 Box Hangars (6 @ 120'x120")(2@120'x240')	$3,612,334	$4,334,800	$28,176,203	$32,511,003	$36,123,337
Construct 4 Box Hangars (3@120'x120')(1@120'x240)	$1,868,972	$2,242,766	$14,577,979	$16,820,745	$18,689,717
Subtotal					$88,516,042

As identified in **Table 7.2**, the federal share includes expenditures of $4.9 million during the short-term period, $10.1 million during the intermediate-time period, and $5.7 million during the long-term period. This equates to an average annual expenditure of approximately $1.04 million in federal monies to fund the 20-year development plan.

Table 7.2 Project Cost Summary	Total	Federal/State Share	Local/Private Share
Runway 13L/31R Rehabilitation	$2,029,812	$1,826,831	$202,981
Runway 31R Entrance Taxiway	$1,402,743	$1,262,469	$140,274
Runway 13R/31L Reconstruction	$2,221,515	$0	$2,221,515
Taxiway A and B Rehabilitation	$1,813,177	$1,631,859	$181,318
Drainage Improvements	$200,000	$180,000	$20,000
Short-Term Subtotal	**$7,667,247**	**$4,901,159**	**$2,766,088**
Apron Rehabilitation	$667,500	$600,750	$66,750
Runway 18/36 Rehabilitation	$85,000	$76,500	$8,500
Construct Runway 13R/31L Parallel Taxiway	$10,502,663	$9,452,397	$1,050,266
Construct 10 Unit T-Hangar	$1,214,590	$0	$1,214,590
Construct 3 Box Hangars (100'x100')	$5,939,313	$0	$5,939,313
Mid-Term Subtotal	**$18,409,066**	**$10,129,647**	**$8,279,419**
Construct Runway 18/36 Parallel Taxiway and EAT	$6,112,085	$5,500,876	$611,209
Construct 8 Box Hangars (6@ 120'x120')(2@ 120'x240')	$36,123,337	$0	$36,123,337
Construct 4 Box Hangars (3@ 120'x120')(1@ 120'x240')	$18,689,717	$0	$18,689,717
Construct 10 Unit T-Hangar	$1,214,590	$0	$1,214,590
Air Traffic Control Tower Renovation	$300,000	$270,000	$30,000
Long-Term Subtotal	**$62,439,729**	**$5,770,876**	**$56,668,853**
Total	**$88,516,042**	**$20,801,682**	**$67,714,360**

Of the local share, approximately $2.7 million is required during the short-term period, $8.2 million during the intermediate-time period, and $56.6 during the long-term period. During the 20-year planning period, an estimated $217,500 per year will be required from local funding mechanisms exclusively for the airside improvements to meet the previously defined facility requirements at Victoria Regional Airport.

Additionally, as shown on the recommended development plan, the planning period includes the conceptual layout of two hangar developments aimed at attracting Maintenance, Repair, Overhaul (MRO), manufacturing, and other businesses. The estimated total expenditure for these concepts is approximately $63 million dollars and funding would be required from local and private investment sources.

Phasing Plan

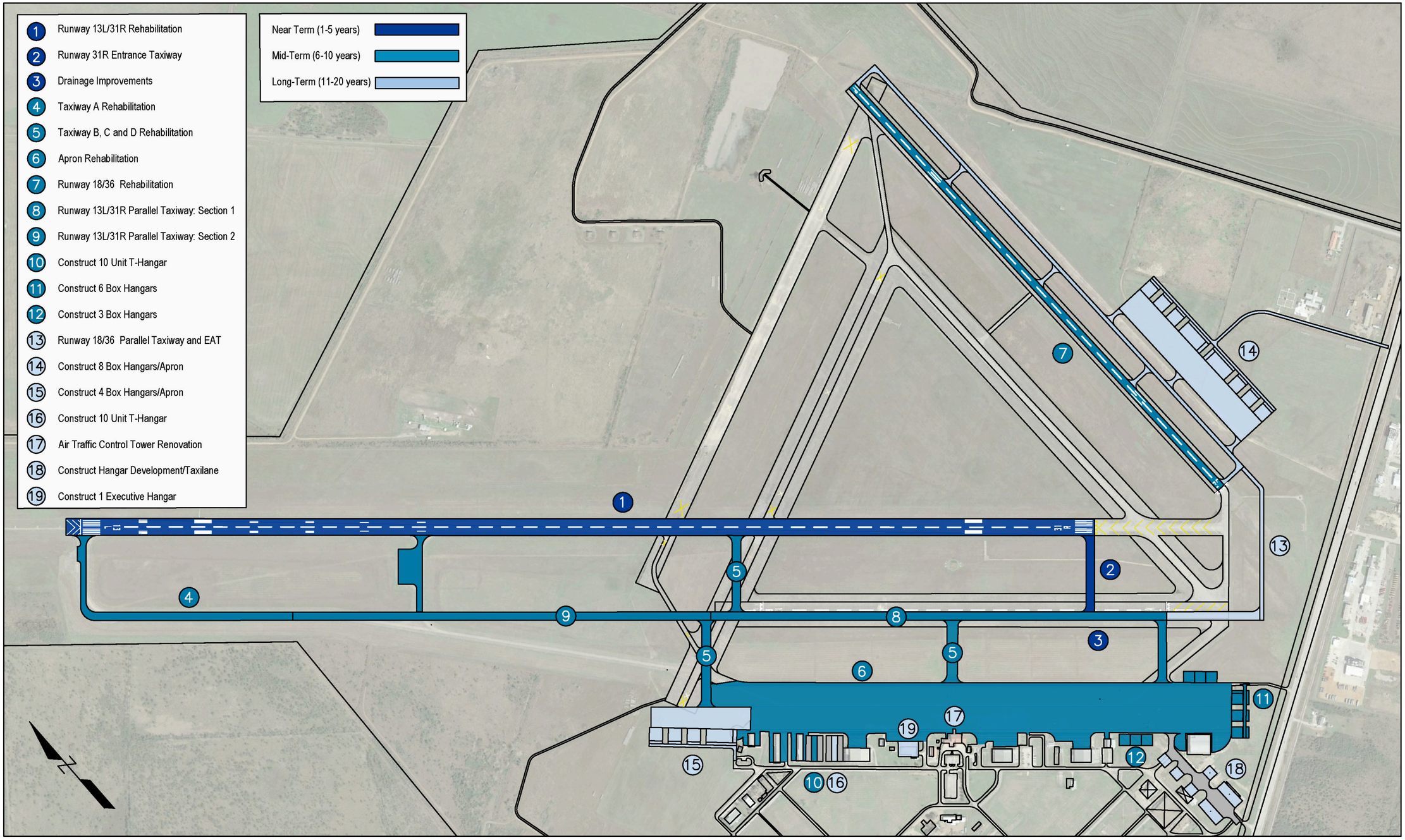
The cost estimates indicate the suggested phasing for projects during the short-, intermediate-, and long-range planning periods. The proposed improvements for each phase are illustrated graphically by time period. These are suggested schedules and variance from them will almost certainly be likely, particularly during latter time frames. Attention has been given to the first five years as being most critical, and the scheduled projects outlined in this time frame should be adhered to as much as possible. The demand for certain facilities and the economic feasibility of their development are the prime factors influencing the timing of individual project implementation. Care must be taken to provide for adequate lead-time for detailed planning and construction of facilities in an effort to meet aviation demands.

The CIP Phasing Plans listed below outline two separate scenarios. The second includes the reconstruction and re-opening of Runway 13R/31. This project will not be eligible for funding through TxDOT and will be solely dependent on local funds. TxDOT will only support two runways, a Primary Runway (Runway 13L/31R), and Crosswind Runway (Runway 18/36).

Table 7.3 and **Figure 7.1** presents the phasing plan which includes conversion of Runway 13R/31L to a full length parallel taxiway serving Runway 13L/31R.

Table 7.3 PHASING PLAN		PROJECT	JUSTIFICATION	TOTAL COST
SHORT-TERM (0-5 YEARS)	1	Runway 13L/31R Rehabilitation	Safety	$2,029,812
	2	Runway 31R Entrance Taxiway	Safety/Standards	$1,402,743
	3	Taxiway A and B Rehabilitation	Safety	$1,813,177
	4	Drainage Improvements	Safety/Standards	$200,000
MID-TERM (6-10 YEARS)	5	Apron Rehabilitation	Safety	$667,500
	6	Runway 18/36 Rehabilitation	Safety	$85,000
	7	Construct Runway 13R/31L Parallel Taxiway	Safety/Standards	$10,502,663
	8	Construct 10 Unit T-Hangar	Landside Capacity	$1,214,590
	9	Construct 3 Box Hangars (100'x100')	Landside Capacity	$5,939,313
LONG-TERM (11-20 YEARS)	10	Construct Runway 18/36 Parallel Taxiway and EAT	Safety/Standards	$6,112,085
	11	Construct 8 Box Hangars (6@ 120'x120')(2@ 120'x240')	Landside Capacity	$36,123,337
	12	Construct 4 Box Hangars (3@ 120'x120')(1@ 120'x240')	Landside Capacity	$18,689,717
	13	Construct 10 Unit T-Hangar	Landside Capacity	$1,214,590
	14	Air Traffic Control Tower Renovation	Safety	$300,000

Figure 7.1: Phasing Plan



7.2 Financial and Capital Improvement Program (CIP)

To assist in preparation of the FAA's effort to provide grant funding to the most needed projects, airport staff keeps on file an up to date Capital Improvement Program (CIP). The purpose of the CIP is to provide a progressive projection of capital needs that can be used in local and federal financing programming. The CIP provides a detailed listing of projects and costs that is critical for their use in establishing priorities and budgeting expenditures at Victoria Regional Airport, when compared with the needs at other airports. Typically, CIP's identify improvement needs and allows budgeting/financial decisions to be made with a comprehensive understanding of financial implications. It should be noted, that simply because a project is programmed within the CIP, it does not necessarily commit or grant the FAA or any funding agency to provide for the CIP. **Table 7.4** summarizes the projects for this plan.

Table 7.4 AIRPORT DEVELOPMENT SUMMARY	
Runway	• Rehabilitation of Runway 13L/31R • Reconstruction of Runway 13R/31L* • Rehabilitation of Runway 18/36
Taxiway	• Construct Runway 31R Entrance Taxiway • Rehabilitation of Taxiway A and B • Construct Runway 13R/31L Parallel Taxiway* • Construct Runway 18/36 Parallel Taxiway and End-Around Taxiway
Apron	• Rehabilitation of existing Apron
Hangars	• Construct Two(2) – Ten Unit T-Hangars • Construct 3 box hangars (100'x100') • Construct 9 box hangars (120'x120') • Construct 3 box hangars with office (120'x240')
Misc.	• Drainage Improvements • Air Traffic Control Tower Renovation

Federal Sources of Capital Funding

Airport Improvement Program (AIP) Entitlement Grants

The federal government initially embarked on a grant-in-aid program to promote the development of a system of airports shortly after World War II. Over the years, the program has been through several iterations. The current program was established by the Airport and Airway Improvement Act of 1982 and is formally known today as the Airport Improvement Program (AIP). Funds obligated for the AIP are drawn from the Airport and Airway Trust Fund, which is supported by user fees, including taxes on airline tickets, aviation fuel taxes, and other aviation revenue sources, such as aircraft parts and components.

The Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21) enacted in April 2000, established the Non-Primary Entitlement (NPE) Program. AIR-21 sets aside grant funding for NPIAS general aviation airports can each receive up to $150,000 per year based on the FAA's assessment of development needs over a five-year period. A convenient component of this program allows airport sponsors to rollover or bank NPE funds for up to four years, at which time the accumulated total of rolled over funds can be used for larger, more expensive ticket item projects. The most recent legislation affecting federal funding was enacted in 2012 and is referred to as the FAA Modernization and Reform Act of 2012. This act authorized the FAA's AIP at $3.35 billion for each fiscal year between 2012 and 2015. Funding for AIP eligible projects under this program is based on a 90%/10% FAA/local cost split basis.

Airport Discretionary Grants

In addition to the entitlement funds, the FAA provides discretionary grants on a cost share basis of 90%/10% basis. This funding source is over and above entitlement funding and is provided to airports for projects that have a high federal priority for enhancing safety, security, capacity, and noise of the airport which would be difficult to fund otherwise. The dollar amounts of individual grants vary and can be significant in comparison to entitlement funding. Discretionary grants are awarded on the sole prerogative of the FAA and are evaluated based on need, the FAA's priority ranking system, and the FAA's assessment of a project's significance within the National Airspace System (NAS).

Additionally, discretionary funds are those funds for use as "set-asides" once all apportionment funds have been allocated. These funds are assigned at the discretion of the FAA Administrator to support noise mitigation projects and the highest priority development that will benefit the NAS. These funds are designed to achieve specific funding minimums for the noise program, reliever airports, and the conversion of military airports. The Capacity / Safety / Security / Noise fund is to be used to preserve and enhance capacity, safety, and security, and to carry out noise compatibility programs and other Letters of Intent (LOIs). The remaining discretionary funds, or pure discretionary, is assigned to projects at the administrator's discretion.

FAA Facilities and Equipment Funds

Additional funding is available through the FAA's Facilities and Equipment (F & E) Fund to purchase navigational aids and other air safety related technical equipment such as Air Traffic Control Towers (ATCTs) and approach lighting systems. Each proposed development project is evaluated independently through a cost / benefit analysis to determine funding eligibility and priority ranking. Any project accepted is funded 100% with the remaining projects becoming AIP eligible **(see Table 7.5)**.

Table 7.5: AIP Eligible and Ineligible Projects

Eligible Projects	Ineligible Projects
Aircraft Hangars (Non-Primary Airports)*	Development that Exceeds FAA Standards
Airfield Drainage	Development for Exclusive Use
Airfield Lighting and Signage	Improvements for Commercial Enterprises
Apron Construction and Rehabilitation	Industrial Park Development
Airport Planning Studies	Landscaping
Environmental Studies	Maintenance Equipment and Vehicles
Fuel Farms (Non-Primary Airports)*	Marketing and Business Plans
General Aviation Terminal Buildings*	Office Equipment
Land Acquisition	Airport Operating Costs
Certain NAVIADS (e.g. REILS, PAPIs)	FBO Support Areas
Runway Construction and Rehabilitation	
Safety Area Improvements	
Taxiway Construction and Rehabilitation	
Weather Observation Systems (AWOS)	

(*) These items are eligible for AIP funds only when all airfield facility needs are met and in compliance with FAA planning criteria. Otherwise, they are typically ineligible for AIP funding due to low prioritization.

State Sources of Capital Funding

In 1996, the Texas Department of Transportation, Aviation Division became a permanent fixture of the State Block Grant Program administered through the FAA. Under this program, TxDOT is the agent of the state for "applying for, receiving, and disbursing" federal funds for the benefit of general aviation and reliever airports. While these funds are dispersed through the state, all federal grant obligations for receiving the funds are attached to each grant accepted by airport sponsors.

Inclusive within the State Block Grant Program agreement for TxDOT is the capacity of the state to fund airport projects not eligible for federal funding through a set aside contingency fund. These state funds have remained steady over the years and are consistently appropriated at approximately $15 million to $16 million annually. State funded projects are based on a priority system similar to that on the federal level and are included in the Aviation Division's annual Capital Improvement Program. This CIP provides a detailed listing of proposed projects for a three-year cycle, with the most recent publication addressing fiscal years 2017, 2018, and 2019.

Routine Airport Maintenance Program (RAMP)

The RAMP program is an additional state funded mechanism to help provide assistance for "lower cost" airport improvements, with airside needs considered first priority and landside as second priority. Each airport sponsor participating in the program must renew annually to be eligible and have an agreement in place before the commencement of any work. Funding is matched on a 50 / 50 cost share basis up to a total fiscal (September 1st – August 31st) amount of $100,000. **Table 7.6** provides a list of eligible and ineligible items:

7.6: RAMP Eligible and Ineligible Projects

Airside Maintenance
• Pavement Crack Seal • Pavement Slurry Seal / Fog Seal / Rejuvenator • Pavement Markings • Limited Pavement Failure Repairs • Drainage Maintenance • Sweeping • Herbicide – Fire Ant Control – Mesquite tree Eradication • Replacement Bulbs / Lamps for Airside Lighting Fixtures and Approach Aids • Beacon, Lighting, Approach Aids – Repair and Maintenance • Parts Replacement for AWOS not Covered Under Warranty
After Airside Maintenance Has Been Addressed
• Seal Coats / Chip Seal / Crack Seal for Non-Airside Pavement • Hangar / Terminal Building Painting and Repairs – Sponsor Owned Only • Security Camera Systems • Game Proof or Security Fencing and Gates • Access Roads for AWOS Installations • Navigational Aids Purchase and Installation • AWOS NADIN Interface Monthly Charge • Airport Entrance Signs and Landscaping • Repairs to Airport Owned Fuel Systems, Including Tank Replacement • Professional Services for Storm Water Pollution Prevention, Spill Prevention Control Plans
Small Capital Improvement Projects
• New Public Auto Parking Areas – E/D included • New Entrance Roads, Hangar Access Roads – E/D included • Design and Construction of Aircraft Wash Racks as Indicated by SWPPP • Expansion of Apron Areas or New Apron Areas – E/D included • Pilot Lounge / Small General Aviation Terminal Buildings • Drainage Improvements – E/D included • Extension of Runway Lighting Systems – E/D included • Beacon Tower Replacements • Water Wells Lines / Sewer Lines / and Septic Systems – Compliance with EPA and TCEQ • Preparation of FAA Form 7460-1 "Notice of Proposed Construction or Alteration" for RAMP projects

Ineligible Projects
• Mowing – May be done by TxDOT or TxDOT contract forces but cost is 100% Sponsor • Purchase of Capital Outlay Equipment Except as Allowed Above • Operating Expenditures • Consumables – Unless Listed Above • Force Account Work by Sponsor or work performed prior to grant execution

Terminal Building Program

In addition to the RAMP program, TxDOT provides the opportunity for airport sponsors to construct new terminal buildings for those structures that are dilapidated and beyond reasonable repair or non-existent. Funding is allocated on a 50% / 50% cost share basis up to $1M for design and construction, 50% / 50% cost share basis for vehicle parking and entrance road up to $200K, and 90% / 10% cost share basis for aircraft apron. Eligibility requirements include:

- Airport property publicly owned or leased by a public entity for at least 20-years,
- Airport must have an airport manager or designated person on site on a regular basis during normal daylight business hours, and
- Airport must have aviation fuel available for sale to the flying public.

Other State Grant Programs

Automated Weather Observation System (AWOS) - 75% / 25% cost share basis (estimated total cost $200K)

Air Traffic Control Tower Program:

- 90 % / 10% cost share basis up to $1,666,667; 100% sponsor beyond this amount
- Airport must have reliever status within the NPIAS
- Must meet FAA Benefit / Cost Analysis (BCA) prior to approval

Hangar Program:

- 90% / 10% cost share basis
- Requires use of NPE funds only (4-years of accumulation allowable)
- Airside needs must be met and include justification for additional hangar space
- Approved ALP designated location
- Fair market hangar lease and rate structure in place
- Adoption of airport minimum standards
- Fuel Facility Program
    - 75% / 25% cost share basis
    - NPIAS airports required to utilize NPE funds
    - Non-NPIAS airports eligible for state funding
    - Installation of new systems owned and controlled by airport sponsor only (above ground storage tank, dispensing system, and self-serve card reader)
    - Replacement systems evaluated and considered based on expired service life

Eligibility:

- Airside needs must be met
- Fuel rate and flowage fee standards
- Approved ALP designating location
- Evidence of compliance with environmental regulations, which includes a Storm Water Pollution Prevention Plan and Spill Prevention Control and Countermeasure Plan
- Adoption of Airport Minimum Standards

Local Sources of Capital Funding

The remaining portion of project costs would be expected to be funded largely from local sources including airport revenues. The local share of project costs are typically derived from surplus revenue generated at the airport or with the budgeted allocations from the city's general fund to the airport account.

As a condition of accepting AIP funding grants, the city is required to maintain a fee structure that, given the circumstances of the airport, allows it to be as financially self-sustaining as possible. This also includes the ability and willingness to assess fair and reasonable fees for use of the facility.

VCT benefits the community through rapid, accessible, and convenient transportation, as well as economic activity generated by the airport. These benefits are diffused throughout the region, thereby providing a common welfare to the region. Also, the airport encourages the exchange of goods and services supporting the notion that the airport is a business enterprise and should be self-sustaining. With the assistance of AIP funds, coupled with fair and equitable fees and charges, the CIP can be carried out in a financially feasible manner that will benefit both the airport and its users.

The following paragraphs include a discussion on the types of airport revenues to fund airport improvements.

Hangar and Land Lease Revenue

Rental rates for airport owned hangars can be established based on an appraisal rate or rate per square foot. The appraisal rate formula involves appraising the value of the land at the facility. The rate would be a percentage of the appraised value of that portion of land supporting the structure sufficient to equal the appraised value and to allow debt service obligations. Conversely, a rate per square foot can be a fixed rate or tied to the value of the land appraisal. For both methods, regular appraisals are recommended so that rates can reflect the increase in the value of the land as the facility grows. Additionally, as maintenance and operational costs increase, lease agreements are recommended to include escalation clauses to recover these costs for improvements and amortization.

Where the structure is owned by a private entity, the tenant is recommended to be responsible for maintenance of the structure, as well as a specific amount of land adjacent to the structure. Additionally, various hangar rental rates can be based on the structure's locational advantages on the airport and its rental rates adjusted accordingly.

On Airport Commercial and Non-Aeronautical Revenue

Airport property is not to be released, transferred, or sold for private, industrial, or commercial uses. The city is recommended to lease land for such uses to desirable tenants in order to provide continuous income for the airport. As is common for most general aviation airports, commercial/industrial facility charges include a fixed rate (appraisal or rate per square foot) plus a percentage of sales. Percentage of sales most general applies to commercial business, including restaurants or aircraft maintenance providers that deal in sales, while industrial establishments, not relying

on local sales for revenue, provide fixed rate fees plus operational and maintenance costs through escalation clauses as part of the lease agreement. These rate structures allow the airport to benefit from the success of the businesses located there. The businesses recoup revenues due to the airport providing the necessary facilities which enable their business to be successful. Additional improvements to the airport, as provided by the city, will only enhance each firm's business outlook. In essence, the businesses are sharing in the cost of improvements in proportion to the financial success they experience as a result of the city's investment in the airport. Maintenance clauses, as well as insurance clauses (if applicable), are also recommended as part of these lease agreements.

Businesses located at the airport now, and in the future, are recommended to abide by established minimum performance standards, included as part of the lease agreement, which ensure that necessary services are provided and that the quality of services adequately promotes the airport's image.

Terminal Building Lease Revenue

Aviation service providers that might occupy space in the terminal building are recommended to be charged a fixed rate (per square foot) plus a percentage of sales fee structure, as is common for general aviation airports. Maintenance and escalation clauses, as well as minimum performance standards, are recommended to be included as part of a lease agreement.

Landing Fees

It is permissible for the city to establish landing fees by utilizing a compensatory model of rates and charges determination. In this approach, the user (large aircraft weighing in excess of 12,500 pounds maximum gross weight) is charged based on their actual use of the facility from which they derive a benefit. A fee is levied against the user to cover the corresponding expenses to maintain and operate the facility. The rate of the landing fee is based on the aircraft operator's prorated share of occupancy or usage. This share of usage may be based on the total weight of the aircraft or annual operational activity. A landing fee for large aircraft operators might be classified under an alternative term such as a ramp fee. It should be noted; these types of fess are not common at most general aviation airports.

Fuel and Fuel Flowage Fees

As is common for many general aviation airports, fuel flowage revenue includes either a fixed fee per gallon of fuel dispensed or a percentage of total sales. An alternative method for determining an appropriate fuel royalty/flowage fee might include instituting a graduated percentage of gross fuel revenue collection method in lieu of a fixed fuel flowage fee to allow for seasonal variations, economic conditions, or supply and demand. As with any other commercial businesses based at the airport, fuel flowage fees are necessary because the proprietor derives a benefit from airport operation and should compensate the city accordingly.

Aircraft Parking and Tie-Down Fees

A fixed fee for aircraft tie-downs is recommended to be administered on a daily, weekly, monthly, and annual basis. The fixed fee may take into account the size of aircraft based on it prorated share or occupancy of the aircraft apron.

Agricultural Lease

The city should receive fair market value for agricultural uses of airport property. The city is also entitled to receive the same rate as similar farmland in the area. Lease terms are recommended to last no longer than five years. Two- to three-year terms are preferred because they allow the city to reassess the impact of the agricultural use on airport operations and development. Upon renewal of a lease, rates should be adjusted to reflect the fair market value of the land. All agricultural leases are recommended to contain an escape clause that allows the city to terminate the lease

should the land be needed for aeronautical purposes. Finally, lease rates are generally based on a fixed price per acre of land.

It must be noted that existing federal grant assurances stipulate that all revenue generated at the airport will be expended exclusively for the operating costs of the airport including maintenance and improvement projects and debt service obligations. Federal grant assurances expressly forbid revenue generated on airport property from being transferred to any other city account and/or department.

Private Investment (Third Party Financing)

Many airports use private – third party financing when the planned improvements will be primarily used by a private entity or other organization not ordinarily eligible for federal funding. Private development proposals are considered on a case-by-case basis. Often, airport funds are required for infrastructure, preliminary design and site work, and other associated needs to facilitate such privately developed projects of the airport.

General Obligation Bonds

GO Bonds are backed by the creditworthiness and taxing power of the municipality operating at the airport. They usually bear low interest rates because of their high degree of security. However, state laws may limit a municipality's overall debt, and competition from other community financing requirements, may preclude their use for an airport project. Some states have an exemption from the debt limitation rule for general obligation bonds because they are used for a revenue-producing improvement project.

Revenue Bonds

Revenue Bonds pledge the revenues of an airport sponsor to the repayment of debt service. These are the most common sources of funding at larger commercial service airports. Revenue Bonds are popular because they do not burden the taxpayer or affect the bonding capacity of the municipality. However, their use is limited to airports with a sufficient operating surplus to cover the debt service. Project net revenues must exceed debt service requirements by at least 1.25 times and up to 2.0 times, depending on the strength of the bond issue and the underlying assumption with respect to the market risk for the bonds. Interest rates are dependent on the coverage ratio, but in any case, will be higher than for general obligation bonds.

Alternative Grant and Revenue Sources

Enterprise Funds

The Texas Enterprise Fund (TEF) is the largest fund of its kind in the nation. The fund is used as a final incentive tool for projects that offer significant projected job creation and capital investment and where a single Texas site is competing with another viable out-of-state option. This may be useful in attracting aeronautical companies to the airport from other states that will significantly impact the local and state economy.

Sale of Airport Property

In certain cases, when an airport has an excess amount of property where aeronautical needs are met, there may be opportunity to transfer or release this land for a one time lump sum sale. This revenue would then be directly put back into the airport's general revenue account for use on airport improvements in the future. However, there are strict guidelines on how to release previously federally obligated land for aeronautical (airport) use. Caution should be given to assessing the trade-off of using this land as future lease revenue versus outright sale. Once the land is released, there will be virtually no chance to use any federal funds to reacquire. It is because of this nature, special attention and thought should be given to ensuring it will not be needed for the long term airport use. **See Appendix B** for more information.

7.3 Summary

It is recognized that maintenance and operation expenses will increase as an airport develops and additional facilities are completed. Revenues generated by additional airport facilities should also increase and help offset the rise and increase in such expenses. It is a worthy goal that operational expenses and revenues balance at an airport as to decrease the amount of subsidization from the local municipality. The relationship between revenues and expenses should be monitored often to minimize imbalances and provide for budgeting and capital improvements.

Glossary of Terms

AGENCIES

FAA	Federal Aviation Administration
TXDOT	Texas Department of Transportation

GENERAL TERMS

AC	Advisory Circular
ADG	Airplane Design Group
AGL	Above Ground Level
AIP	Airport Improvement Program
ALD	Airport Layout Drawing
ALP	Airport Layout Plan
AOA	Aircraft Operations Area
AOPA	Aircraft Owners and Pilots Association
ARC	Airport Reference Code
ARFF	Aircraft Rescue and Fire Fighting
ARTCC	Air Route Traffic Control Center
ASOS	Automated Surface Observation Station
ASV	Annual Service Volume
ATC	Air Traffic Control
ATCT	Air Traffic Control Tower
ATIS	Automated Terminal Information System
AVGAS	Aviation Gasoline - Typically 100 Low Lead (100LL)
AWOS	Automated Weather Observation Station
BRL	Building Restriction Line
CFR	Code of Federal Regulations
CIP	Capital Improvement Plan
DME	Distance Measuring Equipment
EA	Environmental Assessment
EIS	Environmental Impact Statement
FAA	Federal Aviation Administration

FAR	Federal Aviation Regulations
FBO	Fixed Base Operator
FONSI	Finding of No Significant Impact
FY	Fiscal Year
GA	General Aviation
GIS	Geographical Information Systems
GPS	Global Positioning System
HIRL	High Intensity Runway Edge Lighting
IFR	Instrument Flight Rules
ILS	Instrument Landing System
Jet A	Jet Fuel
LIRL	Low Intensity Runway Edge Lighting
LP	Localizer Performance
LPV	Localizer Performance with Vertical Guidance
MIRL	Medium Intensity Runway Edge Lighting
MITL	Medium Intensity Taxiway Edge Lighting
MOA	Military Operations Area
MRO	Maintenance, Repair, and Overhaul
MSL	Mean Sea Level
MTP	Metropolitan Transportation Plan
NAFTA	North American Free Trade Agreement
NAS	National Airspace System
NAVAIDS	Navigational Aid
NDB	Non-Directional Beacon
NM	Nautical Mile (6,076.1 Feet)
NPIAS	National Plan of Integrated Airport Systems
OFA	Object Free Area
OFZ	Obstacle Free Zone
PAC	Planning Advisory Committee
PAPI	Precision Approach Path Indicator
RDC	Runway Design Code
REIL	Runway End Identifier Lighting
RGV	Rio Grande Valley
RNAV	Area Navigation

RPZ	Runway Protection Zone
RSA	Runway Safety Area
RVR	Runway Visibility Range
RVZ	Runway Visibility Zone
RWY	Runway
SASP	State Aviation System Plan
SM	Statute Mile (5,280)
SWOT	Analysis
TAF	Federal Aviation Administration (FAA) Terminal Area Forecast
TODA	Takeoff Distance Available
TORA	Takeoff Runway Available
TRACON	Terminal Radar Approach Control
TRSA	Terminal Radar Service Area
TWY	Taxiway
VASI	Visual Approach Slope Indicator
VFR	Visual Flight Rules (FAR Part 91)
VOR	Very High Frequency Omni-Directional Range
VORTAC	VOR and TACAN collocated
WAAS	Wide Area Augmentation System

APPENDIX A: Airport Building Inventory

Landside Building Inventory		
Label	Description	Area (Sq. Ft.)
N-2	Victoria Regional Juvinile Justice Detention Facility	54,300
N-5	JDC	4,600
N-19	Yellow Freight	14,400
N-20	Door Manufacturer	55,700
N-22	Outreach Word Academy	17,000
N-22A	Outreach Word Academy	3,500
N-23	Crossroads Family	8,100
N-24	Vacant	8,100
N-25	Crossroads Family	1,200
N-26	Outreach Word Ministries	7,300
N-29	Furniture Refinishing	1,800
N-30	Victoria County	10,000
N-32	Victoria Well Service	10,500
N-33	Faith Academy Church	22,500
N-34	Welding Shop	7,400
N-35	Texas A&M Agrilife Extension Service	5,200
N-46	Texas Coop. Extension	2,200
N-47	Officer's Club	9,600
N-3	Restaurant	5,500
N-16B	Straight Arrow Archery Learning Center	10,500
N-17		10,800
N-21	Reliant Fuel Services, Inc	7,300
N-37		7,600
N-38		18,300
N-44	Spartman Industries	4,500
N-45	Victoria County	9,800
N-48	Victoria Educational Gardens Pavilion	14,000
N-9	Precinct #4 Service Center 155	15,200
N-13	Fisher Stevens	21,800
N-28	Cabinet Shop	4,800
N-31	Shop	2,700
N-36	Golden Crescent Regional	9,300
N-59	Soccer Association	1,900

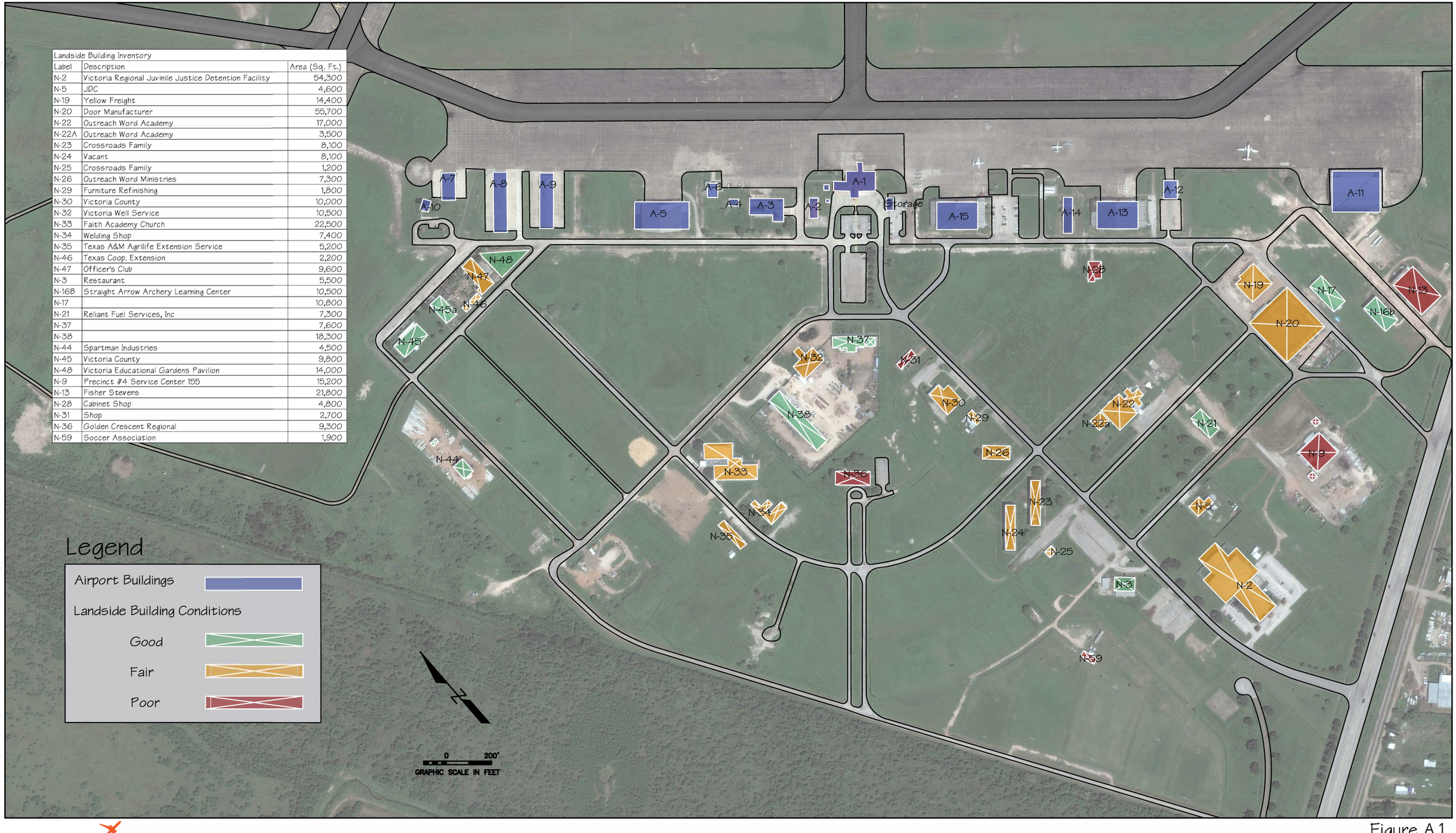
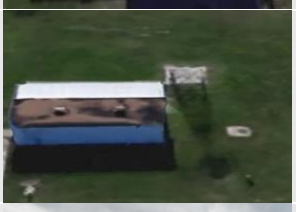


Figure A.1
Victoria Regional Airport
Building Inventory

Airside Building Inventory

	Bldg. Number	Detail	Condition	Approx. Sq. Ft.
	A-1	Passenger Terminal (Airlines, Rental Cars, Concessions, Airport Administration)	Good	15,700
	A-2	Office (TSA and Fire Marshall)	Good	3,400
	A-3	Maintenance Building	Fair	12,200
	A-4	Electrical Vault	Fair	1,300
	A-5	Hangar (Victoria County)	Good	29,100
	A-6	ARFF Facility (Hewitt)	Good	2,800
	A-7	T-Hangars/Victoria County	Fair	7,300
	A-8	T-Hangars (Victoria County)	Fair	16,000

	A-9	T-Hangars (Victoria County)	Good	14,700
	A-10	Air Traffic Control Tower (FAA)	Poor	500
	A-11	Hangar (Reliant Field Services, Inc.)	Fair	38,200
	A-12	Victoria County	Good	4,800
	A-13	Hangar B (Aviation Flight Instruction- Aircraft Rentals)	Fair	21,800
	A-14	Civil Air Patrol	Poor	6,400
	A-15	FBO Hangar (Victoria County)	Fair	21,800

Landside Building Inventory

	Bldg. Number	Detail	Condition	Approx. Sq. Ft.
	N-2	Victoria Juvenile Justice Detention Facility	Fair	54,300
	N-3	Restaurant	Good	5,500
	N-5	JDC	Fair	4,600
	N-9	Precinct #4 Service Center 55	Poor	15,200
	N-13	Fisher Stevens	Poor	21,800
	N-16b	Straight Arrow Archery Learning Center	Good	10,500
	N-17		Good	10,800
	N19	Yellow Freight	Fair	14,400

	N-20	Door Manufacturer	Fair	55,700
	N-21	Reliant Fuel Services, Inc	Good	7,300
	N-22	Outreach Word Academy	Fair	17,000
	N-22a	Outreach Word Academy	Fair	3,500
	N-23	Crossroads Family	Fair	8,100
	N-24	Vacant	Fair	8,100
	N-25	Crossroads Family	Fair	1,200
	N-26	Outreach Word Academy	Fair	7,300

	N-28	Cabinet Shop	Poor	4,800
	N-29	Furniture Refinishing	Fair	1,800
	N-30	Victoria County	Fair	10,000
	N-31	Shop	Poor	2,700
	N-32	Victoria Well Service	Fair	10,500
	N-33	Faith Academy Church	Fair	22,500
	N-34	Welding Shop	Fair	7,400
	N-35	Texas A&M Agrilife Extension Service	Fair	5,200

	N-36	Golden Crescent Regional	Poor	9,300
	N-37		Good	7,600
	N-38		Good	18,300
	N-44	Spartman Industries	Good	4,500
	N-45	Victoria County	Good	9,800
	N-45a	Victoria Educational Gardens Pavilion (VEG)	Good	6,000
	N-46	Texas Coo. Education	Fair	2,200
	N-47	Officer's Club	Fair	9,600

	N-48	Victoria Educational Gardens Pavilion (VEG)	Good	14,000
	N-59	Soccer Association	Poor	1,900

APPENDIX B: SWOT Analysis Results

Attachment A

Table A-1

Strengths (Have)

Internally focused - Controllable

Code	Item
S	Primary runway length/width (9)
S	FBO (4)
S	Land/Space (4)
O	Location relative to city/region (4)
S	Military traffic/fuel (3)
S	Tower (3)
S	Regional asset (2)
S	Commercial air service (2)
S	Adjacent roadways
S	Infrastructure improvements
S	Rich history
S	Local transport infrastructure
S	59 @ end of runway helps with clearance
S	CAP squadron
S	Close to ports
S	Close to rails
S	Close to industrial complex
S	Not surrounded by neighborhoods
S	Great weather year round
S	Airport manager
S	Room for expansion
S	ILS capable
S	Good runway lighting
S	Military presence
S	Desire to develop
S	Somewhat modern terminal
S	Sky restaurant
S	Commercial businesses
S	Size of facility
S	Economic impact to community
S	Aircraft storage
S	Aircraft maintenance
S	Restaurant on field
S	Access to highway
S	

S - Strength
W - Weakness
O - Opportunity
T - Threat

Table A-2
Weaknesses (Wants)
Internally focused - Controllable

Code	Item
W	Aging structures/infrastructure (9)
W	Public perception (6)
W	Lack of marketing effort/"best kept secret" (4)
S	Well established flight school (3)
W	Older utilities (3)
W	Lack of hangar space (3)
W	Lack of county support (2)
W	Visibility from major highway/aesthetics (2)
W	Time delays/performance (2)
W	Funding (2)
W	Lack of commercial/military traffic (2)
W	Better flight access (2)
W	Cost to improve/maintain infrastructure
W	Use/schedules
W	Secure hangars for gov't, LE, military aircraft
W	More community events (air shows)
W	Older USAF buildings
W	Older street design/need maintenance
W	FAA restrictions on land use
W	Lack of flexibility for economic development
W	Narrow focused thinking with those in power
W	WWII hangars
W	Lack of tax base
W	Lack of radar for ATC.
W	Upkeep
W	Don't know how to develop
W	Lack of business activity
W	No draw/reason to come to the airport
W	Can't rent a plane
W	Hangar space to attract corporate aircraft
W	Drainage issues
W	Community to use commercial air service
W	More GA traffic
W	Bigger, better FBO
W	Lack of control over property
W	
W	

S - Strength
W - Weakness
O - Opportunity
T - Threat

Table A-3
Opportunities (Advantages)
Externally focused - Uncontrollable

Code	Item
O	Growth potential (6)
O	Development (5)
O	Easily accessible (I-69, etc) (3)
O	Victoria <-- location (3)
O	Centrally located between major metro areas (2)
O	Close to rails (2)
O	Locals want to travel from here if flights are available and affordable
O	Very close to major population of region
O	Close to ports
O	Distance from other large airports
O	Panama Canal
O	More military
O	Eagle Ford shale
O	Land release
O	Market as regional hub
O	One more piece of area transportation hub
O	Viewed as an asset
O	Used to have air shows, can have again
O	Flight schools
O	Programs with colleges
O	Marketing (UPS, FedEx, etc.)
O	Aircraft companies
O	Strengthen pavement
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S - Strength
W - Weakness
O - Opportunity
T - Threat

Table A-4
Threats (Disadvantages)
Externally focused - Uncontrollable

Code	Item
T	Public Perception (4)
T	ESA contract/stable service (3)
T	Lack of community support (3)
T	Maintenance (3)
T	Airport is not sustainable (paid by grants, etc.) (2)
T	Proximity to Houston/Austin (2)
T	Lack of budget/funds (2)
T	Land release (2)
T	59 at end of runway is a potential disaster point
T	Age of Runways
T	Lack of public awareness
T	Not marketed well
T	No clear leadership to make decisions
T	City vs. County
T	Lack of economic development coordination
T	Not enough choises/flights
T	Not enough access
T	Momentum
T	Existing businesses outside of normal tenants
T	Price of leased land is too high
T	Loss of commercial service
T	Community doesn't use commercial service
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S - Strength
W - Weakness
O - Opportunity
T - Threat

APPENDIX C: Land Release Guidelines

FAA Land Release Guidelines

A. General

Airport owners that desire to sell a portion of their airport property must contact the FAA compliance specialist to determine the extent of Federal obligations associated with the tract of land in question. Any release, modification, reformation or amendment of an airport agreement between the owner and the United States must make a written request that is signed by a duly authorized official of the public agency that owns the airport.

B. Required Documentation

Although no special form is required, an owner's request should be specific, as applicable for the request they are making. To facilitate FAA review, please address the following items in your request:

1. What is release action being requested?
2. What agreement(s) with the United States are involved?
3. Why the release, modification, reformation or amendment is being requested?
4. What facts and circumstances justify the request?
5. What requirements of state or local law or ordinance should be provided for in the language of a FAA issued document if the request is consented to or granted?
6. What property or facilities are involved?
7. How the property was acquired or obtained by the airport owner?
8. What is the present condition and what present use is made of any property or facilities involved?
9. What use or disposition will be made of the property or facilities?
10. What is the appraised fair market value of the property or facilities? Appraisals or other evidence required to establish fair market value?
11. What proceeds are expected from the use or disposition of the property and what will be done with any net revenues derived?
12. A comparison of the relative advantage or benefit to the airport from sale or other disposition as opposed to retention for rental income?

B. Exhibits to Accompany Request

Each request should have a scaled drawing attached showing all airport property and airport facilities which are currently obligated for airport purposes by previous agreements with the United States. We request that you attach other applicable exhibits that support the requests. These may include:

1. Maps
2. Photographs
3. Plans
4. Appraisal reports
5. Exhibit A Map and Airport Layout Plan

Notes:

Airport owners that complete a transaction that releases airport property must revise both their current Exhibit A property map and their Airport Layout Plan (ALP). The revised maps must reflect the changes to property interest, land areas and airport facilities that resulted from their actions.

The FAA will use the checklist in Standard Operating Procedure No. 3 when evaluating the Exhibit A for acceptance. It is prudent for Sponsors to consult this checklist prior to submitting a revised Exhibit A map.

For the ALP revisions, include a brief narrative that outlines the rationale used in arriving at the revised plan. Sponsors should contact their assigned FAA planner to discuss submittal requirements prior to actually submitting a revised ALP.

Additional Notes:

When is a Release Necessary?

Any change in the use of airport property for non-aeronautical purposes regardless of how it was acquired:

- Sale of airport property
- Lease of airport property for non-aeronautical use
- Airport land is no longer needed for airport purposes

Basic Requirements

- ALP and Master Plan are current
- Land is not needed for future airport growth
- Land is no longer needed for airport purposes
- Future development is compatible
- Release will result in a benefit to civil aviation

Release Request Content

- List of All Obligating Agreements with the United States
- Type of Release or Modification Requested
- Reasons for Requesting the Release
- Facts and Circumstances That Justify the Request
- Requirements of State and Local Law That Must Be In Any Approval Document
- Description of the Property (Legal Description)
- Description of How the Property Was Acquired
- Present Condition and Use of the Property
- Expected Use or Disposition of the Property
- Fair Market Value of the Property
- Discussion of Lease Vs. Sale of the Property
- Proceeds Expected as a Result of the Release and Expected Use of Revenues Derived
- Show Any Intangible Benefits to Offset Fair Market Value

Exhibits to Accompany the Request:

- Scaled Drawings of the Property and Future Development
- Appraisal Report
- Revised Airport Layout Plan
- Revised Exhibit “A” Property Map
- Height Data Computations of Future Development
- Release Deed, If Applicable
- Copy of the Proposed Deed or Lease
- FAA Form 7460-1

FAA Approval

Environmental Review of the Proposed Development In Accordance with FAA Order 5050.4B (approximately 120 Days From Date of Submission)

Surplus Property or Development Land Acquired With FAA Grant Funds Must Be Published In the Federal Register For a 30 Day Public Comment Period

FAA Approval Will Be Subject to Retention of an Avigation Easement

Application of Proceeds

1. Retained in Interesting Bearing Account
2. Interest Earned Must be Used for Operation and Maintenance

Proceeds May Be Used For:

1. Eligible AIP Development
2. Ineligible Airport Development
3. Retirement of Airport Bonds
4. Development to Enhance Revenue Production

Note: All aeronautical improvements funded by the proceeds must meet FAA design standards.

Source: FAA

APPENDIX D: Public Outreach

Airport Master Plan – Public Outreach Schedule

Planning Advisory Committee Meetings

1. October 22, 2015 – Kick Off Meeting
2. January 27, 2016 – Meeting # 2 (SWOT Workshop and Open House)
3. May 25, 2016 – Meeting #3 (Alternatives)
4. December 15, 2016 – Meeting #4 (Capital Improvement Plan)

Public Workshops

1. May 25, 2016
2. December 15, 2016

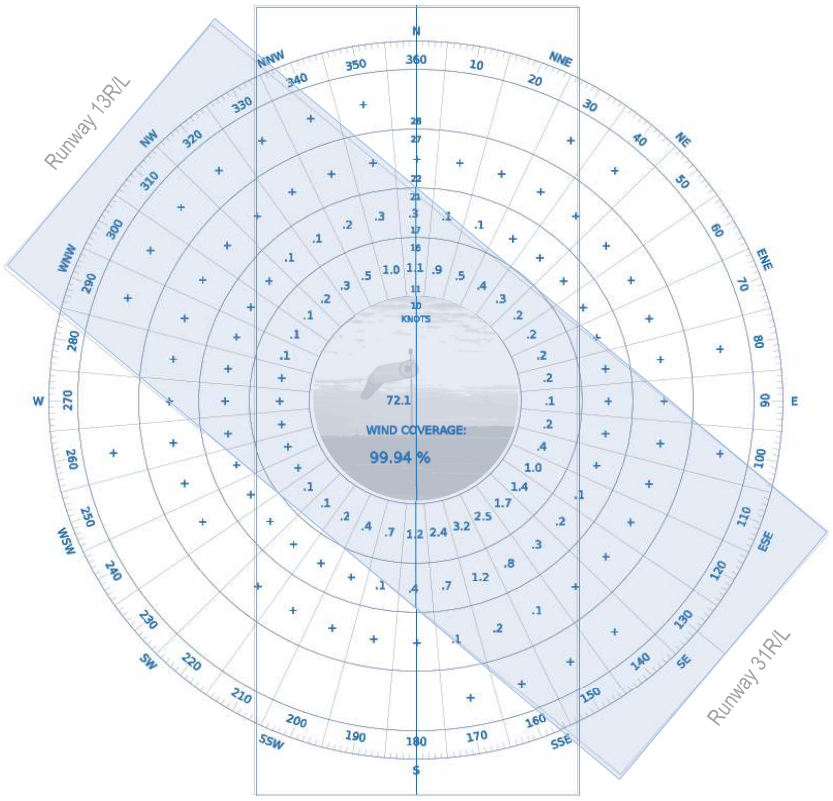
Airport Commission Briefings

1. May 25, 2016
2. December 15, 2016
3. April 27, 2017

Airport **Wind Analysis**

The FAA requires airport runway configurations provide wind coverage during 95 percent of weather conditions based on the airport's design aircraft. The wind coverage provided by Victoria Regional Airport ranges from 99.16 percent to 99.94 percent, depending on the wind speed and direction.

Runway 18



Runway 36

Combined Runway Wind Coverage		
10.5 Knots	13 Knots	16 Knots
99.16%	99.73%	99.94%

Primary Runway Only (13/31)

10.5 knots = **92.09%**
13 knots = 96.5%
16 knots = 99.23%

Primary (13/31) and X-Wind RWY (18/36)

10.5 knots = 99.16%
13 knots = 99.73%
16 knots = 99.94%

Primary (13/31) and X-Wind RWY (6/24)

10.5 knots = **95.04%**
13 knots = 98.57%
16 knots = 99.73%

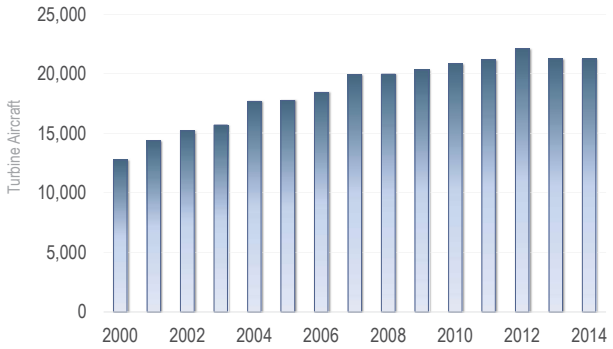
Source: FAA AGIS Wind Analysis Tool, National Climate Data Center (NCDC) Note: Wind Rose shown is for current runway configuration at 16 knots crosswind component

Airport **Demand Forecast**

It is anticipated that Victoria Regional Airport will see low to moderate growth during the 20-year planning period. Market demographic trends indicate that the airport will slightly outpace growth in based aircraft versus enplanements and total operations. Military activity is expected to continue to represent the majority of airport operations in the future.

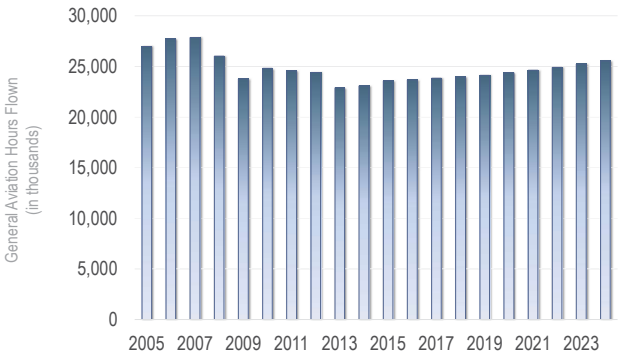
National Aviation Trends

General Aviation Turbine Aircraft Growth 2000 - 2014



Source: FAA

Historical/Projected General Aviation and Air Taxi Hours Flown



Source: FAA Aerospace Forecasts 2015 - 2035

Typical Aircraft

Commercial Aviation

British Aerospace (BAE) Jetstream 31/32
(Operated by: Texas Sky Regional Airlines)
19 Passenger Configuration
10% of IFR Operations

Annual enplanements: ~ 2,900

Corporate and General Aviation

Cessna Citation X
Airport Reference Code C-II
Composite Critical Aircraft for VCR
Largely Business Use

Cessna 172
Mostly Recreational Flying
Large percentage of single engine fleet

Military Training

T-6 Texan II
(NAS Corpus - VT-28 Rangers)
(Joint Base San Antonio – Randolph)
10% of total IFR operations at VCR

T-38 Talon
(Joint Base San Antonio - Randolph)
5% of total IFR operations at VCR

T-1 Jayhawk
(Joint Base San Antonio - Randolph)
12% of total IFR operations at VCR

A Critical Aircraft is defined as the most demanding aircraft to regularly use the airport. Planners use Aircraft Design Group and Approach Categories that relate airport design criteria to the operational and physical characteristics of the airplanes that are intended to operate at an airport. The images above are not to scale and only represent visual appearance of certain types of aircraft.

Victoria Regional Airport Forecast Scenarios

Total Based Aircraft

Year	FAA Aerospace Forecast	Population	Employment	PCPI (Income)	FAA TAF
2015	41	41	41	41	41
Projection:					
2020	42	43	45	53	48
2025	43	44	49	69	54
2030	44	46	54	89	59
2035	44	48	59	115	64
CAGR (2015 - 2035)	0.4%	0.8%	1.8%	5.3%	2.3%

Total Aircraft Operations

Year	Historical Trend	FAA Aerospace Forecast	Population	Employment	PCPI (Income)	FAA TAF
2015	51,035	51,035	51,035	51,035	51,035	*54,825
Projection:						
2020	55,251	53,004	53,188	55,797	66,071	54,377
2025	59,814	55,049	55,433	61,002	85,537	54,517
2030	64,755	57,173	57,772	66,694	110,737	54,662
2035	70,104	59,379	60,209	72,916	143,362	54,807
CAGR (2015 - 2035)	1.6%	0.8%	0.8%	1.8%	5.3%	0.4%

Airport **Runway Capacity**

Annual Service Volume (ASV) is commonly used in master planning exercises to measure runway and airport capacity. This volume describes the total number of operations a particular runway alignment (or group of runways) can handle on an annual basis. By using this measure, it is easy to compare to current and projected annual operations numbers and analyze capacity.

Single Runway (1)

Annual Service Volume = **230K** Operations
Hourly Capacity (ops/hr): 98 VFR / 59 IFR
Current Capacity: 22%
Forecast Capacity: 26%

Crosswind Runway (2)

Annual Service Volume = **270K** Operations
Hourly Capacity (ops/hr): 150 VFR / 59 IFR
Current Capacity: 19%
Forecast Capacity: 22%

Crosswind Runway and Parallel (3)

Annual Service Volume = **355K** Operations
Hourly Capacity (ops/hr): 197 VFR / 59 IFR
Current Capacity: 14%
Forecast Capacity: 16%

Airport **SWOT ANALYSIS**

As part of the airport master plan, a SWOT (Strengths, Weaknesses, Opportunities, and Strengths) Analysis was undertaken. This exercise was designed to use stakeholder input to indentify areas for improvement while providing a foundation for recommendations. Airport tenants, local government staff, airport staff, and economic development representatives participated in this exercise

	+ (Positive)	- (Negative)
Internal	**Strengths** Runway Infrastructure FBO Services Land/Space	**Weaknesses** Aging Infrastructure Public Perception Lack of Awareness
External	**Opportunities** Growth Potential Development Accessibility and Location	**Threats** Air Service Longevity Community Support Funding Sustainability

APPENDIX E: Airport Utility Maps

LEGEND

- EXISTING WATER LINE (COUNTY OWNED) — 8"
- EXISTING WATER LINE (CITY OWNED) — 8"
- EXISTING FIRE HYDRANT — OR
- PROPOSED WATER LINE

PROP 8" WATER LINE

FUTURE DEVELOPMENT AREA 3

PROP 8" WATER LINE

PROP 8" WATER LINE

FUTURE DEVELOPMENT AREA 2

V.R.A. PROPERTY LINE

10" METER & DBL CHECK BACKFLOW PREVENTER

H I G H W A Y 5 9

U . S .

V.R.A. PROPERTY LINE

PROP 8" WATER LINE

FUTURE DEVELOPMENT AREA 1

PROP 8" WATER LINE

10" METER & DBL CHECK BACKFLOW PREVENTER

GRAPHIC SCALE IN FEET

0 1000 2000

URBAN engineering

Tel (361) 578-9836
Fax (361) 576-9836
www.urbanvictoria.com

2004 N. Commerce
Victoria, Texas 77901
TREF# F-160

VICTORIA REGIONAL AIRPORT

MASTER WATER PLAN

DATE	03/31/17
JOB NUMBER	E20520.00

LEGEND

- 8" EXISTING SANITARY SEWER GRAVITY MAIN (COUNTY OWNED)
- 8" EXISTING SANITARY SEWER GRAVITY MAIN (CITY OWNED)
- PROPOSED SANITARY SEWER GRAVITY MAIN

FUTURE SAN SEW MH
TOP OF MH 103.0 ±
FL 8" 94.0 ±
DEPTH 9.0' ±

PROP SAN SEW FM

FUTURE SAN SEW MH
TOP OF MH 102.5 ±
FL 8" 94.5 ±
DEPTH 8.0' ±

8" SANITARY SEWER MH
FOR FUTURE EXTENSION
TOP OF MH 95.0 ±
FL 8" 82.9 ±
DEPTH 12.0' ±

PROP 8" GRAVITY SAN SEW MAIN
PROP SAN SEW FORCE MAIN

V.R.A. PROPERTY LINE

PROPOSED 8" GRAVITY SANITARY SEWER MAIN

FUTURE DEVELOPMENT AREA 3

FUTURE DEVELOPMENT AREA 2

8" ABANDONED

LIFT STATION #2

6" FM

PROPOSED
LIFT STATION #3
FL8" IN 88.0 ±
DEPTH 17.0 ±

PROPOSED 8" GRAVITY SAN SEW MAIN

FUTURE SAN SEW MH
TOP OF MH 107.0 ±
FL 8" 98.0 ±
DEPTH 9.0' ±

U.S. HIGHWAY 59

6" FM

V.R.A. PROPERTY LINE

FUTURE SAN SEW MH
TOP OF MH 104.0 ±
FL 8" 96.5 ±
DEPTH 7.5' ±

PROPOSED 8" GRAVITY SANITARY SEWER MAIN

FUTURE DEVELOPMENT AREA 1

PROP 12" GRAVITY SAN SEW MAIN

12" SANITARY SEWER
STUB-OUT FOR FUTURE
EXTENSION
TOP OF MH 98.15±
FL 12" 84.40±
DEPTH 13.75'

LIFT STATION #1

10" FM

6" FM

GRAPHIC SCALE IN FEET
0 1000 2000

URBAN engineering
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Victoria, Texas 77901
TREF# F-160

VICTORIA REGIONAL AIRPORT
MASTER SANITARY SEWER PLAN

DATE 03/31/17
JOB NUMBER E20520.00
PAGE 2 OF 2

APPENDIX F: Color ALP Sheets

AIRPORT LAYOUT PLAN

JANUARY 2018

VICTORIA REGIONAL AIRPORT

VICINITY MAP

LOCATION MAP

REV	DESCRIPTION	DATE	APPROVED

TEXAS DEPARTMENT OF TRANSPORTATION
AVIATION DIVISION

ALP APPROVED ACCORDING TO FAA AC 150/5300-13 CHANGE 16 PLUS THE REQUIREMENTS OF A FAVORABLE ENVIRONMENTAL FINDING AND FAA NRA STUDY PRIOR TO THE START OF ANY LAND ACQUISITION OR CONSTRUCTION ON AIRPORT PROPERTY.

DAVID FULTON, DIRECTOR, AVIATION DIVISION — DATE

AIRPORT SPONSOR

CURRENT AND FUTURE DEVELOPMENT DEPICTED ON THIS ALP IS APPROVED AND SUPPORTED BY AIRPORT SPONSOR

SPONSOR ACKNOWLEDGES APPROVAL OF ALP BY TXDOT DOES NOT CONSTITUTE A COMMITMENT TO FUNDING.

SIGNATURE — DATE

TITLE, AIRPORT SPONSOR'S REPRESENTATIVE

PREPARED BY:

KSA
8875 Synergy Drive
McKinney, Texas 75070
T.972-542-2995
F.972-542-6750
www.ksaeng.com

M MALLONEE — SEPTEMBER 2017
DESIGNED BY — DATE

J PENNINGTON — SEPTEMBER 2017
DRAWN BY — DATE

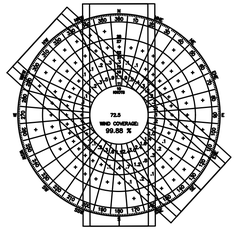
SHEET INDEX

NO.	TITLE
1	TITLE SHEET
2	AIRPORT LAYOUT DRAWING
3	INNER PORTION OF THE APPROACH SURFACE DRAWING – RUNWAY 13L
4	INNER PORTION OF THE APPROACH SURFACE DRAWING – RUNWAY 13R (EXISTING)
5	INNER PORTION OF THE APPROACH SURFACE DRAWING – RUNWAY 18
6	INNER PORTION OF THE APPROACH SURFACE DRAWING – RUNWAY 31L (EXISTING)
7	INNER PORTION OF THE APPROACH SURFACE DRAWING – RUNWAY 31R
8	INNER PORTION OF THE APPROACH SURFACE DRAWING – RUNWAY 36
9	TERMINAL AREA DRAWING
10	AIRPORT PROPERTY MAP
11	LAND USE DRAWING

TITLE SHEET
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

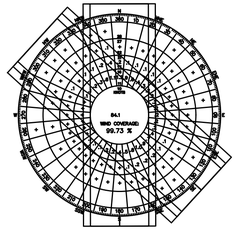
Texas Department of Transportation
Aviation Division

ALD LEGEND		
FEATURE	EXISTING	ULTIMATE
RUNWAY/TAXIWAY OUTLINE		
RUNWAY/TAXIWAY TO BE REMOVED		
BUILDINGS/FACILITIES		
AIRPORT PROPERTY LINE		
AIRPORT PROPERTY LINE w/FENCE		
FENCE LINE		
BUILDING RESTRICTION LINE (BRL)		
AIRPORT REFERENCE POINT		
WIND CONE & SEGMENTED CIRCLE		
THRESHOLD LIGHTS		
RW END IDENTIFIER LIGHTS (REILS)		
C&G BEACON		
VOSI		
HOLD POSITION AND SIGN		
ASOS/AWOS		
PACS AND SACS MARKERS		
GROUND CONTOURS		
SIGNIFICANT OBJECT LOCATION		
TREES/BRUSH		
NONDIRECTIONAL BEACON (NDB)		



AWWR WIND COVERAGE			
RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS
RUNWAY 13L–31R RUNWAY 13R–31L	92.69%	96.80%	99.30%
RUNWAY 18–36	95.27%	98.08%	99.57%
COMBINED COVERAGE	99.86%	99.88%	99.94%

STATION 722550, VICTORIA REGIONAL AIRPORT
137,874 OBSERVATIONS
JAN. 2001 – DEC 2016
WWW.NCDC.NOAA.GOV



IFR WIND COVERAGE			
RUNWAY	10.5 KNOTS	13 KNOTS	16 KNOTS
RUNWAY 13L–31R RUNWAY 13R–31L	94.43%	97.34%	99.26%
RUNWAY 18–36	96.27%	98.14%	99.38%
COMBINED COVERAGE	98.78%	99.49%	99.73%

STATION 722550, VICTORIA REGIONAL AIRPORT
24,635 OBSERVATIONS
JAN. 2001 – DEC 2016
WWW.NCDC.NOAA.GOV

MAGNETIC DECLINATION JUNE–2017
3°27'E, CHANGING BY 0°7' PER YEAR

3°7' E (2017) MAGNETIC TRUE

600' 0 600' 1200'
GRAPHIC SCALE IN FEET

RPZ (EX AND ULT)
500 X 700 X 1000

PART 77 (EX)
500 X 5000 X 1500

TSS (EX)
400 X 1000 X 10000

EXISTING RUNWAY 18 END
LAT: N 28° 51' 32.16"
LONG: W 96° 54' 35.12"
ELEV: 106.40'
RUNWAY HIGH POINT

RUNWAY 18
TOUCHDOWN ZONE
ELEV. 106.6' (EX)

PERIMETER RD.

EX AND ULT 1000' X 75'

COUNTY FACILITIES

RUNWAY 36
TOUCHDOWN ZONE
ELEV. 105.9' (EX)

EXISTING RUNWAY 36 END
LAT: N 28° 50' 43.57"
LONG: W 96° 54' 34.99"
ELEV: 102.90'
RUNWAY LOW POINT

RUNWAY PROTECTION ZONE
(EX AND ULT)
500 X 700 X 1000

PART 77
(EX AND ULT)
1000 X 4000 X 10000

TSS
(EX AND ULT)
800 X 3800 X 10000

GQS (EX)
350 X 1520 X 10000

LOCALIZER

PART 77
(EX AND ULT)
1000 X 16000 X 50000

EXISTING RUNWAY 13L END
LAT: N 28° 51' 49.50"
LONG: W 96° 56' 02.68"
ELEV: 115.10'
RUNWAY HIGH POINT

EXISTING DISPLACED RUNWAY 13R END
LAT: N 28° 51' 03.24"
LONG: W 96° 55' 17.75"
ELEV: 104.50'
RUNWAY HIGH POINT

ARP
LAT: N 28° 51' 09.16"
LONG: W 96° 55' 06.56"

RPZ (EX)
1000 X 1510 X 1700

EXISTING RUNWAY 31R END
LAT: N 28° 50' 48.62"
LONG: W 96° 54' 47.09"
ELEV: 103.50'
RUNWAY LOW POINT

ASOS (EX)
GLIDE SLOPE

EXISTING RUNWAY 13R END
LAT: N 28° 51' 06.19"
LONG: W 96° 55' 21.41"
ELEV: 103.60'

EX AND ULT 9111' X 150'

TRUE AZIMUTH 132.45°

RUNWAY 13L
TOUCHDOWN ZONE
ELEV. 115.2' (EX)

RUNWAY 13R–31L
TOUCHDOWN ZONE
ELEV. 104' (EX)

RPZ (EX)
500 X 700 X 1000

RPZ (EX
100 X 1510 X 1700

HALLIBURTON BUILDINGS

EX 4643' X 150'
(ULT TO BE CONVERTED TO TAXIWAY)

TRUE AZIMUTH 132.44°

INCOMPATIBLE LAND
WITHIN RPZ

RPZ (EX)
500 X 700 X 1000

NATIONAL GEODETIC SURVEY
MONUMENT (EST. 1944)
LAT. 28° 50' 44"
LONG 96° 55' 10"

EXISTING DISPLACED RUNWAY 31L END
LAT: N 28° 50' 38.85"
LONG: W 96° 54' 47.46"
ELEV: 102.30'

RPZ (EX)
500 X 700 X 1000

TSS (EX)
400 X 1000 X 10000

EXISTING RUNWAY 31L END
LAT: N 28° 50' 35.17"
LONG: W 96° 54' 42.89"
ELEV: 102.30'
RUNWAY LOW POINT

PART 77 (EX AND ULT)
500 X 1500 X 5000

TSS (EX)
400 X 1000 X 10000

GQS (EX)
350 X 1520 X 10000

RPZ (EX AND ULT)
1000 X 1750 X 2500

TSS
(EX AND ULT)
800 X 3800 X 1000

TSS (EX)
400 X 1000 X 10000

PART 77 (EX)
500 X 700 X 1000

HANGAR DR. N

HANGAR DR. S

BACHELOR DR.

BACHELOR CIR.

VICTORIA BLVD.

BEEVILLE CIR.

BEEVILLE CIR.

GALVESTON DR.

DORMITORY AVE.

HANGAR DR. S

AIRLINE RD.

BIG BEND RD.

OSTER FIELD DR.

RUNWAY DATA TABLE											
	RW 13L–31R				RW 18–36				RW 13R–31L		
	EXISTING		ULTIMATE		EXISTING		ULTIMATE		EXISTING		ULTIMATE
RUNWAY ARC	C–II		C–II		B–II		B–II		B–II		TO BE CONVERTED TO TAXIWAY
DESIGN AIRCRAFT & ARC	FALCON 900EX (CII)		FALCON 900EX (CII)		CESSNA 560 (BII)		CESSNA 560 (BII)		CESSNA 560 (BII)		
RUNWAY LENGTH & WIDTH (ft.)	9111' X 150'		9111' X 150'		4908' X 75'		4908' X 75'		4643' X 150'		
PAVEMENT DESIGN STRENGTH (1000 lbs.)	28 SW 87 DTW		28 SW 87 DTW		28 SW 87 DTW		28 SW 87 DTW		28 SW 87 DTW		
RUNWAY LIGHTING	HIRL		HIRL		MIRL		MIRL		NONE		
PERCENT EFFECTIVE GRADIENT	0.13%		0.13%		0.06%		0.06%		0.03%		
PERCENT WIND COVERAGE	99.94% 16 kts		99.94% 16 kts		99.94% 16 kts		99.94% 16 kts		99.94% 16 kts		
MAXIMUM ELEVATION ABOVE MSL	115.2'		115.2'		106.6'		106.4'		104.6'		
RW SURFACE TYPE	ASPH		ASPH		ASPH–GRVD		ASPH–GRVD		CONCRETE		
RSA – LENGTH BEYOND RW END	1000'		1000'		300'		300'		300'		
RSA – WIDTH	500'		500'		150'		150'		150'		
RPZ – LENGTH BEYOND RW END	200'		200'		200'		200'		200'		
RPZ – DIMENSIONS	1000 X 1750 X 2500		1000 X 1750 X 2500		500 X 700 X 1000		500 X 700 X 1000		500 X 700 X 1000		
OFA – LENGTH BEYOND RW END	1000'		1000'		300'		300'		300'		
OFA WIDTH	800'		800'		500'		500'		500'		
OFZ – LENGTH BEYOND RW END	200'		200'		200'		200'		200'		
OFZ WIDTH	400'		400'		400'		400'		400'		
RUNWAY END	13L	31R	13L	31R	18	36	18	36	13R	31L	
APPROACH TYPE	PRECISION	PRECISION	PRECISION	PRECISION	VISUAL	VISUAL	VISUAL	VISUAL	VISUAL	VISUAL	
APPROACH VISIBILITY MINIMA	1/2 MILE	3/4 MILE	1/2 MILE	3/4 MILE	VISUAL	VISUAL	VISUAL	VISUAL	VISUAL	VISUAL	
THRESHOLD SITING SURFACE & SLOPE	∯7 34:1	∯6 20:1	∯7 34:1	∯6 20:1	∯3 20:1	∯3 20:1	∯3 20:1	∯3 20:1	∯3 20:1	∯3 20:1	
RUNWAY MARKING	PIR	NPI	PIR	NPI	BASIC	BASIC	BASIC	BASIC	BASIC	BASIC	
RUNWAY VISUAL AIDS	MALSR	PAPI	MALSR	PAPI	PAPI REIL	PAPI REIL	PAPI REIL	PAPI REIL	NONE	NONE	
TOUCHDOWN ZONE ELEVATION	115.2'	106.4'	115.2'	106.4'	106.6'	105.9'	106.6'	105.9'	104.6'	104.4'	
FAR PART 77 APPROACH CATEGORY	PIR	D	PIR	D	B(V)	B(V)	B(V)	B(V)	B(V)	B(V)	
FAR PART 77 APPROACH SURFACE SLOPE	50:1	34:1	50:1	34:1	20:1	20:1	20:1	20:1	20:1	20:1	
TAKE–OFF DISTANCE AVAILABLE (TODA)	9111'	9111'	9111'	9111'	4908'	4908'	4908'	4908'	4643'	4643'	
ACCELERATE STOP DISTANCE AVAIL. (ASDA)	9111'	9111'	9111'	9111'	4908'	4908'	4908'	4908'	4643'	4643'	
LANDING DISTANCE AVAILABLE (LDA)	9111'	9111'	9111'	9111'	4908'	4908'	4908'	4908'	4202'	4092'	

AIRPORT DATA TABLE		
	EXISTING	ULTIMATE
AIRPORT ELEVATION (MSL)	115.2'	115.2'
AIRPORT NAVIGATION AIDS	ILS,GPS,VOR,BEACONS	ILS,GPS,VOR,BEACONS
MEAN MAX TEMP (Hottest Month °F)	94°F	94°F
AIRPORT REFERENCE CODE (ARC)	C–II	C–II
CRITICAL AIRCRAFT	CITATION–X	CITATION–X
NPIA's SERVICE LEVEL	NATIONAL / REGIONAL	NATIONAL / REGIONAL
TxDOT SERVICE ROLE	COMMERCIAL SERVICE	COMMERCIAL SERVICE
AIRPORT REFERENCE POINT COORDINATES	28°51'09.17" N 96°55'06.56" W	28°51'09.17" N 96°55'06.56" W

NOTES

DATUM COORDINATE SYSTEMS – HORIZONTAL DATUM NAD 1983 State Plane Texas South Central 4204 Feet, VERTICAL DATUM NAVD88.

NO KNOWN OFZ OBJECT PENETRATIONS

NO SURVEY WAS COMPLETED DURING THE COMPLETION OF THIS ALP – NO INNER PORTION DRAWINGS ARE INCLUDED SINCE THERE IS NO OBSTRUCTION DATA.

TAXIWAY DATA TABLE		
	EXISTING	ULTIMATE
TAXIWAY MARKING	STD W/℄REF	STD W/℄REF
TAXIWAY LIGHTING	MITL	MITL
TAXIWAY / TAXILANE WIDTH	35'	35'
TAXIWAY SAFETY AREA	79'	79'
TAXIWAY OBJECT FREE AREA	131'	131'

RUNWAY END COORDINATES AND ELEVATIONS			
RUNWAY END	LATITUDE	LONGITUDE	ELEVATION
EXISTING END OF RWY 13L	28°51'49.5005" N	96°56'02.6813" W	115.1'
EXISTING END OF RWY 31R	28°50'48.6159" N	96°54'47.0888" W	103.5'
EXISTING END OF RWY 18	28°51'32.1613" N	96°54'35.1165" W	106.4'
EXISTING END OF RWY 36	28°50'43.5677" N	96°54'34.9915" W	102.9'
EXISTING END OF RWY 13R	28°51'06.1919" N	96°55'21.4095" W	103.6'
DISPLACED END OF RWY 13R	28°51'03.2443" N	96°55'17.7498" W	104.5'
EXISTING END OF RWY 31L	28°50'35.1666" N	96°54'42.8930" W	102.3'
DISPLACED END OF RWY 31L	28°50'38.8491" N	96°54'47.4641" W	102.3'

MODIFICATION TO STANDARDS
NONE REQUIRED

VICTORIA REGIONAL AIRPORT

REV	DESCRIPTION	DATE	APPROVED

TEXAS DEPARTMENT OF TRANSPORTATION
AVIATION DIVISION

ALP APPROVED ACCORDING TO FAA AC 150/5300–13 CHANGE 16 PLUS THE REQUIREMENTS OF A FAVORABLE ENVIRONMENTAL FINDING AND FAA NRA STUDY PRIOR TO THE START OF ANY LAND ACQUISITION OR CONSTRUCTION ON AIRPORT PROPERTY.

DAVID FULTON, DIRECTOR, AVIATION DIVISION — DATE

AIRPORT SPONSOR

CURRENT AND FUTURE DEVELOPMENT DEPICTED ON THIS ALP IS APPROVED AND SUPPORTED BY AIRPORT SPONSOR

SPONSOR ACKNOWLEDGES APPROVAL OF ALP BY TXDOT DOES NOT CONSTITUTE A COMMITMENT TO FUNDING.

SIGNATURE — DATE

TITLE, AIRPORT SPONSOR'S REPRESENTATIVE

PREPARED BY:

KSA
8875 Synergy Drive
McKinney, Texas 75070
T.972-542-2995
F.972-542-6750
www.ksaeng.com

M MALLONEE — SEPTEMBER 2017
DESIGNED BY — DATE

J PENNINGTON — SEPTEMBER 2017
DRAWN BY — DATE

AIRPORT LAYOUT DRAWING
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

Texas Department of Transportation
Aviation Division

MAGNETIC DECLINATION JUNE-2017
3°27'E, CHANGING BY 0°7' PER YEAR

3°7' E (2017) TRUE MAGNETIC

600' 0 600' 1200'
GRAPHIC SCALE IN FEET

PROPERTY LINE (EX)

PERIMETER FENCE (EX)

PROPERTY LINE (EX)

PERIMETER FENCE (EX)

PERIMETER FENCE (EX)

PROPERTY LINE (EX)

PROPERTY LINE (EX)

EX AND ULT 9144' X 150'

TRUE AZIMUTH 162°

EX AND ULT 4643' X 150'

TRUE AZIMUTH 132.4°

TWY A

TWY B

TWY C

TWY D

TWY A

TWY A

TWY A

TWY F

AIRPORT PROPERTY – DATA TABLE					
PARCEL	CURRENT PROPERTY OWNER	INTEREST	ACREAGE	DATE ACQUIRED	FEDERAL PROJECT NO.
1	VICTORIA COUNTY, TEXAS	FEE SIMPLE TITLE	1766	05-22-61	GENERAL SERVICES ADMINISTRATION TRANSFER

REV	DESCRIPTION	DATE	APPROVED

TEXAS DEPARTMENT OF TRANSPORTATION
AVIATION DIVISION

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DAVID FULTON, DIRECTOR, AVIATION DIVISION — DATE

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AIRPORT PROPERTY MAP
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

Aviation Division

MAGNETIC DECLINATION JUNE-2017
3°27'E, CHANGING BY 0°7' PER YEAR

3°7' E (2017) TRUE MAGNETIC

600' 0 600' 1200'

GRAPHIC SCALE IN FEET

EX RNP GLT 9414' X-150'

TRUE AZIMUTH 182°

EX RNP GLT 8243' X-156'

TRUE AZIMUTH 132°

TWY A

TWY B

TWY D

TWY A

TWY A

TWY F

REV	DESCRIPTION	DATE	APPROVED

TEXAS DEPARTMENT OF TRANSPORTATION
AVIATION DIVISION

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DESIGNED BY — DATE

J. PENNINGTON — SEPTEMBER 2017
DRAWN BY — DATE

LEGEND	
	AERONAUTICAL
	AGRICULTURAL
	NON-AERONAUTICAL / INDUSTRIAL

VICTORIA REGIONAL AIRPORT

LAND USE DRAWING
VICTORIA REGIONAL AIRPORT
VICTORIA, TEXAS (VCT)

Texas Department of Transportation
Aviation Division

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