

# JBSA-RANDOLPH



## JOINT LAND USE STUDY



# JBSA-RANDOLPH



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This study was prepared under contract with Bexar County, with financial support from the Office of Economic Adjustment, Department of Defense. The content reflects the views of the key JLUS partners involved in the development of this study and does not necessarily reflect the views of the Office of Economic Adjustment.

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**JBSA – RANDOLPH**  
**JOINT LAND USE STUDY**

**July 2015**

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*Prepared for:*

**County of Bexar  
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*Prepared by:*

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*Please see the next page.*

## Executive Committee

The Executive Committee (EC) served an active and important role in providing policy direction during the development of the Joint Base San Antonio (JBSA) Randolph Joint Land Use Study (JLUS). The Executive Committee comprised the following individuals:

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## **Advisory Committee**

The Advisory (AC) served a key role in the development of the JBSA-Randolph JLUS, providing the overall technical support, review, and guidance of the study. The Advisory Committee comprised the following individuals:

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*Deputy Project Manager*

**Rick Rust**, *AICP*  
*Technical Manager*

**Michele Zehr-Mora**  
*Planning Lead*

*Please see the next page.*

Acronyms..... iii

**1 Introduction ..... 1**

1.1 Why Prepare a JLUS ..... 1

1.2 Economic Benefit to the Region ..... 2

1.3 Compatibility Concerns..... 2

1.4 JLUS Goal and Objectives..... 2

1.5 JLUS Partners ..... 2

1.6 Local Communities..... 3

1.7 Public Participation ..... 3

1.8 JLUS Study Area..... 5

**2 Community Profile..... 7**

2.1 JLUS Community Growth Trends ..... 7

2.2 Current Development in Adjacent Communities ..... 9

**3 Military Profile..... 11**

3.1 JBSA-Randolph ..... 11

3.2 JBSA-Randolph Military Mission Profile..... 12

3.3 JBSA-Seguín Auxiliary Airfield ..... 17

3.4 Stinson Municipal Airport ..... 19

**4 Existing Compatibility Tools..... 23**

4.1 Federal Programs and Policies..... 23

4.2 JBSA-Randolph Tools..... 23

4.3 State of Texas Tools ..... 24

4.4 Texas Local Jurisdiction Planning Tools ..... 24

**5 Compatibility Issues..... 25**

5.1 Identification of Compatibility Issues ..... 25

5.2 JBSA-Randolph Compatibility Issues by Factor ..... 25

**6 Implementation Plan..... 31**

6.1 Implementation Plan ..... 31

6.2 How to Read the Implementation Plan ..... 43



## Tables and Figures

---

Table 1.	Population Change 2000-2010 JBSA-Randolph JLUS Study Area.....	8
Table 2.	Population Projections 2010-2050 JBSA-Randolph JLUS Study Area.....	8
Figure 1.	JLUS Study Area.....	4
Figure 2.	Military Footprint Composite JBSA-Randolph .....	13
Figure 3.	Special Use Airspace JBSA-Randolph .....	14
Figure 4.	Military Footprint Composite JBSA-Seguin Auxiliary Airfield .....	18
Figure 5.	Military Footprint Composite Stinson Municipal Airport .....	20
Figure 6.1.	Military Influence Area Overlay District (MIAOD) and Subzones Composite JBSA-Randolph .....	35
Figure 6.2.	Military Influence Area Overlay District (MIAOD) with Subzones JBSA-Randolph .....	36
Figure 6.3.	Military Overlay District (MOD) with Subzones JBSA-Randolph .....	37
Figure 7.1.	Military Influence Area Overlay District (MIAOD) with Subzones JBSA-Seguin Auxiliary Airfield .....	39
Figure 7.2.	Military Influence Area Overlay District (MIAOD) with Subzones JBSA-Seguin Auxiliary Airfield.....	40
Figure 7.3.	Military Influence Area Overlay District (MIAOD) with Subzones JBSA-Seguin Auxiliary Airfield.....	41
Figure 8.1.	Military Influence Area Overlay District (MIAOD) and Subzones Composite Stinson Municipal Airport .....	43
Figure 8.2.	Military Influence Area Overlay District (MIAOD) with Subzones Stinson Municipal Airport .....	44
Figure 9.	JBSA-Randolph JLUS Strategy Key.....	46

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**A**

A-	Alert Area
AC	Advisory Committee
Acq	Acquisition
AAFES	Army and Air Force Exchange Service
AE	Alternative Energy Development
ABW	Air Base Wing
AFB	Air Force Base
AGL	above ground level
AICUZ	Air Installation Compatible Use Zone
AHOD	Airport Hazard Overlay District
APZ	Accident Potential Zone
AT	Anti-Terrorism / Force Protection
ATCT	Air Traffic Control Tower
AT/FP	Anti-Terrorism / Force Protection

**B**

BASH	Bird Aircraft Strike Hazard
BRAC	Base Realignment and Closure

**C**

CCLUA	Controlled Compatible Land Use Area
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
COM	Communication / Coordination
Comm	Communication and Coordination
CPS	City Public Service Energy
CY	Calendar Year
CZ	Clear Zone

**D**

dB	decibel
Disc	Real Estate Disclosures
DOD	Department of Defense
DNL	Day-night level
DSS	Dust, Smoke and Steam

**E**

EC	Executive Committee
ETJ	Extraterritorial Jurisdiction



## F

FAA	Federal Aviation Administration
FAR	Floor to Area Ratio
FM	Farm to Market
FTW	Flying Training Wing
FY	fiscal year

## G

GIS	Geographic Information System
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## H

HA	Housing Availability
Hab	Habitat Conservation Tools
HQ	Headquarters

## I

I	Interstate
IE	Infrastructure Extensions
IFR	instrument flight rule

## J

JAZB	Joint Airport Zoning Board
JBSA-Randolph	Joint Base San Antonio-Randolph
JBSA-Seguin	Joint Base San Antonio-Seguin Auxiliary Airfield
JLUS	Joint Land Use Study

## L

LAS	Land, Air and Sea Space Competition
LEG	Legislative Initiatives
Leg	Legislative Tools
LG	Light and Glare
LU	Land Use

## M

MAOZ	Military Airport Overlay Zone
MIA	Military Influence Area
MIAOD	Military Influence Area Overlay District
MOA	Military operating area
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSL	mean sea level
MTR	Military Training Route

## N

NGO	Nongovernmental Organization
NV	Noise and Vibration

## O

OEA	Office of Economic Adjustment
OFA	Object Free Area
OFZ	Obstacle Free Zone

## R

RA (R-)	Restricted Airspace
RC	Roadway Capacity
RECSA	Real Estate Council of San Antonio
RPZ	Runway Protection Zone
RSA	Runway Safety Area

## S

SABOR	San Antonio Board of Realtors
SAF	Safety Zones
SAWS	San Antonio Water System
SIP	Strategic Impact Plan
SH	State Highway
SR	Slow speed low altitude training route
STC	Sound Transmission Class
SUA	Special Use Airspace

**T**

TSDC	Texas State Data Center
TX	Texas
TXDOT	Texas Department of Transportation

**U**

UDC	Unified Development Code
U.S.	United States
USAF	United States Air Force

**V**

VO	Vertical Obstructions
VFR	visual flight rule

**W**

WQQ	Water Quality/ Quantity
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**Z**

Zon	Zoning Ordinance / Subdivision Regulations
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Please see the next page.

The Joint Base San Antonio-Randolph (JBSA-Randolph) Joint Land Use Study (JLUS) is a joint effort between the cities of Cibola, Converse, Garden Ridge, Live Oak, San Antonio, Schertz, Selma, and Seguin, and the counties of Bexar and Guadalupe, and JBSA-Randolph. The JLUS was undertaken in an effort to guide planning and development in local jurisdictions surrounding JBSA-Randolph, JBSA-Seguin Auxiliary Airfield (JBSA-Seguin), and the Stinson Municipal Airport (Stinson). JBSA-Randolph is a flying training wing asset in the United States Air Force and the Air Education Training Command. Because these activities are vital to continuing the military mission at JBSA-Randolph, the land used for the activities must be protected. Landowners with property near JBSA-Randolph, JBSA-Seguin, Stinson, and residents and businessowners on property surrounding these facilities must also be protected from adverse impacts that could occur due to training activities performed at these facilities. Joint planning efforts on the part of the local governments and JBSA-Randolph will establish recommended strategies that will equally protect all interested parties.

The JLUS for JBSA-Randolph has resulted in a set of strategy recommendations in the areas of legislation, policy, planning and zoning, coordination and communication, acquisition, and outreach. A set of strategies was provided to address each JBSA-Randolph Compatibility Factor. Priorities were set initially to help determine when the strategies would be implemented, either within two years, five years, or longer than five years. One of the key recommendations is the formation of a JLUS Implementation Task Force that will be responsible for overseeing implementation in the months and years following the JLUS completion. The recommended strategies are outlined in more detail in Chapter 6 of this report. Additionally, a Background Report was prepared in conjunction with the JLUS that details the compatibility issues and process integral to the development of the strategies.

These recommendations address the need for increased coordination and communication between JBSA-Randolph, local governments, regional agencies, and the public. They also seek to address public health, safety, and welfare, and protection of quality of life in the areas surrounding JBSA-Randolph and its sub-facilities. The collaborative spirit of the JLUS is an effective starting point for a continued collaborative planning and communication effort between all involved parties.

## 1.1 Why Prepare a JLUS?

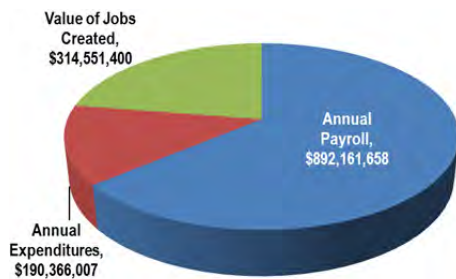
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A JLUS is necessary to ensure the future compatibility between land uses in surrounding communities necessary to support the continuation of the military mission at JBSA-Randolph and the increasing development occurring proximate to the installation. JBSA-Randolph is one of the three noncontiguous installations that comprise Joint Base San Antonio located in Bexar County. JBSA-Randolph is home to the 12th Flying Training Wing (FTW) whose primary mission is to provide basic pilot training and instructor pilot training to airmen. In addition, JBSA-Randolph is Headquarters for Air Education Training Command (AETC) whose mission is to develop airmen of today and tomorrow through various education disciplines and training activities.



## 1.2 Economic Benefit to the Region

In addition to being a critical flying training asset in the United States Air Force (USAF), JBSA-Randolph is also an important economic engine contributing to the local and regional economies through annual payroll, annual expenditures, and value of jobs created. The JLUS assists in preserving the continued economic benefit that JBSA-Randolph provides. In 2012, JBSA-Randolph generated over \$1.3 billion in local and regional economic impact and supported and served over 17,000 personnel. The \$1.3 billion in impact is broken down into three categories: annual payroll at \$892.1 million, annual expenditures (i.e. contracts and operations and maintenance) procured at \$190.3 million, and value of jobs created at \$314.5 million.



## 1.3 Compatibility Concerns

At JBSA-Randolph, the compatibility concerns relate to the growing population and expansion of developed land taking place in the incorporated communities surrounding the Joint Base. Over the past 10 years, the local communities surrounding JBSA-Randolph have increased by 60 percent from a base population of nearly 82,000 (from the communities surrounding the base and facilities excluding the City of San Antonio) to over 131,000 by the year 2010. While the regional area is expected to grow at a slow, steady rate for the next 20 years, the areas surrounding the base are growing rapidly. Such growth has the potential to cause development and infrastructure to be located in areas that are adjacent to or proximate to JBSA-Randolph. While adjacent development exists in various locations along the installation perimeter, without proper oversight and guidance, this continued pattern of

development could unintentionally jeopardize the USAF's ability to train its airmen, especially in newer aircraft systems.

## 1.4 JLUS Goal and Objectives

The goal of the JBSA-Randolph JLUS is to protect the viability of current and future military training operations, while simultaneously guiding community growth, sustaining the environmental and economic health of the region, and protecting public health, safety, and welfare. To achieve this goal, three primary JLUS objectives were identified:

- **Understanding.** Convene community and military representatives to identify, confirm, and understand compatibility issues in an open forum, taking into consideration both community and JBSA-Randolph perspectives and needs. This includes public awareness, education, and input organized into a cohesive outreach program.
- **Collaboration.** Encourage cooperative land use and resource planning among JBSA-Randolph and the surrounding communities so that future community growth and development are compatible with the training and operational missions at JBSA-Randolph seeking ways to reduce operational impacts on adjacent land proximate and within the study area.
- **Actions.** Provide a set of mutually supported tools, activities, and procedures from which local jurisdictions, agencies, and JBSA-Randolph can select, prepare, and approve / adopt and use to implement the recommendations developed during the JLUS process. The actions include both operational measures to mitigate installation impacts on surrounding communities and local government and agency approaches to reduce community impacts on military operations.

## 1.5 JLUS Partners

As highlighted in the objectives stated previously, the JBSA-Randolph JLUS process was designed to create a locally relevant study that builds consensus and obtains support from the various stakeholders involved. To

achieve the stated JLUS goal and objectives, the planning process included a public outreach program that utilized a variety of opportunities for interested parties to contribute to the development of the study.

Stakeholders include individuals, groups, organizations, and government entities interested in, affected by, or affecting the outcome of the JLUS project. An early step in any planning process is the identification of stakeholders. Informing or involving them early in the project is essential in the identification of their most important issues to address and resolve through the development of integrated strategies and measures. Stakeholders identified for the JBSA-Randolph JLUS included, but were not limited to, the following:

- JBSA-Randolph and JBSA personnel;
- Local jurisdictions (cities, counties and metropolitan planning organizations);
- Other partner agencies and organizations, such as local, regional, and state planning, regulatory, and land management agencies; landholding and regulatory federal agencies; landowner and realty associations; and other special interest groups (including local educational institutions and school districts);
- The general public, including residents and landowners.

These groups of stakeholders played a critical role in the development of the JBSA-Randolph JLUS and Background Report. Their input provided comprehensive, technical guidance relevant to their jurisdiction's policies, regulations, culture, and values. The JBSA-Randolph stakeholder groups helped shape the various strategies identified in this document.

## 1.6 Local Communities

This JLUS could not have been possible without the effort provided by the 11 communities participating in this study illustrated on Figure 1:

- Bexar County
- City of Converse
- City of Garden Ridge
- City of Live Oak
- City of San Antonio

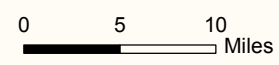
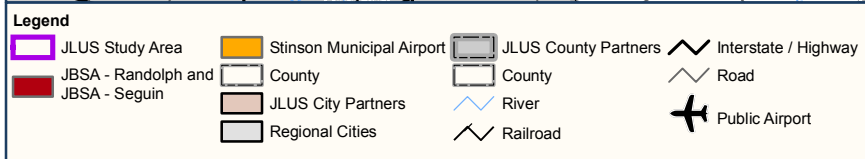
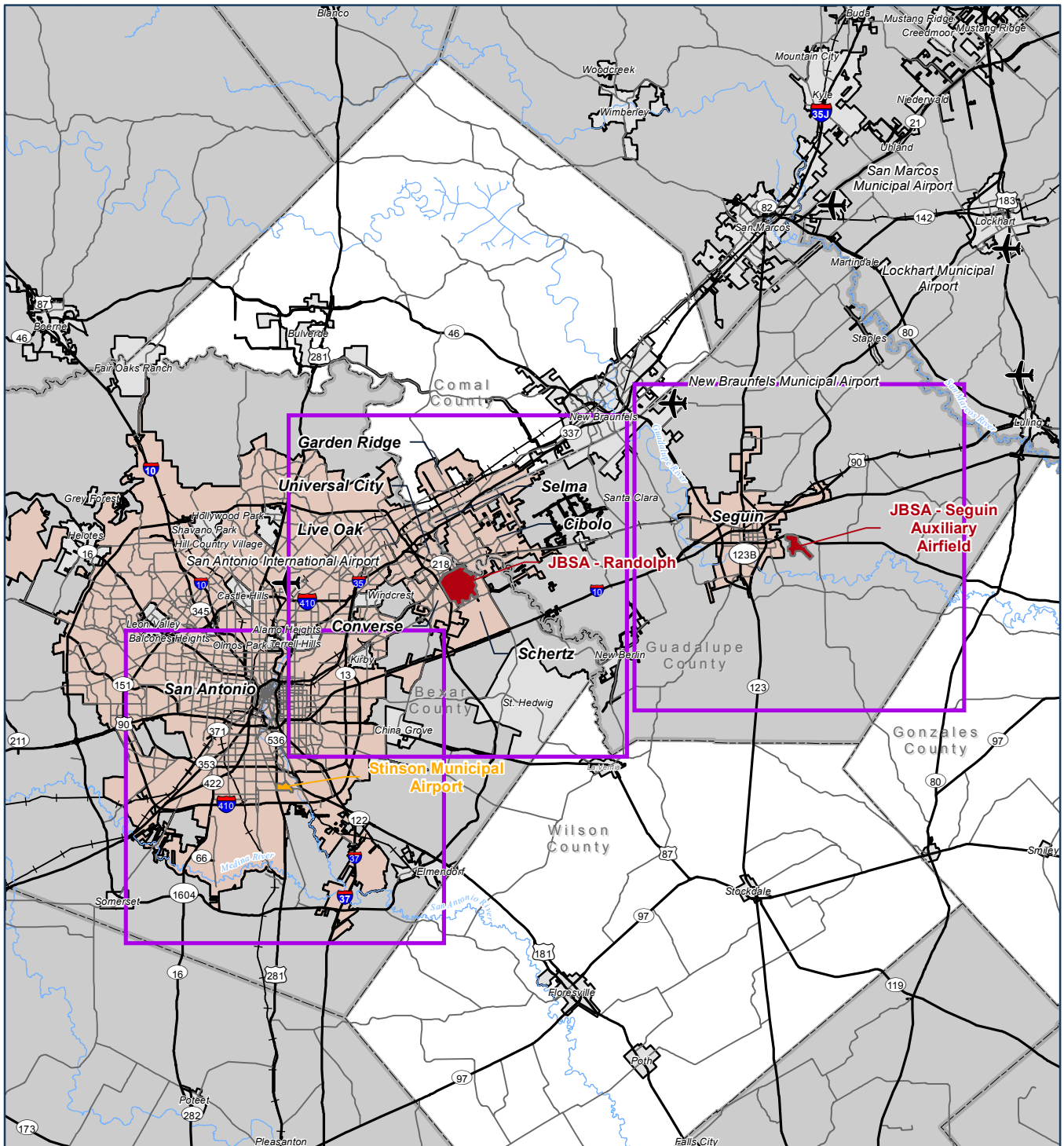
- City of Schertz
- City of Selma
- City of Universal City
- Guadalupe County
- City of Cibolo
- City of Seguin

In addition to the partners listed above, the JBSA-Randolph JLUS partnered with other agencies and organizations that provide a state, regional and / or community perspective. These partners brought to the study a vast, expert knowledge base in varying disciplines, including regional transportation practices, natural resources, and local "on-the-ground" perspective relevant to the unique land features and land ownership patterns. A complete listing of affiliated stakeholder groups that played a vital role in the development of the JBSA-Randolph JLUS includes:

- Federal Aviation Administration (FAA)
- Greater San Antonio Builders Association
- Real Estate Council of San Antonio
- San Antonio Board of Realtors
- Texas House of Representatives, District 118
- Texas House of Representatives, District 119
- Texas House of Representatives, District 120
- Texas Military Preparedness Commission
- U.S. House of Representatives, District 35
- Texas Department of Transportation

## 1.7 Public Participation

The general public was instrumental in the development of the JLUS and strategies by providing their perspective and feedback, both in public workshops and through the use of the interactive project website ([www.jbsa-randolphjlus.com](http://www.jbsa-randolphjlus.com)). During the development of the JLUS, three public workshops and one public hearing were held to solicit public input on the direction and content of the JLUS.



Source: TNRS, 2013.



**Figure 1**  
**JLUS Study Area**

## JLUS Committees

Two committees, comprising city, county, military, and other partner agencies and organizations, guided the development of the JBSA-Randolph JLUS:

**Executive Committee (EC).** This committee was responsible for leading the direction of the JLUS; its members are listed in the Acknowledgements section of this report.

**JLUS Advisory Committee (AC).** The AC identified and addressed technical issues, provided feedback on report development, and assisted in the development and evaluation of implementation strategies. The AC members are listed in the Acknowledgements section of this report.

The area around Stinson Municipal Airport is characterized by portions of residential development and open and park space. Figure 1 illustrates the overall JBSA-Randolph JLUS study area.

## 1.8 JLUS Study Area

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The JBSA-Randolph JLUS Study Area was designed to encompass all lands and operational areas of JBSA-Randolph locations and use areas that may impact current or future military operations or be impacted by these operations.

JBSA-Randolph is located in northeastern Bexar County, Texas, situated outside the San Antonio city limits, and is surrounded by several small municipalities: the City of Universal City to the north; the City of Schertz to the northeast, east and south; and the City of Converse to the west. The areas north and west of the installation are urbanized, while the area south and east of the installation are predominantly agricultural and open space with pockets of residential subdivisions.

JBSA-Seguin is a sub-installation of JBSA-Randolph and is located one mile east-southeast of the City of Seguin along U.S. Route 90 (US-90). The City of Seguin is characterized as a rural and agriculture-friendly municipality located 30 miles east of JBSA-Randolph along the Interstate-10 and US-90 corridor.

Stinson Municipal Airport is owned and operated by the City of San Antonio. It is situated in San Antonio City Council District 3, just south of downtown and is open to public use. It is approximately 33 miles south-southwest of JBSA-Randolph proper and is contracted by the Department of Defense (DOD) to enable flying training exercises.

*Please see the next page.*

The Joint Land Use Study (JLUS) study area includes three distinct and separate locations all within south-central Texas. Joint Base San Antonio-Randolph (JBSA-Randolph) is northeast of the City of San Antonio and is located between Interstates 10 and 35 in Bexar County. JBSA-Seguin Auxiliary Airfield (JBSA-Seguin) is located about 30 miles east of JBSA-Randolph, just south of Interstate-10 (I-10) in Guadalupe County. Stinson Municipal Airport, which is owned and operated by the City of San Antonio, is located in the southeast sector of San Antonio in City Council District 3, just west of I-37.

The present setting and character of the three areas within the overall study area are both, urban and rural. The area surrounding JBSA-Randolph includes both developed and undeveloped lands. The northern and western areas adjacent to the installation are primarily developed including residential, commercial, and industrial uses. The east and south areas of JBSA-Randolph are characterized by more rural land including agricultural, open / undeveloped, and low-density or rural residential uses.

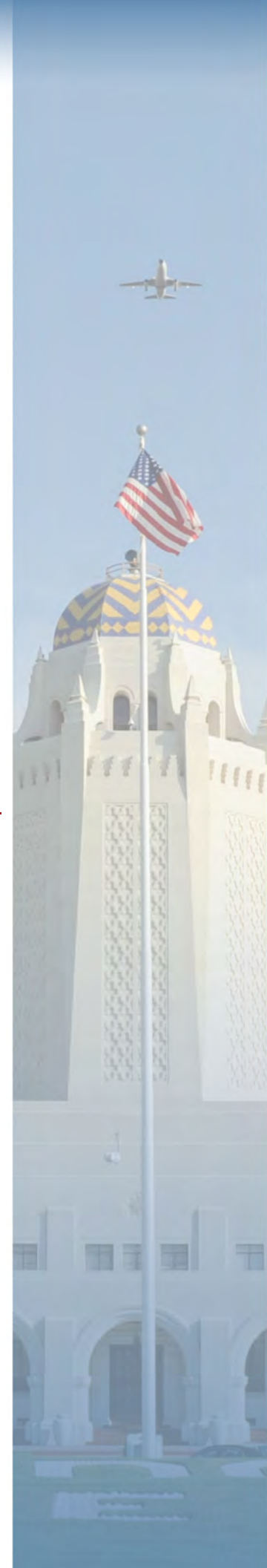
The San Antonio metropolitan area is host to a diverse local economy and is a regional center for retail, business, and manufacturing. Several significant economic drivers exist throughout the JLUS Study Area, including the Caterpillar engine assembly plant in Seguin; the Hanson Quarry in Garden Ridge; and the San Antonio Military Medical Center in San Antonio. The diverse economy within the San Antonio metropolitan area comprises several industries including healthcare, retail, accommodation, administration, finance and insurance, construction, and manufacturing. These industries reflect the major economic development sectors found throughout the region. The suburban communities have diverse economies, but also rely on JBSA-Randolph for local economic support.

## 2.1 JLUS Community Growth Trends

Recent population growth has brought significant development to the study area. Every jurisdiction, with the exception of the cities of San Antonio and Seguin, experienced growth rates higher than those of the State of Texas and Bexar County, with the City of Selma growing by over 600 percent in the last decade. Additionally, the cities of Converse, Cibolo, Garden Ridge, and Schertz all experienced substantial growth due to the outward expansion from the central core of San Antonio and general expansion within these cities. Table 1 shows the population change from 2000 to 2010 and notes the percent change in the 10 years.

Despite this being a large, urbanized area, the majority of land in Bexar County is developed characterized by one major city, the City of San Antonio, numerous other cities, towns and military bases. This urbanized area encompasses 656 square miles within Bexar County, while the unincorporated area covers 600 square miles. JBSA R and Stinson Municipal Airport are located entirely within the county while JBSA-S is located in neighboring Guadalupe County.

Currently, the area within Guadalupe County continues to experience growth and, in recent years, a diversified economy and population boom. Manufacturing supported over 6,000 jobs in Guadalupe County in 2009, generating \$1.62 billion. Caterpillar built a \$170 million manufacturing plant in the City of Seguin, which supports 1,400 jobs in the area. The county's population has experienced a dramatic increase in recent years and had a 2010 population of 131,533. This population is largely clustered in or around Schertz, Cibolo, Seguin, and, to a small extent, the peripheries of New Braunfels and San Marcos.



The balance of Guadalupe County remains unchanged from earlier times and is primarily rural and agricultural.

**Table 1. Population Change 2000-2010  
JBSA-Randolph JLUS Study Area**

Jurisdiction	2000	2010	Percent Change
State of Texas	20,851,820	25,145,561	21%
Bexar County	1,392,931	1,714,773	23%
City of Converse	11,508	18,198	58%
City of Garden Ridge	1,882	3,259	73%
City of Live Oak	9,156	13,131	43%
City of San Antonio	1,144,646	1,327,407	16%
City of Schertz	18,694	31,465	68%
City of Selma	788	5,540	603%
City of Universal City	14,849	18,530	25%
Guadalupe County	89,023	131,533	48%
City of Cibolo	3,035	15,349	406%
City of Seguin	22,011	25,175	14%

Source: Census.gov, 2000, 2010.

## Future Population Projections

The Texas State Data Center (TSDC) prepared three projection scenarios for forty year population growth estimates for the State of Texas and all counties within its jurisdiction. The estimates included Bexar and Guadalupe counties, which are included in the study area. The TSDC included a background of the methodology used to prepare the three projection scenarios and provided recommendations regarding the use of each scenario's data set. The three data sets focused on a "Zero Migration Scenario", a "One-Half 2000-2010 Migration (0.5) Scenario", or a "2000-2010 Migration (1.0) Scenario". Matrix employed the recommendation for use of the "One-Half 2000-2010 Migration (0.5) Scenario" by the TSDC in so far as the TSDC noted that the "0.5 scenario continues to be the most appropriate scenario for most counties for use in long-term planning." These 0.5 migration projections are identified in Table 2.

These projections demonstrate a continued rate of growth in the State of Texas, Bexar County, and Guadalupe County. Although this information is not specific to the JLUS study area, it is helpful as it substantiates other growth projections and helpful in understanding regional growth trends.

Source: Texas State Data Center, *Projections of the Population of Texas and Counties in Texas by Age, Sex and Race/Ethnicity for 2010-2050*, Nov 2012 *JLUS Community Economic Trends*

**Table 2. Population Projections 2010-2050 JBSA-Randolph JLUS Area**

Jurisdiction	2010	2020	2030	2040	% Change
State of Texas	25,145,561	28,921,650	32,927,245	37,022,513	47%
Bexar County	1,714,773	1,974,041	2,231,550	2,468,254	44%
Guadalupe County	131,533	160,265	192,682	225,850	72%

Source: Texas State Data Center, *Projections of the Population of Texas and Counties in Texas by Age, Sex and Race/Ethnicity for 2010-2050*, November 2012

## 2.2 Current Development in Adjacent Communities

A few of the communities within the JBSA-Randolph JLUS Study Area are located directly adjacent to JBSA-Randolph. These communities include the cities of Converse, Schertz, and Universal City. Development pressures extending from these adjacent jurisdictions can impact JBSA-Randolph operations and vice versa the military operations can impact the communities' ability to develop. The cities of Cibolo, Garden Ridge, Live Oak, San Antonio, and Selma, comprise the other communities included in the study area, which are proximate or adjacent to Converse, Schertz and Universal City and can absorb development from the adjacent communities or create additional impacts for the installation. Otherwise, the City of Seguin is located proximate to JBSA-Seguin and the City of San Antonio is located proximate to the Stinson Municipal Airport (Stinson).

### City of Converse

The City of Converse while mostly developed, hired a firm to develop a plan for the city's 1604 Corridor to expand upon its amenities offered to its residents and visitors. The development is proposed for the city's eastern / southeastern boundary along the alignment of Loop 1604. This area encompasses both incorporated land and proposed future extraterritorial jurisdiction (ETJ). This corridor development is outlined in the 1604 Commercial Corridor Study and provides a variety of uses and amenities to the city's residents and visitors including but not limited to a healthcare / medical zone, several retail zones, and open space and recreational opportunities. The proposed development would be considered the gateway for the community and provide another foundation for the city's economic base.

*Source: 1604 Commercial Corridor Study, Aug 2013*

### City of Schertz

According to the City of Schertz's Comprehensive Land Plan, the city witnessed a large amount of residential and industrial growth from 2000 to 2010 and expects continued growth in both sectors. The plan noted that the residential and industrial growth is occurring more in northern areas of Schertz when compared to the southern areas, since the southern areas face development challenges. Future constraints for continued residential and industrial growth include available land, flood plain, and the recommended land

use guidelines to develop property located within the JBSA-R airfield safety zones and noise contours. Schertz has some concerns about sprawl and looks to the implementation of Smart Growth techniques, i.e., traditional neighborhood development, transit-oriented development, conservation subdivision techniques / cluster zoning, and planned unit, to grow efficiently.

*Source: City of Schertz Comprehensive Land Plan, undated*

### City of Universal City

The main retail corridor through the City of Universal City is State Highway (SH) 218, Pat Booker Road, which provides the greatest development opportunity within the city. In the 2008 Universal City Comprehensive Plan, the city identified redevelopment and infill as the major means to obtain housing growth. The city zoned the areas along Pat Booker Road for retail and commercial services and has increased the density of its neighborhoods to medium-density zoning in many of the areas along the highway. Furthermore, the city's zoning ordinance includes three overlay districts: redevelopment, aviation district, and campus, in addition to the Randolph compatible use zone overlay, which will provide more flexible requirements to assist in developing these areas.

*Sources: Universal City Comprehensive Plan 2008-2013; Universal City Zoning Ordinance*

### City of Cibolo

The City of Cibolo includes a large amount of ETJ area south of the incorporated city area. This ETJ extends south past I-10, abutting the City of San Antonio's ETJ, and east along I-10, abutting the City of Seguin's ETJ. The recent rapid population growth is likely to spur development and increase the rate of annexation. The ETJ area along I-10 is expected to provide an important development thoroughfare and contribute to the overall growth within the area.

The city has currently zoned much of the annexed area between SH 539 and I-10 as rural residential, while the areas closer to I-10, along Bolton Road and Main Street Extension, are zoned for commercial, commercial / industrial, single-family residential and mixed use land uses.

These areas of concentration support the city's goals of expanding business development, industrial parks, and retail development to diversify the city's economy.

*Sources: City of Cibolo – Update to the Master Plan, 2005; City of Cibolo Economic Development website homepage, accessed Oct 2013; City of Cibolo Future Land Use and Thoroughfare Map, 2013; City of Cibolo Overall Annex Map, July 9, 2013; Seguin City Limits / ETJ map, undated*

## City of Garden Ridge

The City of Garden Ridge is bound to the north and west by the City of San Antonio's ETJ, to the east by New Braunfels' and Schertz's ETJ, and to the south by Schertz's incorporated area. Current development is limited by the location of the active quarry, in the middle of the city. The city expects that the quarry will conclude operations in approximately 25 years. At that time, Garden Ridge expects to convert the property to 1,490 residential lots. Until such time the quarry operations cease, land cannot be developed. The zoning within the city is currently split into an even mix of single-family residential / residence-agriculture and industrial land uses.

*Sources: City of Garden Ridge, Ordinance 13-102008 (zoning), Dec 3, 2008; City of Garden Ridge, Existing Zoning map, undated; City of Garden Ridge, 2009 Water Master Plan & Impact Fee Analysis*

## City of Live Oak

The City of Live Oak is bound to the north and west by the City of San Antonio's incorporated area, to the south by the San Antonio ETJ and the City of Converse, and to the east by the cities of Universal City and Selma. The city supports goals for infill development and increased density development. The city seeks to incorporate varied density mixed uses with retail elements in neighborhood-type residential developments. This mixed use redevelopment is one of the city's future land use recommendations; others include encouraging unique mixed-use non-residential development and protecting prime retail property for the highest use development. The city also seeks to capitalize on its location at the intersection of I-35 and Loop 1604 by furthering development of the business district in the area through redevelopment and infill.

*Sources: Future Land Use Plan, City of Live Oak Comprehensive Plan 2022, undated; City of Live Oak, Texas, Zoning Map, Jul 2008*

## City of San Antonio

To further the city's long-term viability and growth, the City of San Antonio has identified supporting military installations as one of their Comprehensive Master Plan major goals, and supporting military missions and operations as one of their Annexation Policy statements. The City's ETJ and incorporated areas are located north, west, and south of JBSA-Randolph, but both are physically separated from JBSA-Randolph by the cities of Selma, Live Oak, Converse, and Schertz. The city's incorporated areas have been largely zoned for single-family residential uses with adjoining / nearby park and open space uses. Given the significant single-family residential development occurring in the cities between San Antonio and JBSA-Randolph, similar growth is likely to occur in the area controlled by the City of San Antonio.

*Sources: City of San Antonio Comprehensive Master Plan Framework, 2011; City of San Antonio Future Land Use Plan, I-10 East Perimeter Plan Update, 2008*

## City of Selma

The City of Selma is bound to the north by the City of San Antonio's ETJ, to the east by the City of Schertz, to the south by the City of Universal City, and to the west by the City of Live Oak. In 2005, approximately one-quarter to one-third of Selma was undeveloped, vacant land. Since then, several single-family residential developments have been constructed as well as multi-family residential; office; hotel, i.e., a Holiday Inn Express; and both large, i.e., a Costco, and small retail development.

*Source: City of Selma, 2005-2020 Comprehensive Development Plan Volume I, Jun 2007*

To appropriately develop and assess compatibility issues for the JBSA-Randolph JLUS, it is critical to understand the military operations and activities associated with JBSA-Randolph missions and how those operations interface with nearby communities. This chapter provides a brief overview of the mission operational footprint for JBSA-Randolph, JBSA-Seguin, and Stinson.

JBSA-Randolph is located in Bexar County, Texas about 15 miles northeast of downtown San Antonio. The installation is near major transportation corridors including Interstate 35 (I-35), I-10, and Loop 1604 and rail operated by Union Pacific. Neighboring, developed communities include the City of Converse to the west, the City of Universal City to the north, and the City of Schertz, which wraps around JBSA-Randolph extending from the installation's northeast corner to the installation's southwest corner. In addition, there are other communities that are proximate to the aforementioned cities including Cibolo, Garden Ridge, Live Oak, and Selma.

### 3.1 JBSA-Randolph

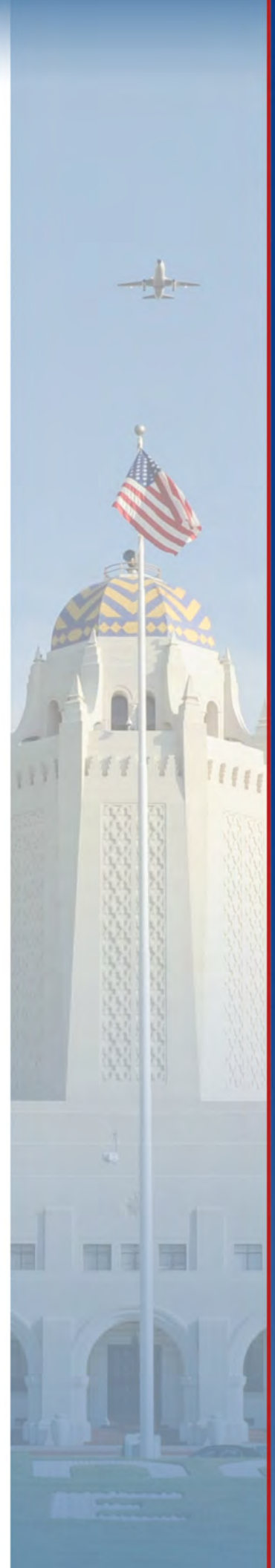
The installation covers 2,894 acres and supports numerous activities and buildings that support the mission. These include facilities and uses associated with airfield operations; industrial / maintenance; administration; community commercial, i.e., Army and Air Force Exchange Service (AAFES), and community service, i.e., chapel; medical; housing; outdoor recreation; and open space / water.

*Source: General Plan Randolph AFB, TX (undated)*

#### Military Strategic Importance

JBSA-Randolph is a critical asset to the DOD and provides flying training to student and instructor pilots. Test and evaluation of aviation-related training systems is also conducted as part of the overall mission. JBSA-Randolph not only trains pilots and instructor pilots, the base is also home to major headquarters within the United States Air Force (USAF) including Air Education and Training Command, a major command in the USAF responsible for all education and training of today's airmen, Headquarters (HQ) Air Force Personnel Center, and HQ Air Force Recruiting Service.

In addition to being a critical flying training wing in the USAF and a home to several AF HQs, JBSA-Randolph provides over \$1.3 billion in economic impact to both local and regional economies. This impact is comprised of three components: annual payroll, annual expenditures, and value of jobs created. Moreover, JBSA comprised of JBSA-Randolph, JBSA-Lackland, and JBSA-Fort Sam Houston / Camp Bullis, in Bexar County provides over \$27.7 billion in economic impact to the region. These figures not only demonstrate the economic importance of JBSA to the region, but demonstrate that JBSA-Randolph is a significant component of the local economy.



## Military Operations

The 12th Flying Training Wing (FTW), the host unit at JBSA-Randolph, conducts training for instructor pilots, combat systems officers and introduction to fighter fundamentals student pilot training. Pilot training is performed in the T-6A Texan II, T-38 Talon, and T-1A Jayhawk aircraft. Flight operations in support of the 12th FTW mission are conducted 260 days annually. These operations are conducted during the day and generally limited to the hours between 7:00 a.m. and 6:00 p.m. Night operations, i.e., from 10:00 p.m. to 6:00 a.m., are rare exceptions and require coordination with and approval from the 12th FTW Operations Group in accordance with the JBSA-R Noise Management Plan.



T-38C Talon aircraft. Photo courtesy of JBSA-Randolph.

Aside from flight operations conducted by aircraft based at JBSA-Randolph, other military aircraft occasionally utilize the airfield at the installation. These operations are considered transient operations and have steadily decreased over the years with 1,124 operations in calendar year (CY) 2010 and 314 operations as of July 2013 for CY13. Transient operations are accepted up to 312 days per year – in contrast to the 260 days provided to the 12th FTW for training. In addition to flying training mission, the 12th FTW provides repair or replacement of external parts on aircraft engines from aircraft at JBSA-R and other AF installations.

## Future Operations

To enable the US Air Force to train in a new two-seat jet trainer, the USAF T-X program will begin in 2017 and is expected to be fully operational by 2023. The T-X aircraft will replace the T-38 Talon as the T-38 Talon fleet is over 43 years old. The new T-X aircraft is a faster two-seat jet that will enable sustained high-G operations, aerial refueling, night vision imaging systems operations,

air-to-air intercepts, and data-link operations. This aircraft will be more advanced regarding the information systems capability of the aircraft as opposed to the T-38 aircraft. With this advanced technology, the T-X aircraft is more likely to have a larger noise footprint than its counterpart the T-38. This could have increased impacts on the communities in the vicinity of the JBSA-Randolph airfield.

## 3.2 JBSA-Randolph Military Mission Profile

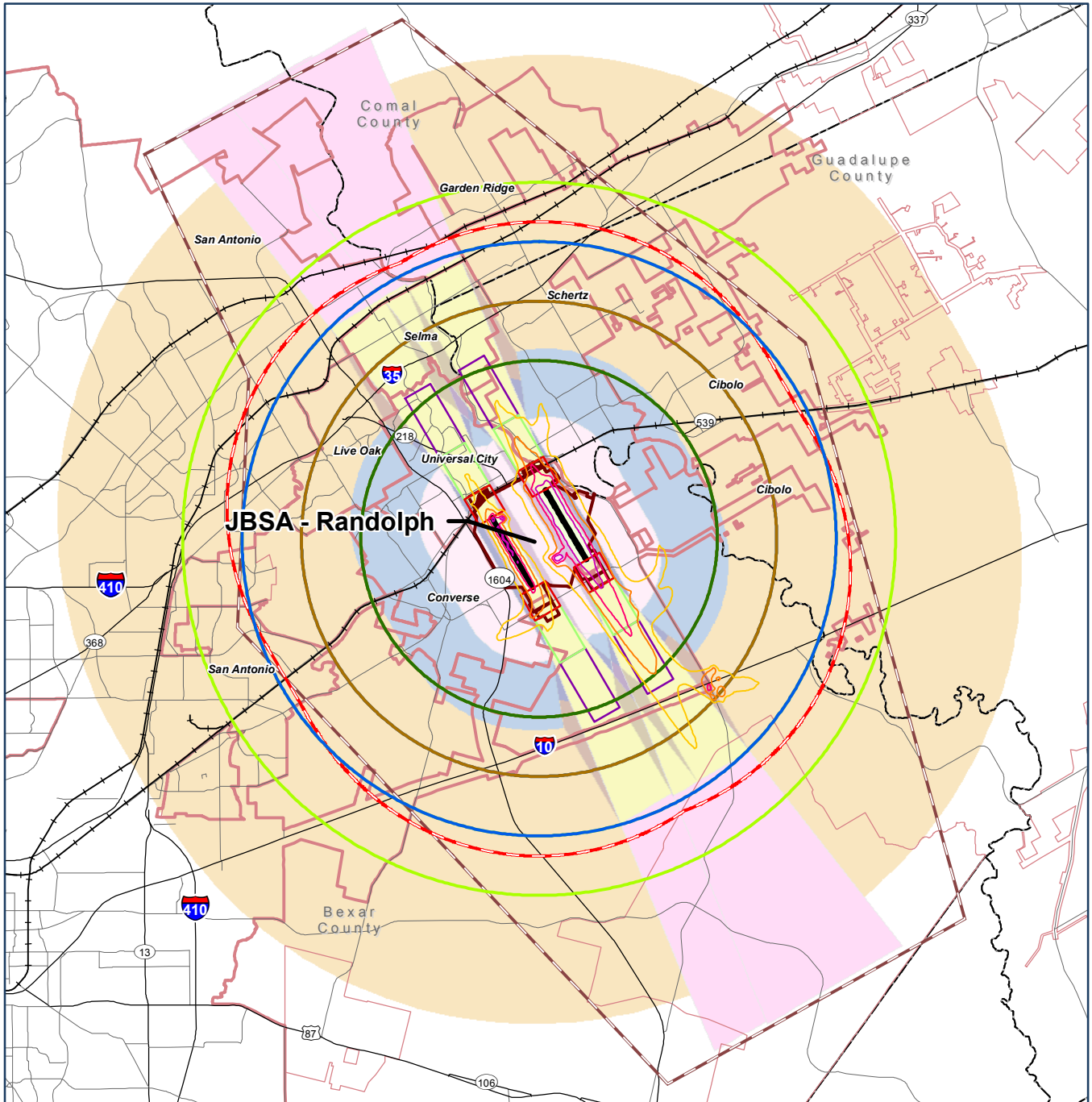
The JBSA-Randolph mission profile is composed of various footprints that are associated with the mission. These components are either tangible meaning that they are either physically seen and / or heard or intangible meaning that they exist within space without being seen or heard. One example of a tangible footprint is noise associated with aircraft activity; one example of an intangible component is the flight path that an aircraft follows. These tangible and intangible footprints comprise the mission profile. Oftentimes, the profile is not contained within the confines of the military installation; noise, for example, does not stop at the fence line. The mission profile can potentially affect areas adjacent to or near the installation. Conversely, some development activities occurring in communities such as residential or commercial development within or adjacent to a military installation (depending on location) have a potential to adversely impact aircraft operations.

The JBSA-Randolph mission footprints are both localized and regional in nature. Localized footprints are shown in Figure 2 and include:

- Accident Potential Zones
- Noise Contours
- Bird and Wildlife Air Strike Hazard (BASH)
- Vertical Obstructions
- Imaginary Surfaces

Regional footprints are illustrated in Figure 3 and include:

- Military Training Routes (MTRs)
- Military Operating Areas (MOAs)
- Restricted Airspace



**Legend**

**Airfield Imaginary Surface**

- Primary Surface
- Approach/Departure Clearance Surface (glide angle) = 50 ft to 1 ft up to 500 ft
- Approach/Departure Clearance Surface (horizontal) = 500 ft
- Inner Horizontal Surface = 150 ft
- Conical Surface = 20 ft to 1 ft
- Outer Horizontal Surface = 500 ft
- Transitional Surface = 7 ft to 1 ft

- 5-mile BASH Relevancy Area
- Special Use Airspace (Alert Area A-635)

**Noise Contour (dB)**

- 65
- 70
- 75
- 80

**FAA Part 77**

- Up to 200' @ 3NM
- Up to 300' @ 4NM
- Up to 400' @ 5NM
- Up to 500' @ 6NM

**Accident Potential Zones**

- Clear Zone
- APZ I
- APZ II

- Regional Cities
- JLUS Partners
- City / Community
- Bexar and Guadalupe County Boundaries

- JBSA - Randolph
- Runway Centerline
- Interstate / Highway
- Road
- Railroad
- River

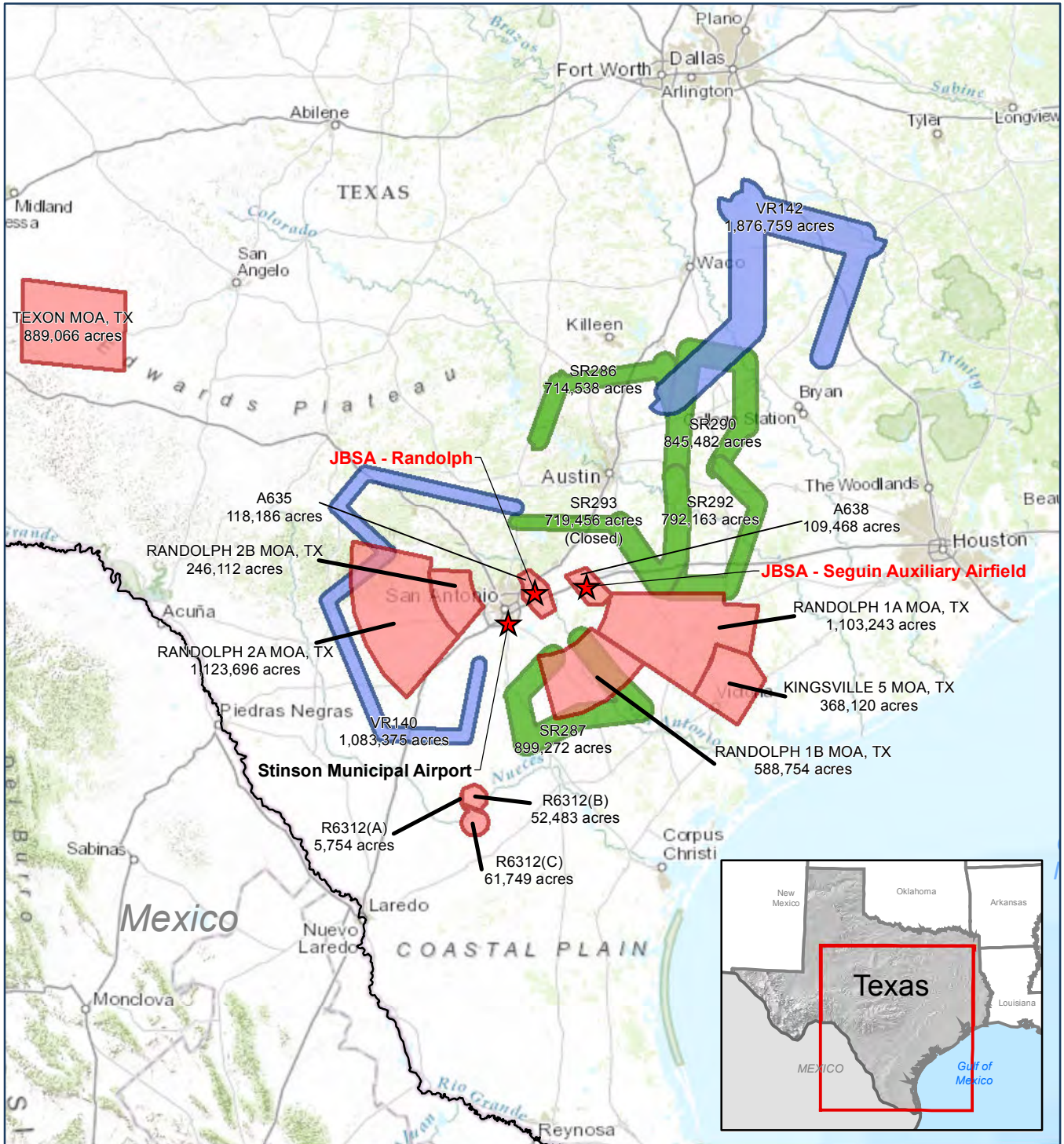


0 1 2 Miles

Sources: JBSA - Randolph, 2013; FAA, 2013.



**Figure 2**  
**Military Footprint Composite**  
**JBSA - Randolph**



**Legend**

- ★ JLSU Airfield / Airport
- Special Use Airspace
- Military Training Route
- Slow Speed Low Altitude Training Route
- State Boundary
- U.S. - Mexico Boundary

Sources: Randolph AFB, 2013; ESRI, 2013.



0 35 70 Miles



**Figure 3**  
Special Use Airspace  
JBSA - Randolph

Maintaining and sustaining these local and regional footprints plays a significant role in the long-term viability of JBSA-Randolph and continued mission readiness of the USAF.

### **JBSA-R Local Operational Footprint**

The JBSA-Randolph airfield operational footprint is comprised of the mission components associated with airfield operations including accident potential zones, noise contours, the BASH area, and imaginary surfaces. These components involve varying levels of land use planning from jurisdictions and the military to enable compatibility with the military mission. Such planning recommendations include restricting development in the clear zone (CZ) of the airfield and lowering building heights to prevent unnecessary vertical obstructions and promote navigable airspace.

#### ***Accident Potential Zones***

Accident potential zones (APZs) encompass three main areas from the end of the runway(s): the CZ, APZ I, and APZ II. These zones start at the ends of the runways and extend outward and are delineated based upon historical data of aircraft accidents. DoD recommends land uses for these areas to encourage and promote compatibility with military operations and to protect the public welfare. As shown in Figure 2, the CZ extends outward from the ends of the runways by 3,000 feet and is 3,000 feet wide and has the potential to create compatibility issues within the cities that are encompassed within the CZs. The APZ I measures 3,000 feet wide by 5,000 in length and APZ II measures 3,000 feet wide and 7,000 feet in length, they extend outward from the CZ respectively.

It should be noted that the northern JBSA-Randolph CZs encompass land within Universal City and the City of Schertz, and the southern CZs encompass land within the cities of Converse and Schertz. The northern APZ I areas are within the cities of Universal City and Schertz and the southern APZ I encompasses land in the cities of Converse, Schertz, and San Antonio. The northern and southern APZ II areas extend into the cities of Universal City, Selma, and Schertz, respectively.

#### ***Aircraft Noise Contours***

The noise contour information was prepared for Randolph AFB in the 2008 AICUZ Study. The AICUZ was updated in part, due to the change in noise exposure since the 2000 AICUZ. The noise exposure is modeled

based off of the type of aircraft flown, including the T-6 and T-38 for annual average busy-day aircraft operations. The loudest JBSA-R noise contours generated by military aircraft operations occur within the installation boundaries, but portions of the 65 dB and 70 dB noise contours extend off base into the surrounding communities of Converse, Universal City and Schertz and in small portions of land not contained in the Study Area.

#### ***Imaginary Surfaces***

The DOD under Unified Facilities Criteria (UFC) 03-260-01 has identified certain imaginary surfaces around runways at military installations to determine how structures and facilities are evaluated for creating vertical obstructions around an active airfield. The imaginary surfaces build upon each other and are designed to eliminate obstructions either natural or man-made, to air navigation and operations. Each type of imaginary surface has different dimensions, planes or slopes in which a structure intruding upon it may be considered a vertical obstruction. Figure 2 illustrates the JBSA-Randolph imaginary surfaces and provides the allowable heights and slopes in these imaginary surfaces.

#### ***Bird Air Strike Hazard Relevancy Area***

Birds and wildlife pose a threat to military training and flight operations. Due to changes in regional migratory patterns and the availability of dense foliage for roosting on the installation, JBSA Randolph has become an ideal habitat for a flock of migratory White Winged Dove. At an estimated flock size of 12,000-15,000 birds, and growing, the White Winged Doves present a particularly acute risk to high-speed jet operations on Randolph's east runway. These birds accounted for only 12.5 percent of damaging bird-strikes in FY 12, but this rate steadily increased to 55.6 percent of damaging bird-strikes in FY 14. Aggressive efforts are underway to contain the expanding BASH threat. Risk mitigation techniques, such as adjusting flight operations, successfully reduced overall bird strikes from 75 in FY13 to 70 in FY 14.

Previous short-term methods are planned for expanded use in FY 15 but are considered unsustainable due to long term effects on lost training and reduced pilot production. Habitat reduction by eliminating retaining ponds and flora favorable to these species greatly reduces the risk associated with bird activities. While small in number, large bird species that inhabit installation water sources are especially damaging in an aircraft strike incident. These large birds, such as Cranes and Egrets, are most effectively controlled by eliminating nonessential water sources both on the installation and in the communities surrounding the installation. Figure 2 illustrates the FAA statistical BASH relevancy area around JBSA-Randolph.



BASH impact to aircraft. Photo courtesy of JBSA-Randolph.

### Vertical Obstructions

Separately from and in addition to the established imaginary surfaces, the FAA also establishes further guidance to reduce the potential for accidents surrounding an airfield. This guidance is codified in the Code of Federal Regulations at Title 14, Part 77.17 and utilized by the FAA during obstruction evaluations. The guidance and process for obstruction evaluation is more fully detailed in Section 4: Existing Tools as it is not a military-specific element and is not a direct result of JBSA-Randolph operations. It is included here, within the military profile, nonetheless, because it is associated with airfield operations. Figure 2 illustrates Part 77 relevancy areas.

### JBSA-R Regional Operational Airspace

With respect to military operations, regulatory special use airspace (SUA) includes prohibited areas and restricted areas. Non-regulatory special use airspace

includes military operating areas (MOAs), military training routes (MTRs), warning areas, alert areas, national security areas, and controlled firing areas. Specific to JBSA-Randolph, regulatory and non-regulatory special use airspace includes MOAs, MTRs, and slow-speed low altitude training routes, as well as alert areas and restricted airspace as illustrated in Figure 3.

### Military Operating Areas

The Randolph 1A MOA is located east/southeast of San Antonio. The Randolph 1B and Kingsville 5 MOAs are both located southeast of San Antonio. The Randolph 2A and 2B MOAs are both located west of San Antonio. The TEXON MOA is located northwest of San Antonio and is the greatest distance away from San Antonio out of all of the MOA. While these areas are not located within this JLUS study area, it is discussed here and shown in Figure 3 to provide a comprehensive picture of the overall airspace footprint for the JBSA-Randolph mission.

*Source: San Antonio Sectional (May 2, 2013) FAA; Joint Order 7400.2J: Procedures for Handling Airspace Matters – Military Operations Areas (Aug 22, 2013) FAA; Installation Complex Encroachment Management Action Plan figure (March 2012) JBSA; in person interview with S Taylor (Jul 2013); GIS data provided by JBSA-R*

### Military Training Routes

There are two types of MTRs associated with the JBSA-R operations: instrument flight rule or IFR and visual flight rule or VFR. The primary difference between IFR and VFR MTR is the ability to fly with or without the use of instruments in various weather conditions.

There are also Slow Speed Altitude Training Routes associated with JBSA-Randolph and an alert area. Slow speed, low altitude training routes (SR) are generally not considered a MTR, but are treated much the same as a MTR. The SUA and Slow Speed Low Altitude Training Routes are illustrated in Figure 3. This figure also illustrates the regional airspaces for which numerous installations in the region use to perform their training missions.

*Source: Area Planning AP/1B Chart, Military Training Routes-Central U.S. (May 2, 2013) National Geospatial-Intelligence Agency [NGA]; Area Planning, Military Training Routes – North and South America (Nov 15, 2012) NGA; Installation Complex Encroachment Management Action Plan figure (March 2012) JBSA; in person interview with S Taylor (Jul 2013); GIS data provided by JBSA-R*

### **JBSA-R Alert Area A-635**

The large amount of flight activity involving student pilots associated with the JBSA-Randolph mission required the airspace surrounding the airfield to be designated Alert Area A-635. It should be noted that Alert Area A-635 does not extend into or include any of the Class D airspace that is directly associated with the JBSA-Randolph airfield; it does, though, envelop and surround the entire Class D airspace. Alert Area A-635 covers an area comprising 118,186 acres and is illustrated on Figure 3.

### **Alert Area A-638**

Like the designation of Alert Area A-635 due to the large amount of flight activity involving student pilots associated with the JBSA-Randolph mission, the airspace over the JBSA-Seguin airfield is also designated as Alert Area A-638 for the same reasons. A-638 covers an area comprising 109,468 acres. This SUA is shown in Figure 3.

Alert Area A-638 does not preclude entry by aircraft unassociated with the military flight operations; although, it does require all flight operations in the area to be conducted under VFR. Other attributes associated with Alert Area A-638 includes an operational area that extends vertically to and including 3,000 ft. mean sea level (MSL) and horizontally across a large area encompassing the airfield. The time of use associated with A-638 begins at sunrise and ends at sunset from Monday to Friday.

*Source: San Antonio Sectional (May 2, 2013) FAA; Installation Complex Encroachment Management Action Plan figure (March 2012) JBSA; in person interview with S Taylor (Jul 2013); GIS data provided by JBSA-R*

### **Aerial Refueling Area AR614**

There is one aerial refueling area west of JBSA-Randolph designated as AR614. Aerial refueling must be conducted within the designated airspace under instrument flight rules and on flight tracks with specific entry and exit points. In AR-614, the refueling altitude is designated at flight level (FL) 250 (25,000 ft.), FL 270 (27,000 ft.) or as designated by Air Traffic Control. The time of operation for AR614 is unlimited.

*Source: <http://ivaous.org/main/pilot/military/Airrefueltracks.pdf>*

## **3.3 JBSA-Seguin Auxiliary Airfield**

JBSA-Seguin is centrally located in Guadalupe County, three miles east-southeast of the City of Seguin and almost 27 miles east of JBSA-Randolph. It has one runway and covers 961 acres. It is an unattended airport and restricted to use by the military; prior authorization is required prior to landing at the airfield. The infrastructure and environs at JBSA-Seguin are the responsibility of JBSA-Randolph.

### **Military Operations**

JBSA-Seguin supports the flight instruction training mission at JBSA-Randolph, providing an area free from urban encroachment ideal for touch-and-go operations, practice approaches, and emergency landing procedures practice. Runway renovations were recently completed at JBSA-Seguin and the airfield is operational to support the flight instruction training mission.

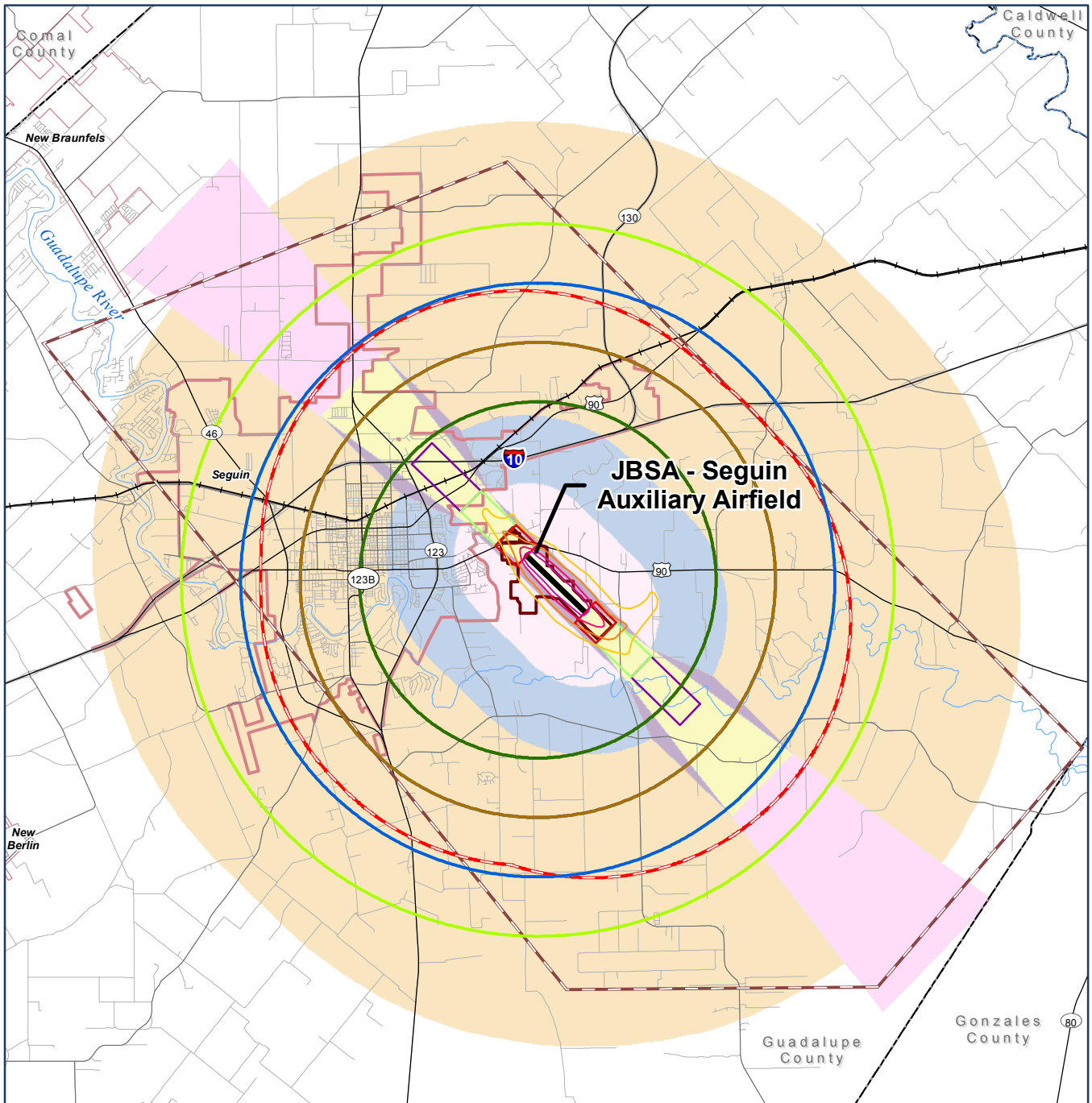
### **JBSA-Seguin Military Mission Footprints**

The JBSA-Seguin mission footprint is illustrated on Figure 4 and is comprised of the mission components associated with airfield operations including accident potential zones, noise contours, the BASH area, and imaginary surfaces.

### **Accident Potential Zones**

The APZ zones, i.e., CZ and APZs, for JBSA-Seguin were mapped in the 2000 AICUZ Study for Seguin Auxiliary Airfield, Texas. Knowing that the length of the runway has not changed since that time, the safety zone dimensions have not changed. As mentioned before, the AF standard measurements for CZs extend outward 3,000 feet from the end of the runway and 3,000 feet wide. The CZ is the standard size and encompasses areas in unincorporated Guadalupe County. The APZ I and II measurements are the standard size affecting both the city and county. Figure 4 illustrates these APZs.

*Source: AICUZ Study for Seguin Auxiliary Airfield, TX, Dec 2000.*



**Legend**

**Airfield Imaginary Surface**

- Primary Surface
- Approach/Departure Clearance Surface (glide angle) = 50 ft to 1 ft up to 500 ft
- Approach/Departure Clearance Surface (horizontal) = 500 ft

- Inner Horizontal Surface = 150 ft
- Conical Surface = 20 ft to 1 ft
- Outer Horizontal Surface = 500 ft
- Transitional Surface = 7 ft to 1 ft

- 5-mile BASH Relevancy Area
- Special Use Airspace (Alert Area A-638)

- Noise Contour (dB)**
- 65
  - 70
  - 75
  - 80

**FAA Part 77**

- Up to 200' @ 3NM
- Up to 300' @ 4NM
- Up to 400' @ 5NM
- Up to 500' @ 6NM

**Accident Potential Zones**

- Clear Zone
- APZ I
- APZ II

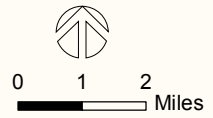
- Regional Cities
- Seguin
- Guadalupe County

**JLUS Partners**

- Guadalupe County

- JBSA - Seguin Auxiliary Airfield

- Runway Centerline
- Interstate / Highway
- Road
- Railroad
- River



Sources: JBSA - Randolph, 2013; FAA, 2013; AICUZ Study for Seguin Auxiliary Airfield, 2000.



**Figure 4**  
**Military Footprint Composite**  
**JBSA - Seguin Auxiliary Airfield**

### **Aircraft Noise Contours**

As shown in Figure 4, the JBSA-Seguin noise contours do not interface with the City of Seguin directly. However, it should be noted that a majority of the noise contours directly affect land uses within Guadalupe County. Additionally, the 65 dB contour is proximate to a portion of the eastern city limit of Seguin, and there is a small portion of the 75 dB noise contour that is located off-installation.

### **Imaginary Surfaces**

Figure 4 also displays the dimensions of the imaginary surfaces layers that build upon each other and surround the JBSA-Seguin airfield. The dimensions, planes, and slopes of these surfaces are the same as those associated with the JBSA-Randolph airfield, as both JBSA-Randolph and JBSA-Seguin airfields include Class B runways.

*Source: AICUZ Study for Seguin Auxiliary Airfield, TX (Dec 2000); Unified Facilities Criteria: Airfield and Heliport Planning and Design (Nov 17, 2008) DOD*

### **Bird Air Strike Hazard Relevancy Area**

Figure 4 illustrates the JBSA-Seguin BASH relevancy area, the BASH Plan notes one issue related to this area—circling and soaring raptors and increased vulture activity. JBSA-Randolph believes these activities are associated with hunting field dressing deer during the season, beginning the end of September to the beginning of November for archery only and beginning November to the beginning of January for the general season.

### **Vertical Obstructions**

As previously indicated within the information regarding JBSA-Randolph, the FAA established guidance to reduce the potential for accidents surrounding an airfield. More information about the FAA guidance is included in Section 4: Existing Tools and in the JBSA-Randolph description. Figure 4 displays JBSA-Seguin Part 77 relevancy areas.

*Source: 14 CFR § 77.17*

## **3.4 Stinson Municipal Airport**

Stinson Municipal Airport (Stinson) is owned and operated by the City of San Antonio. The inclusion of Stinson within the JBSA-Randolph JLUS is based on the JBSA-Randolph military flight operations that occur at Stinson. Accordingly, information in this section regarding Stinson will be limited to the operations involving JBSA-Randolph to the extent possible.

### **Current Operations**

While the majority of Stinson's current operations are general aviation, the relevant component to this JLUS is the JBSA-Randolph military operation involvement. The total of all military activities totaled 7,146 for a 12-month period ending March 26, 2011. This total represents 4.5 percent of the total aviation operations conducted at Stinson for the same period. Historical data captured from 2002 to 2011 shows transient military operations outnumbered local military operations for all years between and including 2002 to 2008. Beginning in 2009, the number of transient military operations decreased from previous years, but appears to have stabilized around 3,000 to 3,500 annual operations based on available data.

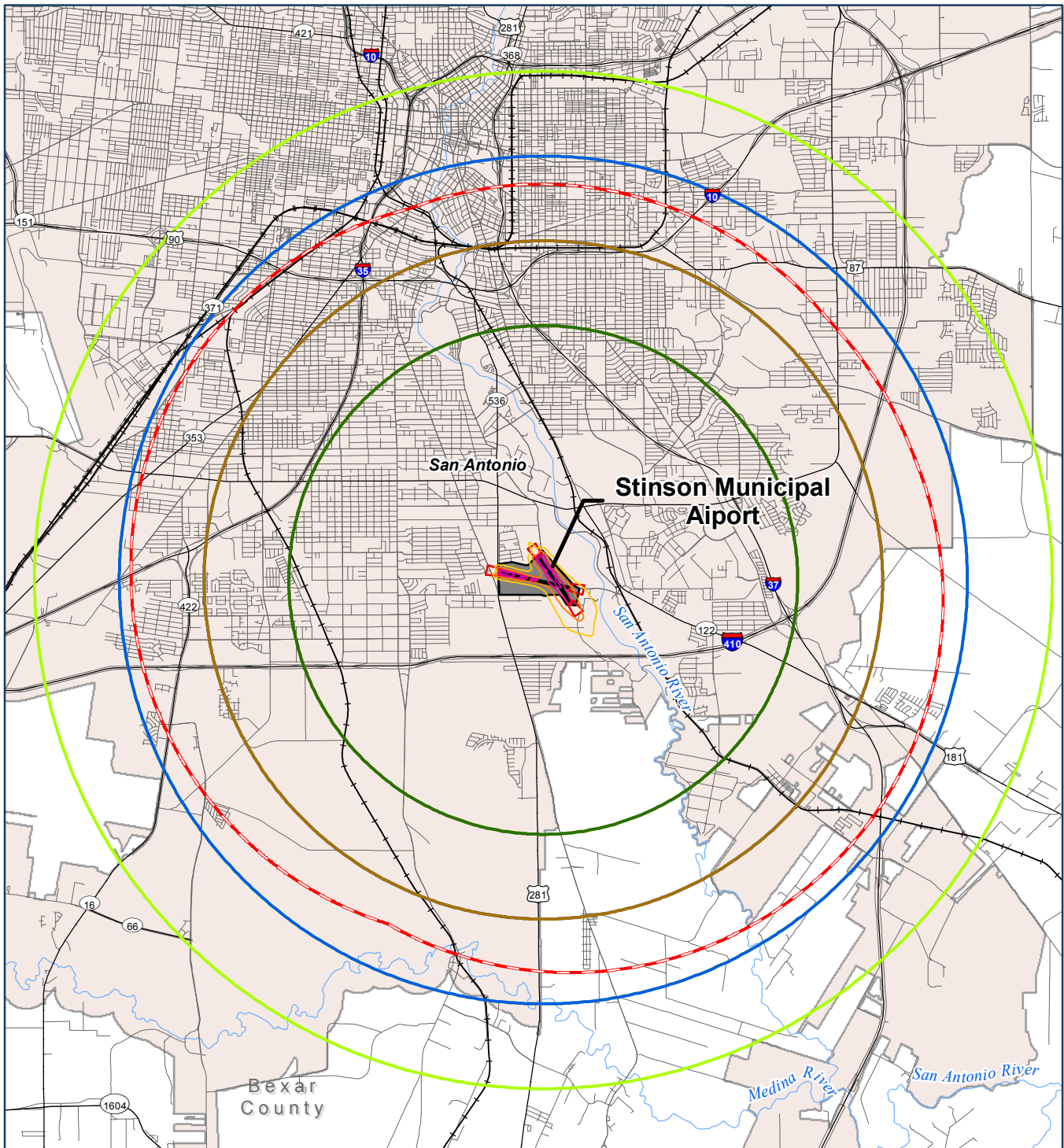
*Source: Stinson Municipal Airport Master Plan Update (May 2013) Kimley-Horn and Assoc.; Airport Master Record (Jun 27, 2013) FAA; Advisory Circular 150/5300-13A (Sept 28, 2012) FAA; San Antonio Sectional (May 2, 2013) FAA; FAA Airport Master Record, 2013.*

### **Stinson Mission Footprint**

The overall footprint relating to the operations at Stinson is likely to be reflective of the general aviation operations unlike the footprint for JBSA-Randolph and JBSA-Seguin, where data for those two locations only included military operations. In addition, the footprint relative to military operations, as illustrated in Figure 5, is likely to be exaggerated since the military operations only comprise a small percentage of the overall aviation operations.

### **Safety Zones**

Several different safety and protection zones comprise the Stinson Municipal Airport Safety Zones. They are Object Free Areas, Runway Protection Zones, Runway Safety Areas and Obstacle Free Zones.



<b>Legend</b>	<b>Noise Contours (DNL) FAA Part 77</b>	<b>JLUS Partner</b>	<b>Stinson Municipal Airport</b>
5-mile BASH Relevancy Area	60 dB	Up to 200' @ 3NM	San Antonio
Runway Protection Zones	65 dB	Up to 300' @ 4NM	Bexar County
	70 dB	Up to 400' @ 5NM	Runway
	75 dB	Up to 500' @ 6NM	Interstate / Highway
			Road
			Railroad
			River

Sources: FAA, 2013; Ricondo & Associates, 2013.



**Figure 5**  
**Military Footprint Composite**  
**Stinson Municipal Airport**

### **Object Free Areas and Runway Protection Zones**

CZs and APZs are associated with military airfields. Civilian airfields, in contrast, utilize object free areas (OFAs) and runway protection zones (RPZs). The OFA is located in the same general area and serves the same purpose as the military's CZs in that it is an area located at the end of a runway and is intended to be "free of objects" as noted in the FAA Advisory Circular regarding airport design. Additionally, the RPZs act similarly to the APZs in that they are designed to minimize harm to persons and property in the event of an aviation-related incident during takeoff or landing. RPZs, though, differ from APZs in size, shape, and property ownership requirements. RPZs vary in size and are enlarged or minimized according to the type of aircraft a runway supports.

Figure 5 displays RPZs at Stinson. All of the runways at Stinson include RPZs, but do not include OFAs. This is because the active part of the runway, the point at which an aircraft will physically gain or lose contact with the runway during landing or takeoff, starts several hundred feet from the end of the paved area associated with the runway. The active start of the runway – the runway threshold – is displaced from the end of the paved area. These runway areas are not used for takeoff or landing and act as the OFA since the area is kept free of objects by virtue of the paved areas associated with the runway location.

*Source: Advisory Circular 150/5300-13A (Sep 28, 2012) FAA; Memorandum: Interim Guidance on Land Uses within a Runway Protection Zone (Sep 27, 2012) FAA; Stinson Municipal Airport Master Plan Update (May 2013) Kimley-Horn and Assoc.*

### **Runway Safety Area**

The runway safety area (RSA) includes all areas directly adjacent to the runway and is sized to arrest 90 percent of all runway overruns. According to the FAA, "The RSA enhances the safety of aircraft which undershoot, overrun, or veer off the runway, and it provides greater accessibility for fire-fighting equipment during such incidents." The size of the RSA is standardized based on the aircraft approach category and the aircraft design group.

*Source: Advisory Circular 150/5300-13A (Sep 28, 2012) FAA; Stinson Municipal Airport Master Plan Update (May 2013) Kimley-Horn and Assoc.; FAA AC, 2012.*

### **Obstacle Free Zone**

The primary purpose of the obstacle free zone (OFZ) is to ensure the safe maneuver of aircraft in the areas near and adjacent to an airfield / runway. The OFZ dimensions for civilian runways are fully dependent on "approach minimums for the runway end and the aircraft on approach". Accordingly, the size of the OFZ is standardized based on the aircraft approach category and the aircraft design group.

*Source: Advisory Circular 150/5300-13A (Sep 28, 2012) FAA; Stinson Municipal Airport Master Plan Update (May 2013) Kimley-Horn and Assoc.; FAA AC, 2012.*

### **Aircraft Noise Contours**

Similar to the noise modeling and resulting noise contours prepared for JBSA-Randolph, noise contours were produced for activities at Stinson and are shown in Figure 5. While the DNL 75 dB and 70 dB noise contours are confined to the Stinson Municipal Airport property, the DNL 65 dB contour extends off the southern end of Stinson approximately 500 feet into San Antonio. The DNL 60 dB noise contour associated with the south end of the airport property extends into areas where residential and industrial uses are located. According to the *Airport Improvements* document, four residential dwelling units having approximately 11 persons would be affected by noise equal to or greater than DNL 60 dB.

*Source: Airport Improvements for Stinson Municipal Airport Environmental Assessment (Jun 2007) Ricondo & Assoc*

### **Imaginary Surfaces**

The imaginary surfaces that help to define acceptable height limits for civilian airports are established by the FAA and implemented based on the aircraft approach category and the aircraft design group. The City of San Antonio's Unified Development Code Airport Hazard Overlay District stipulates the surfaces and size of surfaces developed for and utilized by Stinson. These surfaces are shown in Figure 5.

*Source: 14 CFR § 77.17; City of San Antonio Unified Development Code Section 35-331: "AHOD" Airport Hazard Overlay District, Jan 2006*

## ***Bird Air Strike Hazard Subzone***

FAA recommendations for BASH management state that land use management around an active airfield out to five statute miles from the center of the runway is key to mitigating the incidence of BASH. The FAA indicated this area was the area where BASH incidents were most likely to occur because aircraft are flying at lower altitudes and speeds. This makes the probability for BASH incidents to occur higher as BASH incidents typically occur at altitudes up to 3,500 feet AGL. The BASH relevancy area for Stinson is shown on Figure 5.

## ***Vertical Obstructions***

As previously mentioned in the JBSA-Randolph and JBSA-Seguin operational footprints, the FAA established guidance to reduce the potential for accidents surrounding an airfield based on heights of structures and ground elevation. More information about the FAA guidance is included in Section 4: Existing Tools and in the JBSA-R description. Figure 5 illustrates the FAA Part 77 footprint for Stinson.

There are numerous existing tools that can be used to encourage, promote, and manage compatibility between military installations and their neighboring communities. These tools exist at the federal, installation, state, regional, and local level and are used for compatibility purposes to guide every day land use and operational decisions in communities and on military installations.

This chapter lists some of the key tools that are currently, or are recommended to be more efficiently utilized or enhanced to address the compatibility issues identified by the JBSA-Randolph (JBSA-Randolph) Joint Land Use Study (JLUS) process. The tools listed in this section are not exhaustive, but are meant to provide a brief overview of the primary tools currently utilized in the JLUS Study Area.

## 4.1 Federal Programs and Policies

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The federal programs and policies are provided for by the various branches of the federal government. These tools authorize other federal, state, and local agencies to implement regulatory measures and policies to protect the multiple resources that are involved in land use and military compatibility planning. The intent of these regulatory measures and policies include the protection and preservation of the quality of life and public welfare and the myriad of natural resources including land, water, and airspace.

These tools assist land use decision makers and planners of all levels to make informed decisions, which can enable compatible land use development between joint land uses—military and community land uses.

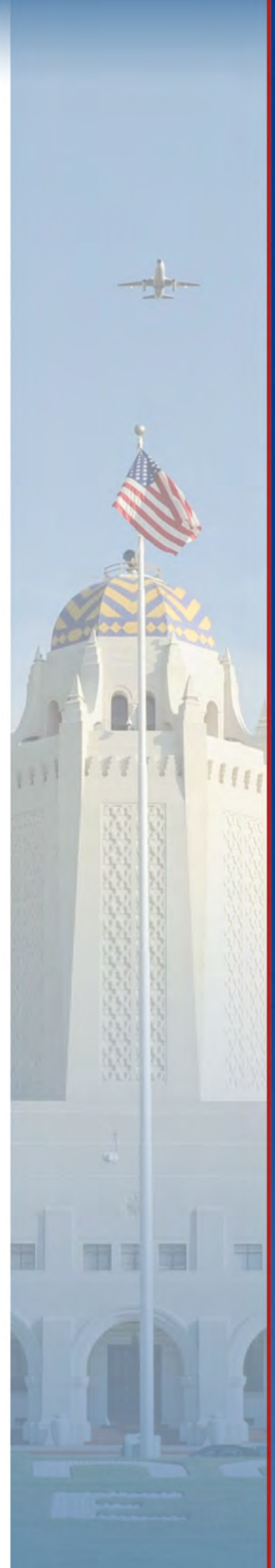
Federal programs and policies were evaluated in the JBSA-Randolph JLUS to assist in determining where areas of improvement could enable enhanced land use planning at the local level. Some key federal programs that were evaluated in the JBSA-Randolph JLUS process include but are not limited to the Air Installation Compatible Use Zone (AICUZ) Program and the Federal Aviation Act, specifically FAA Regulation Title 14 Part 77. For a complete description of these programs and tools, see the Background Report, Chapter 4, Existing Compatibility Tools.

## 4.2 JBSA-Randolph Tools

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The JBSA-Randolph installation tools provide guidance for land uses and development activities on the installation. These tools govern land use decisions that occur inside the fence line.

These tools provide guidance and establish standard operating procedures during certain events such as a bird air strike hazard (BASH) condition and / or the parameters for conducting missions within the military operating area (MOA). There are various installation tools that are instrumental in assisting and guiding land use decisions as they interface with the military mission. Some key JBSA-Randolph tools that were evaluated in the JLUS process include but are not limited to the BASH Plan and the JBSA-Randolph 2030 General Plan. However it should be noted, the 12 Flying Training Wing (FTW) does not consider the AICUZ land use recommendations as compatible with its training operations. The 12 FTW conducts approximately 200,000 flight movements annually in fighter-trainer type aircraft and the density of urban development recommended by the AICUZ substantially increases mission risk and the likelihood that people and property will be significantly impacted by an aircraft mishap.



## 4.3 State of Texas Tools

The state tools provide further assistance and protection of land uses in the State of Texas. The tools authorize or mandate local counties and cities to provide for the protection of the State’s valuable industries including the DOD and agriculture. In addition, the State’s tools require communities and developers to protect and preserve the State’s natural resources including land and water by establishing further regulatory measures to ensure the natural environment is preserved and protected from over-consumptive practices.

Some essential State tools that were analyzed in this JLUS include but are not limited to the Joint Airport Zoning Board (JAZB) authorized by Chapter 241 of the Texas Local Government Code, the Texas Military Preparedness Commission and the Airport Compatibility Guidelines authored by the Texas Department of Transportation, Aviation Division.

## 4.4 Texas Local Jurisdiction Planning Tools

The planning tools used by the study area jurisdictions were analyzed and categorized as permanent, semi-permanent, or conditional. In Texas, only cities may enforce traditional land use and development regulatory authority. Very few counties in Texas have limited authority to regulate land uses, i.e. Bexar County is authorized to regulate lighting in the unincorporated portions of the county. Counties are not required to adopt Comprehensive Plans; however, cities are required by state law to have a comprehensive plan and update it every five years.

Texas Local Government Code provides cities and counties with authority to regulate the subdivision of land within incorporated and extraterritorial jurisdiction (ETJ) areas, including managing roads, streets, drainage, and rights-of-way. In general, land cannot be divided in Texas without local government approval. Dividing land for sale or lease is regulated by local ordinances based on the Texas Local Government Code (Chapter 212 for cities and Chapter 232 for counties).

In the case of cities, the comprehensive plan, zoning, subdivision, and other ordinances govern the design of the subdivision, the size of its lots, and the types of improvements (street construction, sewer lines,

drainage facilities, etc.). Counties may only regulate subdivisions as they apply to roads, property setbacks and groundwater.

There are 29 incorporated municipalities and numerous smaller, unincorporated communities within Bexar and Guadalupe Counties. While the missions conducted at JBSA-Randolph have the potential to intermittently affect different parts of the counties at one time or another, this JLUS focuses on areas of Bexar County and its incorporated cities of Converse, Garden Ridge, Live Oak, San Antonio, Schertz, Selma, and Universal City, and Guadalupe County and its incorporated cities of Cibolo and Seguin. These areas are most affected by JBSA-Randolph operations and conversely, are the areas that have the most potential to pose compatibility issues for JBSA-Randolph.

Some essential local jurisdiction planning tools that were analyzed in this JLUS include but are not limited to the following:

- Comprehensive Plans, Unified Development Code and Zoning Ordinances and Orders, and Subdivision Regulations
- Building Codes
- Annexation Regulations
- City of San Antonio Airport Hazard Overlay District/ Military Airport Overlay Zone
- City of San Antonio Military Sound Attenuation Overlay Districts, Section 35-339.05
- City of Schertz Airport Installation Compatible Use Zone District
- City of Universal City Perpetual Clear Zone Easement and Formal Coordination Letters

The local jurisdiction planning tools provide further assistance and protection of land uses in the communities proximate to JBSA-Randolph facilities.

## 5.1 Identification of Compatibility Issues

Compatibility, in relation to military readiness, is defined as the balance or compromise between community and military needs and interests. The goal of compatibility planning is to promote an environment where both entities communicate, coordinate, and implement mutually supportive actions that allow them to achieve their respective goals and objectives.

Numerous factors influence whether community and military plans, programs, and activities are compatible or in conflict. For the JBSA-Randolph JLUS, 24 compatibility factors were evaluated to confirm the presence of, and establish priorities for, the key Study Area issues. Two of these factors, noise and vibration, were grouped together due to similar issues and strategies.

## 5.2 JBSA-Randolph Compatibility Issues by Factor

**Alternative Energy Development** is the likelihood of development of alternative energy developments within the JBSA-Randolph JLUS Study Area. Alternative energy includes wind and solar energy facilities. Any current or proposed wind or solar facilities in the study area located in areas where low-altitude aviation operations can occur can create a vertical obstruction and / or visual impairment for pilots. The uncoordinated placement of these facilities can lead to incompatibilities with the JBSA-Randolph mission. The following Alternative Energy Development issue was identified:

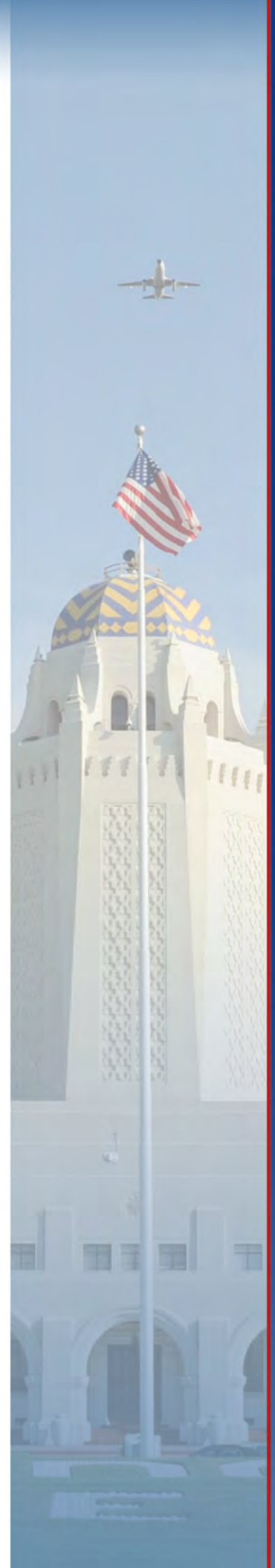
- Local ordinances do not regulate alternative energy equipment or facility siting which may pose a vertical obstruction and/or safety issue for flight operations.

**Anti-Terrorism / Force Protection** is the protection and security of the nation's defense assets. Issues are created when national defenses can be breached or compromised, such as development close to the fence line where the public can view operational activities. It is important for the DOD and JBSA-Randolph to address these issues to ensure military readiness. The following Anti-Terrorism / Force Protection issue was identified:

- JBSA-Randolph East Gate does not meet all AT / FP requirements, which may affect security and local community traffic congestion due to the traffic throughput constraints at the gate.

**Communication / Coordination** is the communication and collaboration between multiple agencies engaged in a common goal. For the JBSA-Randolph JLUS, interagency coordination represents several challenges for both JBSA-Randolph and surrounding communities. The lack of a coordinated approach when planning activities including proposed development and infrastructure extensions can result in incompatibilities for sustaining the JBSA-Randolph mission and growth of the surrounding communities. The lack of information sharing such as important geographic information system data used for planning and mapping can potentially result in incompatible development near the installation and ranges. The following Interagency Communication / Coordination issues were identified:

- Local jurisdictions and the public are not clear who they should contact at JBSA-Randolph regarding specific questions, complaints or coordination.



- There is a need for JBSA-Randolph to enhance their coordination and notification with the local jurisdictions / public when there is an increase in military training activities that are outside their typical training schedule.
- There is a need for better coordination between JBSA-Randolph and local jurisdictions regarding proposed development applications to achieve compatible development in support of the military mission and the positive economic impact the military brings to the community.
- There is no defined JBSA-Randolph response time for reviewing proposed development actions within the Universal City Perpetual Clear Zone Easement Area.
- There is a lack of notification or accurate notification to potential buyers looking to purchase property / homes within the Accident Potential or Clear Zones.
- There is a lack of notification to potential home buyers that a military installation is located within the area which may generate noise, vibration or other impacts associated with military missions.
- Multiple agencies advocate for the preservation of military mission and local economic development and have similar overarching goals, but lack integrated coordination reducing the potential for maximization of resource use and shared benefits.
- A comprehensive set of Geographic Information Systems (GIS) data depicting military mission profiles and footprints is not available to local jurisdictions and agencies.
- Continued coordination of the shared airspace between JBSA-Randolph and San Antonio International Airport is important to ensure the safety of the pilots and the public located beneath the airspace.
- Despite notification from Houston Air Route Traffic Control Center, general aviation aircraft enter Military Operating Areas where military aircraft are conducting nontraditional flight maneuvers.

- The Metropolitan Planning Organization Board does not include JBSA-Randolph representation.
- There is a lack of temporary construction and crane operation permits within the jurisdictions for the approach and departure corridor.

**Dust, Smoke, and Steam** is a by-product generated by both military and civilian activities. Dust and smoke is not only a visibility nuisance, but can also be an air quality issue for Bexar County. Dust from agriculture activities located near the airfields can be incompatible with low-level flight operations and create visual impediments for pilot navigation. The following Dust, Smoke, and Steam issue was identified:

- The refinery near Stinson Municipal Airport emits particulate into the air that can create a visibility hazard for pilots.

**Housing Availability** is the availability of eligible and qualified housing units to military personnel and their families. While military personnel from visiting units reside on-base, mission increases will need to be coordinated with communities so that they can plan and prepare for additional housing to accommodate any growth in personnel. The following Local Housing Availability issue was identified:

- As growth continues to occur within the area surrounding JBSA-Randolph, the availability of adequate housing to support the needs of military personnel may be limited.

**Infrastructure Extensions** represent compatibility issues for JBSA-Randolph based on their proposed or planned location. Transportation routes and electrical and water infrastructure impact land uses differently based on location, magnitude of the improvements, and the resulting outcome. Infrastructure extensions tend to catalyze development in the surrounding communities. This development can create incompatibilities with JBSA-Randolph military operations. The following Infrastructure Extensions issues were identified:

- Desire for additional sewer treatment capacity within the City of Schertz – south and east of JBSA-Randolph as well as other future plans for infrastructure improvements in surrounding communities could encourage incompatible growth.
- JBSA-Randolph currently does not have a redundant water supply system and may be at risk if their existing system fails.

**Land / Air Space Competition** is defined as multiple uses of both land and air spaces. The JBSA-Randolph JLUS evaluated land and air space shared between military and civilian activities relative to commercial / civilian—general aviation operations in the region. The JBSA-Randolph JLUS also assessed several land areas used for recreational purposes. The following Competition for Land and Air Spaces issues were identified:

- The airspace that JBSA-Randolph uses is already congested and concerns exist that the competition for airspace will increase due to community airport growth, expanded JBSA-Randolph operations, and potential San Antonio International Airport runway improvements.
- New Braunfels Regional Airport and Stinson Municipal Airport civilian flight training operations occur in the same airspace used by JBSA-Randolph military trainers for runway approach.
- Proximity of other airfields to JBSA-Randolph and JBSA-S auxiliary runway approaches create airspace conflicts.



**Land Use** is the impetus for the JBSA-Randolph JLUS. The JLUS assesses various components of land use to determine

compatibility between unique military missions and the economic vision of the surrounding jurisdictions. This assessment considers accomplishing mutual goals and benefits to facilitate the military's continued training mission for readiness while allowing for economic development in adjacent communities. Certain land uses are sensitive to noise, vibration, and other impacts generated by military training exercises. In contrast, certain land uses employed by communities can limit

military training activities by encouraging annexation practices in areas critical to the military mission. The following Land Use issues were identified:

- Several local jurisdictions that have areas which are located within the airfield safety zones or noise contours do not reference or implement the AICUZ recommendations.
- The language about AICUZ recommendations in a few of the local jurisdictions zoning ordinances are not clear and may create an interpretation challenge.
- Concern about the application of the 2011 AICUZ DOD Instructions Floor to Area Ratio (FAR) recommendation. The Floor to Area ratio recommendation was not part of the AICUZ but it is part of the instructions.

**Legislative Initiatives** are issues that require legislative action or amendments to ensure compatibility factors are addressed within local jurisdictions that affect or are affected by proximity to JBSA-Randolph. The following Legislative Initiatives issue was identified:

- Current real estate seller disclosure forms do not contain notice informing potential buyers that military training operations occur within the area.
- Bexar and Guadalupe Counties have limited zoning and subdivision authority, which restricts the enforcement of compatible development.

**Light and Glare** can be generated by both military and civilian uses. Light and glare can be generated from certain construction materials during the daytime when sunlight reflects off the structure. This can create visual impairments for pilots flying at low altitudes. Certain types of alternative energy development can create glare for pilots in training, posing a safety hazard to the pilot and the aircraft. The following Light and Glare issues were identified:

- Commercial and retail development, particularly outdoor retail and commercial activities that require additional lighting, may impact flight operations at JBSA-Randolph.
- Rooftop- or ground-mounted solar panels without anti-reflective coating can create glare.
- Directed light from unregulated and unconventional sources, i.e., laser scope for paint

ball shooting accuracy, can be hazardous to pilots and cause temporary blinding.

- A lack of consistency in controlling light sources, glare, and general ambient light may result in an unsuitable night training environment for flying training operations.

**Noise and Vibration** are the result of both military training exercises and construction and development activities. These factors can be incompatible with sensitive land uses. Noise that is loud and extending into night hours can disrupt the lives of the public. Vibration can disrupt daily living activities and in extreme cases cause structural damage. The JLUS strives to balance community quality of life with mission operations and readiness.

The following Noise and Vibration issues were identified:

- The military flight operations that occur at JBSA-Randolph, JBSA-S, and Stinson Municipal Airport produce noise that is heard outside the boundaries of the installations.
- Local jurisdiction's building codes do not require sound attenuation per the Federal Aviation Administration / Department Of Defense guidance.
- JBSA-Randolph and San Antonio International Airport flight patterns may be redirected due to weather or congestion which may lead to noise complaints sent to JBSA-Randolph that were actually caused by aircraft from the commercial airport.
- General concern that JBSA-Randolph cannot forecast future mission requirements, i.e., larger aircraft, which may generate a larger noise footprint and increase noise complaints from the community since many people are not aware that a change in a flying mission may impact the amount of aircraft noise they may hear.
- JBSA-Randolph may expand maintenance depot activities and night operations that could include engine run-up exercises on test cells which may generate an increase in noise complaints.
- Concern that noise complaints may increase at JBSA-S Auxiliary Airfield after the runway

improvements are completed and flight operations resume.

- Vibration complaints are an issue in the cities of Schertz and Universal City.

**Roadway Capacity** can create incompatibilities between military operations and civilian activities due to limited roadway capacity. Roadway Capacity was evaluated for coordination of improved public roadways to meet the needs of both military and civilian uses. The following Roadway Capacity issue was identified:

- Mass transit is limited around JBSA-Randolph due to the suburban nature of the area.
- Road network near JBSA-Randolph is congested with frequent wait times / delays during peak use hours; this affects JBSA-Randolph and local communities.
- Potential retail development along FM-3009 (Roy Richard Drive) and Interstate 35 in the city of Schertz may result in increased local traffic.
- Current Union Pacific rail operations supporting the natural gas extraction industry temporarily halt thru-traffic on State Highway 218 (Pat Booker Road) causing periodic vehicle stacking near JBSA-Randolph.
- Thirty to forty commercial deliveries / trucks queue along Old Seguin Road to enter JBSA-Randolph through the South Gate and impact local roadway congestion.
- Existing interstate infrastructure is at capacity, which results in regional traffic congestion and impacts daily workforce commuters to and from JBSA-Randolph.

**Safety** issues are generated by both military and civilian land uses. Safety concerns relevant to military operations include development (i.e. even the stacking of hay bales and other such commodities) near or adjacent to the runway in areas where development is strongly discouraged such as the Clear Zone. Safety issues are also evaluated based on the land uses located near active runways, such as water features, that can attract birds and wildlife to this critical aviation area where low-speed low-altitude aircraft perform operations. The following Safety issues were identified:

- There are existing land uses and proposed developments within the airfield safety zones around JBSA-Randolph that are incompatible.
- A portion of existing development within the JBSA-Seguin airfield safety zones is incompatible due to the type of land use and / or density.
- A portion of existing development near Stinson Municipal Airport is nonconforming due to buildings or structures located in runway protection zones.
- There are no policies or regulations that deal with land uses that may pose Bird/Wildlife Aircraft Strike Hazard risks near JBSA-Randolph and JBSA-Seguin.
- Any development that occurs within the CZ and is not part of the CZ easement will be incompatible per DOD AICUZ instructions.
- San Antonio International Airport's aging radar equipment services all local airfields, but requires routine repairs and lacks a backup and redundancy system.



#### Vertical Obstructions

are structures that impede navigable airspace for both military and civilian aircraft operations. Structures that pose a threat to the airspace for military and civilian aviation

include tall wind turbines and wireless communication towers. It is important to ensure the communities adjacent to JBSA-Randolph plan accordingly to safeguard against unintended safety concerns relative to structures that obstruct navigable airspace. The following Vertical Obstructions issues were identified:

- Current ordinances do not adequately regulate building heights in conjunction with FAA Imaginary Surfaces height recommendations.
- Though local zoning ordinances do not consider adjustments for site elevations that are higher than the existing airfield elevation at JBSA-Randolph for wireless communication tower permits, telecom contractors coordinate directly with the FAA regarding height restrictions and lighting and a statement from JBSA-Randolph must be provided that the proposed communication use will not interfere with flight operations prior to approaching local municipalities to install or upgrade cell towers.
- Allowing each new vertical structure / equipment application to construct an individual tower results in crowded airspace.
- Above ground utility poles are located in JBSA-Randolph runway approach and departure flight corridors and may be a vertical obstruction to flight operations and pose a safety risk.

**Water Quality and Quantity** is the factor that assesses the quantity and quality of water resources in the JBSA-Randolph JLUS Study Area. This factor evaluates the amount of water that is utilized by the installation relative to the available supply of water and then compares that with the demand and supply that is utilized by the surrounding communities to provide for the necessary public services. In addition to evaluating the water supply, this factor also reviews the overall quality of public water use in the JLUS Study Area. Water quality can be affected by military operations, public recreation use and stormwater drainage. The following Water Quality and Quantity issues have been identified:

- Edwards Aquifer provides the majority of local water supply and future supplies could be constrained by various demands. Current and future regional water quantity and availability are major concerns.
- The City of Converse may face additional storm water runoff from the JBSA-Randolph runway if additional paving is installed.

*Please see the next page.*

## 6.1 Implementation Plan

This section identifies and organizes the recommended actions (strategies) developed through a collaborative effort between representatives of local jurisdictions, JBSA-Randolph (JBSA-Randolph), state and federal agencies, local organizations, the general public and other stakeholders that own or manage land or resources in the region. Because the JBSA-Randolph JLUS is the result of a collaborative planning process, the recommendations in this section represent a true consensus plan; a realistic and coordinated approach to compatibility planning developed with the support of stakeholders involved throughout the process.

JLUS strategies incorporate a variety of actions that can be implemented to promote compatible land use and resource planning. Upon implementation, existing and potential compatibility issues arising from the civilian / military interface can be removed or significantly mitigated. As such, the recommended strategies function as the heart of the JLUS document and are the culmination of the planning process.

The recommended strategies for JBSA-Randolph JLUS have been tailored to consider the unique flight operations and associated risk factors including Bird / Wildlife Aircraft Strike Hazards (BASH) specific to JBSA-R and to assist the installation and surrounding counties and cities with informed development decisions that protect the aviation mission and growth capability of communities while protecting the public health, safety, and welfare.

The JBSA-Randolph mission is unique within the Air Force due to its high volume of pilot training aircraft operations, making the installation control towers the busiest in the Air Force. Due to weather factors and pre-existing high-density development north of JBSA-Randolph, approximately 70-80% of these operations are conducted to the south. The 12th Flying Training Wing conducts over 26,000 sorties annually, including more than 212,000 local takeoffs and landing traffic pattern operations in 2014. In particular, the 12th Flying Training Wing conducted over 115,000 takeoffs and landings on the west runway in 2014 alone with the high-performance T-6 Texan trainer as the primary aircraft accounting for these operations. Due to the requirement to deconflict operations from the east parallel runway, departing aircraft must fly a course heading of 160 degrees to the west of the APZs. However, on every takeoff, there is a 30 second window in which a pilot's only safe option is to eject in the case of an engine failure. In this circumstance, the probability that the aircraft will land in the APZs is high. The T-38 Talon is a dual-engine fighter-trainer aircraft that operates from the east runway. There is a significantly more acute risk of an accident occurring with this aircraft during traffic pattern operations due to the higher speeds and weight of the T-38 compared to the T-6.

The 2008 Air Installation Compatible Use Zone (AICUZ) study indicates that 80 percent of all aircraft mishaps that occur within 10 nautical miles involve fighter-trainer type aircraft. A safety risk assessment conducted by the 12th Flying Training Wing concluded that the development recommendations made by the 2000 and 2008 Air Installation Compatible Use Zone Study (AICUZ) are not sufficiently restrictive to protect the community from the risks involved in high-volume trainer operations and that high-volume trainer operations flown by the 12th Flying Training Wing's 145 T-38, T-6, and T-1 aircraft are not compatible with urban environments.



Bird / Wildlife Aircraft Strike Hazards present a significant threat to aircraft safety. In particular, there is a significant year-round bird strike risk caused by thousands of migratory and resident white-winged doves that transit JBSA-Randolph's east runway on a daily basis. These birds have become a major problem for JBSA-Randolph and significant resources have been invested to modify the habitat on Base. Unique to Randolph, aircraft operating at this location frequently strike these birds on takeoff which results in a much greater hazard to development in the southern APZs. The bird strike risk is heightened because T-38 engines are highly susceptible to engine loss due to bird ingestion.

Due to risk profile associated with the aircraft operations and BASH at JBSA-Randolph, the 12th Flying Training Wing has recommended restrictions on development:

- Urban development within southern APZ I of either the west or east runway is not compatible.
- Residential development of 1 house per 10 acres in a non-linear arrangement within southern APZ II of the west runway is compatible.
- Residential development of 1 house per 20 acres within southern APZ II of the west runway is compatible. Other uses in accordance with AICUZ criteria may be compatible.
- Residential development within the 65 decibel noise contour is not compatible. Residential construction in these zones presents the possibility of future training restrictions due to the sustained impact of noise on residents.

These collective factors and recommended development restrictions are critical considerations that have influenced the unique nature of the recommended strategies as they apply to the JBSA-R JLUS.

***It is important to note that the JLUS is not an adopted plan, but rather a recommended set of strategies which should be implemented by the JLUS participants to address current and potential future compatibility issues.***

The key to the implementation of the strategies is the establishment of the JLUS Implementation Task Force to oversee the JLUS execution. Through this Task Force, local jurisdictions, JBSA-Randolph, and other interested parties can continue their initial work together to establish procedures, recommend or refine specific actions for member agencies, and make adjustments to strategies over time to ensure the JLUS continues to resolve key compatibility issues through realistic strategies and implementation.

## **Implementation Plan Guidelines**

The key to a successful plan is balancing the different needs of all involved stakeholders. Several guidelines formed the basis upon which the strategies were developed:

- In concert with the Texas state laws, the Implementation Plan was developed with the understanding that the recommended strategies must not result in a taking of property value. In some cases, the recommended strategies can only be implemented with new enabling legislation.
- In order to minimize regulation, where appropriate, strategies were recommended only for specific geographic areas to resolve the compatibility issue.
- Similar to other planning processes that include numerous stakeholders, the challenge is to create a solution or strategy that meets the needs of all parties. In lieu of eliminating strategies that do not have 100 percent buy-in from all stakeholders, it was determined that the solution / strategy may result in the creation of multiple strategies that address the same issue but tailored to individual circumstances.

## Military Influence Areas

In compatibility planning, the term “Military Influence Area” (MIA) is used to formally designate a geographic area where military operations may impact local communities, and conversely, where local activities may affect the military’s ability to conduct its mission. An MIA is designated to accomplish the following:

1. Promote an orderly transition between community and military land uses so that land uses remain compatible.
2. Protect public health, safety, and welfare.
3. Maintain operational capabilities of military installations and areas.
4. Promote an awareness of the size and scope of military training areas to protect areas separate from the actual military installation (i.e., critical air space) used for training purposes.
5. Establish compatibility requirements within the designated area, such as requirements for sound attenuation and aviation easements.

An MIA delineates a geographic area where strategies are recommended to support compatibility planning and JLUS goals and objectives. The MIAs are where the majority of the recommended strategies apply.

The proposed JBSA-Randolph, JBSA-Seguin, and Stinson Municipal Airport (Stinson) Military Influence Area Overlay Districts (MIAOD) are areas that incorporate all MIAs and Subzones. To better reflect the area of interest and focus implementation, several MIAs are further divided into subzones.

The MIAOD and its subzones including the Controlled Compatible Land Use Area for JBSA-Seguin (CCLUA) are used to define the geographic areas where policies and regulations will be developed and applied to implement the JLUS strategies. This technique ensures the strategies are applied to the appropriate areas, and that locations deemed not subject to a specific compatibility issue are not adversely impacted by regulations inappropriate for their location or circumstance.

## JBSA-Randolph

### JBSA-Randolph Military Influence Area Overlay District

The JBSA-Randolph MIAOD is a proposed geographic area where strategies associated with each JBSA-Randolph MIA subzone apply. Figure 6.1 illustrates the overall MIAOD with all of the subzones. Figure 6.2 illustrates the MIAOD and areas comprising the BASH and Vertical Obstruction Subzones. Figure 6.3 illustrates the Safety and Noise Subzones encompassed within the MIAOD geographic area.

### JBSA-Randolph Military Influence Area Subzones

The four MIA subzones identified for JBSA-Randolph are shown on Figures 6.1, 6.2 and 6.3 and described on the following pages:

- Bird Air Strike Hazard (BASH) MIA Subzone
- Vertical Obstruction MIA Subzone
- Safety MIA Subzone
- Noise MIA Subzone

### BASH Military Influence Area Subzone

The BASH MIA subzone is characterized by areas that could be affected by bird and wildlife strikes due to low-level flight operations. These operations can impact community activities and conversely, community activities could adversely affect operations in this area if not coordinated with JBSA-R. The BASH MIA subzone is illustrated in Figure 6.2.

The BASH subzone represents a 5-mile statistical relevancy area from the center of the runway recommended by the Federal Aviation Administration (FAA). Land uses in this area may be subject to additional regulations to prevent attractants of birds and wildlife that could increase the risk of safety to pilots and aircraft flying at lower speeds and altitudes.

### Vertical Obstruction Military Influence Area Subzone

The Vertical Obstruction MIA subzone includes both the imaginary surfaces and FAA Part 77 guidance for determining vertical obstructions illustrated on Figure 6.2. This combined guidance serves to protect important flight areas for aircraft that operate out of JBSA-Randolph. Within this MIA subzone, strategies address various height restrictions to avoid vertical obstructions.

## **500-Foot Vertical Clearance**

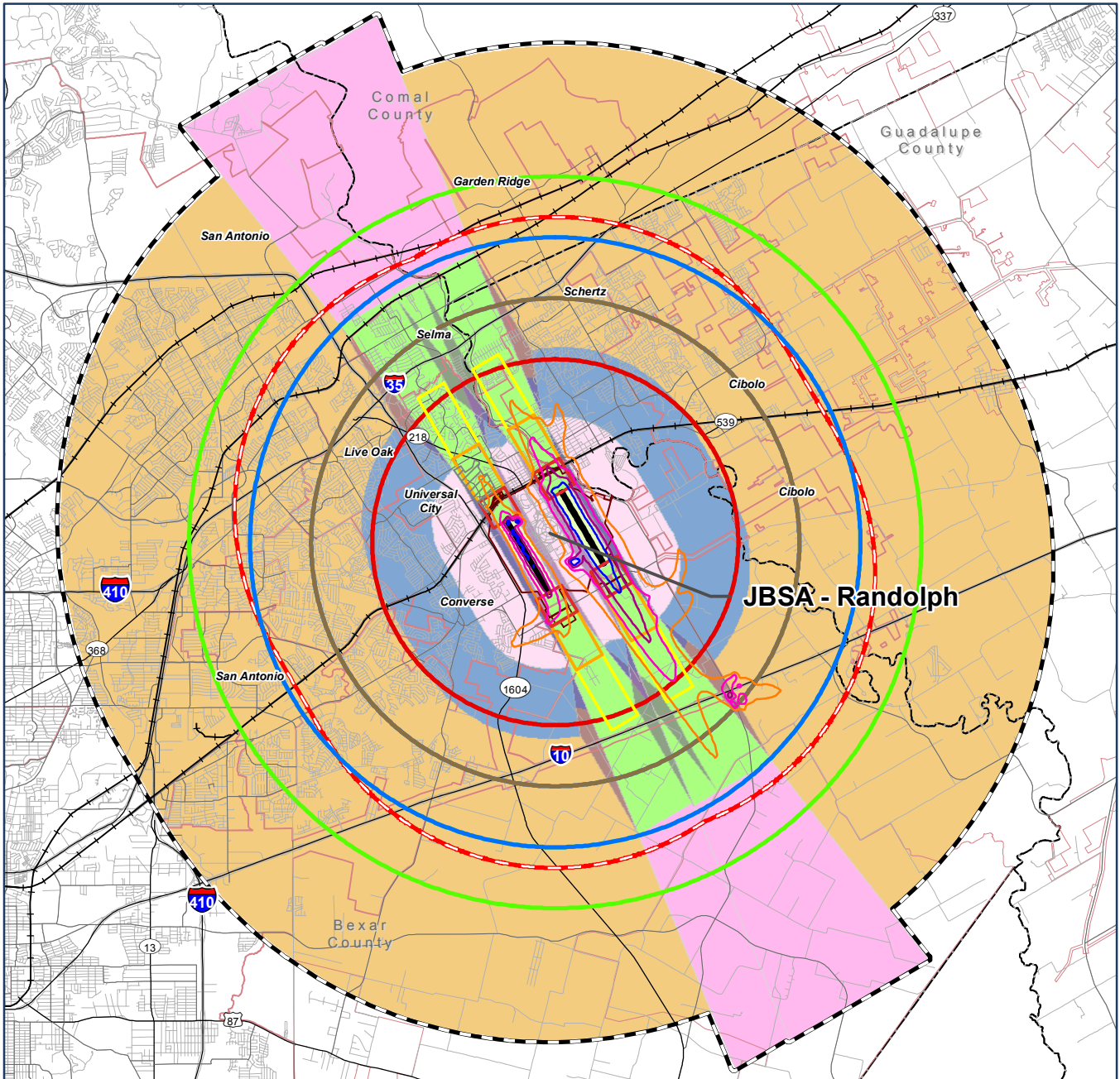
The 500-foot clearance zone is characterized by the vertical limits of the most expansive imaginary surface—the approach and departure clearance surface, illustrated on Figure 6.2. In this surface, for every 50 horizontal feet extending from the end of runway, development can extend one vertical foot up to 500 feet. Land uses should be coordinated with JBSA-Randolph to ensure safety to the public and pilots is of highest priority.

## **Safety Military Influence Area Subzone**

The Safety MIA Subzone addresses areas that could be affected by low-speed and low-altitude aircraft associated with military training operations. As described in Chapter 3 of the Background Report, the safety zones include the Clear Zone and Accident Potential Zones I and II. These areas are characterized by a high risk for aircraft collisions due to location and types of aviation operations that occur. The size and location of these areas are illustrated in Figure 6.3. New development located within this MIA subzone may be subject to lower densities and potentially other regulations to control attractants for birds and other wildlife.

## **Noise Military Influence Area Subzone**

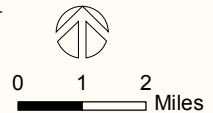
The Noise MIA subzone includes all land located off installation within the 65 dB noise contour for JBSA-R. Other noise contours represent subzones for which residential development and other noise sensitive land uses within this MIA subzone may be subject to sound attenuation measures to reduce noise impacts. Figure 6.3 illustrates the Noise MIA subzone.



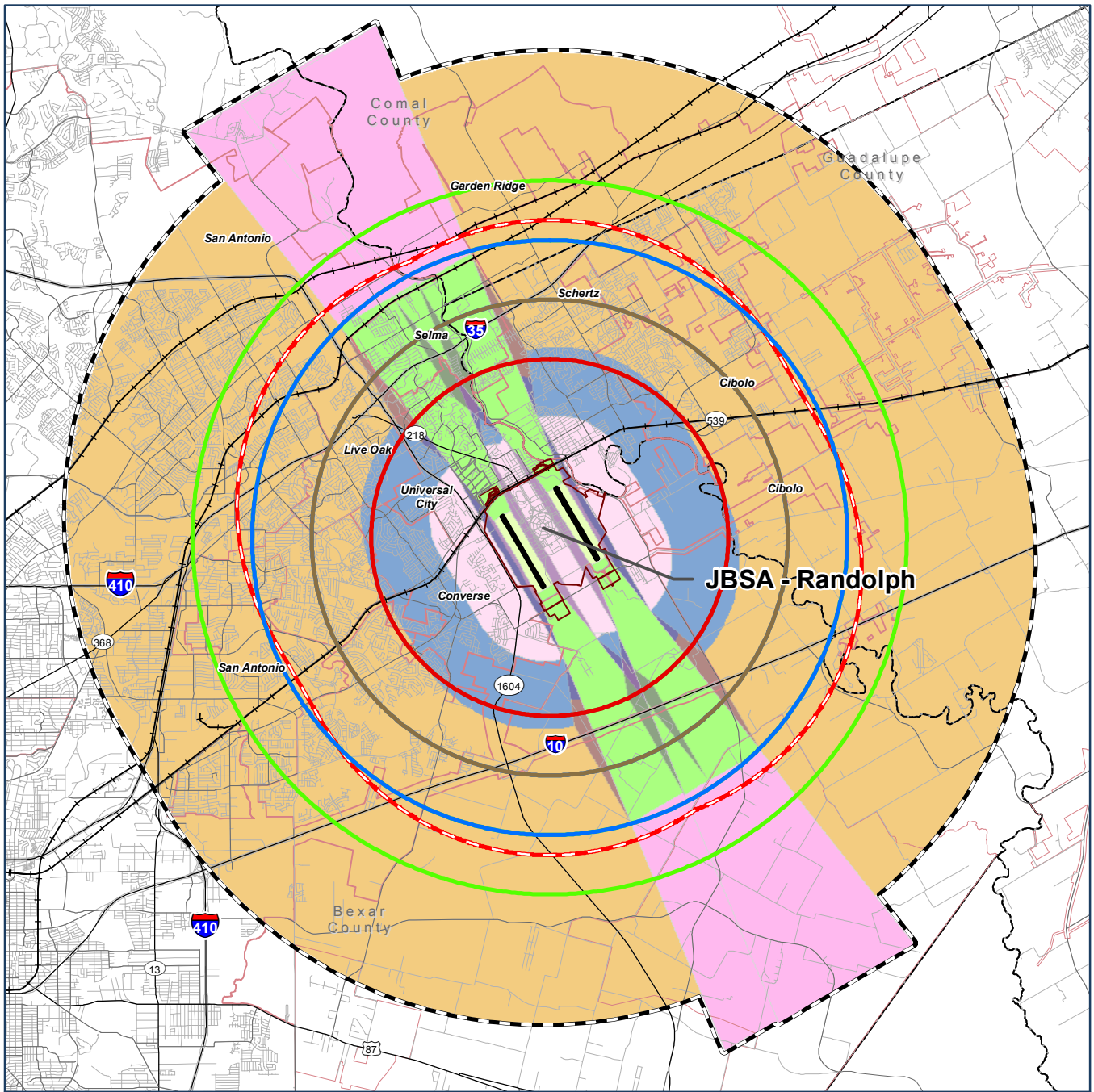
**Legend**

- |   |  |  |   |   |
|---|--|--|---|---|
| <ul style="list-style-type: none"> <li> MIAOD Boundary</li> <li> 5-mile BASH Relevancy Area Subzone</li> <li><b>Safety Subzone</b></li> <li> Clear Zone</li> <li> APZ I</li> <li> APZ II</li> </ul> | <p><b>Vertical Obstruction Subzone</b></p> <ul style="list-style-type: none"> <li> FAA Part 77 Up to 200' @ 3NM</li> <li> Up to 300' @ 4NM</li> <li> Up to 400' @ 5NM</li> <li> Up to 500' @ 6NM</li> <li><b>Airfield Imaginary Surface</b></li> <li> Primary Surface Subzone</li> <li> Approach/Departure Clearance Surface Subzone (glide angle) = 50 ft to 1 ft up to 500 ft</li> </ul> | <ul style="list-style-type: none"> <li> Approach/Departure Clearance Surface Subzone (horizontal) = 500 ft</li> <li> Inner Horizontal Surface Subzone = 150 ft</li> <li> Conical Surface Subzone = 20 ft to 1 ft</li> <li> Outer Horizontal Surface Subzone = 500 ft</li> <li> Transitional Surface Subzone = 7ft to 1 ft</li> </ul> | <p><b>Noise Subzone</b></p> <ul style="list-style-type: none"> <li> 65 dB</li> <li> 70 dB</li> <li> 75 dB</li> <li> 80 dB</li> <li> Regional Cities</li> <li> City / Community</li> <li> Bexar and Guadalupe County Boundaries</li> </ul> | <ul style="list-style-type: none"> <li> JBSA - Randolph</li> <li> Perpetual CZ Easement</li> <li> Runway Centerline</li> <li> Interstate / Highway</li> <li> Road</li> <li> Railroad</li> <li> River</li> </ul> |
|---|--|--|---|---|

Sources: FAA, 2013; JBSA-Randolph, 2013.



**Figure 6.1**  
**Military Influence Area Overlay District (MIAOD) and**  
**Subzones Composite**  
**JBSA-Randolph**



**Legend**

- MIAOD Boundary
- 5-mile BASH Relevancy Area Subzone

**FAA Part 77**

- Up to 200' @ 3NM
- Up to 300' @ 4NM
- Up to 400' @ 5NM
- Up to 500' @ 6NM

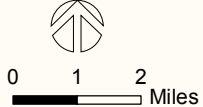
**Airfield Imaginary Surface**

- Primary Surface Subzone
- Approach/Departure Clearance Surface Subzone (glide angle) = 50 ft to 1 ft up to 500 ft

**Airfield Imaginary Surface**

- Approach/Departure Clearance Surface Subzone (horizontal) = 500 ft
- Inner Horizontal Surface Subzone = 150 ft
- Conical Surface Subzone = 20 ft to 1 ft
- Outer Horizontal Surface Subzone = 500 ft
- Transitional Surface Subzone = 7ft to 1 ft

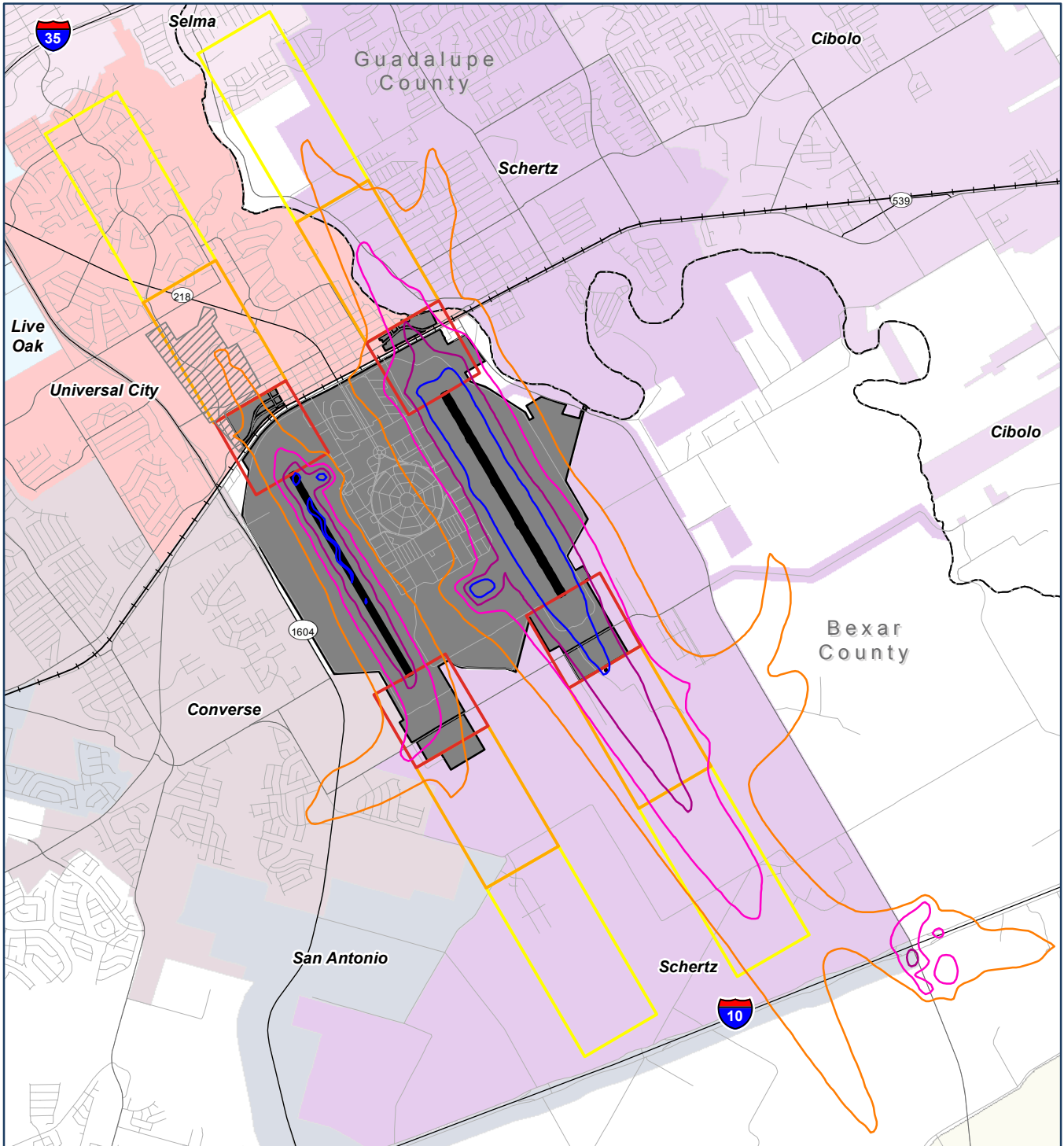
- Regional Cities
- Interstate / Highway
- Road
- Railroad
- River
- JBUS Partners
- City / Community
- Bexar and Guadalupe County Boundaries
- JBSA - Randolph
- Perpetual CZ Easement
- Runway Centerline



Sources: FAA, 2013; JBSA-Randolph, 2013.



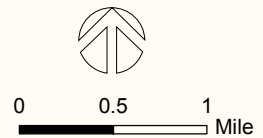
**Figure 6.2**  
**Military Influence Area Overlay District (MIAOD) with Subzones**  
**BASH and Vertical Obstruction**  
**JBSA-Randolph**



**Legend**

<b>Safety Subzone</b>	<b>Noise Subzone</b>	<b>JLUS Partners</b>	San Antonio	Regional Cities	Railroad
Clear Zone	65 dB	Cibolo	Schertz	JBSA-Randolph	River
APZ I	70 dB	Converse	Selma	Perpetual CZ Easement	
APZ II	75 dB	Live Oak	Universal City	Runway	
	80 dB			Interstate / Highway	
				Road	

Source: JBSA-Randolph, 2013.



**Figure 6.3**  
**Military Influence Area Overlay District (MIAOD) with Subzones**  
 Safety and Noise  
 JBSA-Randolph

## JBSA-Seguin Auxiliary Airfield

### JBSA-Seguin Military Influence Area Overlay District

The JBSA-Seguin MIAOD is a proposed geographic area where strategies associated with each JBSA-Seguin MIA subzone apply. Figure 7.1 illustrates the overall MIAOD with all of the subzones. Figure 7.2 illustrates the MIAOD and areas comprising the BASH and Vertical Obstruction Subzones. Figure 7.3 illustrates the CCLUA, Safety, and Noise Subzones encompassed within the MIAOD geographic area for JBSA-Seguin airfield.

The four MIA subzones and Controlled Compatible Land Use Area (CCLUA) for JBSA-Seguin are identified below, and shown and described on the following pages:

- BASH MIA Subzone
- Vertical Obstruction MIA Subzone
- Controlled Compatible Land Use Area Subzone
- Safety MIA Subzone
- Noise MIA Subzone

### BASH Military Influence Area Subzone

The BASH MIA subzone is characterized by areas that could be affected by bird and wildlife strikes due to low-level flight operations. The BASH MIA subzone illustrated in Figure 7.2 represents a 5-mile statistical relevancy area from the center of the runway around the JBSA-Seguin airfield prescribed by the FAA. Certain land uses in this area may be subject to additional regulations to prevent attractants of birds and wildlife that could increase the risk of safety to pilots and aircraft flying at lower speeds and altitudes.

### Vertical Obstruction Military Influence Area Subzone

The Vertical Obstruction MIA subzone includes both the imaginary surfaces and FAA Part 77 guidance for determining vertical obstructions illustrated on Figure 7.2. This combined guidance serves to protect important flight areas for aircraft that operate out of JBSA-S. Within this MIA subzone, strategies address various height restrictions to avoid vertical obstructions.

### 500-Foot Vertical Clearance

The 500-foot clearance zone is characterized by the vertical limits of the most expansive imaginary surface—the approach and departure clearance surface,

illustrated on Figure 7.2. In this surface, for every 50 horizontal feet extending from the end of runway, development can extend one vertical foot up to 500 feet.

### Controlled Compatible Land Use Area Subzone

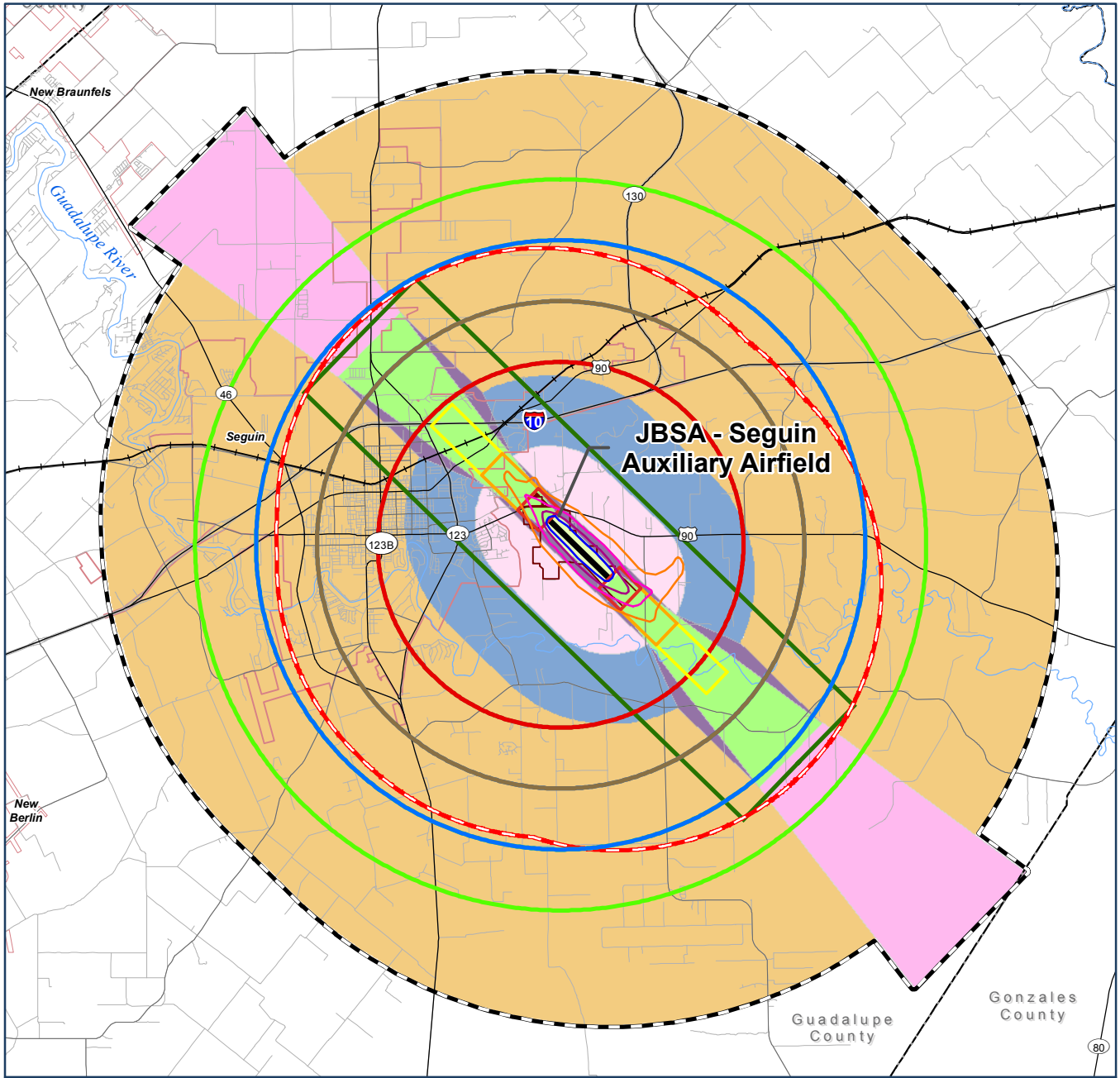
The CCLUA boundary around JBSA-Seguin is the MIA subzone that would allow for airfield zoning coordination and would give land use authority to an established Joint Airport Zoning Board (JAZB), pursuant to Texas Local Government Code, Section 241.014. This MIA subzone defines an area for the JAZB to regulate and adopt airport zoning regulations for lower densities and height restrictions, including areas within the Safety and Noise Subzones, and within the unincorporated portion of Guadalupe County since the county does not have land use authority. The CCLUA boundaries for JBSA-Seguin are shown on Figure 7.3.

### Noise Military Influence Area Subzone

The Noise MIA subzone includes all land located off installation within the 65 dB noise contour for JBSA-Seguin. Other noise contours represent subzones for which noise sensitive land uses within this MIA subzone may be subject to sound attenuation measures to reduce noise impacts. Figure 7.3 illustrates the Noise MIA subzone.

### Safety Military Influence Area Subzone

The Safety MIA subzone addresses areas that could be affected by low-speed and low-altitude aircraft associated with military training operations. As described in Chapter 3 of the Background Report, the safety zones include the Clear Zone and Accident Potential Zones I and II. These areas are characterized by a high risk for aircraft collisions due to location and types of aviation operations that occur. The size and location of these areas are indicated in Figure 7.3. Although development proximate to JBSA-Seguin is minimal, any new development located within this MIA subzone may be subject to lower densities and potentially other regulations.



**Legend**

- MIAOD Boundary
- 5-mile BASH Relevancy Area Subzone
- Controlled Compatible Land Use Area Subzone
- Safety Subzone**
- Clear Zone
- APZ I
- APZ II

**FAA Part 77**

- Up to 200' @ 3NM
- Up to 300' @ 4NM
- Up to 400' @ 5NM
- Up to 500' @ 6NM

**Airfield Imaginary Surface**

- Primary Surface Subzone
- Approach/Departure Clearance Surface Subzone (glide angle) = 50 ft to 1 ft up to 500 ft

**Vertical Obstruction Subzone**

**Airfield Imaginary Surface**

- Approach/Departure Clearance Surface Subzone (horizontal) = 500 ft
- Inner Horizontal Surface Subzone = 150 ft
- Conical Surface Subzone = 20 ft to 1 ft
- Outer Horizontal Surface Subzone = 500 ft
- Transitional Surface Subzone = 7ft to 1 ft

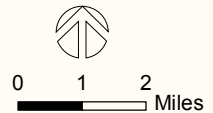
**Noise Subzone**

- 65 dB
- 70 dB
- 75 dB
- 80 dB
- Regional Cities

**JLUS Partners**

- Seguin
- Guadalupe County Boundary

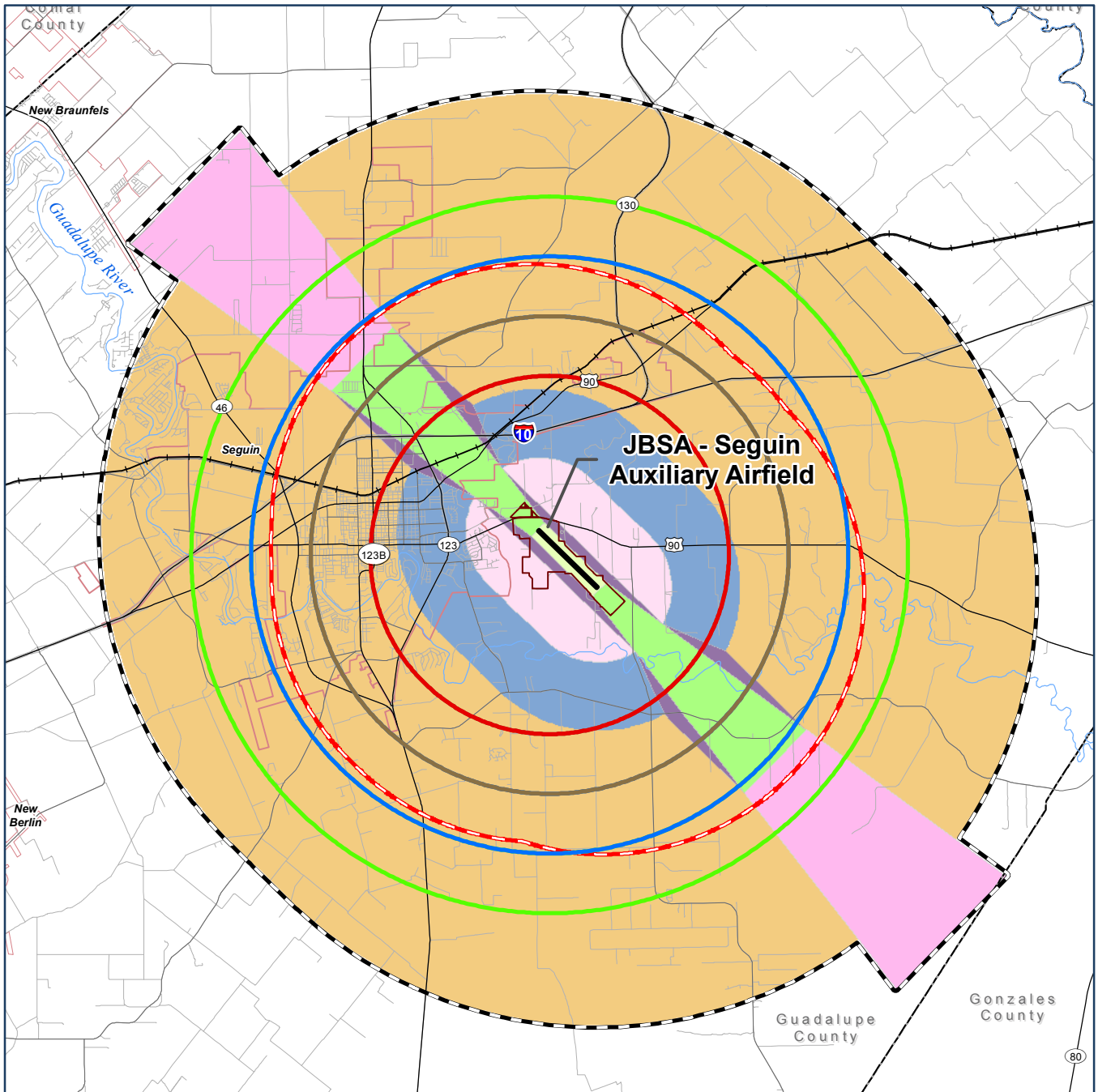
- JBSA - Seguin Auxiliary Airfield
- Runway Centerline
- Interstate / Highway
- Road
- Railroad
- River



Sources: FAA, 2013; JBSA-Randolph, 2013.

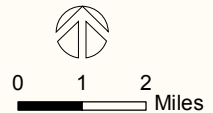


**Figure 7.1**  
**Military Influence Area Overlay District (MIAOD) and**  
**Subzones Composite**  
**JBSA-Seguin Auxiliary Airfield**

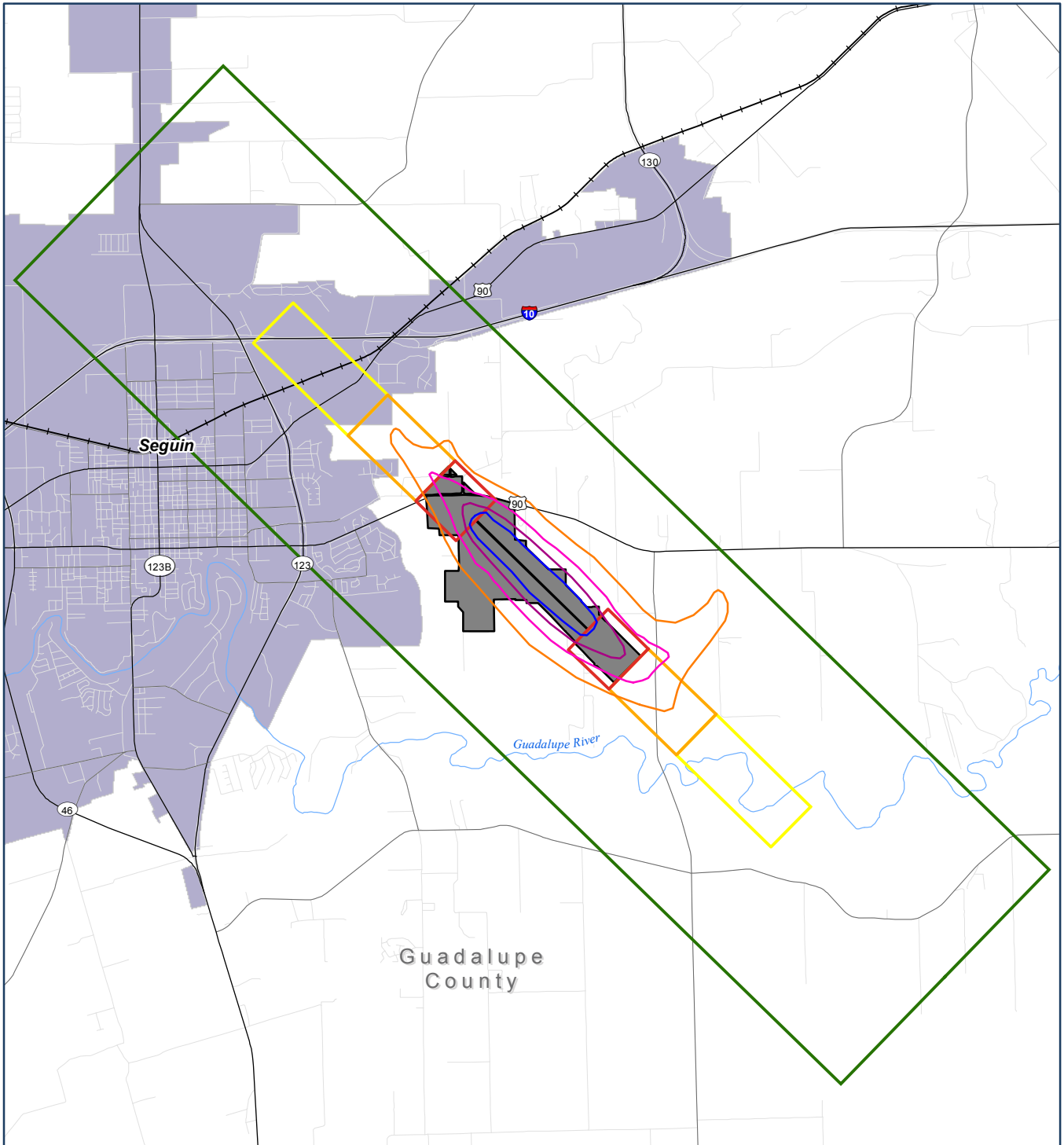


<b>Legend</b>		<b>Vertical Obstruction Subzone</b>			
MIAOD Boundary	5-mile BASH Relevancy Area Subzone	FAA Part 77 Up to 200' @ 3NM	Up to 300' @ 4NM	Up to 400' @ 5NM	Up to 500' @ 6NM
<b>Airfield Imaginary Surface</b>		<b>Airfield Imaginary Surface</b>		<b>Airfield Imaginary Surface</b>	
Primary Surface Subzone	Approach/Departure Clearance Surface Subzone (horizontal) = 500 ft	Inner Horizontal Surface Subzone = 150 ft	Conical Surface Subzone = 20 ft to 1 ft	Outer Horizontal Surface Subzone = 500 ft	Transitional Surface Subzone = 7ft to 1 ft
Approach/Departure Clearance Surface Subzone (glide angle) = 50 ft to 1 ft up to 500 ft	Regional Cities	JLUS Partners	Railroad	River	Runway Centerline
	Seguin	Guadalupe County Boundary	Interstate / Highway	Road	
	JBSA - Seguin Auxiliary Airfield				

Sources: FAA, 2013; JBSA-Randolph, 2013.



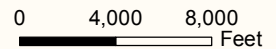
**Figure 7.2**  
**Military Influence Area Overlay District (MIAOD) with Subzones**  
**BASH and Vertical Obstruction**  
**JBSA-Seguin Auxiliary Airfield**



**Legend**

<b>Safety Subzone</b>	<b>Noise Subzone</b>	Controlled Compatible Land Use Area Subzone	JBSA-Seguin Auxiliary Airfield	Railroad
Clear Zone	65 dB		Runway	River
APZ I	70 dB	<b>JLUS Partners</b>	Interstate / Highway	
APZ II	75 dB	Seguin	Road	
	80 dB	Guadalupe County Boundary		

Source: JBSA - Randolph 2013



**Figure 7.3**  
**Military Influence Area Overlay District (MIAOD) with Subzones**  
 Controlled Compatible Land Use Area, Safety, and Noise  
**JBSA-Seguin Auxiliary Airfield**

## Stinson Municipal Airport

### Stinson Municipal Airport Military Influence Area Overlay District

The Stinson MIAOD is a proposed geographic area where strategies associated with each Stinson MIA subzone apply. Figure 8.1 illustrates the overall MIAOD, which is designed to reflect the area comprising all the MIA subzones for Stinson Municipal Airport. Figure 8.2 provides an inset of the Safety and Noise Subzones surrounding the airport.

### Stinson Municipal Airport Military Influence Area Subzones

The four MIA subzones for Stinson are shown in Figure 8.1 and described on the following pages:

- BASH MIA Subzone
- Vertical Obstruction MIA Subzone
- Safety MIA Subzone
- Noise MIA Subzone

### BASH Military Influence Area Subzone

The BASH MIA subzone is characterized by areas that could be affected by bird and wildlife strikes due to low-level flight operations. The BASH MIA subzone illustrated on Figure 8.1 represents a 5-mile statistical relevancy area from the center of the runway around Stinson. Certain land uses in this area may be subject to additional regulations to prevent attractants of birds and wildlife that could increase the risk of safety to pilots and aircraft flying at lower speeds and altitudes.

### Vertical Obstruction Military Influence Area Subzone

The FAA Part 77 Vertical Obstruction MIA subzone serves to protect important flight areas for aviation operations associated with Stinson. Within this MIA subzone, strategies address height restrictions to avoid vertical obstructions. The Vertical Obstruction MIA subzone for Stinson is depicted on Figure 8.1.

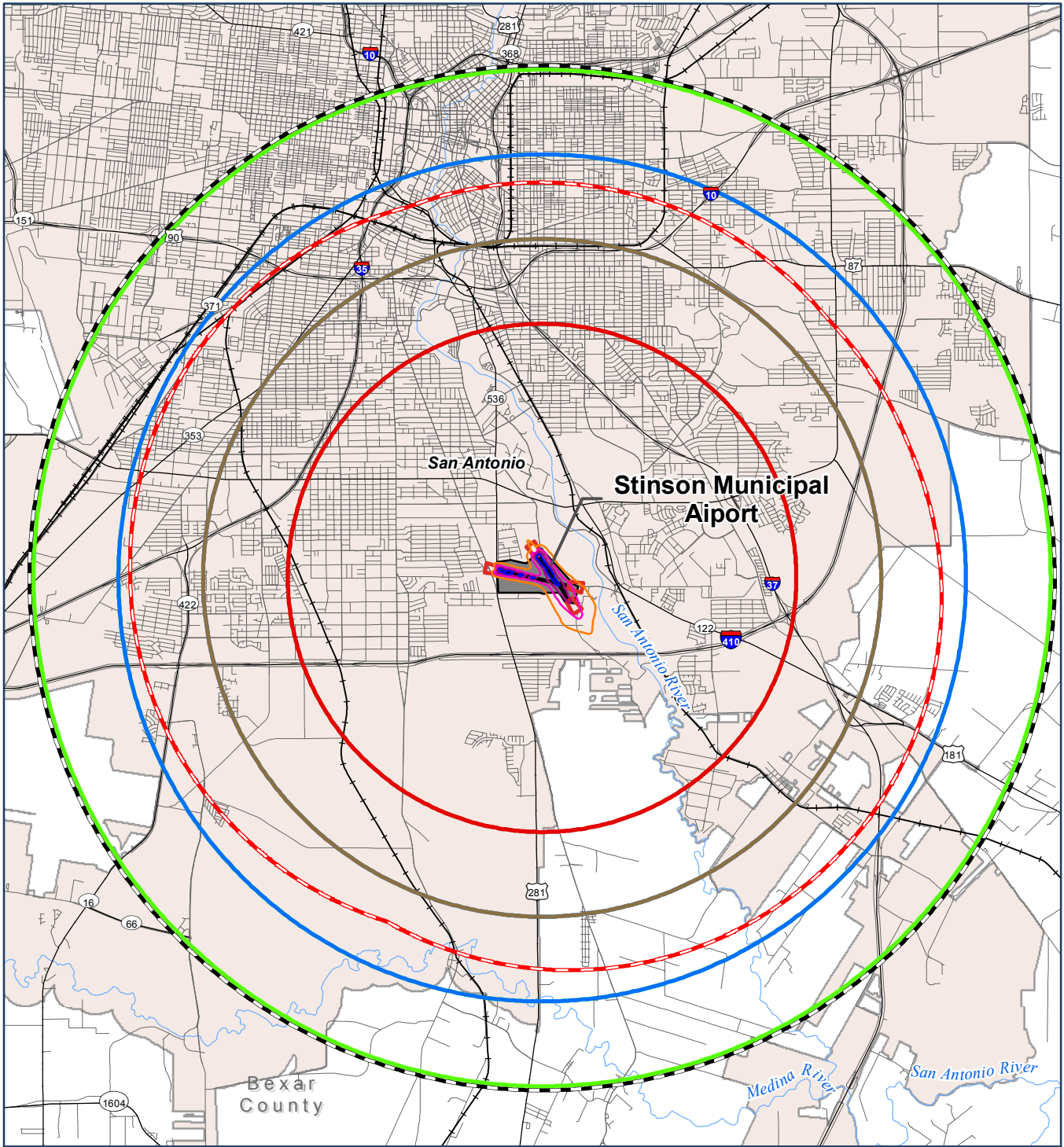
### Safety Military Influence Area Subzone

The Safety MIA subzone addresses areas that could be affected by low-speed and low-altitude aircraft associated with military training operations. Safety zones for civilian airports include Object Free Areas, Runway Protection Zones, Runway Safety Areas and

Obstacle Free Zones. These areas are characterized by a high risk for aircraft collisions due to location and types of aviation operations that occur. The size and location of the Stinson Runway Protection Zones are illustrated in Figures 8.1 and 8.2.

### Noise Military Influence Area Subzone

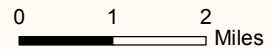
The Noise MIA subzone includes all land located off installation within the 60 dB noise contour for Stinson. Other noise contours represent subzones for which residential development and other noise sensitive land uses within this MIA subzone may be subject to sound attenuation measures to reduce noise impacts. Figures 8.1 and 8.2 illustrate the 60 dB Noise MIA subzone.



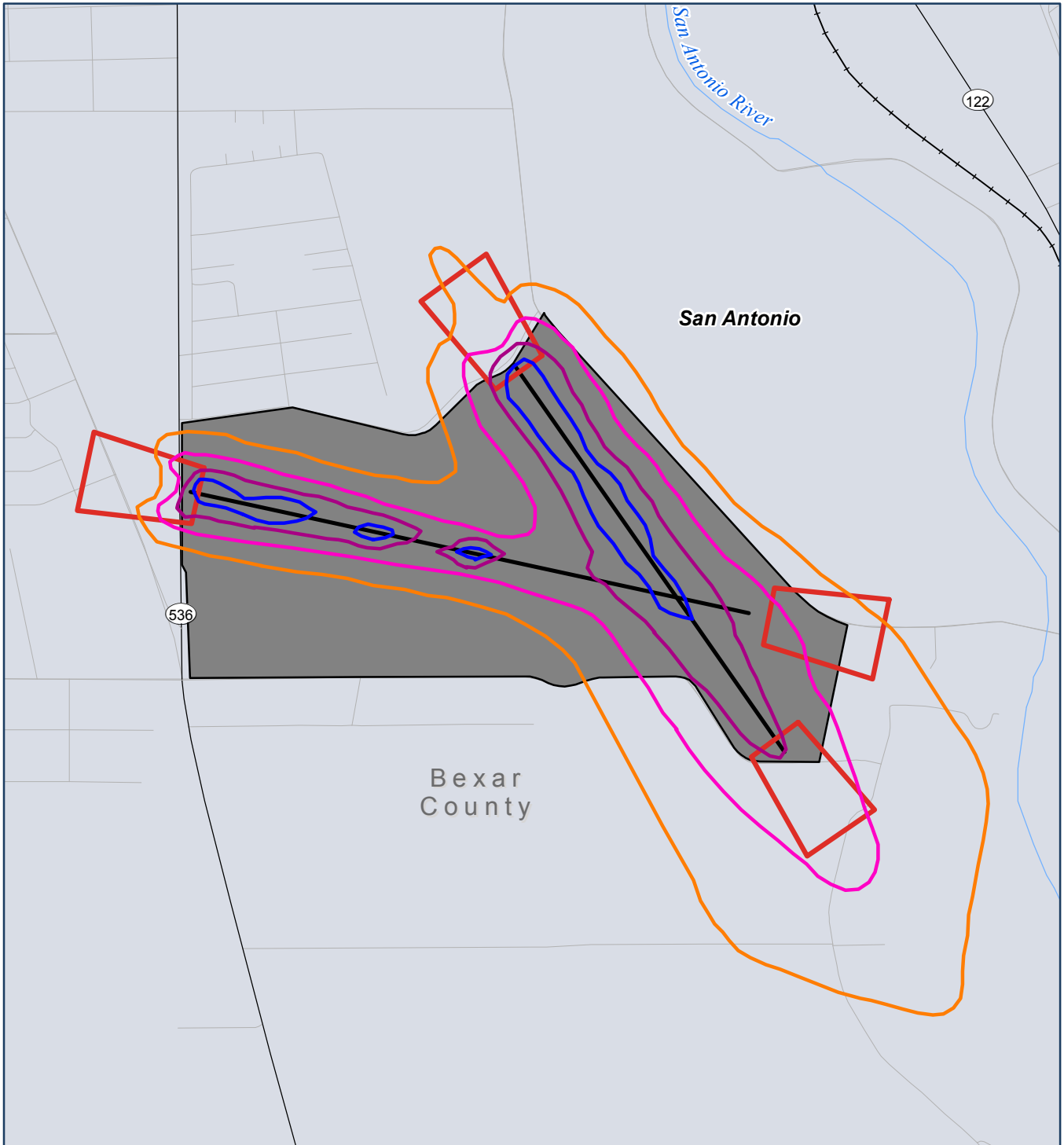
**Legend**

- |                        |                      |   |                       |                           |          |
|------------------------|----------------------|---|-----------------------|---------------------------|----------|
| MIAOD Boundary         | <b>Noise Subzone</b> | <b>Vertical Obstruction Subzone (FAA Part 77)</b> | <b>JLUS Partner</b>   | Stinson Municipal Airport | Railroad |
| 5-mile BASH            | 60 dB                | Up to 200' @ 3NM                                  | San Antonio           | Runway                    | River    |
| Relevancy Area Subzone | 65 dB                | Up to 300' @ 4NM                                  | Bexar County Boundary | Interstate / Highway      |          |
| Safety Subzone         | 70 dB                | Up to 400' @ 5NM                                  |                       | Road                      |          |
|                        | 75 dB                | Up to 500' @ 6NM                                  |                       |                           |          |

Sources: FAA, 2013; Ricondo & Associates, 2013.



**Figure 8.1**  
**Military Influence Area Overlay District (MIAOD) and**  
**Subzones Composite**  
**Stinson Municipal Airport**



**Legend**

- |                |                      |                       |                           |          |
|----------------|----------------------|-----------------------|---------------------------|----------|
| Safety Subzone | <b>Noise Subzone</b> | <b>JLUS Partners</b>  | Stinson Municipal Airport | Railroad |
| 60 dB          | 65 dB                | San Antonio           | Runway                    | River    |
| 70 dB          | 75 dB                | Bexar County Boundary | Interstate / Highway      | Road     |

Source: Ricondo & Associates, 2013



**Figure 8.2**  
**Military Influence Area Overlay District (MIAOD) with Subzones**  
 Safety and Noise  
**Stinson Municipal Airport**

## 6.2 How to Read the Implementation Plan

The strategies developed were designed to address the issues identified during preparation of the JLUS. The purpose of each strategy is to:

1. Avoid future actions, operations, or approvals that would cause a compatibility issue,
2. Eliminate an existing compatibility issue,
3. Reduce the adversity of an existing issue, or
4. Provide for on-going communications and collaboration.

To make the strategies easier to use, they are presented in a table format that provides the strategy and information on when and how that strategy will be implemented. Figure 9 highlights the format and content of the strategy table, and the following paragraphs provide an overview of how to read the information presented within each strategy.

**Issue #.** The issue # is an alpha-numeric number that provides a unique reference for each specific issue and strategy.

**Type of Strategy.** This column identifies the type of strategy being recommended. The column contains one of the following acronyms to represent the tool type:

<b>Acq</b>	Acquisition
<b>CIP</b>	Capital Improvement Program
<b>Comm</b>	Communication and Coordination
<b>Disc</b>	Real Estate Disclosures
<b>Hab</b>	Habitat Conservation Tools
<b>Leg</b>	Legislative Tools
<b>MIA</b>	Military Influence Area
<b>MOA</b>	Memorandum of Agreement
<b>MOU</b>	Memorandum of Understanding
<b>Plans</b>	General / Comprehensive / Master / Hazard / Airport Plans
<b>Zon</b>	Zoning Ordinance / Subdivision Regulations

**Geographic Area.** This column indicates the applicable Military Influence Area (MIA), if the strategy relates to an area outside JBSA-R. Additional details on MIAs are provided under the previous “Influence Areas” section.

**Strategy.** In bold type is a title that describes the strategy. This is followed by the complete strategy statement that describes the action needed.

**Timeframe.** This column indicates the projected timeframe of each strategy. The timeframes are described below:

<b>2015</b>	Strategy to be initiated by 2015 (within 1-2 years of JLUS completion)
<b>2017</b>	Strategy to be initiated by 2017 (3 to 5 years from JLUS completion)
<b>On-Going</b>	An on-going implementation action

**Responsible Party.** At the right end of the strategy table are a series of columns, one for each jurisdiction, military entity, agency, and organization with responsibility for implementing the JLUS strategies. If an entity has responsibility relative to implementing a strategy, a mark is shown under their name. This mark is one of two symbols that represent their role. A solid square (■) designates that the entity identified is responsible for implementing the strategy. A hollow square (□) designates that the entity plays a key supporting role, but is not directly responsible for implementation. The responsible parties are identified by their assigned acronym in the heading at the top of each page.

<b>JBSA</b>	Joint Base San Antonio
<b>CPS/SAWS</b>	City Public Service Energy/ San Antonio Water System
<b>FAA</b>	Federal Aviation Administration
<b>RECSA</b>	Real Estate Council of San Antonio
<b>SABOR</b>	San Antonio Board of Realtors
<b>TXDOT</b>	Texas Department of Transportation

Issue or Strategy #	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA / JBSA-Randolph	CPS / SAWS	FAA	RECSA / SABOR	TXDOT
<b>ALTERNATIVE ENERGY DEVELOPMENT</b>																	
AE-1	Zon	Vertical Obs MIA	<p><b>Amend Unified Development Codes and Zoning Ordinances to Establish Height Limits for Alternative Energy Development Structures.</b></p> <p>Unified Development Codes and zoning ordinances need to require height restrictions for energy development structures within the vertical obstruction MIA. Ordinances should also be amended to require review and coordination by Air Force prior to issuing a permit for all commercial alternative energy developments in the study area.</p>	2015	■	■	■	■	■	■							

**Issue / Strategy Number:**  
Alpha-numeric identifier used for reference.

**Type of Strategy:**  
An abbreviated description of the type of strategy used.

**Military Influence Area:**  
Where each strategy applies. For example, if only MIA is indicated, then that strategy only applies to areas within the MIA.

**Strategy:**  
Description of the strategy.

**Timeframe:**  
The expected initiation date for strategy implementation.

**Responsible Party:** The primary and partner responsible agencies. For example, the ■ denotes the primary agency who will take the lead in implementation. The □ denotes partner agency who will assist the primary agency in implementation.

Figure 9. JBSA-R Strategy Key

JBSA-Randolph JLUS Strategies

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
<b>ALTERNATIVE ENERGY DEVELOPMENT</b>																			
AE-1	Zon	JBSA-R JBSA-S Stinson Vertical Obs MIAOD Subzone	<p><b>Amend Unified Development Codes and Zoning Ordinances to Establish Height Limits, and Siting for Alternative Energy Development Structures.</b></p> <p>In an effort to be proactive, amend unified development codes and zoning ordinances to regulate the height and siting of residential and commercial wind energy turbines to prevent interference with the safety of aviation within both the Vertical Obstruction MIAOD Subzones</p>	2015	■		■	■	■	■	■		■						
AE-2	Comm	JBSA-R JBSA-S Stinson Vertical Obs MIAOD Subzone	<p><b>Educate Utility Companies and Encourage Them to Adopt Non-Reflective Solar Panel Criteria.</b></p> <p>Educate utility companies on the importance of non-reflective solar panels and encourage them to adopt criteria for use within the Vertical Obstruction Military Overlay District.</p>	2015	□		□	□	□	□	□		□		■				

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
AE-2 (cont'd)			<i>Other Partners: CPS Energy, GVEC</i>															
AE-3	Plans/ Zon/ MOA	JBSA-R JBSA-S Stinson Vertical Obs MIAOD Subzone	<p><b>Coordinate with DoD Siting Clearinghouse.</b> Update comprehensive plans to include policies and amend Unified Development Codes (UDCs) and zoning ordinances to require all proposed alternative energy development projects be submitted to the DOD Siting Clearinghouse to review each project for mission compatibility. Include coordination with DOD Siting Clearinghouse as part of the MOA between JBSA and stakeholders.</p> <p><i>Note: The DOD Siting Clearinghouse requirements and standards published in Title 32, Code of Federal Regulations, Part 211 shall advise and guide the process to facilitate the early submission of renewable energy project proposals to the Clearinghouse for military mission compatible review.</i></p>	2015/ On- going	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
AT-1	Comm	JBSA-R JBSA-S MIAOD	<b>JBSA to Provide the Cities with the AT/FP Guidance for Development Along the Fence Line.</b> JBSA should provide the adjacent cities to JBSA-R and JBSA-S with the AT/FP criteria (setbacks, heights and types of structures, etc.) for development standards along and proximate the fence line. This would enable quick assessment of proposed development at or near the fence line.	2015	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>					<input checked="" type="checkbox"/>				
AT-2	CIPs	JBSA-R MIAOD	<b>AT/FP Improvements to JBSA-R East Gate Program</b> and construct project for East Gate improvements to achieve AT/FP compliance and to provide queuing inside the installation boundary.	2017										<input checked="" type="checkbox"/>				

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
AT-3	Plans/ CIPs	JBSA-R MIAOD	<p><b>FM 78 JBSA Randolph East Gate Intersection Improvements</b></p> <p>JBSA should coordinate with TXDOT and plan, budget and construct dedicated turn lane from western FM 78 into East Gate and restriping of center turn lane from eastern FM 78 into East Gate entrance.</p> <p><i>Other Partners:</i> Alamo Area Metropolitan Planning Organization (MPO)</p>	2015	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input checked="" type="checkbox"/>
<b>INTER-AGENCY COMMUNICATION / COORDINATION</b>																		
COM-1	MOA	JBSA-R JBSA-S Stinson MIAOD	<p><b>JBSA Representative to Attend City Council, Planning Commission, County Commissioners Court and other Agency Board Meetings to Provide Comments on Mission Compatibility Concerns for Proposed Developments</b></p> <p>In an effort to continue a collaborative partnership, include in the MOA between stakeholders and JBSA that JBSA</p>	2015	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
COM-1 (cont'd)			<p>agrees to provide a representative to attend and comment on mission compatibility issues on proposed developments at City Council, Planning Commission, County Commissioner Court and other agency board meetings.</p> <p><i>Note: The JBSA representative will provide technical information on items being considered, but shall not directly vote to approve, conditionally approve, or deny a project or development application.</i></p> <p><u>Other Partners:</u> Alamo Area MPO, Bexar Regional Watershed Management (BRWM), San Antonio River Authority (SARA)</p>																
COM-2	MOA	JBSA-R JBSA-S Stinson MIAOD	<p><b>Stakeholders to Provide JBSA an Opportunity to Review and Comment on Proposed Developments within the MIAOD</b></p> <p>In an effort to continue a collaborative partnership, include</p>	2015	■	■	■	■	■	■	■	■	■	■	■			■	

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
COM-2 (cont'd)			<p>in the MOA between stakeholders and JBSA that the stakeholders agree to inform JBSA of any proposed developments within the MIAOD, and JBSA will provide comments regarding mission compatibility concerns, within an agreed upon and reasonable timeframe. This will include:</p> <ul style="list-style-type: none"> <li>■ Provide technical input and assistance to local jurisdictions to support discussion of projects and potential compatibility issues</li> <li>■ Definition of project types that require review</li> <li>■ Identification of the Points of Contact for all coordination</li> <li>■ Identify opportunities for appropriate JBSA personnel to participate in pre-application meetings for significant</li> </ul>																

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
COM-2 (cont'd)			<p>projects</p> <ul style="list-style-type: none"> <li>▪ Establish a formal procedure for requesting and receiving comments</li> <li>▪ JBSA review of development applications for property adjacent to JBSA-Randolph and JBSA-Seguin fenceline for compliance with AT/FP requirements</li> <li>▪ Establish a standard, maximum timeline for responses, keeping in mind mandated review time periods as specified by State law and local procedures</li> <li>▪ Provide notice to the JBSA on all public hearings regarding projects identified for coordination</li> </ul> <p>While consultation is expected to occur primarily on projects in the defined MIAOD, the Air Force should establish contacts</p>																

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
COM-2 (cont'd)			and procedures for receiving notices and review opportunities on significant regional projects. <i>Other Partners:</i> Alamo Area MPO, BRWM, SARA															
COM-3	Plan MOA	Study Area	<p><b>JBSA to Develop a Stakeholders' Communications Protocol Plan and a Community Communications Portal</b></p> <p>JBSA should develop both an internal and external stakeholders' communications protocol plan to manage external communications with the public, civic and business leaders, and other groups.</p> <ul style="list-style-type: none"> <li>■ Develop a Stakeholder Communications Protocol Plan that identifies who stakeholders at all technical and leadership levels should call for questions and coordination.</li> <li>■ Plan should include frequently called numbers and</li> </ul>	2015	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
COM-3 (cont'd)			<p>points-of-contact</p> <ul style="list-style-type: none"> <li>▪ Develop a JBSA Community Communications Portal that includes a JBSA portal phone number and email that acts as a clearinghouse for all incoming community questions</li> <li>▪ Incorporate the Stakeholders' Communication Plan into the MOA between JBSA and stakeholders</li> <li>▪ Add "Who-to-Call" Lists to the websites for topic matters that would be useful to the public</li> </ul> <p><u>Other Partners:</u> Alamo Area MPO, BRWM, SARA</p>																
COM-4	Comm	Study Area	<p><b>JBSA to Enhance Notifications to the Public for Training that Occurs Outside the Routine Schedule and Other Current Event News Relevant to Communities</b></p> <p>JBSA should enhance notification techniques and measures about</p>	2015	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
COM-4 (cont'd)			<p>training events that occur outside or in addition to the normal training schedule and other current events that are relevant to the citizens. Include a point of contact in all notifications. Notification techniques should include but not be limited to:</p> <ul style="list-style-type: none"> <li>▪ JBSA Facebook / Twitter</li> <li>▪ Public Service Announcements</li> <li>▪ JBSA newspaper and other local newspapers</li> <li>▪ Jurisdictions Public Affairs Office</li> <li>▪ Links from jurisdiction websites to the JBSA website</li> <li>▪ Group Email Blast to jurisdiction's elected and appointed officials and public safety officers</li> </ul>																
COM-5	Comm	Study Area	<p><b>Enhance Visibility of the 12th FTW Community Engagement Office.</b> The 12th FTW should enhance the visibility of the</p>	2015										■					

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
COM-5 (cont'd)			<p>Community Engagement Office to include but not limited to:</p> <ul style="list-style-type: none"> <li>■ Post the contact information and building location on the main JBSA-Randolph website</li> <li>■ Outreach to adjacent and proximate communities with the contact information for the office</li> <li>■ Provide regular updates to community officials and staff</li> <li>■ Respond in a timely manner in the events of complaints, etc.</li> </ul>																
COM-6	Zon	JBSA-R Safety MIAOD Subzone	<p><b>Amend the Perpetual Clear Zone Easement To Define a JBSA Response Time For Proposed Development Application Reviews</b></p> <p>JBSA-R and the City of Universal City should amend the Easement to incorporate a reasonable response time from the Air Force to enable efficient use of resources and maintain consistency with mandated</p>	2017							■			■					

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
COM-6 (cont'd)			timeframes for the development review process.															
COM-7	Comm	JBSA-R JBSA-S Stinson MIAODs	<b>Response Time from JBSA</b> The cities, counties and JBSA should work together to delineate a reasonable amount of time for JBSA to respond to development applications and other such planning matters. {See Strategy COM-2}	2015	■		■	■	■	■	■	■	■	■				
COM-8	Comm	Study Area	<b>Establish a JBSA-R JLUS Implementation Task Force</b> Formalize through a resolution that the JLUS-R Executive and Advisory Committees will transition to a JLUS Implementation Task Force and Sub Committee respectfully, and be responsible for monitoring the implementation of the recommended JLUS strategies and act as a forum for continued communication and sharing of information and current events associated with military	2015	□		□	□	□	□	□	■	□	□	□	□	□	□

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
COM-8 (cont'd)			compatibility. <i>Note: This may be achieved through existing collaborative efforts, such as the JBSA Community Partnership.</i>															
COM-9	Comm	Study Area	<b>Plan and Facilitate a Visioning Session for Multiple Military Advocacy Organizations.</b> Bexar County should plan and facilitate a visioning session among all the organizations in the JBSA metrocom area that have similar missions and common goals to determine where efficiencies can be realized, resources can be optimized and advocate with a one-voice approach while preventing competing missions. <i>Other Partners:</i> <i>Alamo Area Council of Governments (AACOG), Tri-County Chamber of Commerce, San Antonio Chamber of Commerce, Northeast Partnership (NEP), Schertz Chamber of Commerce, JBSA Community Partnership</i>	2015	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
COM-10	MOA	Region Wide	<p><b>Develop Memorandum of Agreement (MOA) for Multiple Military Advocacy Agencies</b></p> <p>The County should work with JBSA to determine needs for advocacy of military-related matters. Then County should develop a MOA with the cities and other advocacy agencies AACOG and NEP delineating points-of-contacts and protocols for communication methods of contact, identification of appropriate agency for certain matters, and an action plan for managing and aligning multiple advocacy agencies in the Bexar and Guadalupe Counties.</p> <p><u>Other Partners:</u> AACOG, Tri-County Chamber of Commerce, San Antonio Chamber of Commerce, NEP, Schertz Chamber of Commerce, JBSA Community Partnership</p>	2015	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
COM-11	Comm	Study Area / County-wide	<p><b>Create and Maintain a Regional Portal GIS Information Clearinghouse for Collecting and Distributing Updated GIS Layers / Maps Related to Military Operations</b></p> <p>Currently, the City of San Antonio has a grant with the OEA to determine and identify an agency that could serve as the Regional Clearinghouse that can provide a portal to all JLUS stakeholders that would house as well as make available GIS layers and maps related to military operations. JBSA would be responsible for providing a comprehensive set of GIS layers for all military to the clearinghouse. The clearinghouse would be responsible for distributing all updated military operation GIS layers and maps to the partnering jurisdictions and stakeholder agencies to enable enhanced long-range compatibility</p>	2015	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
COM-11 (cont'd)			<p>planning. A protocol for accessing and updating the information should be developed to ensure accuracy and appropriate security measures are established.</p> <p><i>Other Partners:</i> AACOG, Alamo Area MPO, BRWM, SARA</p>																
COM-12	Comm	Study Area	<p><b>Randolph Tower (RND) Airspace Manager and 12 FTW Safety Office should continue working with General Aviation groups and the FAA in reducing VFR pop-up traffic transiting Military Operating Areas (MOAS)</b></p> <p>RND Airspace Manager, Airspace squadron Points-of-Contact (POCs) and squadron Duty Officers (DOs) should continue to visit Houston Center and San Antonio Tower/Terminal Radar Approach Control (TRACON) to brief air traffic controllers on an annual basis the importance of issuing Traffic Advisories and Alerts to all users of RND</p>	2015										■		☐			

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
COM-12 (cont'd)			<p>MOAs.</p> <ul style="list-style-type: none"> <li>■ 12 FTW Safety Office and Airspace Manager should continue safety briefings at venues attended by General Aviation pilots and inform them of the hazards associated with flying into active MOAs.</li> <li>■ 12 FTW Safety Office should vigorously reach out to airports in the surrounding area by conducting on site visits and posting diagrams depicting RND flying routes and MOAs along with Mid-Air-Collision-Avoidance brochures. MOA scheduling utilizing the latest software program sanctioned by the Air Force will be utilized and specified in Letters of Agreement with RND and FAA agencies as required so that</li> </ul>																

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
COM-12 (cont'd)			<p>Notices to Airmen are automatically issued advising all General Aviation flyers when the MOAs are active.</p> <p><i>Other Partners:</i> San Antonio International Airport (SAT) and RND</p>																
COM-13	Zon	JBSA-R JBSA-S Stinson Vertical Obs MIAOD Subzone	<p><b>Amend UDCs or Building Codes to Not Permit Temporary Cranes within the Transitional Area of the Airfield</b></p> <p>The cities should amend their UDCs to incorporate regulations for not permitting temporary cranes within the transitional area of the imaginary surface in order to prevent vertical obstruction into critical navigable airspace. The cities should require coordination with the FAA to determine obstruction evaluations so mitigation measures and coordination with JBSA can be applied.</p>	2015	■			■			■			□		□			

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
COM-14	Comm	Study Area	<p><b>Consider Public-Public or Public-Private (P4) Partnerships for Cost Savings</b>                      Identify opportunities for jurisdictions and JBSA to partner on and use Section 331 of the Federal Regulations to achieve cost savings.</p>	2015	■		■	■	■	■	■	■	■	■	■			■
COM-15	Zon	MIAOD / CCLUAs	<p><b>Update or Develop Crane / Temporary Construction Permit Forms</b>                      Some jurisdictions surrounding JBSA-R regulate temporary construction cranes through the use of permits; however the permits need to be updated to reflect current information and other cities need to develop these permits to regulate such activity.</p> <ul style="list-style-type: none"> <li>■ The City of San Antonio should update their website with the updated Crane / Temporary Construction Form and remove old copies on internal sites and the website.</li> <li>■ The cities of</li> </ul>	2015	■			■		■	■			□		□		

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
COM-15 (cont'd)			Schertz, Selma, Live Oak, and Universal City should develop temporary crane / construction permits to enable appropriate coordination with the FAA and JBSA-R and determine obstruction evaluations so mitigation measures can be applied prior to construction.															
COM-16	Comm	JBSA-R	<p><b>JBSA Representative to Accompany City Officials to talk to Landowners</b></p> <p>A uniformed JBSA Representative should accompany City of Converse Officials to talk to Landowners about the issue with the clear zones and the 1604 Corridor Study.</p>	2015 On-going	■									<input type="checkbox"/>				

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
COM-17	Comm	JBSA-R Study Area	<p><b>Coordinate Partnering Efforts</b></p> <p>The Air Force / JBSA will use the JLUS Report and associated information / data as part of the communities' input into the ICEMAP development process to eliminate the potential for conflicting data and recommendations. If there are conflicts between the ICEMAP and JLUS recommendations, JBSA-Randolph shall resolve them with the communities.</p>	2015										■				
COM-18	Comm	JBSA-R JBSA-S and Stinson Study Area	<p><b>Incorporate Recommendations of the JBSA-Randolph JLUS into the Joint Base San Antonio Regional Joint Land Use Implementation Strategy</b></p> <p>The City of San Antonio should ensure that the findings and recommendations of the JBSA-Randolph JLUS are incorporated into and coordinated with the Joint Base San Antonio Regional Implementation Strategy.</p>	2015			■											

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
DUST, SMOKE, STEAM																			
DSS-1	Comm	JBSA-R JBSA-S and Stinson Study Area	<p>Coordinate with JBSA Regarding Proposed Developments that Generate Dust, Smoke or Steam Within the Approach and Departure Corridor</p> <p>Coordinate with JBSA about any existing facilities undergoing renovations and proposed developments that generate dust, smoke, or steam that are located within the approach and departure corridor in order to prevent plumes that may impair the vision of the pilots.</p> <p><u>Other Partners:</u> TCEQ, Texas Railroad Commission (TRRC)</p>	On-going	■		■	■	■	■	■			□					

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
DSS-2	Comm	Stinson Study Area	<p><b>Notify RND when Visibility Near Stinson Municipal Airport is Less Than Desirable for Aviation Operations</b></p> <p>The City of San Antonio / SAT should continue to monitor visibility near the Stinson Municipal Airport and notify JBSA-R when conditions are not safe for aviation activity in the area.</p>	On-going			■							□				

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
<b>HOUSING AVAILABILITY</b>																		
HA-1	Comm	Study Area	<b>Coordinate JBSA Housing Needs</b> Develop partnership with local realtors, realtor associations, and local planning departments to share information regarding military housing needs on a regular basis via the JBSA Housing Market Analysis (HMA) report	On-going	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>	

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
HA-2	Plans	Study Area	<p><b>Incorporating Military Housing Needs in Jurisdictional Comprehensive Plans</b></p> <p>When a jurisdiction updates its comprehensive plan, the plan should include a discussion of military housing needs and programs to address housing needs, both permanent (family and unaccompanied service members) and transient housing.</p> <p>As part of this effort, JBSA will provide jurisdictions with current information on housing demands, amount of housing provided by the installation, generalized income, by rank, of personnel living off-base, and current distribution data on off-base personnel by zip code via the JBSA Housing Market Analysis (HMA) report.</p>	On-going	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

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<b>INFRASTRUCTURE EXTENSIONS</b>																			
IE-1	Plans	JBSA-R JBSA-S and Stinson MIAOD	<p><b>Coordinate Infrastructure Capacity Planning with JBSA</b></p> <p>Stakeholders should coordinate with JBSA on a region-wide basis in the development of infrastructure master plans, capital improvement plans (CIP), utility service agreements (USAs), and other similar long-range plans to avoid overlap and duplication of services.</p> <p>Development of systems that can serve both community (including Converse) and JBSA-R's needs should be evaluated when appropriate.</p> <p><i>Other Partners:</i> Alamo Area MPO, BRWM, SARA, Regional Mobility Authority (RMA)</p>	On-going	■		■	■	■	■	■	■	■	■	■	■			■
IE-2	Comm	JBSA-R JBSA-S and Stinson MIAOD	<p><b>Coordination on Infrastructure Planning</b></p> <p>Notify and coordinate infrastructure expansion plans with JBSA. When communities or</p>	2015	■		■	■	■	■	■	■	■	■	■			■	

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IE-2 (cont'd)			<p>other service providers move forward with any plans of extending infrastructure in the vicinity of JBSA-R, such as a sewer extension, JBSA-R should be notified. The provider should be prepared to discuss alternatives that would help reduce potential future incompatible development along the infrastructure line (incompatible growth-inducement). The coordination should be done early in the planning process to optimize compatibility and reduce costs associated with plan changes. JBSA should prepare and provide feedback within a reasonable timeframe so as not to delay development.</p> <p><u>Other Partners:</u> Alamo Area MPO, RMA, SARA</p>																

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<b>LAND / AIR SPACE COMPETITION</b>																		
LS-1	CIP	Study Area	<p><b>Next Generation Air Transportation System Improvements</b></p> <p>SAT and RND should work with the FAA to identify and budget for specific NextGen improvements that have a regional benefit including System Wide Information Management (SWIM) program and Automatic Dependent Surveillance – Broadcast (ADS-B) technology.</p>	2017			<input type="checkbox"/>							<input type="checkbox"/>		<input checked="" type="checkbox"/>		
LS-2	Comm	Study Area	<p><b>Advertise / Educate Mid-Air Collision Avoidance (MACA) Program</b></p> <p>Develop education brochures on how to avoid mid-air collisions within airspace where military operations occur. Provide the MACA Handbook and the mid-air collision brochure on the JBSA website and other online locations where general aviation pilots have access.</p>	2015 On-going										<input checked="" type="checkbox"/>		<input type="checkbox"/>		

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LS-3	Comm	Study Area / Region-Wide	<p><b>Region-Wide Airspace Utilization Study</b></p> <p>FAA should work with SAT, RND, and TXDOT representatives (as appropriate) to facilitate discussions regarding the feasibility of conducting a region-wide airspace utilization study. This discussion would include representatives of JBSA, TXDOT, regional airport operators, and other relevant stakeholders to determine feasibility and funding mechanisms for such a study.</p>	2015			<input type="checkbox"/>							<input type="checkbox"/>		<input checked="" type="checkbox"/>		<input type="checkbox"/>

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<b>LEGISLATIVE INITIATIVES</b>																			
LEG-1	Leg	Study Area	<p><b>Facilitate Legislative Initiative to Amend Property Sellers Disclosure</b></p> <p>Work with San Antonio Board of Realtors (SABOR), Real Estate Council of San Antonio (RECSA), Texas Association of Realtors (TAR) and other real estate advocates to facilitate a legislative initiative to include notification of military impacts on property in seller disclosures (TAR Forms 1406 and 1506).</p> <p><i>Other Partners: SABOR, RECSA, TAR, other real estate advocates</i></p>	2017								■						<input type="checkbox"/>	

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LEG-2	Leg	Study Area	<p><b>Amend Property Code Section 5.008 of Sellers Disclosure of Military Impacts</b></p> <p>The State Legislature with the support of TAR and Non-TAR members to amend the property code to incorporate language that discloses information related to military impacts, as it pertains to the property in the transaction.</p> <p><i>Primary Partner:</i> State Legislature</p>	2015														■	
LEG-3	Plans	JBSA-R JBSA-S and Stinson Vertical Obs MIAOD Subzone	<p><b>State to Adopt Part 77 as State Law to ensure Federal Aviation Regulation (FAR) Part 77 Compliance</b></p> <p>State should adopt Part 77 and any amendments to the law to ensure Part 77 compliance for local jurisdictions. For all new, redeveloped or rehabilitated transmission, communications, energy generation structures (including electrical transmission towers/lines, cellular and radio transmission towers, wind generation</p>	2015	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

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LEG-3 (cont'd)			towers, and other similar uses.) or any type of structures that have a proposed height of 99' or higher, ensure compliance with FAR Part 77 height limit requirements to minimize vertical obstructions and congested airspace. In addition, ensure the developments and structures are compatible with, and do not pose a safety hazard to, air operations in the region.  <u>Primary Partner:</u> <u>State Legislature</u>															

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LEG-4	Acq	Study Area	<p>State to Establish Grant Matching Program to assist Jurisdictions to Acquire Land in the CZs</p> <p>The State should establish or modify current grant mechanisms that provide a match to local jurisdictions around military installations to acquire the land within the CZs of the airfield. This will protect the JBSA-R mission as well as other military missions.</p> <p><u>Primary Partner:</u> State Legislature</p>	2015	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

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<b>LIGHT AND GLARE</b>																			
LG-1	Plans	Study Area	<p><b>Conduct Lighting Study / Screening</b></p> <p>Bexar County should work with JBSA and the surrounding communities to conduct a lighting study / screening to determine areas where light pollution may adversely impact the base's mission. This will determine for the communities what types of lighting regulations would be necessary to stop further light pollution in this area and region-wide.</p>	2015	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
LG-2	Zon	Study Area	<p><b>Amend UDCs and Zoning Ordinances to Incorporate Dark Sky Lighting Controls</b></p> <p>The cities should amend their UDCs and zoning ordinances delineating the downward directional lighting for land uses, regulations for light pollution trespass including lumens and not permitting light to be emitted above the 90 degree horizontal plane, and timers for lights.</p>	2017	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

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LG-2 (cont'd)			<p>Limit Correlated Color Temperature (CCT) values for LED street lights to 4100k. This shall include requirements for downward directional, shielded, or fully-cutoff lighting in new construction and street lights, and controls for unregulated and unconventional sources of light, i.e. laser scopes for paintball shooting accuracy and other similar uses.</p> <p><i>Other Partners:</i> <i>Cities of Live Oak</i></p>																
LG-3	Comm	JBSA-R JBSA-S Stinson Vertical Obs MIAOD Subzone	<p><b>Educate Utility Companies and Encourage Them to Adopt Anti-Glare Construction Materials in Solar and Renewable Energy Facilities</b></p> <p>Educate utility companies on the importance of anti-glare construction materials, such as the use of an anti-reflective coating on photovoltaic solar panels and prohibiting the use of reflective (mirrored) materials, for solar panels and</p>	2015	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>				

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LG-3 (cont'd)			<p>other renewable energy facilities for roof-top on ground-mounted applications. Encourage utility providers to adopt criteria for use within the Vertical Obstruction Military Overlay District.</p> <p><u>Other Partners:</u> CPS Energy, GVEC</p>															

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<b>LAND USE</b>																			
LU-1	Plans/ Zon	JBSA-R JBSA-S and Stinson MIAOD	<p><b>Military Influence Area Overlay Zoning District (MIAOD)</b> Amend the UDCs and update comprehensive plans to include the Military Influence Area Overlay District (MIAOD). The MIAOD will assist in achieving military compatibility. Description of the MIAOD and its subzones can be found in the JLUS Implementation section narrative. The MIAOD consists of 4 subzones:</p> <ul style="list-style-type: none"> <li>■ <u>Safety MIAOD Subzone</u> – This area is comprised of the CZs, APZs and the Runway Protection Zones (RPZ)</li> <li>■ <u>Noise MIAOD Subzone</u> – This subzone is comprised of the area encompassed within the footprint of the noise contours identified in the most recent JBSA-R AICUZ and the Stinson noise contours</li> </ul>	2015			■	■	■	■	■			<input type="checkbox"/>					

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LU-1 (cont'd)			<ul style="list-style-type: none"> <li>▪ <u>Vertical Obstruction MIAOD Subzone</u> – This Subzone is comprised of the area that encompasses the various airfield imaginary surfaces zones and the FAA Part 77 vertical obstruction evaluation criteria (rings).</li> <li>▪ <u>BASH MIAOD Subzone</u> –This area is comprised of a five nautical mile radius around these areas in consideration of the potential future new aircraft scheduled for operational capability in 2017 – 2023.</li> <li>▪ Jurisdictions should consider adopting the heights and slopes of imaginary surfaces of the Vertical Obstruction MIAOD into their plans and UDCs</li> </ul>																

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LU-1 (cont'd)			<p>and collaborate on a case-by-case basis with JBSA to ensure development does not pose a vertical obstruction.</p> <ul style="list-style-type: none"> <li>▪ Jurisdictions should work with JBSA concerning land uses that may attract birds i.e. detention ponds, landfills, golf courses, certain agriculture uses, etc.</li> </ul>																
LU-2	Plans	Study Area	<p><b>Update City Comprehensive Plans</b> The cities should update their comprehensive plans to support military compatibility policies based on the assessment provided in Chapter 5 of the JLUS Background Report. The compatibility policies should be based on guidance from the JLUS and be incorporated in the following topic areas: Land use, transportation, parks and recreation, water quality, infrastructure,</p>	2015			■	■	■	■	■			<input type="checkbox"/>					

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
LU-2 (cont'd)			economic development, etc.															
LU-3	Zon	JBSA-R Safety MIAOD	Amend Comprehensive Plans to Limit Density on Land in West Side of JBSA-R Southern Accident Potential Zone II. Amend Comprehensive Plan policy and the future land use map to limit development in APZ II of the JBSA-Randolph western runway to 1 dwelling unit per 10 acres.	2015	■			■		■	■							
LU-4	Zon	JBSA-R Safety MIAOD	Amend Comprehensive Plan to Limit Density on East Side of JBSA-R Southern Accident Potential Zone II. Amend Comprehensive Plan policy and the future land use map to limit development in APZ II of the eastern JBSA-Randolph runway to 1 dwelling unit per 20 acres.	2015				■										

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LU-5	Zon	JBSA-R Safety MIAOD	<p><b>Amend Comprehensive Plans to Limit Density on Land Between West and East Runway South Safety Zones</b></p> <p>Amend Comprehensive Plan policy and the future land use map to limit development between the west and east runway south safety zones of JBSA-Randolph to 1 dwelling unit per 10 acres.</p>	2015				■			■							
LU-6	Zon	JBSA-S CCLUA	<p><b>Establish a Joint Airport Zoning Board (JAZB)</b></p> <p>Establish a JAZB for JBSA-S's Controlled Compatible Land Use Area (CCLUA) using the authority of the State Local Government Code 241. The JAZB is required to develop a charter, a zoning ordinance (that would include the MIAOD and its associated subzones), and a zoning map for the CCLUA. The zoning categories within each of the MIAOD subzones should be based on the AF AICUZ instructions</p>	2015				■				■						<input type="checkbox"/>

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LU-6 (cont'd)			guidance, FAA guidance and the TXDOT guidance for compatible land use around airports.															
LU-7	Zon	JBSA-R Safety MIAOD Subzone	<p><b>Evaluate the Feasibility of Creating a JAZB for JBSA-Randolph for the West and East Runway Safety Zones</b></p> <p>The cities of Schertz, Selma, and Universal City along with Bexar and Guadalupe counties should evaluate the feasibility of creating a JAZB for the JBSA-Randolph West and East Runway Safety Zones to provide adequate protections and land use regulations for the ETJs and land located in this area.</p>	2015				■		■	■	■	■					

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LU-8	MOU	JBSA-R JBSA-S and Stinson Safety and Noise MIAOD Sub- zones	<b>Develop a Memorandum of Understanding (MOU) with School Districts</b> JBSA should develop a MOU with the surrounding school districts to coordinate on all future school master plans to prevent schools from being planned in noise sensitive and safety areas of the Noise and Safety Subzones.	2015/ On- going			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>				
LU-9	Plans	JBSA-R JBSA-S and Stinson MIAOD	<b>Acquire Conservation Easements to Secure Buffer in JBSA-R Airfield Safety Zones</b> Participate in the Readiness and Environmental Protection Initiative (REPI) program and other buffering and conservation programs to purchase restrictive use easements or fee title to lands that present threat of encroachment and impact on military operations. The Air Force should identify potential REPI and other conservation partners, land that meet the REPI criteria, and identify willing sellers. <i>Other Partners:</i>	2017				<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>				

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LU-9 (cont'd)			<i>Nature Conservancy Agencies</i>															
LU-10	Acq	JBSA-R Safety MIAOD Subzone	<b>Acquire Land in JBSA-R's Northern and Southern CZs</b> JBSA-R to determine an ideal funding mechanism to purchase the vacant land located in the northern and southern JBSA-R CZs to provide protection for the JBSA-R mission.	2017										■				
LU-11	Plans	JBSA-R MIAOD	<b>Transfer of Development Rights (TDR) Program</b> The cities should assess and consider developing a TDR program to protect the JBSA-R mission and redirect potentially incompatible development to a more ideal location away from mission-critical operational areas.	2017			■		■	■	■			□				

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LU-12	Zon	JBSA-R JBSA-S Stinson Safety and Noise MIAOD Subzone	<b>Include Statement (Note) in Plats</b> In order to prevent litigation regarding a situation where a property owner stated they were not informed that their property was located within an airfield safety zone (CZ, APZ I and II, or RPZs) and / or a Noise Subzone, jurisdictions should include on all future plats that are located in these subzones language stating that they are located in a military operating area that can be subject to noise, vibrations, odors and other such impacts.	2015			■	■	■	■	■		■					
LU-13	Plans	N/A	<b>Amend 1604 Corridor Study</b> Consider amending the 1604 Corridor Study in conjunction with JBSA-Randolph advocating for the funding of Rocket Lane Gate construction.	2015	■								■					

**COMPLETED**

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
LU-14	Plans/ Zon/ Comm	JBSA-R JBSA-S Stinson	<p>Consider a <b>Development Coordination Area</b> Until legislation is enacted that mandates development coordination with JBSA-Randolph, consider using the Military Overlay District as a Development Coordination Area where development will be coordinated with JBSA officials on a case-by-case basis. The criteria that will trigger coordination include the following:</p> <ul style="list-style-type: none"> <li>▪ Structure Height</li> <li>▪ Density</li> <li>▪ Light and Glare (Daytime glare from buildings)</li> <li>▪ Noise</li> <li>▪ Uses that produce dust and smoke</li> </ul>	On-going	■														

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
LU-15	Acq	JBSA-R	<p><b>Consider Subdividing the Three Parcels of Land to Account for the 500 Feet in the Clear Zone</b></p> <p>City of Converse and an uniformed Air Force personnel should consider advocating to the landowners to subdivide the land that would account for the 500 feet in the CZ. Then the City or the AF could reasonably acquire the 500 feet of land to protect general public.</p>	2017	■									<input type="checkbox"/>				
LU-16	Acq/ Plans	JBSA-R	<p><b>Consider Pursuing Funding Opportunity with the State to either Acquire the CZ land or to Fund Portions of the Rocket Lane Gate.</b></p> <p>City of Converse should consider utilizing the funding opportunities available to them through the Governor’s Office, Texas Military Preparedness Commission to either acquire the land in the CZ and place under perpetual easement or assist in funding the improvements at the proposed Rocket</p>	2015	■									<input type="checkbox"/>				

**IN PROCESS**

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
LU-16 (cont'd)			Lane Gate.															
LU-17	Acq	JBSA-R	<p><b>Cities should Support JBSA-R in Efforts to Acquire Land with the CZs.</b></p> <p>The Cities support JBSA-Randolph in efforts to acquire land within the CZs by identifying and pursuing potential funding opportunities including bonds, state funds, sales tax revenue, grants, etc.</p>	2015	■			■			■			□				
LU-18	Plans	JBSA-R MIAOD	<p><b>Develop Land Use Plans for ETJs in the JBSA-Randolph MIAOD</b></p> <p>Although cities do not have land use or zoning authority in their ETJ, they should consider developing land use plans for these areas that achieve a future vision compatible with the existing and future military mission of JBSA-Randolph and promotes viable community development if annexed.</p>	2015/ On-going	■			■		■	■							

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LU-19	Plans	JBSA-R MIAOD	<p><b>Consider and Potentially Develop Plan for Annexation or Limited Purpose Annexation</b></p> <p>The cities should consider and potentially develop plans for annexation or limited purpose annexation of ETJ parcels where infrastructure improvements and regulations are consistent with the JLUS findings and recommendations to ensure development in these areas is compatible with the existing and future JBSA-Randolph mission.</p>	2015/ On-going	■			■		■	■							
LU-20	Plans / Zon	JBSA-R Safety MIAOD	<p><b>Amend Zoning to Stipulate how Planned Developments in the APZ I and II Should be Utilized</b></p> <p>The Cities of Selma and Schertz should amend the UDC and Zoning Code to expressly note that Planned Development Zoning Districts in the APZ I and II safety zones should be used only to achieve greater compliance with the JLUS goals.</p>	2015				■		■								

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LU-20 (cont'd)			They should not be used to allow cluster developments that concentrate development, including houses, within these areas.															
LU-21	Plans / Zon	JBSA-R Safety MIAOD	<p><b>Amend Zoning to Prohibit Clustering in JBSA-Randolph APZ I and APZ II Areas</b></p> <p>The cities should amend their UDC or Zoning Codes to prohibit the clustering of residential development within JBSA-Randolph APZ I and APZ II areas.</p>	2015	■		■	■		■	■							

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
<b>NOISE AND VIBRATION</b>																		
NV-1	Zon	JBSA-R JBSA-S AND Stinson Noise MIAOD Subzone	<p><b>Adopt Statewide Building Code Requirements Incorporating Sound Attenuation Measures</b></p> <p>Jurisdictions should adopt building code requirements for new construction within the Noise MIA Subzone that requires attenuation measures to meet the guidelines of the AICUZ recommended by this JLUS.</p> <p><u>Other Potential Partners:</u>  <i>Cities of Cibolo, Garden Ridge, and Live Oak</i></p>	2017	■			■	■	■	■							

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
NV-2	Com	Study Area	<p><b>Educational Materials on Sound Attenuation Methods</b>                      Use or modify DOD or FAA Sound Attenuation educational materials as a supplemental educational document, describing building techniques which can be used to achieve the required 45 dB LDN interior noise maximum threshold. Local jurisdictions should make use of already available technical support materials from the Federal Aviation Administration and / or Department of Defense.</p>	2015/ On-going	■		■	■	■	■	■			■				
NV-3	Zon	JBSA-R JBSA-S Stinson Noise MIAOD Subzone	<p><b>Amend UDCs, Building Codes, and Zoning Ordinances to Incorporate Recommended Land Use Guidelines and Sound Attenuation Measures for Properties Within the 65 dB noise contour and greater.</b>                      If the adopted building codes of the jurisdictions do not require residential uses and other noise</p>	2015	■		■	■	■	■	■							

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
NV-3 (cont'd)			sensitive land uses to have an interior noise level of 45 dB, then the jurisdictions should amend their UDCs, building codes, and zoning ordinances to require the recommended 45 dB for interior noise levels for properties within the 65 dB noise contour and greater. This amendment should apply to all new construction and renovations where more than 50 percent of the structure is renovated.																
NV-4	Comm	JBSA-R JBSA-S Stinson Noise MIAOD Subzone	<b>Signage in the Rights-of-Way to Notify Citizens that the Community is Shared with JBSA-Randolph</b> The cities should design, develop, and place signage in community-wide rights-of-way to notify citizens that the community is shared with JBSA-Randolph and subject to potential impacts of overflight and noise.	2015	■	■	■	■	■	■	■					<input type="checkbox"/>			

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Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
NV-5	Plans	JBSA-R JBSA-S and Stinson Noise MIAOD Subzone	<b>Develop a Voluntary Sound Attenuation Retrofit Program for Noise Sensitive Uses</b> Develop a sound attenuation program for willing property / home owners supporting the Statewide Energy Code. Where possible incorporate incentives.	2017	■		■	■	■	■	■					<input type="checkbox"/>		
NV-6	Zon	JBSA-R JBSA-S and Stinson Noise MIAOD Subzone	<b>Assess the Viability of the Dedication of Avigation / Noise Easements for Discretionary Development Approvals</b> Assess the viability of the dedication of avigation / noise easements for new development projects requiring discretionary development approvals. Avigation easements confer the right to aircraft overflight and to generate impacts associated with normal aircraft operation such as noise, vibration, odor, air currents, illumination, and fuel consumption.	2015	■		■	■	■	■	■							

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
NV-7	Zon	JBSA-R JBSA-S and Stinson Noise MIAOD Subzone	Require the Dedication of Avigation / Noise Easements and a Note on the Plat for Discretionary Development Approvals Require avigation / noise easements and a Note on the Plat of the avigation easement for new development projects requiring discretionary development approvals. Ensure that easement language is standardized across all jurisdictions.	2015	■		■	■	■	■	■							

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
<b>ROADWAY CAPACITY</b>																			
RC-1	Comm	Study Area	<p><b>Transportation Improvements / Expansions</b>                      Monitor capital improvement projects to ensure roadway capacity is sufficient to meet local and regional mobility needs without causing growth inducement and increased roadway congestion near JBSA-R.</p> <p><i>Other Partners:</i>                      Alamo Area MPO,                      RMA</p>	On-going	■		■	■	■	■	■	■	■	■	■				■

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
RC-2	Zon / Plans	JBSA-R Study Area	<p><b>Mass Transit Options</b>                      The cities surrounding JBSA-R should work with VIA Metropolitan Transit Authority and consider voting in and assessing the sales tax to their residents that would fund mass transit options for their residents. Provide educational materials to residents about the mass transit options that are available to them both on-base and off-base, including van pools.</p> <p><i>Other Partners:</i>                      VIA Metropolitan Transit Authority</p>	2015				■	■	■	■							
RC-3	Plans	JBSA-R Study Area	<p><b>Prepare a Traffic Modeling Study for the Areas Immediately Surrounding JBSA-Randolph</b>                      TXDOT should coordinate with JBSA-R and the surrounding communities to prepare and develop a comprehensive traffic modeling study for the areas immediately around JBSA-R to assess roadway capacity levels for egress and ingress of the base.</p>	2017	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				■

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
RC-3 (cont'd)			<i>Other Partners: Alamo Area MPO, RMA</i>															
RC-4	Plans	JBSA-R Study Area	<p><b>Coordinate and Budget for Intelligent Transportation Systems</b></p> <p>TXDOT should work with the communities around JBSA-R and the Union Pacific Railroad (UPRR) to install intelligent transportation systems such as infrastructure-to-vehicle wireless systems to enable enhanced planning and manage roadway capacity issues.</p> <p>This should include electronic marquee boards identifying when UPRR trains are scheduled to cross at the Pat Booker Roadway and FM-78.</p> <p><i>Other Partners: Alamo Area MPO, RMA, UPRR</i></p>	2017	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>					<input checked="" type="checkbox"/>

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
RC-5	CIPs	JBSA-R	<p><b>Program and Budget for Installation Gate Projects that Improve Off-Base Roadway Capacity</b></p> <p>JBSA-R should program and budget for installation gate projects that will improve off-base roadway capacity, enhance base access for commercial deliveries and improve vehicular mobility outside the base. These improvements include the South Gate ACP reconfiguration. Coordinate with the Alamo Area MPO and other stakeholders including TXDOT, if the roadways are state roadways.</p> <p><u>Other Partners:</u> Alamo Area MPO</p>	2017	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>				<input type="checkbox"/>

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
RC-6	Plans	JBSA-R	<p><b>Consider Additional Increases in Compressed Work Week Schedules for Eligible Employees</b></p> <p>JBSA-R should work with command units and tenants to determine if it is feasible to allow additional staffing that would be eligible to work compressed or flexible work weeks to decrease vehicular miles on roadways during peak morning and evening hours.</p>	2015										■				

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
<b>SAFETY</b>																			
SA-1	Plans	JBSA-R Safety MIAOD Subzone	<p><b>CZ and APZ Land Use Evaluation Study</b>                      The JLUS Implementation Task Force should work with the cities of Schertz and Universal City to prepare a comprehensive land use evaluation of the land within the safety zones (CZ &amp; APZs) of the JBSA-R airfield to identify property owners, vacant land, entitled land, and other recorded instruments on the land within the safety zones.</p> <ul style="list-style-type: none"> <li>This information will be used to determine lands that have willing sellers that can be acquired to secure lands within the CZs and APZs that are not developed.</li> <li>The study should also identify funding mechanisms for acquisition such as the Texas Revolving Military Loan Program, DEAAG Program, and</li> </ul>	2015	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>					

**IN PROCESS**

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
SA-1 (cont'd)			municipal bonds, sales tax revenue, grants, etc.  <i>Primary Partner:</i> <i>JLUS Implementation Task Force</i>															
SA-2	Plan	JBSA-R Safety MIAOD Subzone	<p><b>Partial Update of the 2008 JBSA-R AICUZ</b></p> <p>Update the 2008 AICUZ to revise the clear zone boundary and consider incorporation of the Navy instruction for curved CZs and APZs that accurately reflect the primary flight tracks.</p> <ul style="list-style-type: none"> <li>■ The measurements of the standard CZ should be 3,000 feet X 3,000 feet, not 2,000 feet X 3,000 feet.</li> <li>■ Consider incorporating the curved patterns of the CZs and APZs as the Navy Instruction for AICUZs recommends.</li> <li>■ It should be noted that a partial update of the AICUZ is scheduled for FY 16 including a new noise study.</li> </ul>	2015									■					

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
SA-3	Plans/ Zon	JBSA-R Safety MIAOD	<p><b>Identify and Adopt Reductions to Floor Area Ratio (FAR) for Land Uses within APZ I and APZ II</b></p> <p>JBSA-Randolph and Bexar and Guadalupe counties and the cities of Converse, San Antonio, Schertz, Selma, and Universal City should collaborate to identify FAR reductions for land uses within the JBSA-Randolph APZ I and APZ II areas. Consider FAR recommendations from DOD guidance in Instruction 4165.57 as the model FAR reductions. Adopt FAR reductions in AICUZ update, city planning documents, and Controlled Compatible Land Use Area regulations for Bexar and Guadalupe counties. For existing undeveloped platted lots FAR modifications may be considered when coupled with additional use and</p>	2015	■		■	■		■	■	■	■	■					

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
SA-3 (cont'd)			development restrictions.															
SA-4	Plans	JBSA-R Safety MIAOD	<b>Incorporate the FAR Recommendations for Land Use within Safety Zones in AICUZ Update</b> Include the FAR recommendations from current DOD guidance in Instruction 4165.57 for land uses within the safety zones in the update of the 2008 JBSA-Randolph AICUZ.	2015										■				
SA-5	Plans	JBSA-R Safety MIAOD	<b>Provide Study Area Jurisdictions the Floor Area Ratio (FAR) Recommendations for Land Use within Safety Zones</b> JBSA-Randolph to provide the Study Area jurisdictions the FAR recommendations for land uses within the safety zones from the DOD Instruction 4165.57.	2015										■				

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SA-6	Plans / Zon	JBSA-R Safety MIAOD	<p>Ensure that Platting Applications are Consistent with Amended Zoning Changes for Land in Northern and Southern Safety Zones</p> <p>Ensure that all platting applications for property within the JBSA-Randolph Northern and Southern Safety Zones comply with changes to zoning regulations per the JLUS recommendations.</p>	2015	■			■		■	■							
SA-7	Zon	JBSA-R Safety MIAOD	<p>Amend UDC and Zoning Ordinances for West Side of JBSA-R Southern Accident Potential Zone II</p> <p>Amend the UDC and Zoning Ordinances to limit development in south APZ II of the JBSA-Randolph western runway to 1 dwelling unit per 10 acres.</p>	2015	■			■		■	■							
SA-8	Zon	JBSA-R Safety MIAOD	<p>Amend UDC for East Side of JBSA-R Southern Accident Potential Zone II</p> <p>Amend the UDC to limit development in south APZ II of the eastern JBSA-Randolph runway to 1 dwelling unit per 20 acres.</p>	2015				■										

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SA-9	Zon	JBSA-R Safety MIAOD	<p><b>Amend UDCs and Zoning Ordinances for Land Between West and East Runway South Safety Zones</b></p> <p>Amend the UDC and Zoning Ordinance to limit development between the west and east runway south safety zones of JBSA-Randolph to 1 dwelling unit per 10 acres.</p>	2015				■			■							
SA-10	Zon	JBSA-R JBSA-S and Stinson Safety MIAOD Sub-zone	<p><b>Amend UDCs and Zoning Ordinances to Incorporate MIAOD Safety Subzone and the Associated AICUZ Guidelines for CZs and APZs.</b></p> <p>Amend UDCs, County Orders, and zoning ordinances to incorporate a MIAOD Safety Subzone and the associated AICUZ compatible development guidelines for the safety of their citizens. Where more stringent guidelines are recommended in the JLUS, incorporate JLUS recommended guidelines. Examples of</p>	2015			■	■	■	■	■		■					

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
SA-10 (cont'd)			regulations in this area should include conditions associated with types of uses such as restricting new development that attracts large congregations of people and uses that attract concentrations of birds creating a hazard to aircraft.															
SA-11	Zon	JBSA-R Safety MIAOD Subzone	<p><b>Identify Viable Compatible Uses for APZs South of the Runways and Amend UDC to Incorporate These Uses.</b></p> <p>The City of Schertz, with consultation from JBSA-Randolph, should develop an official list of compatible uses within Accident Potential Zones south of the JBSA-Randolph Runways. Compatible uses may include opportunities for alternative energy and appropriate development criteria to ensure compatibility with the JBSA-Randolph mission. Adopt FAR reductions for non-residential uses in conjunction with Strategy SA-3 and</p>	2015				■						□				

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
SA-11 (cont'd)			consider flexibility for small lots that may not support viable development based on use guidance per DOD Instruction 4165.57. <u>Other Partners:</u> <u>Wind Industry</u>															
SA-12	Zon	JBSA-S Safety MIAOD Subzone	<b>Create a JAZB for JBSA-Seguin to include a MIAOD Safety Subzone</b> Create a JAZB for JBSA-Seguin to include a zoning MIAOD Safety Subzone within the Controlled Compatible Land Use Area and incorporate the associated AICUZ compatible development guidelines.	2015					■				■					

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
SA-13	Comm	JBSA-R Safety/ Noise MIAOD Subzone	<p><b>Coordinate with JBSA-Randolph in Requesting No-Fly Days and Weekends for Special Community Events</b></p> <p>The City of Schertz should coordinate in a timely manner (a month’s notice) with JBSA-Randolph to request no-flying operations during specific times of the year for special community events, e.g. July 4<sup>th</sup>, Schertz Fest.</p>	2015/ On-going				■						<input type="checkbox"/>				
SA-14	Zon	JBSA-R and JBSA-S Safety MIAOD Subzone	<p><b>Amend UDCs and Zoning Ordinance to Require CZ Language on Plats</b></p> <p>Amend UDCs, zoning ordinance and platting regulations to require that plats include language stating the property is located within the CZ which is located at the end of a military training installation runway and is identified as an area with the highest aircraft accident potential.</p>	2015				■	■				■					
SA-15	Plans CIP	NA	<p><b>Secondary Radar System and NextGen Air Transportation Systems</b></p> <p>SAT and RND should work with FAA to identify projects to</p>	2017			■							<input type="checkbox"/>		<input type="checkbox"/>		

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
SA-15 (cont'd)			include in their capital investment plans within the next five years such as a redundant radar system and NextGen air transportation systems including Automatic Dependent Surveillance – Broadcast (ADS-B) technology.															
SA-16	Comm	JBSA-R JBSA-S and Stinson BASH MIAOD Sub- zone	<b>Amend UDCs and Zoning Ordinances to include BASH Regulations</b> Amend UDCs and zoning ordinances to regulate land uses and guide building standards that will not attract birds and other wildlife in the MIAOD BASH Subzone, specifically within the airport approach and departure zone. Such controls should include not permitting certain trees and foliage that attract birds in this area.	2015			■	■	■	■	■							

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
SA-17	Comm	JBSA-R JBSA-S and Stinson BASH MIAOD Subzone	<b>Continue to Implement BASH regulations per JBSA-R BASH Plan</b> JBSA should continue to implement BASH regulations per the JBSA-Randolph BASH Plan including the regulation of land uses, building standards, and appropriate vegetation to deter birds and other wildlife.	2015										■				
SA-18	Hab	JBSA-R BASH MIAOD Subzone	<b>Control Dove Population at JBSA-R</b> JBSA-Randolph shall control the White Winged Dove population through habitat management inside the installation fenceline to reduce the potential for BASH.	2015/ On-going										■				
SA-19	Plans	JBSA-R BASH MIAOD Subzone	<b>Improve Water Drainage on Golf Course</b> JBSA-Randolph should improve the water drainage features on the golf course in order to discourage use by birds and other wildlife.	2015/ On-going										■				

**IN PROCESS**

**IN PROCESS**

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Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
SA-20	Plans / Comm	JBSA-R Safety MIAOD	<p><b>Coordination of Recreational Land Uses with JBSA in the Future</b></p> <p>The City of Schertz and JBSA will coordinate in the future to restrict utilization of recreational type uses (e.g. soccer fields) when night training occurs at the Base.</p>	2017/ On-going				<input type="checkbox"/>						<input checked="" type="checkbox"/>				
SA-21	Plans	JBSA-R Safety MIAOD	<p><b>Modify the Veterans Park Plan in Universal City</b></p> <p>The City should consider modifying the Veterans Park Plan to ensure that recreational facilities within the plan that encourage congregations of people, e.g. amphitheater, should be relocated outside the standard CZ.</p>	2015/ On-going							<input checked="" type="checkbox"/>							
SA-22	Comm	JBSA-R Safety MIAOD	<p><b>Engage in Discussions with Private Company in Northeast Clear Zone</b></p> <p>City of Schertz, Bexar County, and with the support of JBSA-Randolph should engage in discussions with private company in NE CZ to</p>	2015/ On-going				<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input type="checkbox"/>				

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Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
SA-22 (cont'd)			encourage the company to not operate or park vehicles in the area of the Critical Glide Slope Path.															
SA-23	Comm	JBSA-S Safety MIAOD	Engage in Discussions with Private Company East of JBSA-Seguin Runway within the Transitional Surface Guadalupe County with the support of JBSA-Randolph should engage in discussions with private company east of the runway along Weber Road in the Transitional Surface to encourage the active management of bird attractants and mitigation of activities that may affect flight operations.	2015									■	□				

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
SA-24	Plans /Zon	JBSA-R Safety MIAOD	<p><b>Amend Zoning in APZs Based on Revised Safety Zones</b></p> <p>JBSA-Randolph may change the West And East Runway south safety zones based on actual flight paths as part of AICUZ update. The cities of San Antonio and Schertz should evaluate, identify, and amend the allowable land uses within the revised south safety zones from residential to compatible non-residential uses. Work with JBSA-Randolph to determine the safety zone boundaries.</p>	2015			■	■						<input type="checkbox"/>				

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
<b>VERTICAL OBSTRUCTIONS</b>																		
VO-1	Plans/ Zon	JBSA-R JBSA-S and Stinson Vertical Obs MIAOD Subzone	<p><b>Develop a 3-Dimensional Imaginary Surfaces Model</b></p> <p>Bexar County should work with the cities to develop a 3D model of existing height regulations compared to allowable heights based on the FAA Imaginary Surfaces of airfields. This tool will assist the jurisdictions in amending their UDCs further to enhance military compatibility as well as be used to evaluate development applications to see if the heights of proposed structures do not obstruct the navigable airspace.</p> <p><u>Other Partner:</u> <i>City of Live Oak</i></p>	2017	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
VO-2	Comm	JBSA-R JBSA-S and Stinson Vertical Obs MIAOD Subzone	<b>Utility Infrastructure Coordination</b> Electric utility companies should coordinate with the cities and JBSA on siting above ground utility poles and infrastructure to ensure utilities do not constitute a vertical obstruction to the aviation operations in the area.	2015 On-going	■			■	■		■			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>
VO-3	Plans CIP	JBSA-R JBSA-S and Stinson Vertical Obs MIAOD Subzone	<b>Site New Utility Lines Within Existing Energy Utility Corridors / Joint Utility Corridors</b> Work with CPS Energy and TXDOT to use existing energy corridors for joint utility corridors when planning infrastructure projects. This will ensure that additional vertical obstructions in other locations do not occur.  <u>Other Partners:</u> TRRC	On-going	■	■	■	■	■	■	■	■	■	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
<b>WATER QUALITY / QUANTITY</b>																		
WQ-1	Plans	Study Area	<p><b>Develop and Implement a Water Resources Management Plan</b>                      Identify future demand and supply and coordinate with the regional resources and agencies to develop and implement a Regional Water Management Plan. This plan would assess all possible solutions to conserving water and securing future water resources. Such solutions would include sharing of water resources with proximate cities, JBSA obtaining additional water rights from the Carrizo-Wilcox Springs, and the use of Reuse Water for Outdoor uses, i.e. watering lawns.</p> <p><i>Other Partners:</i>                      San Antonio River Authority (SARA), Edwards Aquifer Authority (EAA), BRWM, SARA</p>	2017	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			
WQ-2	Zon	Study Area	<p><b>Develop Ordinance Reducing Lawn Landscaping Area</b>                      The participating JBSA-R JLUS cities should develop, if</p>	2015	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			

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WQ-2 (cont'd)			they do not already have, an ordinance limiting the size of landscaped lawns and requiring the remaining lawn area be xeriscaped in order to reduce water consumption and waste. Consider incorporating and encouraging application of LID practices recommended by SARA.															

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
WQ-3	Comm	Study Area	<p><b>Coordinate Infrastructure Projects and Apply for State Funding</b></p> <p>The cities and counties should coordinate with JBSA when applying for priority water infrastructure project funding from the State of Texas Water Development Board in order to prevent siting water infrastructure projects in areas that may support incompatible development that may affect the military mission.</p> <p><i>Other Partners:</i>  <i>Texas Commission on Environmental Quality (TCEQ), BRWM, Texas Water Development Board (TWDB), SARA</i></p>	On-going	■		■		■	■	■	■	■	□	■			

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT
WQ-4	Plans	Study Area	<p><b>Address Military Water Concerns in Agency Plans</b>                      When SARA, jurisdictions and other agencies update plans for the management of their water resources, they should incorporate the military water needs in their plans.</p> <p><i>Other Partners:</i>                      SARA, EAA and BRWM</p>	2017	■		■		■	■	■	■	■	□	■			
WQ-5	Plans	JBSA-R	<p><b>Inventory and Assess High-risk Storm water Ponding Areas On-Base</b>                      Conduct a base-wide assessment of high-risk storm water drainage system deficiencies. Prioritize those deficiencies that affect external land uses including community storm water drainage facilities.</p>	2017										■				

Strategy No.	Type of Strategy	Geographic Area	Strategy	Timeframe	City of Converse	City of Garden Ridge	City of San Antonio	City of Schertz	City of Seguin	City of Selma	City of Universal City	Bexar County	Guadalupe County	JBSA	CPS/SAWS	FAA	RECSA/SABOR	TXDOT	
WQ-6	Comm	Study Area	<p><b>Encourage and Conduct Outreach to Developers on Low Impact Storm Water Development Practices</b></p> <p>Encourage developers and builders to incorporate Low Impact Development (LID) practices, such as reduction in impervious surfaces into site design, to reduce the volume of storm water runoff. Develop brochures describing the different LID practices. Where possible, provide incentives for the developers to use LID practices.</p> <p><u>Other Primary Partner:</u> <u>SARA</u></p> <p><u>Note:</u> SARA is developing a voluntary set of LID optional standards with incentives that will be considered as part of the City of San Antonio's UDC's update program. Other jurisdictions should consider adapting some of these LID practices within their UDCs.</p>	On-going	■		■		■	■	■	■	■						

*Please see the next page.*

# JBSA-RANDOLPH



## JOINT LAND USE STUDY

# JBSA-RANDOLPH



## JOINT LAND USE STUDY



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