

JBSA
REGIONAL
COMPATIBLE USE PLAN





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JOINT BASE SAN ANTONIO

REGIONAL COMPATIBLE USE PLAN

Report

Prepared for



Prepared by



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Policy Committee

The Policy Committee (PC) provided key insights into local and regional issues, assisted with the refinement of all recommendations, and provided direction for the RCUP. The PC was composed of the following individuals:

Mark Davis, City Councilmember
City of Schertz

David Early, Community Outreach Coordinator
Office of Texas State Representative Philip Cortez

Gene Hartman, Councilmember
City of Bulverde

Isidro Martinez, Director
Alamo Area Metropolitan Planning Organization

Greg Maxton, Councilmember
City of Fair Oaks Ranch

Clayton Perry, Councilmember
City of San Antonio

Kelly Rasti, Constituent Services Director
Office of Texas State Senator José Menéndez

Rene Saenz, Representative
Guadalupe County

John Williams, Mayor
Universal City

Kevin Wolff, Commissioner
Bexar County





Technical Working Group

The Technical Working Groups (TWG) provided technical expertise, feedback, and real-world experience for the development of the JBSA RCUP. The TWGs worked extensively with the Project Team to develop and refine recommendations to present to the PC.

JBSA-Camp Bullis TWG

John Anderson, Executive Director
502 ABW/CI

Karen Bishop, Senior Supervisor of Sustainability
San Antonio River Authority

Jacob Bissell, Director of Military Operations
CPS Energy

Bob Brach, Development Service Engineer
Bexar County

Mary Jane Brady, Encroachment Specialist
502 ABW/CI

Cali Chidester, Environmental Management Systems Program
Coordinator
Texas Military Department

James Coleman, Board Secretary
Bexar Audubon Society

Doug Dillow, Chief Executive Officer
Green Space Alliance

Laddie Denton, Chief Executive Officer
Bitterblue, Inc.

Shaun Donovan, Environmental Sciences Department Manager
San Antonio River Authority

Clinton Eliason, Planning Coordinator
City of San Antonio

Channary Gould, Senior Planner
City of San Antonio

Anita Harless, Program Manager
Compatible Lands Foundation

Jill Herring, Community Planner
802 CES/CENPL

Patsy Inglet, President
Bexar Audubon Society

Charles Jenigen, Encroachment Specialist
502 ABW/CI

Cliff Kaplan, Night Sky and Community Program Manager
Hill Country Alliance

Richard King, Program Manager
502 ABW/CI

(JBSA-Camp Bullis TWG continued)

Tobin Maples, City Manager
City of Fair Oaks Ranch

Michael Moore, Developer
Real Estate Council of San Antonio

Mary Mulhearn, Environmental Attorney
502 ABW/JA

Annalisa Peace, Executive Director
Greater Edwards Aquifer Alliance

Steven Peterson, Director
City of San Antonio City Council District 10

Valerie Ramirez, Program Analyst
502 ABW/CI

Susana Ramos, Planning Director
City of Bulverde

Deborah Reid, Technical Director
Greater Edwards Aquifer Alliance

Karen Lopez Rolirad, Executive Director
Bexar County Military and Veteran Services Center

Priscilla Rosales-Pina, Planning Manager
City of San Antonio

Grace Rose-Gonzales, Principal
Grace PG Group

Mary Ellen Schulle, Development Engineer
Kendall County

Sara Serra, Planner II
City of Boerne

Wiley Smith, Community Planner
802 CES/CENPL

Logan Sparrow, Interim Policy Administrator
City of San Antonio

Eron Spencer, Planner I
City of Bulverde

Lori Stinson, Vice President, Military Affairs and Leadership
Development
San Antonio Chamber of Commerce

Rustin Tabor, Natural Resources Manager
802 CES/CEIEA

Michael Waldrop, Deputy Director
502 FSG

Garrick Williams, Senior Director
CPS Energy



(JBSA-Camp Bullis TWG continued)

James Wimberley, Chief of Community Planning
802 CES/CENPL

Tim Woliver, Assistant Director
City of San Antonio — Military and Veteran Affairs

Timothy Ybarra, Project Engineer
San Antonio Water System

JBSA-Lackland TWG

John Anderson, Executive Director
502 ABW/CI

Erick del Angel, Associate Planner
City of Leon Valley

Karen Bishop, Senior Supervisor of Sustainability
San Antonio River Authority

Jacob Bissell, Director of Military Operations
CPS Energy

Bob Brach, Development Service Engineer
Bexar County

Mary Jane Brady, Encroachment Specialist
502 ABW/CI

Jeremy Brewer, Vice President
San Antonio Board of REALTORS

Cali Chidester, Environmental Management Systems Program
Coordinator
Texas Military Department

Dan Crowley, Director of Governmental Relations
San Antonio Water System

Clinton Eliason, Planning Coordinator
City of San Antonio

Shaun Donovan, Environmental Sciences Department Manager
San Antonio River Authority

Brett Finley, Government Affairs Director
San Antonio Board of REALTORS

Kim Fornof, Code Compliance Officer
City of Saint Hedwig

(JBSA-Lackland TWG continued)

Channary Gould, Senior Planner
City of San Antonio

Caitlin Heller, Government Affairs Coordinator
San Antonio River Authority

Bobby Johnson, Manager of Master Planning
San Antonio Water Service

Danny Jones, Airport Operations Director
Port San Antonio

Richard King, Program Manager
502 ABW/CI

Rob Leonhard, Manager — Development Services
CDS Meury

Joe Meaux, Director of Operations
502 OSS

Syed Mehdi, Chief Strategy and Development Officer
San Antonio International Airport

Katie Merry, Community Planner
802 CES/CENPL

Mary Mulhearn, Environmental Attorney
502 ABW/JA

Raul Olveda, Director of Zoning and Development
City of San Antonio

Dave Peterson, Executive Vice President
San Antonio Chamber of Commerce

Steven Peterson, Director
City of San Antonio City Council District 10

Alina Phillips, Development Services Manager
City of San Antonio

Priscilla Rosales-Pina, Planning Manager
City of San Antonio

Lori Stinson, VP Military Affairs and Leadership Development
San Antonio Chamber of Commerce

Garrick Williams, Senior Director
CPS Energy

Bryan Wilmunen, Flight Safety Manager
502 ABW/SEF

Tim Woliver, Assistant Director
City of San Antonio — Military and Veteran Affairs



JBSA-Randolph/Martindale Army Heliport/Seguin Auxiliary Airfield TWG

John Anderson, Executive Director
502 ABW/CI

Sara Beesley, Director, Mitchell Lake Audubon Center
Audubon Texas

Jacob Bissell, Director of Military Operations
CPS Energy

Allison Blazosky, Transportation Planning Program Manager
Alamo Area Metropolitan Planning Organization

Bob Brach, Development Service Engineer
Bexar County

Mary Jane Brady, Encroachment Specialist
502 ABW/CI

Jeremy Broussard, MAJ, Deputy Director of Community Initiatives
12 FTW/CI

Irene Camacho, Terminal Procedures Program Manager
12 OSS/OSAT (TERPS)

Michael Cassata, Development Services
City of Universal City

Pam Centeno, Director of Planning and Codes
City of Seguin

Cali Chidester, Environmental Management Systems Program
Coordinator
Texas Military Department

Dan Crowley, Director of Governmental Relations
San Antonio Water System

Emily Delgado, Senior Planner
City of Schertz

Caleb Edmondson, Wing Flight Safety Officer
12 FTW/SEF

Clinton Eliason, Planning Coordinator
City of San Antonio

Geran Fawver, Airfield Manager
12 OSS

Matthew Fischer, Director of Conservation and Stewardship
Green Space Alliance

Kim Fornof, Code Compliance Officer
City of Saint Hedwig

Jonathan Fruge, Wing Safety Officer
12 FTW/SE

Jaime Gomez, Assistant Airfield Manager
12 OSS

(JBSA-Randolph/Martindale Army Heliport/Seguin Auxiliary Airfield TWG continued)

Lisa Gonzalez, Assistant Director of Planning and Engineering
City of Cibolo

Christopher Henning, Attorney Advisor
502 ABW/JA

Jill Herring, Community Planner
802 CES/CENPL

Brian Hoffman, Vice Director
502 ABW

Robin Howard, CUPs/ACUB/EMS Program Supervisor
Texas Military Department

Brian James, Assistant City Manager
City of Schertz

Charles Jenigen, Encroachment Specialist
502 ABW/CI

Mario Jorge, District Engineer
Texas Department of Transportation

Nick Kopyay, Planner
City of Schertz

Jimsi Kuborn, Executive Director
Converse Economic Development Corporation

Richard Martin, MAJ, Deputy Director of Community Initiatives
12 FTW/CI

Syed Mehdi, Chief Strategy and Development Officer
San Antonio International Airport

Troy Meuth, Airfield Manager
Martindale Army Heliport

Michael Moore, Developer
Real Estate Council of San Antonio

Mary Mulhearn, Environmental Attorney
502 ABW/JA

Craig Neeley, MAJ, Commander
Martindale Army Heliport

Salvador Ordorica, Wing Airspace Manager
12 OSS

Dave Peterson, Executive Vice President
San Antonio Chamber of Commerce

Steven Peterson, Director
City of San Antonio City Council District 10

Priscilla Rosales-Pina, Planning Manager
City of San Antonio



(JBSA-Randolph/Martindale Army Heliport/Seguin Auxiliary Airfield TWG continued)

Alina Phillips, Development Services Manager
City of San Antonio

Angel Poe, Education Specialist
Mitchell Lake Audubon Center/National Audubon Society

Valerie Ramirez, Program Analyst
502 ABW/CI

Clayton Ripps, Advanced Transportation Planning Director
Texas Department of Transportation

Karen Lopez Rolirad, Executive Director
Bexar County Military and Veteran Services Center

Curt Robertson, Director of Community Initiatives
12 FTW/CI

Rene Saenz, Director of Development Services and Engineering
City of Selma

Lee Sims, Chief of Airfield Operations Flight
12 OSS

Wiley Smith, Community Planner
802 CES/CENPL

Jeffrey Tondre, Vice President
Vickrey & Associates

Kim Turner, City Manager
City of Universal City

David Vollbrecht, Engineer
Comal County Engineers Office

Scott Wayman, City Manager
City of Live Oak

Garrick Williams, Senior Director
CPS Energy

James Wimberley, Chief of Community Planning
802 CES/CENPL

Tim Woliver, Assistant Director
City of San Antonio — Military and Veteran Affairs

Alamo Area Council of Governments (Project Sponsor)

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Diane Rath, Executive Director
Alamo Area Council of Governments

Larry Dotson, Compatible Use Program Manager
JBSA RCUP Project Manager

Sean Greszler, Project Planner/GIS Coordinator
JBSA RCUP Assistant Project Manager

JBSA RCUP Consultant

Matrix Design Group, Inc. was the project consultant team hired to conduct the project through coordination with and assistance from AACOG, the PC, the TWGs, and other stakeholders.



Celeste Werner, FAICP, Project Director

Mike Hrapla, Project Manager

Patrick Small, AICP, Deputy Project Manager

Andrew Brown, Lead Planner

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Acronyms



#

| | | | |
|-----------------|--|-------------------|---|
| 12 FTW | 12th Flying Training Wing | 502 CES/ CENPL | 502nd Civil Engineer Squadron/Planning Section |
| 12 FTW/CI | 12th Flying Training Wing/Community Initiatives | 502 CES/ CEPD | 502nd Civil Engineer Squadron |
| 12 MG | 12th Maintenance Group | 502 FSG/CB | 502nd Force Support Group/Camp Bullis |
| 12 OG | 12th Operations Group | 502 FSG/DD | 502nd Force Support Group/Deputy Director |
| 12 OSS | 12th Operations Support Squadron | 502 ISG | 502nd Installation Support Group |
| 12 OSS/ OSAA | 12th Operations Support Squadron/Operational Support Airlift Agency | 502 OSS | 502nd Operations Support Squadron |
| 39 FTS | 39th Fighter Training Squadron | 502 SFG/ED | 502nd Security Forces Group/Executive Director |
| 99 FTS | 99th Flying Training Squadron | 502 SFS | 502nd Security Forces Squadron |
| 340 FTG | 340th Fighter Training Group | 558 FTS | 588th Fighter Training Squadron |
| 415 FLTS | 415th Flight Test Squadron | 559 FTS | 559th Fighter Training Squadron |
| 435 FTS | 435th Fighter Training Squadron | 560 FTS | 560th Fighter Training Squadron |
| 502 ABW | 502nd Air Base Wing | 802 CES | 802nd Civil Engineer Squadron |
| 502 ABW/CI | 502nd Air Base Wing/Community Initiatives | 802 CES/ CEIEA | 802nd Civil Engineer Squadron/Environmental Assets |
| 502 ABW/JA | 502nd Air Base Wing/Judge Advocate | 802 CES/ CENPL | 802nd Civil Engineer Squadron/Planning Section |
| 502 ABW/ SEF | 502nd Air Base Wing/Safety Manager | | |



A

| | |
|---------|---|
| AACOG | Alamo Area Council of Governments |
| AAMPO | Alamo Area Metropolitan Planning Organization |
| ABW | Air Base Wing |
| ADC | Association of Defense Communities |
| ADNL | Average Day Night Level |
| AETC | Air Education and Training Command |
| AFCEC | Air Force Civil Engineer Center |
| AFIMSC | Air Force Installation and Mission Support Center |
| AFMS | Air Force Medical Service |
| AFPC | Air Force Personnel Center |
| AFSFC | Air Force Security Forces Center |
| AGL | above ground level |
| AICUZ | air installation compatible use zone |
| AMA | Academy of Model Aeronautics |
| APZ I | Accident Potential Zone I |
| APZ II | Accident Potential Zone II |
| ARFF | Aircraft Rescue and Firefighting |
| ARSOUTH | Army South |
| ATC | air traffic control |
| ATCT | air traffic control tower |
| ATFP | Anti-Terrorism/Force Protection |
| AUVSI | Association for Unmanned Vehicle Systems International |
| AW | Airlift Wing |

B

| | |
|-------|--|
| BAH | Basic Allowance for Housing |
| BAM | Bird Avoidance Model |
| BASH | Bird/Wildlife Aircraft Strike Hazard |
| BEAST | Basic Expeditionary Airmen Skills Training |
| BIO | Biological Resources |
| BMP | best management practice |
| BMT | Basic Military Training |
| BRAC | Base Realignment and Closure |
| BUG | backlight, uplight, and glare |

C

| | |
|-----------|------------------------------|
| C&I | Commercial and Industrial |
| CAB | Combat Aviation Brigade |
| CALS | Combat Assault Landing Strip |
| CB | Camp Bullis |
| CENSECFOR | Center for Security Forces |
| CES | civil engineer squadron |
| CFA | controlled firing area |
| CFR | Code of Federal Regulation |
| CI | community initiatives |
| CIP | capital improvement plan |
| COM | Communication/Coordination |
| COVID-19 | Coronavirus disease 2019 |
| CUP | Compatible Use Plan |
| CW | Cyberspace Wing |
| CY | calendar year |
| CZ | clear zone |

D

| | |
|-------|--|
| dB | Decibel |
| DCIP | Defense Community Infrastructure Program |
| DCO | defensive cyber operations |
| DEAAG | Defense Economic Adjustment Assistance Grant |
| DHS | Department of Homeland Security |
| DLA | Defense Logistics Agency |
| DoD | Department of Defense |
| DSCA | defense support of civil authorities |

E

| | |
|------|------------------------------------|
| EAA | Edwards Aquifer Authority |
| ED | Energy Development |
| EOD | explosive ordnance disposal |
| ERZD | Edwards Recharge Zone District |
| ESQD | explosive safety quantity distance |
| ETJ | extraterritorial jurisdiction |



F

| | |
|-------|---|
| FAA | Federal Aviation Administration |
| FAAST | Federal Aviation Administration Safety Team |
| FEMA | Federal Emergency Management Agency |
| FHWA | Federal Highway Administration |
| FLTS | Flight Test Squadron |
| FM | Farm to Market Road |
| FSG | Force Support Group |
| FS | Fighter Squadron |
| FSI | Frequency Spectrum Impedance/Interference |
| FTS | Fighter Training Squadron |
| FTS | Flying Training Squadron |
| FTW | Flying Training Wing |
| FW | Fighter Wing |

G

| | |
|------|---------------------------------------|
| GBRA | Guadalupe-Blanco River Authority |
| GCW | Golden-cheeked Warbler |
| GEAA | Greater Edwards Aquifer Alliance |
| GIS | geographic information systems |
| GVEC | Guadalupe Valley Electric Cooperative |

H

| | |
|----|----------------------|
| HA | Housing Availability |
| HB | House bill |

I

| | |
|-------|---|
| IAAFA | Inter-American Air Forces Academy |
| IDA | International Dark-Sky Association |
| IE | Infrastructure Extension |
| IED | improvised explosive device |
| IESNA | Illuminating Engineering Society of North America |
| IFF | Introduction to Fighter Fundamentals |
| IGSA | intergovernmental service agreement |
| ISR | intelligence, surveillance, and reconnaissance |
| IW | information warfare |

J

| | |
|------|------------------------|
| JBSA | Joint Base San Antonio |
| JLUS | Joint Land Use Study |
| JUA | joint use agreement |

L

| | |
|------|------------------------------------|
| LAS | land/air space competition |
| LEAP | Law Enforcement Assistance Program |
| LEG | legislative initiatives |
| LG | Light and Glare |
| LID | low impact development |
| LU | land use |
| LZ | landing zone |

M

| | |
|---------|--|
| MA | Master at Arms |
| MACA | Mid-Air Collision Avoidance |
| MAHP | Martindale Army Heliport |
| MARVA | Municipal Annexation Right to Vote Act |
| MATOW | maximum allowable take-off weight |
| MEDEVAC | medical evacuation |
| MIA | Military Influence Area |
| MLOD | military lighting overlay district |
| MOA | memorandum of agreement |
| MOU | memorandum of understanding |
| MRO | maintenance, repair, and overhaul |
| MSA | metropolitan statistical area |
| MSAO | military sound attenuation overlay |
| MSL | mean sea level |
| MTR | military training route |
| MWD | military working dog |



N

| | |
|--------|---|
| NAF | Numbered Air Force |
| NAICS | North American Industry Classification System |
| NEXRAD | Next-Generation Radar |
| NCDP | natural channel design protocol |
| NOE | nap-of-the-earth |
| NOI | Noise |
| NTTC | Naval Technical Training Center |
| NVD | night vision device |

O

| | |
|-------|---|
| OG | Operations Group |
| OLDCC | Office of Local Defense Community Cooperation |
| OMB | Office of Management and Budget |
| OSD | Office of the Secretary of Defense |
| OSS | Operations Support Squadron |
| OTS | Officer Training School |

P

| | |
|------|--------------------------------|
| PACE | Property Assessed Clean Energy |
| PC | Policy Committee |
| POC | point-of-contact |
| PSA | Port San Antonio |

R

| | |
|-------|--|
| RC | roadway capacity |
| RCUP | Regional Compatible Use Plan |
| RECSA | Real Estate Council of San Antonio |
| REPI | Readiness and Environmental Protection Integration Program |
| RJIS | Regional JLUS Implementation Strategy |
| RND | JBSA-Randolph Airport Code |
| RPA | remotely piloted aircraft |
| RSU | runway supervisory unit |
| RSWMP | Regional Storm Water Management Program |

S

| | |
|-------|-------------------------------------|
| S&I | School and Institution |
| SA | Safety |
| SAACC | San Antonio Aviation Cadet Center |
| SAAF | Seguin Auxiliary Airfield |
| SAAS | San Antonio Airport System |
| SABOR | San Antonio Board of REALTORS |
| SAMMC | San Antonio Military Medical Center |
| SARA | San Antonio River Authority |
| SAT | San Antonio International Airport |
| SAWS | San Antonio Water System |
| SH | State Highway |
| STC | sound transmission class |
| SUA | special use airspace |

T

| | |
|--------|---|
| TA | training area |
| TAC | Technical Advisory Committee |
| TACAN | tactical air navigation |
| TAR | Texas Association of Realtors |
| TCI | transportation and capital improvements |
| TENT | Texas Early Notification Tool |
| TMD | Texas Military Department |
| TMPC | Texas Military Preparedness Commission |
| TPB | Transportation Policy Board |
| TPWD | Texas Parks and Wildlife Department |
| TW | Training Wing |
| TWG | Technical Working Group |
| TXARNG | Texas Army National Guard |
| TxDOT | Texas Department of Transportation |

U

| | |
|--------|--|
| UAS | unmanned aircraft system |
| UAV | unmanned aerial vehicle |
| UDC | Unified Development Code |
| UPT | undergraduate pilot training |
| USAHAS | United States Avian Hazard Advisory System |



V

- VHF very high frequency
- VO vertical obstructions
- VOR VHF omnidirectional radio range

W

- WHASC Wilford Hall Ambulatory Surgical Center
- WQQ Water Quality/Quantity
- WQV water quality volume



1 Introduction



Inside Chapter 1

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- 1.2 Regional Compatible Use Plan Study Area5
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Military installations are vital to local and regional economies, as they generate thousands of jobs and billions of dollars in economic activity and tax revenue annually. An increase in incompatible uses or development that impacts or is impacted by military operations — often referred to as encroachment — has been a leading factor in the loss of training operations at military sites across the country and forced the realignment of mission-critical components to different installations. Existing levels and types of encroachment are key factors that are evaluated by the Department of Defense (DoD) and other federal agencies when considering future missions and the

realignment of assets from one installation to another. To protect the missions of military facilities and the health of the economies and industries that rely on them, encroachment must be addressed through mutual information-sharing and joint planning efforts among installations, communities, and regional organizations. The Joint Base San Antonio (JBSA) Regional Compatible Use Plan (RCUP) identifies regional encroachment and compatibility concerns and provides recommendations to mitigate ongoing and new compatibility issues, as well as prevent future issues while strengthening coordination between JBSA and Martindale Army Heliport (MAHP), local communities, regional agencies and organizations, and the State of Texas. The JBSA RCUP includes several installations within the region and the state of Texas:

- JBSA-Camp Bullis
- JBSA-Lackland
 - Chapman Training Annex
 - Kelly Field
- JBSA-Randolph
 - Seguin Auxiliary Airfield (SAAF)
- MAHP



The Alamo Area Council of Governments (AACOG) sponsored the plan, and many other jurisdictions and regional organizations supported the project as direct stakeholders by serving on the Technical Working Group (TWG) or the Policy Committee (PC). Participants in the JBSA RCUP are listed in Table 1-1.

Table 1-1 JBSA RCUP List of Participants

| Cities |
|-------------------------|
| City of Boerne |
| City of Bulverde |
| City of Cibolo |
| City of Converse |
| City of Fair Oaks Ranch |
| City of Hedwig |
| City of Helotes |
| City of Kirby |
| City of Leon Valley |
| City of Live Oak |
| City of New Braunfels |
| City of Saint Hedwig |
| City of San Antonio |
| City of Schertz |
| City of Seguin |
| City of Selma |
| City of Shavano Park |
| City of Universal City |
| Port San Antonio |

(Table 1-1 – JBSA RCUP List of Participants continued)

| Counties |
|------------------|
| Bexar County |
| Comal County |
| Guadalupe County |
| Kendall County |

| State Agencies and Legislators |
|---|
| Texas Department of Transportation |
| Texas House District 117, Office of Rep. Cortez |
| Texas House District 44, Office of Rep. Kuempel |
| Texas Parks and Wildlife Department |
| Texas State Senator District 26, Office of Sen. Jose Menendez |

| Regional Agencies and Authorities |
|--|
| CPS Energy |
| Edwards Aquifer Authority |
| Guadalupe-Blanco River Authority |
| San Antonio International Airport |
| San Antonio River Authority |
| San Antonio Water Service |

| Regional Organizations |
|---|
| Alamo Area Council of Governments |
| Alamo Area Metropolitan Planning Organization |
| Bexar County Military and Veteran Services Center |

(Table 1-1 — JBSA RCUP List of Participants continued)

| Economic Development and Real Estate Development Organizations |
|---|
| Bitterblue, Inc./Denton Communities |
| CDS Muery |
| Grace PG Group |
| Ironstone Development |
| Pape-Dawson Engineers, Inc. |
| Real Estate Council — San Antonio |
| San Antonio Board of REALTORS |
| San Antonio Chamber of Commerce |
| Vickrey & Associates |

| Conservation Organizations |
|---|
| Audubon Texas |
| Bexar Audubon Society |
| Compatible Lands Foundation |
| Greater Edwards Aquifer Alliance |
| Green Spaces Alliance of South Texas |
| Hill Country Alliance |
| Mitchell Lake Audubon Center/National Audubon Society |

(Table 1-1 — JBSA RCUP List of Participants continued)

| Military Components |
|---|
| 12 FTW, JBSA |
| 12 FTW/CI, JBSA |
| 12 OSS, JBSA-Randolph Wing Airspace Manager, JBSA |
| 12 OSS/OSAA, JBSA |
| 502 ABW, JBSA |
| 502 ABW/CI, JBSA |
| 502 ABW/JA, JBSA |
| 502 ABW/SEF, JBSA |
| 502 CEG, JBSA |
| 502 FSG/DD, JBSA |
| 502 ISG, JBSA |
| 502 OSS, JBSA |
| 502 SFG/ED, JBSA |
| 502 SFS, JBSA |
| 802 CES, JBSA |
| 802 CES/CEIEA, JBSA |
| 802 CES/CENPL, JBSA |
| Martindale Army Heliport |
| Texas Army National Guard |
| Texas Military Department |

Source: JBSA RCUP Project Data



1.1 What is the Joint Base San Antonio Regional Compatible Use Plan?

The JBSA RCUP is a community-driven, cooperative, and strategic planning tool. The JBSA RCUP will be developed to encourage local governments and the State of Texas to work collaboratively with JBSA and the Texas Army National Guard (TXARNG) and Texas Military Department (TMD) to implement compatible land use measures that prevent the introduction of incompatible civilian development. Incompatible development could impair the continued operational utility of JBSA and TXARNG installations. The JBSA RCUP will also preserve and protect the public health, safety, and welfare of those living near JBSA and TXARNG installations, associated ranges, military training routes (MTR), special use airspace (SUA), and military operating areas.

The JBSA RCUP was developed through critical input from local communities, state agencies, federal government officials, government and nongovernment agencies and organizations, local property and business owners, and the military within the RCUP Study Area.

The intent of the JBSA RCUP planning process and final report is to establish working relationships between military installations and nearby stakeholders and to encourage them to work together to recognize, reduce, and/or prevent encroachment issues between current and future military missions and growth and development within the region. To accomplish this intention, stakeholders and the Project Team jointly developed a set of strategies that are feasible, actionable, and effective.

The JBSA RCUP was funded through a grant from the DoD Office of Local Defense Community Cooperation (OLDCC), with complementary funding from AACOG. The OLDCC provided the primary funding for the project; however, the content and

recommendations were produced by and for local and regional stakeholders. AACOG served as the managing agency for the JBSA RCUP. The RCUP is an important step in identifying regional compatibility issues and preparing actionable strategies that will benefit the region and the military by accomplishing the intended goals and objectives.

JBSA RCUP Goal

The primary goal of the JBSA RCUP is to ensure that community development throughout the region is compatible with the continued military mission of JBSA installations (JBSA-Camp Bullis; JBSA-Lackland, Chapman Training Annex, and Kelly Field; JBSA-Randolph; and Seguin Auxiliary Airfield) and the TXARNG installation, MAHP.

Other goals of the JBSA RCUP include:

- Implementing compatible land use and sustainable land management measures to prevent incompatible development that may impair the continued operational utility of JBSA installations and MAHP, including military airspace;
- Protecting and preserving current and future military readiness and defense capabilities;
- Preserving and protecting the public health, safety, and welfare of those living near JBSA installations and associated ranges and MAHP;
- Improving communication and policies/procedures for military participation in community development review;
- Increasing public awareness of the military missions to facilitate informed decision-making; and
- Fostering military-community partnerships that contribute to the regional economy.

JBSA RCUP Objectives

The JBSA RCUP included three objectives, which were imperative in achieving RCUP goals:

1. **Understanding.** Bring together community and military representatives to discuss the implementation of compatibility recommendations from previous compatibility planning efforts in an open forum.
2. **Collaboration.** Encourage continued cooperative land use and resource planning among the military and surrounding communities to ensure compatible community growth while reducing operational impacts on lands within the RCUP Study Area.
3. **Actions.** Confirm and refine the set of mutually-supported RCUP tools and procedures and propose regionally relevant tools and processes from which local jurisdictions, agencies, the military, and other stakeholders can continue to implement.

1.2 Regional Compatible Use Plan Study Area

The JBSA RCUP Study Area extends to four counties in southcentral Texas: Bexar, Comal, Guadalupe, and Kendall. The Study Area includes the area and all airspace within five miles of each of the installations included in this study. Figure 1-1 displays the JBSA RCUP Study Area.

The northernmost Study Area is located around JBSA-Camp Bullis and is the largest Study Area included in the JBSA RCUP. This Study Area includes the jurisdiction of eight cities and three counties. The JBSA-Camp Bullis Study Area includes the cities of Hill Country Village, Hollywood Park, San Antonio, and Shavano Park, which are south of JBSA-Camp Bullis; the City of Grey Forest, which is

southwest of JBSA-Camp Bullis; the Cities of Fair Oaks Ranch and Boerne, which are northwest of JBSA-Camp Bullis; and the City of Bulverde, located northeast of JBSA-Camp Bullis. The JBSA-Camp Bullis Study Area covers the northern portion of Bexar County, southwest portion of Comal County, and the southeast portion of Kendall County.

The Study Areas located around JBSA-Randolph and SAAF are the two eastern Study Areas. The easternmost Study Area is located around SAAF and covers most of the City of Seguin and is entirely within Guadalupe County. The Study Area around JBSA-Randolph includes 11 cities and three counties. Cities within the JBSA-Randolph Study Area include Cibolo, Converse, Garden Ridge, Live Oak, Santa Clara, Schertz, Selma, St. Hedwig, Universal City, and Windcrest. The JBSA-Randolph Study Area covers the counties of Bexar, Comal, and Guadalupe. The northern portion of this Study Area includes the following cities: Cibolo, Garden Ridge, Live Oak, Schertz, Selma, Universal City, and portions of Santa Clara. The City of San Antonio is located in the western portion of this Study Area, and the cities of Converse and Windcrest are within the west and southwest of the Study Area, respectively. The City of Schertz municipal boundary is located directly south, east, and northwest of JBSA-Randolph. Additionally, portions of St. Hedwig are in the southernmost part of the JBSA-Randolph Study Area. This Study Area is mostly located within the eastern part of Bexar County; the northwestern portion of the Study Area is located within Guadalupe County, and the northernmost tip of the Study Area is located within Comal County.

Due to the vicinity of MAHP to JBSA-Randolph, the southwest portion of the JBSA-Randolph Study Area and the northeast portion of the MAHP Study Area overlap. The overlapping areas includes the cities of Converse, San Antonio, and Windcrest and Bexar County.



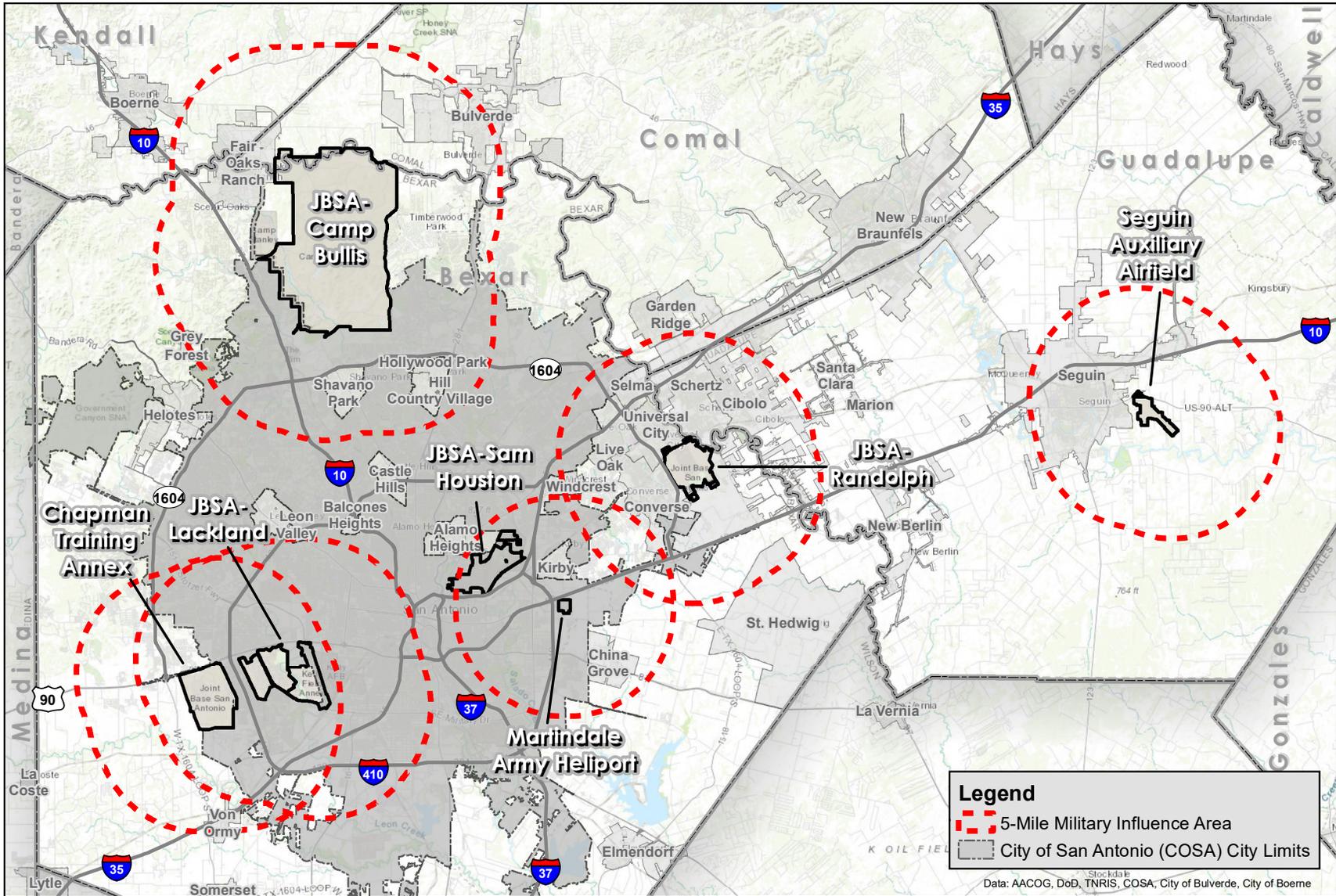
MAHP's Study Area covers six different cities and is entirely within Bexar County. The cities include China Grove, Converse, Kirby, San Antonio, Terrell Hills, and Windcrest. The majority of this Study Area is within the City of San Antonio's jurisdiction, which surrounds MAHP and extends east along Interstate 10 (I-10). Portions of Windcrest are within the northernmost area of this Study Area, and the entire City of Kirby is located within this Study Area. A small portion of the City of Converse is located within the northwesternmost portion of this Study Area, and the City of China Grove is located within the southeast portion of this Study Area. The northwest portion of this Study Area includes the City of Terrell Hills and JBSA-Fort Sam Houston, which is not included within the JBSA RCUP.

The last two Study Areas are located around JBSA-Lackland and the JBSA-Lackland Chapman Training Annex. JBSA-Lackland includes Kelly Field. These installations are within the southwestern-most region of the JBSA RCUP. The JBSA-Lackland and JBSA-Lackland Chapman Training Annex Study Areas overlap extensively due to their proximity to one another. Both Study Areas include the cities of San Antonio and Von Ormy. Both Study Areas are located entirely within Bexar County. The only difference between the two Study Areas, regarding jurisdictions being included, is that JBSA-Lackland has a portion of the City of Leon Valley covered by the northern part of the Study Area.

The JBSA-Lackland Study Area is mostly made up of the City of San Antonio; however, a small portion of the City of Von Ormy is within the southwestern part of the Study Area, and a small portion of the City of Leon Valley is within the northern portion of JBSA-Lackland's Study Area. The western portion of this Study Area is located within Bexar County but is entirely within the City of San Antonio's extraterritorial jurisdiction (ETJ).

The JBSA-Lackland Chapman Training Annex Study Area encompasses parts of the cities of San Antonio and Von Ormy and Bexar County. Approximately half of this Study Area is within Bexar County — all of which is covered by the City of San Antonio's ETJ.

Notably, there are four cities and three counties within more than one of the RCUP installation's Study Areas: the cities of Converse, San Antonio, Von Ormy, and Windcrest and the counties of Bexar, Comal, and Guadalupe.



JBSA RCUP Study Area

Figure 1-1.

0 5 10 Miles

JBSA REGIONAL COMPATIBLE USE PLAN

Matrix

AACOG
Alamo Area Council of Governments



1.3 Why a Regional Compatible Use Plan is Important

Despite the physical separation between military installations and nearby communities that occurs at the fenceline, there are often shared resources, such as land, airspace, water, and infrastructure. Due to the shared nature of these resources, actions or activities from the military or community may impact one another, which can result in conflict, regardless of the positive relationships between communities and military installations.

The military has an obligation to the communities and the environment where each installation is located to ensure off-base impacts to land, air, water, or infrastructure are prevented. This stewardship also applies to the care of many different species and ecological systems that are critical to the region, state, and nation. As communities develop and expand due to growth and market demands, they have the potential to encroach on military installations and on operational or training areas (TA). Uncoordinated development can exacerbate or create land use conflicts and other compatibility issues. Encroachment can have a multitude of undesirable impacts on community safety, economic development, and the sustainability of military operations. Addressing these issues and their potential impacts is currently one of the military's greatest operational challenges.

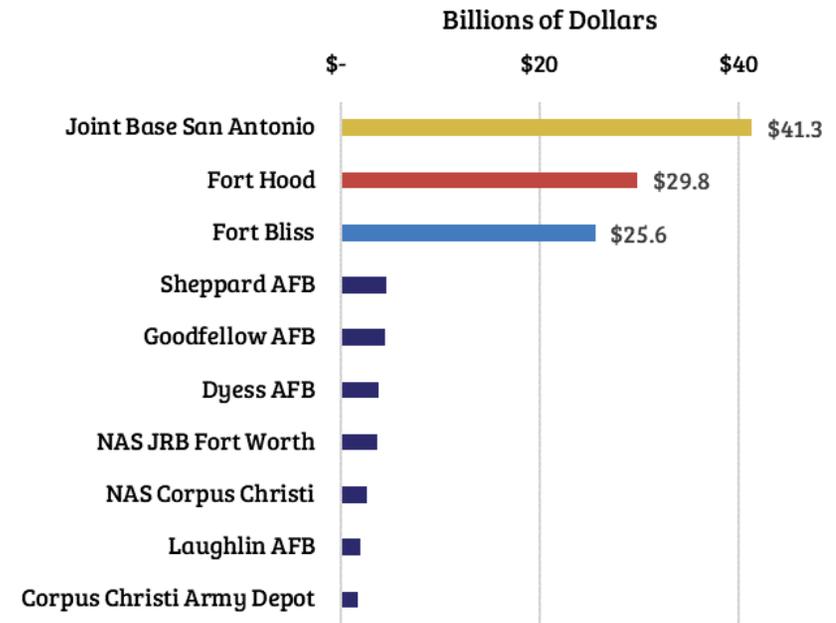
Military installations, local communities, agencies, and other stakeholders planning together to protect the long-term viability of existing and future military missions should be a paramount consideration. This type of collaboration has indirect effects, which are evident in the health of local economies. Recognizing the close relationships that should exist between installations and adjacent communities, the OLDCC implemented the Compatible Use Plan (CUP) program to mitigate existing and future conflicts and to enhance communication and coordination among all affected stakeholders with the goal of preserving the economic viability and quality of life of all community and installation stakeholders.

1.4 Importance of Joint Base San Antonio and Martindale Army Heliport

Regional Importance

According to the Texas Military Preparedness Commission's (TMPC) 2019-2020 Biennial Report, in 2019, JBSA and MAHP supported over 210,000 people, including military and civilian employees and contractors, dependents, and retirees. JBSA and MAHP generated approximately \$41.3 billion in economic benefits throughout the State of Texas. This amount accounts for 33.4% of the total economic impact of all military installations in the State of Texas and exceeds the next closest installation (Fort Hood) by more than \$11.7 billion (see Figure 1-2).

JBSA and MAHP conduct training for foreign and domestic events throughout the world. The training occurring at and the forces deployed from these installations are integral in defeating adversaries both foreign and domestic. While supporting these installations due to their economic importance is imperative, these installations need to preserve their capabilities to support local and regional communities during domestic, state, and national emergencies; wartime deployments; and humanitarian efforts.



Source: Texas Military Preparedness Committee Biennial Report, 2020

Figure 1-2 Top Ten Military Installations by Economic Impact within the State of Texas



Military Strategic Importance

Joint Base San Antonio

Other than its economic benefits, JBSA is a strategic asset for the United States military. JBSA includes a multitude of installations with a variety of different mission sets. JBSA includes JBSA-Camp Bullis, JBSA-Fort Sam Houston (not included in this RCUP), JBSA-Lackland (inclusive of Chapman Training Annex and Kelly Field), and JBSA-Randolph (inclusive of SAAF). In total, JBSA includes 46,539 acres and over 36 million square feet of facilities. When compared to the rest of the DoD, JBSA trains more service members and has the busiest runways than any other installation in the world.

JBSA-Camp Bullis

JBSA-Camp Bullis is the primary field training installation within the region, offering operational and training opportunities that may not be available at the other installations. These opportunities include firing ranges, simulation facilities, maneuver lands, and other training facilities and support services. JBSA-Camp Bullis is an essential training location primarily for Air Force and Army personnel, but the installation also supports all military service branches; reserves; the National Guard; and local, state, and federal law enforcement organizations.

An important training relationship that has been cultivated is the integration of TXARNG rotary wing assets in the training of JBSA trainees. TXARNG aircraft support training initiatives for Airmen and Soldiers at JBSA installations. The relationship allows for realistic training, which typically includes medical evacuation (MEDEVAC) transportation to and from JBSA-Camp Bullis but also sling load training, port operations training, emergency response training, and more. This symbiotic relationship amplifies training and readiness for both the U.S. military and the TXARNG.

JBSA-Lackland, JBSA-Lackland Chapman Training Annex, and Kelly Field JBSA-Lackland, also known as the “Gateway to the Air Force,” conducts training for almost 80,000 U.S. and foreign military students annually. While JBSA-Lackland’s primary mission is to provide basic recruit training for the U.S. Air Force, it does conduct other training programs that are of growing importance to national security, such as military working dog (MWD) handling, cybersecurity, and intelligence training. Additionally, Kelly Field provides the longest runway in the region (11,500 feet long) capable of landing the heaviest aircraft (837,000 lbs) with the largest wingspan (262 feet) and includes the support facilities for these aircraft.

JBSA-Randolph and SAAF

JBSA-Randolph’s primary mission includes conducting all three phases of the instructor pilot training program. This program includes basic, primary, and advanced instruction courses. JBSA-Randolph also provides space for the remotely piloted aircraft (RPA) fundamentals, Undergraduate Pilot Training (UPT), and Introduction to Flight Fundamentals (IFF) as part of the training courses for the U.S. Air Force. SAAF augments training at JBSA-Randolph with a newly renovated airfield capable of supporting not only Air Force requirements from JBSA-Randolph but also requirements from the Federal Emergency Management Agency (FEMA) and Defense Logistics Agency (DLA) in times of state or national emergencies.

MAHP

MAHP is a TXARNG installation, which has the primary mission of supporting TXARNG's MEDEVAC assets while also maintaining readiness for any state or federal missions that require their support. Recent missions to assist the State of Texas included supporting Hurricane Harvey disaster relief, Operation Lone Star medical support, the Challenge/STARBASE at-risk youth program support, and supporting the Department of Homeland Security (DHS) conduct border patrol operations. During disaster response for Hurricane Harvey in 2017, MAHP was utilized as a staging area for emergency relief and recovery efforts. The TMD is the higher headquarters for MAHP and the TXARNG. The TMD is also the administrative head for the Texas Air National Guard and the Texas State Guard. Throughout the report, the distinction between MAHP, TXARNG, or TMD will be made where appropriate to accurately characterize the level of authority.



TXARNG UH-60 Blackhawk Supporting Wildfire Suppression

1.5 Joint Land Use Study Analysis

The JBSA RCUP consultant facilitated in-person meetings in January and February of 2020 to interview key stakeholders for the development of the plan. These meetings were conducted onsite in San Antonio and the City of Universal City on January 6-7, 2020 and February 12-14, 2020. During the January timeframe, Matrix conducted six group interviews that were comprised of 75 military stakeholders from over 35 different organizations. During the February timeframe, the consultant facilitated 24 interviews with over 38 different organizations and municipalities, resulting in over 103 stakeholders interviewed.

Part of these interviews included questions about the implementation of previous Joint Land Use Study (JLUS) strategies. These questions helped to properly assess JBSA RCUP issues and to better understand which strategies should be included based on what has worked for the previous JLUSs. The consultant completed an analysis on previously completed JLUSs for three of four installations within the JBSA RCUP and the 212 strategies recommended within those JLUSs. The previous three JLUSs were completed on the following dates and included the following strategies:

- JBSA-Camp Bullis was completed in 2009 with 67 strategies,
- JBSA-Lackland was completed in 2011 with 38 strategies, and
- JBSA-Randolph was completed in 2015 with 107 strategies.

In addition to these three JLUSs, there was a Regional JLUS Implementation Strategy (RJIS) completed in 2015 that analyzed the strategies from each JLUS (including the JBSA-Randolph JLUS, which was in development at the time). However, the strategies used in the RJIS were common strategies that had a regional impact from individual JLUSs and were not unique to an installation; therefore, those strategies were not utilized in the JLUS analysis for the JBSA RCUP.

Prior to and after the initial stakeholder interviews were completed, the consultant completed analysis on the amount of strategies that were assigned to stakeholders (primary and supporting responsibility roles) and how many of those strategies were implemented.

The following is a highlight of the results of the analysis and the impact on the strategies that will be made for the JBSA RCUP.

During the interviews that were conducted in January and February 2020, a total of 73 organizations were interviewed. Of the 73 interviews, 33 were with organizations or entities that could be assigned responsibilities within the Implementation Plan (i.e., installations, jurisdictions, regional organizations, etc.). Of the 33 organizations or entities that could have been assigned responsibilities, only 26 had received primary or support strategy responsibilities in previous JLUSs. Some entities were either not included within the Study Areas or were within the Study Area and not assigned to implement any strategies. The composition of the groups studied can be found in Table 1-2.

Table 1-2 Composition of Organizations Analyzed for JLUS Strategy Implementation

| Organization Type | Number of Organizations Included in Analysis |
|--|--|
| City | 13 |
| Conservation Organization | 2 |
| County | 2 |
| Economic Development and Real Estate Development Organizations | 2 |
| JBSA | 3 |
| Regional Agency or Authority | 3 |
| Regional Organization | 1 |
| Total | 26 |

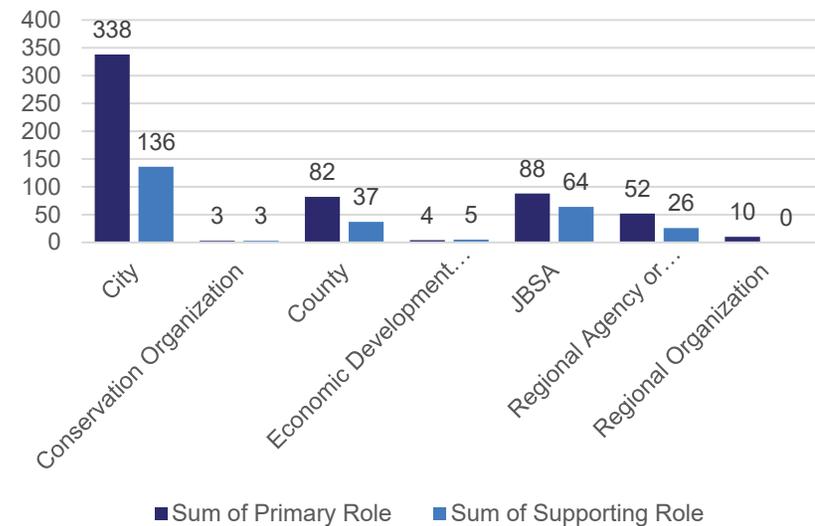


Figure 1-3 Number of Primary and Supporting Strategies Assigned in Previous JLUSs

In total, the 26 different groups had been assigned 577 strategies as primary partners and 271 strategies as support partners (see Figure 1-3). Organizations assigned the supporting role were not analyzed because if the primary organization did not move forward with implementation, the supporting organization could not either. However, of the 577 total strategies assigned with primary roles, approximately 21% have been implemented. The highest rate of implementation was by conservation organizations, with 67% implemented; however, they also had the fewest strategies assigned as the primary organization. The most total strategies completed were by cities. Thirteen cities identified as having a primary role in previous JLUS implementation plans, and these cities were analyzed and found to have implemented 62 strategies (see Figure 1-4).

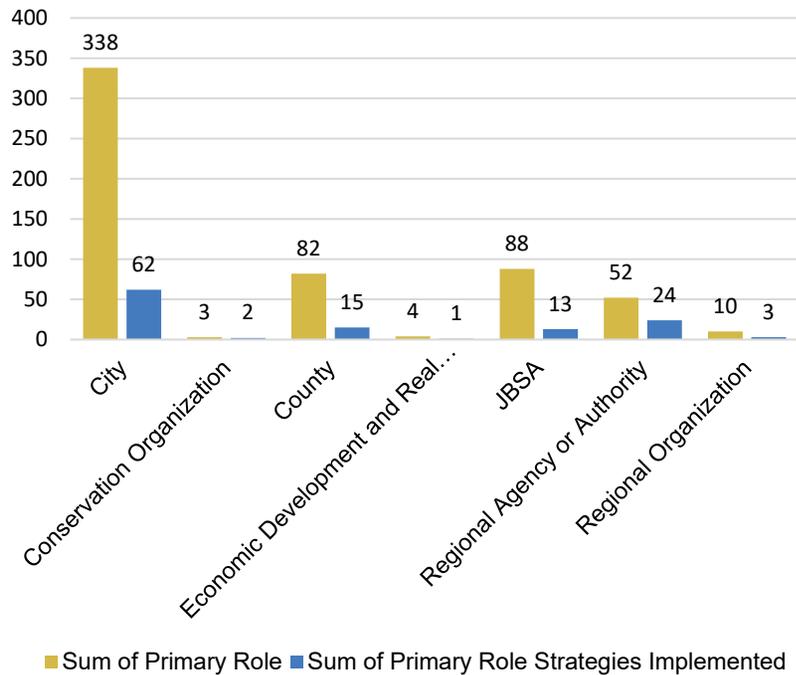


Figure 1-4 Total Strategies Assigned and Implemented per Type of Organization with a Primary

Using only primary roles, the consultant analyzed strategies not implemented by entities and found that a total of 141 strategies were not implemented among the three JLUSs. The 141 unimplemented strategies were assigned to 377 entities (each strategy could have multiple responsible entities) as either the primary or support party. Further analysis was limited due to the way each strategy was categorized in each JLUS. For example, one JLUS may categorize a strategy as Acquisition, while another JLUS may categorize a similar strategy as Acquisition/Plans. Without miscounting or double-counting issues, general observations were made.

Findings

The top three types of strategies not implemented were Communication/Coordination (84 strategies), Zoning (73 strategies), and Plan (29 strategies). Together, these three types of strategies account for 186 total strategies or 49% of all the strategies assigned to responsible primary parties. The reason for such a high amount of these strategies not being implemented — despite most being the best ways to ensure collaboration between local communities and the military, which is vital to compatibility planning — could be due to the possibility of the recommendations having to undergo a rigid approval process. This process may take political willpower and expertise to navigate and ensure the recommendation can be approved.

In contrast to cities, regional organizations may not require a lengthy approval process and are more flexible in how new policies and procedures are amended, which may result in a higher rate of implementation. This simplified process may have been the case for conservation organizations, which had a 67% implementation rate, and for regional agencies or authorities, which had a 46% implementation rate. Both these rates are higher than the average implementation rate, which is approximately 21%. Another reason that may decrease the implementation rate is the personnel and resources available to each entity to pursue the recommendations. While these recommendations are important, their long-term benefits and the inability to see some immediate results makes it difficult to see the benefits and leverage them above other immediate needs within communities.

Finally, while the Implementation Plan is included in this report, based off this analysis, a JBSA RCUP Implementation Committee is imperative to ensuring follow-through with regional strategies and continued collaboration.

1.6 Public and Stakeholder Engagement

The JBSA RCUP process is designed to create a regionally relevant plan that builds consensus and obtains support from involved stakeholders. To achieve the goals and objectives outlined earlier, the JBSA RCUP process included a detailed public involvement strategy, ensuring all participants had access to regular information updates, meaningful and convenient methods of participation, and timely access to draft documents for review.

Stakeholders

Identifying stakeholders is an important and early step in the JBSA RCUP process. Getting stakeholders involved with the process at the beginning is crucial in the identification of regional compatibility issues that need to be addressed and can be resolved through the collaborative development of strategies that are mutually beneficial to all stakeholders. Stakeholders can include individuals, groups, organizations, and government entities interested in, affected by, or affecting compatibility issues and the outcome of the JBSA RCUP. Stakeholders identified early in the JBSA RCUP process include:

- Regional jurisdictions;
 - Cities/towns;
 - Counties;
- JBSA installations;
- TXARNG installation;
- Other stakeholders; and
- The public, including property owners and residents.

Who is involved?

| JBSA INSTALLATIONS | | | TEXAS ARMY NATIONAL GUARD INSTALLATION |
|---|--|---|---|
| JBSA-Camp Bullis | JBSA-Lackland Chapman Training Annex Kelly Field | JBSA-Randolph Seguin Auxillary Airfield | Martindale Army Heliport |
| Counties Bexar County Comal County Kendall County | Counties Bexar County | Counties Bexar County Comal County Guadalupe County | Counties Bexar County |
| Cities /Towns City of Boerne City of Bulverde City of Fair Oaks Ranch City of Grey Forest City of Hill Country Village City of Hollywood Park City of San Antonio City of Shavano Park | Cities /Towns Leon Valley Von Ormy City of San Antonio | Cities /Towns City of Cibolo City of Converse City of Garden Ridge City of Marion City of New Braunfels City of San Antonio City of Schertz City of Seguin City of Selma City of Universal City City of Santa Clara City of St. Hedwig | Cities /Towns City of San Antonio City of Kirby Town of China Grove |
| Other Stakeholders | | | |
| AAMPO • Conservation Non-Profit • Greater SA Chamber • Green Spaces Alliance • PSA • SARA • State of Texas • Texas A&M • TPWD USFWS • CPS Energy • SAWS • FAA • RECSA • SABOR • TXDOT • Stormwater Utilities • Utility Providers • Individual Landowners | | | |

Figure 1-5 JBSA RCUP Stakeholders by Installation

Policy Committee and Technical Working Group

The JBSA RCUP was developed with the guidance of two committees. The PC and TWG were integral in the creation of the JBSA RCUP. Each committee was composed of a diverse set of representatives from across the region.

JBSA RCUP Policy Committee

The PC consists of elected officials (or their designees), an ex officio military representative from JBSA leadership, and representation from AACOG. The PC is critical to the RCUP process by providing key insights into local and regional issues and assisting with refinement of all recommendations tailored to local needs and capabilities. The PC is responsible for the overall RCUP direction, approval of drafts and final written reports, approval of policy recommendations, and monitoring implementation of adopted policies.

JBSA RCUP Technical Working Group

The TWG consists of technical subject matter experts comprised of city and county staff; staff from JBSA-Camp Bullis, JBSA-Lackland, JBSA-Randolph, JBSA-Randolph SAAF, and MAHP; and other staff from stakeholder organizations. The TWG provides technical expertise to inform the RCUP issues and recommendations ensuring that information is accurate, comprehensive, and appropriately characterized. The TWG members also serve as communications liaisons within their organizations and with their respective leaders on the PC, reporting project progress and socializing information developed through the RCUP process.

Recognizing the expansiveness of the Study Area, incorporating three separate TWGs into the JBSA RCUP was essential to ensure the right group of subject matter experts would be able to focus their knowledge and technical proficiencies within their geographical area of expertise. The TWGs were organized according to Figure 1-6 and more generally as follows:

- JBSA-Camp Bullis TWG
- JBSA-Lackland TWG
- JBSA-Randolph/MAHP/SAAF TWG



| TWG Stakeholder Type | JBSA-Camp Bullis | JBSA-Lackland | JBSA-Randolph and JBSA Randolph Seguin Auxiliary Airfield | Martindale Army Airfield |
|------------------------------------|--|--|--|--|
| Military | 502 ABW/CI 502 ABW/JA 502 FSG/DD 502 SFS 802 CES/CENPL 802 CES/CEIEA 12 FTW/CI ASA | 502 ABW/CI 502 ABW/PA 502 ABW/SEF 502 ISG/ED 502 OSS 502 SFG 802 CES/CENPL | 502 ABW/CI 502 ABW/PA 502 SFG/SSF 802 CES/CENPL 12 FTW/CI 12 PA 12 OSS/OSAA (Airfield Manager) 12 OSS/OSA 12 OSS/OSAS 902 SFS/S3 | TXARNG |
| County Government | Bexar County Comal County Kendall County | Bexar County | Bexar County Guadalupe County | Bexar County |
| Local Government | Boerne Bulverde COSA - DSD COSA - Office of Military & Veteran Affairs COSA - Planning Dept. Fair Oaks Ranch | COSA - DSD COSA - Office of Military & Veteran Affairs COSA - Planning Dept. Leon Valley | Converse Cibolo COSA - DSD COSA - Office of Military & Veteran Affairs COSA - Planning Dept. New Braunfels Live Oak Seguin Schertz Universal City Saint Hedwig | COSA - DSD COSA - Office of Military & Veteran Affairs COSA - Planning Dept. Kirby China Grove |
| Agencies / Organizations | AACOG AAMPO FAA Real Estate Council San Antonio SABOR San Antonio Chamber of Commerce TxDOT Texas Military Preparedness Commission Texas Parks & Wildlife | AACOG AAMPO FAA Port San Antonio Real Estate Council San Antonio SABOR San Antonio Chamber of Commerce TxDOT Texas Military Preparedness Commission Texas Parks & Wildlife | AACOG AAMPO FAA Real Estate Council San Antonio SABOR San Antonio Chamber of Commerce TxDOT Texas Military Preparedness Commission Texas Parks & Wildlife | AACOG AAMPO FAA Real Estate Council San Antonio SABOR San Antonio Chamber of Commerce TxDOT Texas Military Preparedness Commission |
| Conservation Organizations | Compatible Lands Foundation Greater Edwards Aquifer Alliance Green Space Alliance | | | |
| Economic Development Organizations | COSA - Economic Department SA Economic Development Foundation | COSA - Economic Department SA Economic Development Foundation | COSA - Economic Department City of Converse EDC SA Economic Development Foundation | COSA - Economic Department SA Economic Development Foundation |
| Utilities | CPS Energy Edwards Aquifer Authority SAWS Guadalupe-Blanco River Authority SARA | CPS Energy Edwards Aquifer Authority SAWS SARA | CPS Energy Edwards Aquifer Authority SAWS Guadalupe-Blanco River Authority SARA | CPS Energy Edwards Aquifer Authority SAWS Guadalupe-Blanco River Authority SARA |

Source: JBSA RCUP Public Involvement Strategy

Figure 1-6 JBSA RCUP Technical Working Group Composition

Entities listed in red in Figure 1-6 were a part of multiple TWGs, while entities listed in black were only a part of one TWG. This distinction was an important step to help ensure no entity was overburdened with too many responsibilities.

The PC and TWG members served as connections to their stakeholder groups by communicating activities and other project information to their constituencies and organizations. Likewise, the PC and TWG members would communicate information from their constituencies and organizations back to their respective committees and between the committees. The list of participants for the PC and TWG are included in Table 1-3, 1-4, and 1-5.

Table 1-3 JBSA RCUP Sponsor Responsibilities

| Sponsor and Grantor | Responsibilities |
|--|--|
| <ul style="list-style-type: none"> Alamo Area Council of Governments Office of Local Defense Community Cooperation | <ul style="list-style-type: none"> Coordination Accountability Grant management Financial contribution |

Table 1-4 JBSA RCUP PC Participants & Responsibilities

| Participants | Responsibilities |
|---|---|
| <ul style="list-style-type: none"> ■ Alamo Area Metropolitan Planning Organization ■ Bexar County ■ City of Bulverde ■ City of San Antonio ■ City of Schertz ■ Texas State Representative — District 117 ■ Texas State Senator — District 26 ■ Guadalupe County ■ Universal City | <ul style="list-style-type: none"> ■ Policy direction ■ Study oversight ■ Study monitoring ■ Report approval/adoption |

Table 1-5 JBSA RCUP TWG Participants & Responsibilities

| Participants | Responsibilities |
|---|--|
| <ul style="list-style-type: none"> ■ Alamo Area Metropolitan Planning Organization ■ Audubon Texas ■ Bexar Audubon Society ■ Alamo Area Metropolitan Planning Organization ■ Audubon Texas | <ul style="list-style-type: none"> ■ Identify compatibility issues ■ Evaluate, explain, and recommend implementation options to the PC ■ Provide technical knowledge and evaluation ■ Review draft and final documents |

(Table 1-5 JBSA RCUP TWG Participants & Responsibilities continued)

| Participants | Responsibilities |
|--|--|
| <ul style="list-style-type: none"> ■ Audubon Texas ■ Bexar Audubon Society ■ Bexar County Military and Veteran Services Center ■ Bitterblue, Inc. ■ CDS Meury ■ City of Boerne ■ City of Bulverde ■ City of Cibolo ■ City of Fair Oaks Ranch ■ City of Leon Valley ■ City of Saint Hedwig ■ City of Saint Hedwig ■ City of San Antonio ■ City of Schertz ■ City of Seguin ■ City of Universal City ■ Compatible Lands Foundation ■ Converse Economic Development Corporation | <ul style="list-style-type: none"> ■ Identify compatibility issues ■ Evaluate, explain, and recommend implementation options to the PC ■ Provide technical knowledge and evaluation ■ Review draft and final documents |



(Table 1-5 JBSA RCUP TWG Participants & Responsibilities continued)

| Participants | Responsibilities |
|--|--|
| <ul style="list-style-type: none"> ■ CPS Energy ■ Grace PG Group ■ Greater Edwards Aquifer Alliance ■ Green Spaces Alliance of South Texas ■ Hill Country Alliance ■ JBSA-Camp Bullis ■ JBSA-Lackland ■ JBSA-Randolph ■ Kendall County ■ Martindale Army Heliport ■ Mitchell Lake Audubon Center ■ National Audubon Society ■ Port San Antonio ■ Real Estate Council of San Antonio ■ San Antonio Board of REALTORS | <ul style="list-style-type: none"> ■ Identify compatibility issues ■ Evaluate, explain, and recommend implementation options to the PC ■ Provide technical knowledge and evaluation ■ Review draft and final documents |

(Table 1-5 JBSA RCUP TWG Participants & Responsibilities continued)

| Participants | Responsibilities |
|---|--|
| <ul style="list-style-type: none"> ■ San Antonio Chamber of Commerce ■ San Antonio International Airport ■ San Antonio River Authority ■ San Antonio Water System ■ Texas Army National Guard ■ Texas Military Department | <ul style="list-style-type: none"> ■ Identify compatibility issues ■ Evaluate, explain, and recommend implementation options to the PC ■ Provide technical knowledge and evaluation ■ Review draft and final documents |

JBSA RCUP Committee Meetings

PC and TWG meetings were held throughout the process to ensure the identified regional issues were accurate and appropriately addressed through collaborative strategies.

Project Kick-Off (PC/TWG Meeting #1) — January/February 2020

The PC and TWG Project Kick-Off Meeting was conducted as a series of meetings with each JBSA installation and MAHP in January of 2020 and with community and organization stakeholders in small group meetings in February of 2020.

During these meetings, an introduction to the RCUP goals and process was provided to educate stakeholders on the importance of the project, and input was obtained on the implementation of strategies from past JLUS efforts, as well as on changes in military missions and operations and within communities and regional organization operations since the JLUSs were completed.

TWG Meeting #2 — May 6-7, 2020

The second meeting with the TWGs was conducted in a virtual environment using Zoom video software due to the COVID-19 pandemic. The presentation included an overview of the RCUP project and process, an update on the project status, a presentation of JLUS strategy implementation status, a visual assessment of RCUP compatibility, presentation and discussion of new and emerging issues, the project's next steps, and a question and answer portion. The JBSA-Camp Bullis TWG and JBSA-Lackland TWG convened on May 6, 2020, and the JBSA-Randolph/MAHP/SAAF TWG convened on May 7, 2020.

TWG Meeting #3 — July 29-30, 2020/PC Meeting #2 — July 30, 2020

TWG Meeting #3 was conducted July 29-30, 2020 in a virtual environment using Zoom video software. These meetings consisted of a review of the strategy worksheet submitted for review to each TWG prior to the meeting. These meetings focused on the review of potential strategies to address the new and emerging issues, with emphasis on strategies relevant to each TWG area and discussion of the new strategy ideas. The JBSA-Camp Bullis TWG and JBSA-Lackland TWG convened on July 29, 2020, and the JBSA-Randolph/MAHP/SAAF TWG convened on July 30, 2020.

The PC meeting convened on July 30, 2020 and focused on providing committee members a project overview, project status, a questions and answers segment, and the project's next steps.

TWG Meeting #4 — October 22-23, 2020/PC Meeting #2 — October 23, 2020

TWG Meeting #4 was conducted October 22-23, 2020 in a virtual environment using Zoom video software. These meetings reviewed and discussed strategies that were outcomes of focus groups held in September of 2020 and introduced the TWGs to the risk assessment mapping tool. The JBSA-Camp Bullis TWG and JBSA-Lackland TWG

convened on October 22, 2020, and the JBSA-Randolph TWG convened on October 23, 2020.

The PC meeting also held their meeting in a virtual environment on October 23, 2020 and focused on project status, the risk assessment mapping tool, and the project's next steps and included a question and answer segment.

TWG Meeting #5 — January 28, 2021 / PC Meeting #3 — January 28, 2021

TWG Meeting #5 was conducted on January 28, 2021 in a virtual environment using Zoom video software. This meeting included all three TWGs in the same meeting and discussed project updates, provided an overview of the Committee comments, obtained consensus on advice for the PC, provided comments on the compatibility assessment mapping tool, and the project's next steps, as well as answering any questions.

The PC meeting provided a project update and meeting purpose, TWG draft RCUP comments and direction, an overview of the compatibility assessment mapping tool comments, and time for any questions.

PC Meeting #4 — March 29, 2021

PC Meeting #4 was conducted March 29, 2021 in a virtual environment using Zoom video software. The JBSA RCUP consultant provided a recap of the project's accomplishments, implementation next steps, and allowed time for follow-up questions from the PC for the Project Team.



Focus Group Meetings

Because several issues identified in the RCUP are complex and involve multiple stakeholders, a set of virtual focus group meetings to explore specific issues in greater depth were scheduled. These meetings were held at the end of September of 2020 and covered eight different topic areas regarding the JBSA RCUP.

Real Estate and Development — September 23, 2020

This focus group discussed the regional real estate and development environment and how the regional military presence could collaborate more effectively with the region on housing issues and compatibility.

Airport and Airspace Planning — September 29, 2020

This focus group discussed the San Antonio International Airport (SAT) planning process and how its future may interface with current and future JBSA/MAHP requirements, including the fielding of the new T-7A.

Development in Unincorporated Areas — September 29, 2020

This focus group discussed the impact of future growth and development in unincorporated areas on JBSA and MAHP missions.

Light Pollution — September 29, 2020

This focus group discussed regional light pollution and what regional tools could best achieve compliance.

Housing — September 30, 2020

This focus group discussed affordable housing and housing development coordination and collaboration with JBSA, MAHP, and regional stakeholders. The discussion also included potential strategies and recommendations for supporting better quality of life standards for servicemembers in the region.

Stormwater/Low-Impact Development — September 30, 2020

The impact of stormwater on communities and military installations and the use of low-impact development (LID) planning in mitigating or alleviating issues caused by stormwater was discussed during this meeting. The objective during this meeting was to promote resiliency for JBSA, MAHP, and RCUP jurisdictions through in-depth analysis of stormwater issues within the Study Area.

Transportation — September 30, 2020

This focus group discussed the impacts of regional transportation improvements on JBSA and MAHP and what recommendations could be provided to the TWG and PC for consideration.

Unmanned Aerial Vehicles — September 30, 2020

This focus group discussed the impact of increased unmanned aerial vehicles (UAV) use throughout the region and potential policy implications for installations and jurisdictions in the region.

Public Outreach Methods and Materials

The JBSA RCUP developed a unique set of outreach methods and materials, which were developed to gain the public's attention. These methods were developed by the Project Team to maximize public participation and awareness of the project.

Public Outreach Methods

Public outreach methods were developed to gain the attention of the public through a variety of means. These methods include a live compatibility panel, a project video, a radio/podcast, and an ambassador program. Each method created a new avenue of participation for the public.

Live Cast Compatibility Panel

The Live Cast Compatibility Panel consisted of a targeted group of subject matter experts with knowledge and perspectives on military and community compatibility issues. The panel was moderated by a JBSA RCUP Project Team member to facilitate a lively and engaging discussion. The panel was structured with a question introduced by the moderator followed by perspectives and discussion by the participating panelists.

Due to COVID-19 and to provide maximum flexibility in scheduling, the panel was proposed for a virtual environment using video conferencing technology and broadcast live. The panel was recorded and uploaded to the project website for public viewing.

Project Video

The success of the JBSA RCUP was supported through a coordinated campaign of project videos from elected officials, organizational leaders, military leaders, and the RCUP Project Team. The videos were recorded in an interview format. Once the project videos were recorded, they were uploaded to the project website and AACOG's website for public viewing.

Radio/Podcast

Utilizing public radio or uploading a podcast(s) facilitated education and project awareness. Conveying the project's purpose and value in a timely and accurate manner increased the likelihood that information will foster general public awareness and stakeholder support. Outreach through the radio or podcast, in combination with other outreach methods, helped communicate and enhance the positive aspects of the project and strategically conveyed project information to establish positive relations.

Ambassador Program

The Ambassador Program was premised on targeting key members in professional organizations who could serve as project ambassadors for their organization membership for the RCUP. As ambassadors, they were responsible for communicating with their membership on project status and activities and soliciting feedback on the JBSA RCUP issues and implementation strategies.

Public Outreach Materials

Various public outreach materials were developed throughout the JBSA RCUP project to maintain public and stakeholder engagement and attain input on compatibility issues that should be addressed in the JBSA RCUP. Due to COVID-19, these materials were distributed digitally through the project website.



JBSA RCUP Overview Fact Sheet

This document was the first fact sheet created and utilized by the project. The fact sheet described the purpose, goals, and objectives of the JBSA RCUP and the methods to provide input on the process. The sheet also explained who would be involved with guiding the project and who the initial stakeholders would be. This fact sheet was utilized throughout the project as an informative tool.

JBSA RCUP Website

A project website (www.jbsacup.com) was developed and maintained to provide visitors a location to obtain information on project progress and documents, sign up for project updates, and provide feedback. The project website also provided committee members a portal to view previous meetings, which was an essential mechanism to keeping the project well-aligned and structured due to the impacts of COVID-19 on public meetings and physical copies of project materials.

1.7 Regional Compatible Use Plan Documents and Resources

There are two documents that make up the final JBSA RCUP: the JBSA RCUP Report and the Executive Summary.

JBSA RCUP Report

The JBSA RCUP Report is made up of four chapters: the Introduction, Regional Military Profile, Compatibility Assessment, and the Implementation Plan.

Chapter 1: Introduction

Chapter 1 provides an overview of the JBSA RCUP. The chapter describes the background and intent of the RCUP, the goals and objectives that guided the development of the plan, the RCUP Study Area, the regional and strategic importance of JBSA and MAHP, and a summary of the documents that make up the plan. Other information presented includes a list of the stakeholders involved in the development of the plan and public outreach techniques.

Chapter 2: Regional Military Profile

Chapter 2 provides an overview of the installations included in this plan and the military operations that occur at each site. This part of the JBSA RCUP Report also highlights information on the units located at each installation and how they interact with other units and installations studied in this plan and others within the region. Chapter 2 includes a discussion of military use in the region and utilizes maps to help describe the region's military footprint.

Chapter 3: Compatibility Assessment

Chapter 3 provides the regional compatibility issues and issue assessment. This chapter includes the issues that were approved by the TWG and PC during the project and an assessment of each of the issues. The issues were assessed using information from the PC and TWG, focus groups, other stakeholders, existing plans, and technical reports and were assessed by the Project Team. In total, 30 regional compatibility issues were assessed.

Chapter 4: Implementation Plan

The JBSA RCUP Implementation Plan makes up Chapter 4. The Implementation Plan includes recommended strategies that address the regional compatibility issues and will assist stakeholders in mitigating current and future encroachment and in proactively achieving compatibility around the military installations. Each recommendation includes the primary party and partners responsible for implementing the strategies.

JBSA RCUP Executive Summary

The final fact sheet provides a graphics-based brochure summary of the JBSA RCUP. The Executive Summary provides an overview of the project, highlights key compatibility issues, and important strategies to address them. The Executive Summary is a tool that can help facilitate discussion at follow-on meetings and distributed to the media for increased awareness and support of the JBSA RCUP.

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2

Regional Military Profile



Inside Chapter 2

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This chapter provides an overview of the JBSA hierarchy and an overview of each of the JBSA installations and the TXARNG installation included in this plan. The overviews will include a summary of the history and current operations at each of the three JBSA installations and the installations in their care, such as JBSA-Lackland Chapman Training Annex, Kelly Field, and SAAF.

The chapter starts with a description of the entire JBSA complex, how the installations are connected through the military hierarchy, and other interrelatedness, such as reliance on training capacities. The chapter will briefly describe each JBSA installation’s location in the region, history, important facilities at each installation, an overview of the missions and operations that occur at each one, and information on current units stationed at each installation.

MAHP will receive a detailed overview since this is the first study of this kind for the installation. This chapter will describe MAHP’s military strategic importance, current military operations, potential future operations, current mission profile, and current operational footprint.

The regional military profile description is an important piece of the JBSA RCUP. Accurately depicting the operations occurring within the installations and within the airspace in the region is imperative to fully grasping the importance of the military as a regional, state, and national strategic asset and as an important part of the communities impacted by these installations, as well as the impact of the communities on these installations

This information is provided to portray the variety of military operations and activities occurring within the Study Area and to provide stakeholders and decision-makers with a better idea of military impacts within the region, which allows them to make informed decisions about future development and economic growth.



2.1 Joint Base San Antonio Overview

JBSA was created in 2005 through a congressional authorization to complete another round of Base Realignment and Closure (BRAC). The authorization provided the basis for the combining of multiple installations (JBSA-Camp Bullis, JBSA-Canyon Lake, JBSA-Fort Sam Houston, JBSA-Lackland, JBSA-Randolph, and SAAF), branches (Air Force and Army), and the restructuring of commands between the installations. In 2009, the Air Force became the lead agency for the joint base and established the 502nd Air Base Wing (502 ABW) to provide installation support across each installation within JBSA, and the 502 ABW Air Force commander serves as the JBSA commander. JBSA was fully integrated into all installations on October 1, 2010.



The unique arrangement of JBSA geographically and functionally is an important feature that cannot be understated. JBSA-Camp Bullis provides crucial field training opportunities to trainees from across JBSA and MAHP. JBSA-Camp Bullis has long been a critical resource for installations in the region, and, through the BRAC process and creation of JBSA, JBSA-Camp Bullis has proven to be an invaluable asset. Further, the use of rotary wing aircraft from MAHP is a regional asset, amplifying realistic training occurring at JBSA installations and at MAHP.

Today, JBSA trains more DoD students; has more active runways; houses the DoD's largest hospital and only level one trauma center; supports over 250,000 personnel, including 425 retired general officers; and interacts with 1,000 civic leaders in San Antonio, 20 smaller communities, four counties, and four congressional districts. The 80,000 JBSA servicemembers and employees complete critical training through a diverse mission set, which includes training, flying, medical, cyber, and intelligence operations. The ability to execute the mission at JBSA allows the United States military to produce skilled servicemembers who are prepared to serve throughout the world.

2.2 JBSA-Camp Bullis

Location

JBSA-Camp Bullis (see Figure 2-1) is comprised of approximately 28,000 acres and is located roughly 20 miles from downtown San Antonio. The installation is generally bounded by I-10 to the west, Farm-to-Market Road (FM) 2696/Blanco Road to the east, Loop 1604 to the south, and West Ammann Road to the north. The installation is situated on the edge of the Edwards Plateau Land Resource Area within the Edwards Aquifer Recharge Zone in a hilly region known as the Texas Hill Country and locally called the Balcones Canyonlands. JBSA-Camp Bullis is used for firing ranges; maneuver areas for Army, Air Force, and Marine combat units; and for field training of the various medical units from JBSA-Fort Sam Houston. JBSA-Camp Bullis has two primary areas — a cantonment area and the training/maneuver area. The cantonment area contains most of the installation's 362 buildings. The facilities in the cantonment area support administrative and industrial uses. The training area includes 26 field training areas and 20 live fire ranges, which are listed in Table 2-1.

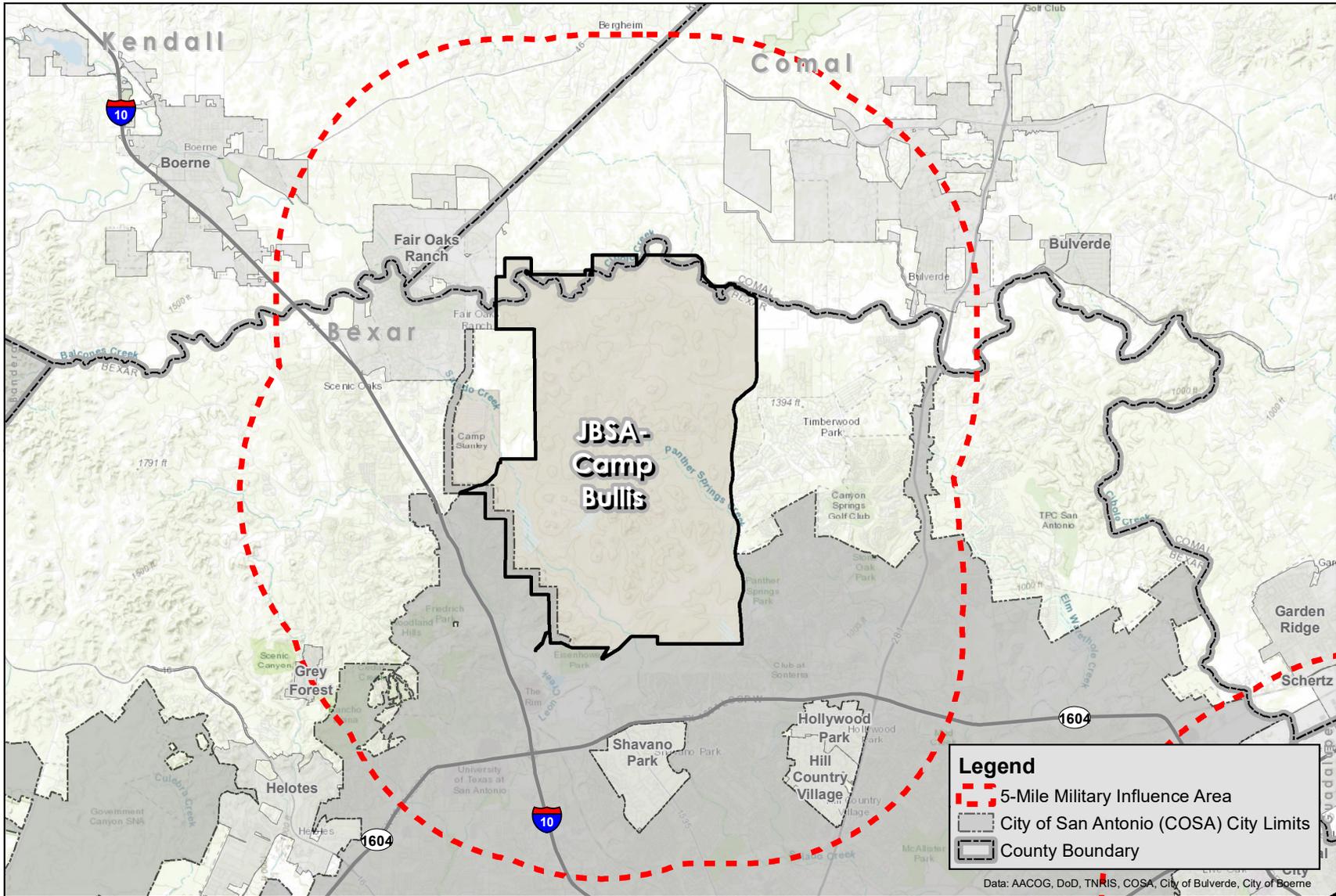
History

In 1890, the Army Post at San Antonio was renamed Fort Sam Houston. At the time, it was one of the largest garrison sites for the United States Army but lacked an adequate firing range and maneuver area. The Leon Springs Military Reservation was established on 17,273 acres to the north of San Antonio in 1906 and 1907. This site allowed for artillery firing. The facilities at Leon Springs Military Reservation were designated as Camp Stanley in 1917.

Established in 1917, Camp Bullis added 16,000 additional acres to the Leon Springs Military Reservation. The original purpose of Camp Bullis was to train soldiers when the threat of war in Europe was

growing. The installation was named after Brigadier General John Lapham Bullis. Although no units were stationed at Camp Bullis during World War I, the installation provided small arms and rifle firing ranges, as well as maneuver areas for troops stationed at Fort Sam Houston, which did not have the capacity for large-area training. In total, the government owned and leased over 33,000 acres at the time. Following World War I, Camp Stanley was used primarily for storage and testing of ordnance materials, while Camp Bullis was used as a site for demobilization.

As the years passed, Camp Stanley and Camp Bullis became permanent fixtures for the Army, and the installations were equipped with cantonment areas and new construction and development projects. The relocation of the old arsenal from downtown San Antonio to Camp Stanley in 1931 essentially stopped the use of the camp for soldier training. Meanwhile, improvements for Camp Bullis included a 10-bed infirmary, an officers' mess, vehicle sheds, a landing field, a post exchange, and a swimming pool, as well as improved firing ranges. Camp Bullis continued to be used by various units and groups as a training site through World War II.



JBSA-Camp Bullis Military Influence Area



Figure 2-1.



During and following World War II, many changing medical needs in the Army brought several new activities and missions to Fort Sam Houston and Camp Bullis. New medical training missions were brought to Camp Bullis and the Brooke Army Medical Center was established at Fort Sam Houston. Training included basic training for Army nurses, combat obstacle courses for stretcher field training and combat medicine, and small arms. Camp Bullis was used for medical, combat, and security training throughout the Korean and Vietnam Wars. The Air Force Security Police Training Site, known as Victor Base, was built in 1977, and the Air Force was the largest single user of Camp Bullis until 1987, when the Army took over as the largest user of the installation. In 2009, Camp Bullis was combined with other installations in the regions to form Joint Base San Antonio and formally became JBSA-Camp Bullis. Today, JBSA-Camp Bullis is an essential training location primarily for Air Force and Army personnel but also supports all military service branches; reserves; the National Guard; and local, state, and federal law enforcement organizations.

Facilities and Training Area

JBSA-Camp Bullis provides trainees with vital facilities otherwise unavailable within the increasingly urban region. These facilities include important live fire ranges, which vary from small arms ranges to a heavy demolition range to a convoy live fire range. Additionally, JBSA-Camp Bullis offers training sites for land navigation, the leader reaction course, medical training, improvised explosive device (IED) detection training, and much more. A detailed list of the ranges and training site can be found in Table 2-1 and 2-2.

Table 2-1 JBSA-Camp Bullis Live Fire Ranges

| Live Fire Ranges |
|---------------------------------------|
| Non-Standard Small Arms Range (Alpha) |
| Non-Standard Small Arms Range (Bravo) |
| Basic 10/25M Zero Range (Alpha) |
| Basic 10/25M Zero Range (Bravo) |
| Sportsman's 1/2 Range |
| Law Enforcement Range |
| Known Distance Range (Bravo) |
| Combat Pistol Qualification Course |
| Basic 10/25M Zero Range (Charlie) |
| Multipurpose Machine Gun Range |
| Automated Field Fire Range |
| Automated Record Fire Range |
| Modified Record Fire Range |
| Grenade Launcher Range |
| Hand Grenade Qualification Range |
| Hand Grenade Familiarization Range |
| Heavy Demolition Range |
| Convoy Live Fire Range |
| Nuclear, Biological, Chemical Chamber |
| Shoot House |

Table Source: JBSA Training Support, 2020

Table 2-2 JBSA-Camp Bullis Training Sites

| Training Sites |
|--|
| Land Navigation/Basic Compass (TA-1) |
| Land Navigation Course (TA-2) |
| Bivouac Area (TA-3) |
| Leader Reaction Courses (TA-4) |
| Mobilization/Driver Training Course (TA-5) |
| Black Jack Village (TA-6) |
| Black Jack Village Annex (TA-6A) |

Source: JBSA Training Support, 2020



(Table 2-2 JBSA-Camp Bullis Training Sites continued)

| Training Sites |
|--|
| Litter Obstacle Course (TA-7) |
| Bivouac Assembly Area (TA-8) |
| Land Navigation Course/Advance (TA-9) |
| Defense Zone Hall (TA-10) |
| Rappel Cliff (TA-11) |
| Combat Assault Landing Strip (TA-12) |
| Obstacle Course (TA-13) |
| Parade Field (TA-14) |
| C-4 Training Area (TA- 15) |
| Leader Reaction Courses (TA-16) |
| Rappel Towers (TA-17) |
| Defense Zone Buck (TA-18) |
| Defense Zone Cougar (TA-19) |
| Defense Zone Turkey (TA-20) |
| Medical Lane Training (TA-21) |
| Forward Operating Base (TA-22) |
| Mobilization Site (TA-23) |
| Medical Bivouac Site (TA-24) |
| Military Operations on Urban Terrain (TA-25A) |
| IED-D: Lane (TA-25A) |
| IED-D: Lane (TA-25B) |
| IED-D: Lane (TA-25C) |
| IED-D: Lane (TA-25D) |
| Camp Anderson/Peters (TA-26) |
| Combined Arms Collective Training Facility (TA-27) |
| U.S. Army Intelligence and Security Command Detention Training Facility (IDTF) (TA-28) |
| Field Training Site 68W (TA-29) |
| Virtual Combat Convoy Trainer (TA-30) |
| Housing Early Assistance Tool (TA-31) |
| Information Technology Agency (TA-32) |

Source: JBSA Training Support, 2020

Current Mission and Operations

JBSA-Camp Bullis’ mission is to provide base operations support and training support to JBSA mission partners to sustain their operational and institutional training requirements.

JBSA-Camp Bullis operations focus primarily on maintaining ranges and facilities utilized by visiting units. Several branches of the military train at JBSA-Camp Bullis, including the U.S. Army, Air Force, and the National Guard, as well as other federal and local agencies, such as the U.S. Secret Service, U.S. Marshals Service, and the San Antonio Police Department.

According to JBSA-Camp Bullis Readiness and Environmental Protection Integration (REPI) fact sheet, the installation hosts all student medic field training for the DoD and is the only field training location for JBSA within the region. To support its training mission, nearly 22,000 of the installation’s 28,000 acres are dedicated to training and maneuver areas. There is a small cantonment area located in the southwestern portion of the installation near the JBSA-Camp Bullis entrance and I-10. The cantonment area includes facilities to support the permanently assigned personnel who maintain the base and support operations throughout the year. Additionally, the cantonment area provides visiting units with support services, such as latrines, refuse disposal, and food service.

Combat Assault Strip and Fixed Wing Aircraft

JBSA-Camp Bullis has one airfield, which is a Combat Assault Landing Strip (CALs), which was constructed in 1982 and is primarily utilized by C-130 Hercules Aircraft but can support up to C-17 Globemaster aircraft as well. The CALs is used to practice combat assault operations, landings under simulated tactical conditions, loading troops, and deploying them over designated flight paths within JBSA-Camp Bullis. The CALs is in the northeastern portion of JBSA-Camp Bullis and is within proximity to the installation’s perimeter. Due to the CALs vicinity to the perimeter, noise contours

from the largest compatible aircraft extend outside the installation's boundaries to the east. Additionally, the C-17's noise contours extend over eight miles north of the installation.



Army UH-60 Blackhawk helicopter conducting night training, viewed through a night vision device.

Rotary Wing Aircraft

The primary rotary wing aircraft used at JBSA-Camp Bullis for flight training and air-drop operations is the UH-60 Blackhawk helicopter. The aircraft originated primarily from MAHP. There are four designated ingress and egress points for the aircraft to enter and exit JBSA-Camp Bullis

airspace. They are located at the northwest corner of the base, near the City of Fair Oaks Ranch (County Line Road — West); the northeast corner of the installation along Blanco Road (County Line Road — East); the south central boundary southeast of the cantonment area (Military Highway); and the southwestern corner, just west of the cantonment areas (Bullis Road). Within JBSA-Camp Bullis boundaries, there are 29 MEDEVAC landing zones (LZ), which are located at key locations across the training area. Helicopter missions occur in both daytime and nighttime and include nap-of-the-earth (NOE) low-level flights, point-to-point flights, and combat airdrops of paratroopers. The NOE flight corridor extends from the cantonment area north along the installation's west boundary, along the north boundary, and south along the east boundary to the northern extent of the impact area/no-fly zone. The NOE noise buffers extend outside of JBSA-Camp Bullis, as well as the extreme southern portion of the air drop flight corridor.

Controlled Firing Area

Parts of JBSA-Camp Bullis are coordinated with the Federal Aviation Administration (FAA) to be controlled firing areas (CFA), which are one of the six SUAs utilized by the FAA. A CFA is an airspace designated to contain activities that, if not conducted in a controlled environment, would be hazardous to nonparticipating aircraft. CFAs provide a means to accommodate, without impact to aviation, certain hazardous activities that can be immediately suspended if a nonparticipating aircraft approaches the area. In JBSA-Camp Bullis' case, personnel utilizing ranges must cease fire or suspend operations while aircraft are within the CFA. This delay can impact military operations by limiting time personnel can fully utilize the ranges at JBSA-Camp Bullis.

Night Vision Devices

Utilization of night vision devices (NVD) for training at JBSA-Camp Bullis is an important part of training for units, and the successful completion of this training provides the U.S. military with key advantages in combat. Aviators and ground-based personnel must maintain their readiness when it comes to applying NVD to situations that closely resemble combat, so they are prepared for contemporary contingency environments.

NVDs are electro-optical devices that intensify (or amplify) existing light instead of relying on internal light sources. The NVDs are sensitive to broad spectrums of light from visible to infrared. Therefore, any amount of light pollution either from the installation or surrounding region will degrade the NVD effectiveness and can blind the NVD user.

Combat Medic Training

JBSA-Camp Bullis provides the field training and ranges for combat medics from the U.S. Air Force, Army, and Navy. The installation's vicinity to both JBSA-Fort Sam Houston and JBSA-Lackland creates an obvious synergy that is difficult to replicate and an important



aspect of the joint base. Additionally, the interaction between the TXARNG and the rotary wing support from MAHP allows for realistic MEDEVAC training, which is critical to the successful training of U.S. military medics.

Units

The 502nd Force Support Group/Camp Bullis (502 FSG/CB) provides critical installation services to JBSA-Camp Bullis. The unit includes a director of installation support for JBSA-Camp Bullis, a deputy director of installation support for JBSA-Camp Bullis, mission support specialist, and civil engineer squadron (CES) senior liaison. The 502 FSG/CB is under the command of the 502 ABW and the 502 ABW commander. The 502 ABW is headquartered at JBSA-Fort Sam Houston.

JBSA-Camp Bullis personnel include military, DoD civilians, and contractors. The assigned staff of the 502 FSG/CB perform the necessary functions necessary to coordinate training operations, maintain the training site, and support the overall installation training mission.

2.3 JBSA-Lackland

Although the JBSA RCUP refers to JBSA-Lackland as a single entity, JBSA-Lackland actually consists of three distinct areas: the main base, the airfield referred to as Kelly Field and jointly utilized by the Air Force and Port San Antonio (PSA), and Chapman Training Annex (see Figure 2-2).

Location

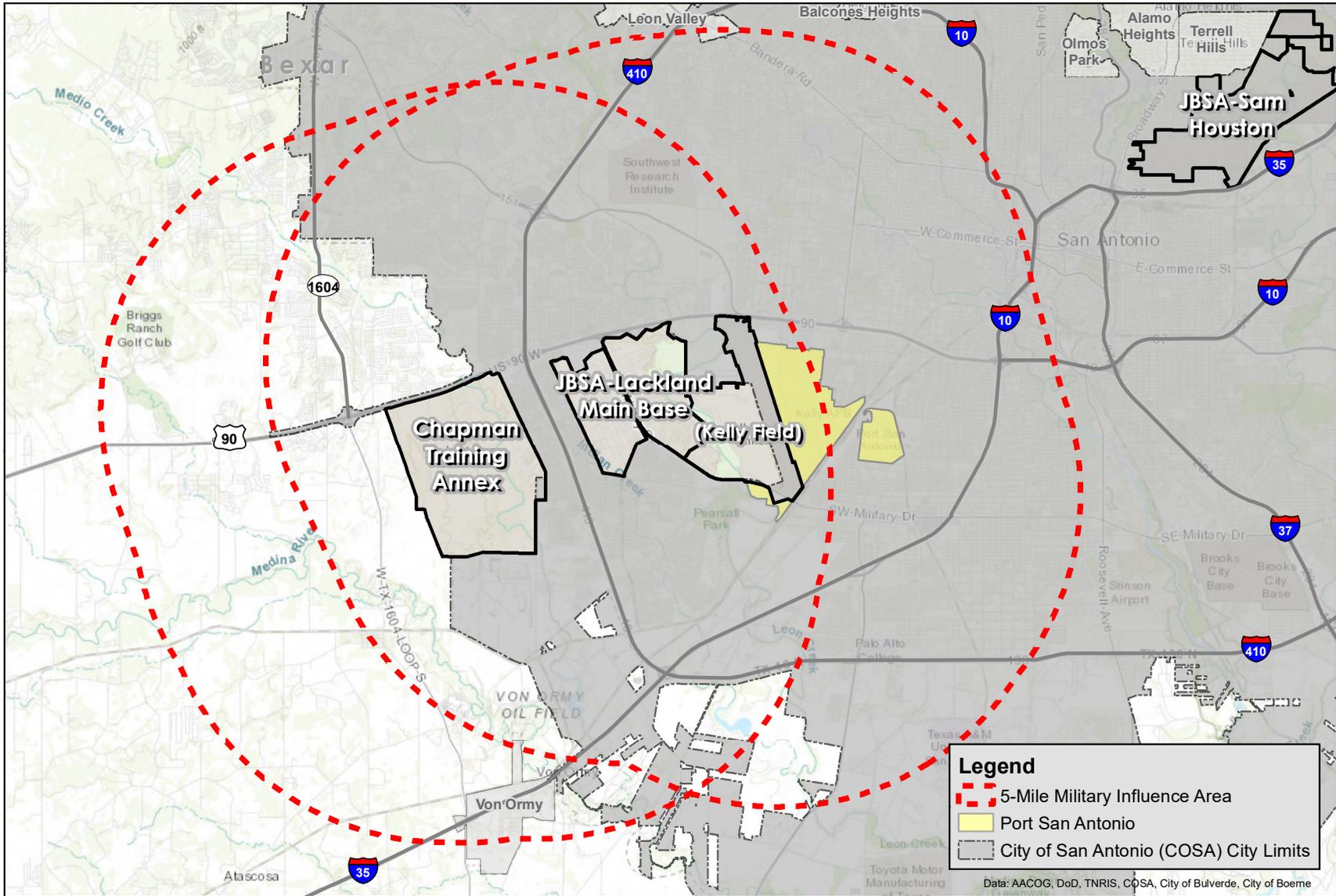
JBSA-Lackland is generally located within the southwest portion of the City of San Antonio, entirely within Bexar County. The installation is located south of U.S. Highway 90 (U.S. 90) and straddles the east and west sides of I-410 (also known as Loop 410). The main installation for JBSA-Lackland is located just east of I-410 and south

of U.S. 90. Immediately east of the main installation is Kelly Field. Chapman Training Annex, formerly Medina Training Annex, is located south of U.S. 90, east of Texas 1604 Loop, and west of I-410. While the main JBSA-Lackland installation and Kelly Field are located within the same perimeter, Chapman Training Annex is separate, and I-410, as well as portions of the City of San Antonio, create a distinct barrier between the JBSA-Lackland/Kelly Field and the Chapman Training Annex.

History

JBSA-Lackland began as the San Antonio Aviation Cadet Center (SAACC) on July 4, 1942. Prior to this time, the portion of Kelly Field west of Leon Creek where JBSA-Lackland is now situated was known as “the Hill.” The Hill was used as a bombing range and bivouac area for cadets until an increased demand for Airmen arose in the wake of Pearl Harbor. Inductees picked as aviation cadets quickly mobilized at Kelly Field for pilot, navigator, or bombardier training. Newly constructed facilities on the Hill, west of Military Road, accommodated Kelly Field’s expanded role. To ensure the urgent demand for bomber pilots was met amidst the installation’s rapid expansion, the SAACC facility received designation as an independent military installation with a preflight school, classification center, station hospital, and several other units.

The SAACC grew rapidly with the mobilization for World War II. Approximately 90,000 candidates for flying training passed through the preflight school before the need diminished, and the war department ordered the school closed in 1945. With the end of preflight training, the SAACC changed its name and mission. The installation’s new mission became receiving veterans from the combat theaters and either reassigning or separating them and was therefore redesignated as the San Antonio District, Army Air Forces Personnel Distribution Command. The base’s 1,500-bed regional hospital played a significant role in its new mission in the care for Airmen returning from war.



**JBSA-Lackland
Military Influence Areas**

0 1 2 3 4 Miles

Figure 2-2.



The mission of the installation changed again in 1946 when the war department redesignated the base as the Army Air Forces Military Training Center, which became the sole basic military training mission for the Army Air Force. Today's host wing, the 37th Training Wing (37 TW), was established on base on October 28, 1949. On July 11, 1947, the base was renamed after Brigadier General Frank D. Lackland, who originated the idea of an aviation cadet reception and training center. From 1946 onwards, with few exceptions, all enlisted Airmen began their Air Force careers at JBSA-Lackland. Future officers were also trained at JBSA-Lackland: an Officer Candidate School produced reserve officers from the enlisted corps until July of 1962, and the Officer Training School (OTS), activated in July of 1959, commissioned college graduates with no prior service, as well as Airmen who had earned undergraduate degrees. The OTS was moved to Maxwell AFB in Alabama in 1993.

The 433rd Airlift Wing (433 AW), an Air Reserve component, became stationed at Kelly Field in 1960 after moving from nearby Brooks AFB. The 433 AW has participated in training exercises, tactical airlift missions, deployed other units overseas, and provided humanitarian relief around the world. The 433 AW has flown the C-5 or a variant since 1985, when it became the first Air Force Reserve wing to be equipped with the C-5A. Today, the 433 AW flies the C-5M, the second largest aircraft in the world.

In 1961, JBSA-Lackland became home to the 149th Fighter Wing (149 FW), a Texas Air National Guard unit that traced its lineage to the 396th Fighter Squadron, which served honorably in World War II. Since then, the unit's cornerstone 182nd Fighter Squadron (182 FS) aircraft and mission have changed. Today, the 182 FS flies the F-16 C/D, conducting undergraduate pilot training for experienced aircrew or recent graduates of the U.S. Air Force.

Over the years, JBSA-Lackland acquired new technical training missions. Teaching English to military personnel from foreign countries became one of JBSA-Lackland's principal missions. Formal

instruction began in 1954 to facilitate aircraft sales to friendly governments whose contracts included pilot and maintenance training classes. Now known as the Defense Language Institute English Language Center, the facility has taught military members from more than 100 countries. On April 1, 2001, the 37 TW took over airfield operations of the oldest active airfield in the Air Force, Kelly Field, which was established just prior to World War I. With the activation of the 37th Operations Support Squadron (37 OSS), the Air Force transferred the airfield operations mission and real property west of Kelly Field's hanger line to the wing and JBSA-Lackland. The accession of the Kelly Field made JBSA-Lackland one of the most heavily populated bases in the Air Force. As of 2018, JBSA-Lackland consisted of 46,577 people, of which 24,702 were active duty members, 10,131 were DoD civilian employees, and 11,744 were contract employees and family members.

Facilities

Chapman Training Annex

The Chapman Training Annex provides a multitude of facilities, training area, and services to JBSA-Lackland. They include Basic Expeditionary Airmen Skills Training (BEAST) facilities, MWD facilities and training area, dorms, dining halls, classrooms, facilities for administration, labs, base housing, and ranges. The most important training areas within Chapman Training Annex are detailed below.

Basic Expeditionary Airmen Skills Training Complex

The BEAST Complex was developed as a response to the Air Force identifying the need for significant changes in basic training for Airmen. The Air Force developed the BEAST Complex with contingency operations and expeditionary skills training in mind. The BEAST model provides the environment for Airmen to develop critical competencies required in a war-like setting. The BEAST Complex on the Chapman Training Annex accommodates between 30,000 and 40,000 Airmen on an annual basis and approximately 2,400 to 3,200

trainees per month. The BEAST represents a significant increase in training intensity on the annex.

Munitions Storage Area

The Munitions Storage Area represents the largest area set aside to support training and security missions at JBSA-Lackland. The storage area at Chapman Training Annex can hold up to 70 million rounds of ammunition. The storage of ammunition must comply with various safety and security procedures to protect the base, personnel, and the adjacent communities. Explosive safety quantity distance (ESQD) arcs provide a minimum safe distance between sites that handle, process, or store explosive materials and any nearby inhabited buildings, public areas, or other storage facilities to protect against explosive hazards. The size of the ESQD arc is directly tied to the amount of explosive materials being stored. Currently, none of the ESQD arcs extend beyond the Chapman Training Annex perimeter.

Small Arms Range

The small arms range at Chapman Training Annex serves approximately 55,000 personnel a year, which makes the range complex the busiest in the Air Force. The complex features 12 firing ranges to accommodate the following weapons systems:

- M16A2 and M4 Rifle,
- M9 and M11 Pistol,
- M203 Grenade Launcher (40mm Training Practice round only),
- M870 and M500 Shotgun, and
- MP5 submachine gun (9mm round).

Proficiency Range (Demolition Range)

The Proficiency Range goes by many names, including the explosive ordnance disposal (EOD) explosive site, demolition range, and EOD

range. The proficiency range is in the southeast part of Chapman Training Annex and is utilized at least three times a month by EOD technicians to maintain their proficiency. The proficiency range has two noise zones, which extend beyond the Chapman Training Annex's perimeter.

The peak noise contours associated with the proficiency range consist of 115-130 decibel (dB) PK15 and >130 dB PK15 noise zones. These two zones represent where the sound level would be expected to exceed 130 and 115 dB 15% of the time at the proficiency range. The >130 dB PK15 noise zone extends slightly beyond the installation's southeast boundary approximately 0.5 mile from the proficiency range. The 115-130 dB PK15 noise zone also extends beyond the installation in the southeast corner by approximately 1.25 miles. Both zones overlay the landfill and residential areas adjacent to the installation boundary.

Military Working Dog Facilities and Training Area

The Chapman Training Annex hosts the training of MWDs and their handlers with a range of facilities and training areas. These facilities include an MWD off-leash training area and two specialized search MWD training areas. The facilities at Chapman Training Annex allow for the most MWD and MWD handler training in the world to take place.

JBSA-Lackland Main Base

The JBSA-Lackland main base maintains mission-critical facilities, infrastructure, and property that support training and operations and its various tenant commands' mission responsibilities. The main base houses many different types of facilities, which are utilized for training, installation support, fitness training, military dependents, military quality of life, and more. The main base facilities include housing for military families and enlisted members; facilities for administrative purposes; training support facilities that include fitness centers and fitness fields; the Lackland Exchange and Commissary; transient lodging; and educational and medical facilities, including



Wilford Hall Medical Facility, which is the Air Force's flagship medical facility for outpatient care.

Kelly Field and Port San Antonio

Kelly Field is located east of JBSA-Lackland's main base and is comprised of one runway, Runway 16/34, which is utilized by fixed wing aircraft from both the Air Force and PSA. Kelly Field includes aircraft hangars used for maintenance and storage; aircraft parking ramps and taxiways; a hard surface runway; air traffic control (ATC) tower; aircraft rescue and firefighting (ARFF) facilities; aircraft fueling; assorted office buildings; and support facilities, such as "hush houses" for engine run maintenance. Runway 16/34 is typically used in both directions and counted as two separate runways. Kelly Field is jointly utilized by the Air Force and PSA.

PSA is a tax-exempt, self-sustaining enterprise incorporated in 1997 by the City of San Antonio as a separate political subdivision of the State of Texas. The 11-member board of directors is appointed by the mayor and city council. PSA is located on the east side of the Kelly Field and includes a variety of facilities to support PSA's requirements as San Antonio's dynamic technology and innovation campus. PSA offers unique access to multimodal rail, air, and road transportation systems. The footprint includes over 750,000 square feet of strategic facilities that meet anti-terrorism/force protection (ATFP) standards and accommodate thousands of uniformed and civilian personnel. Other facilities include a multimodal distribution center and aircraft maintenance, repair, and overhaul (MRO) facilities for Boeing, Lockheed Martin, and Standard Aero aerospace companies.

Current Mission and Operations

JBSA-Lackland, also known as the "Gateway to the Air Force," is best known for its role in training all the enlisted airmen who enter the Air Force, Air Force Reserve, and Air National Guard. The 37 TW calls JBSA-Lackland home and is the largest training wing in the Air Force.

The wing is responsible for four primary training missions, graduating more than 80,000 students annually and providing base operations and support to 45,000 people. The four missions include the following:

- Basic Military Training (BMT);
- Technical training for a wide array of Air Force functions, encompassing more than 380 separate courses;
- English language training for international military personnel from more than 100 countries at the Defense Language Institute English Language Center; and
- Specialized maintenance and security training for Latin American students from more than 20 countries at the Inter-American Air Forces Academy.

JBSA-Lackland also operates one of the busiest airfields in the DoD at Kelly Field. Two flying units call JBSA-Lackland home: the Air Force Reserve's 433 AW, flying C-5M Super Galaxy, and the Texas Air National Guard's 149 FW, operating F-16 Fighting Falcons.

Units

37th Training Wing and 37th, and 737th Training Groups

The host unit at JBSA-Lackland is the 37 TW, which is a subordinate unit of the Air Education and Training Command (AETC). The 37 TW is the largest training wing in the Air Force with a mission to develop and sustain warrior Airmen, train joint forces, and strengthen coalition partnerships. The wing provides basic military, professional, and technical skills and English language training for the Air Force, other military services, government agencies, and allies. More than 80,000 students graduate annually from the base's training programs.

The base's 37th and 737th training groups provide BMT for all enlisted people entering the Air Force, the Air Force Reserve Command, and the Air National Guard. In 2005, BMT changed its curriculum to focus on a new kind of Airman — one who is a “warrior first.” The goal is to reinforce war skills training and effectively prepare Airmen for the realities of combat. The enhanced BMT now includes an intense four-day exercise called BEAST, which replicates the sights, sounds, and emotions Airmen will experience in the deployed environment. The Air Force conducts BEAST at the Chapman Training Annex. Instruction focuses on combat and defense skills, field security, battlefield aid, shooting, tearing down and cleaning an M-16 rifle, and operating in an area under simulated attack situations. Following graduation from eight-and-a-half weeks of intense military and academic training, Airmen go to technical training at JBSA-Lackland or elsewhere before their first Air Force assignment. The training groups provide a wide array of technical training for officers, noncommissioned officers, and Airmen.

433rd Airlift Wing

The mission of the 433 AW is to recruit, train, sustain, and provide combat ready resources to the Air Force. The 433 AW, also known as the Alamo Wing, provides the managerial, administrative, and operational requirements necessary to operate 16 C-5M strategic airlift aircraft, which is the world's second largest aircraft. The Galaxy provides strategic airlift to support operations worldwide. The wing also trains all student aircrew and ground personnel on the C-5M and ensures the wartime readiness of approximately 3,300 reservists assigned to 26 units. The 433 AW has supported America's national defense since 1951 and remains active supporting contingency operations from tsunami relief to Operation Iraqi Freedom.

149th Fighter Wing

The 149 FW is an F-16 flying training unit that includes a support group with a worldwide mobility commitment. The cornerstone of the 149 FW's flying mission is the 182 FS, which takes pilots, either experienced aircrew or recent graduates from U.S. Air Force undergraduate pilot training (UPT), and qualify them to fly and employ the F-16 Fighting Falcon jet aircraft. In 2020, the National Guard Bureau announced a state partnership program between the 149 FW and the Egyptian Air Force.

16th Air Force

The 16th Air Force (Air Forces Cyber), which is headquartered at JBSA-Lackland, is the first-of-its-kind Numbered Air Force (NAF). The 16th Air Force was activated on October 11, 2019 and is composed of the former 24th Air Force and 25th Air Force. Also known as the Air Force's Information Warfare NAF, the 16th Air Force integrates multisource intelligence, surveillance, and reconnaissance (ISR); cyber warfare; electronic warfare; and information operations capabilities across the conflict continuum to ensure that the Air Force is fast, lethal, and fully-integrated in both competition and in war. The 16th Air Force provides mission integration of information warfare (IW) at operational and tactical levels. The 16th Air Force commands nine



wings and one center globally with two of the units headquartered at JBSA-Lackland, including the 67th Cyberspace Wing and the 688th Cyberspace Wing.

960th Cyberspace Wing

The 960th Cyberspace Wing (960 CW) is the first and only cyberspace wing in the Air Force Reserve Command. The 960 CW has 16 direct reporting units. While 11 of those units are located throughout the United States, the 906 CW headquarters, 960th Cyberspace Operations Group, 426th Network Warfare Squadron, 50th Network Warfare Squadron, 854th Combat Operations Squadron, and 960th Operations Support Flight are stationed at JBSA-Lackland. The 960 CW missions include full-spectrum cyber-operations; combat communications; command and control of all cyber activities, including defensive cyber-operations (DCO) response actions; and DoD information network operations across Air Force, joint, and partner networks; cyber defense analysis; initial qualifications training for cyber operations across six weapons; and dynamic support to authorized offensive cyber operations.

Special Warfare Training Wing

Special Warfare Training Wing is headquartered at JBSA-Lackland and consists of approximately 135 personnel. The mission of the wing is to select, train, equip, and mentor Airmen through various courses, including advanced training for pararescue, combat rescue officer, combat control, special tactics officer, special operations weather team, tactical air control party, and non-rated air liaison officer career fields. The primary training area for the Special Warfare Training Wing is the small arms range, BEAST area, and EOD training area at Chapman Training Annex.

59th Medical Wing

The 59th Medical Wing provides operational capability through health care delivery, education, training, research, and readiness and offers state-of-the-art medical care for the San Antonio region. The Medical

Wing serves 240,000 beneficiaries at seven locations, including Wilford Hall Ambulatory Surgical Center (WHASC). The unit is the largest medical mobility commitment in the AETC/Air Force Medical Service (AFMS) and maintains approximately 1,250 mobility positions ready to deploy around the world to respond to various humanitarian missions and provide primary staffing for the different contingency operation theaters.

Center of Security Forces Naval Technical Training Center

Naval Technical Training Center (NTTC) Naval Corrections Academy is one of the Navy's largest apprentice schools and is a sub-unit of Center for Security Forces (CENSECFOR) located on JBSA-Lackland. NTTC's Master at Arms (MA) Training program puts approximately 1,700 sailors through a rigorous, seven-week training program at JBSA-Lackland annually. MA Navy specialists provide waterborne and land security, aircraft, and flight line security, perform force protection, physical security, and law enforcement and organize and train personnel in force protection, physical security, law enforcement, and ATPF.

Air Force Installation and Mission Support Center

The Air Force Installation and Mission Support Center (AFIMSC) is responsible for providing installation and mission support capabilities to 77 Air Force installations, nine major commands, and two direct reporting units. The AFIMSC provides globally integrated management, resourcing, and combat support operations; base communications; chaplain; civil engineering; contracting; logistics readiness; public affairs; security forces; and financial management programs. The AFIMSC includes the headquarters at JBSA-Lackland, 10 detachments, and six subordinate units.

Air Force Civil Engineer Center

The Air Force Civil Engineer Center (AFCEC) is a 1,900-person primary subordinate unit of the AFIMSC, Air Force Materiel Command. AFCEC is responsible for providing responsive, flexible, full-spectrum installation engineering services. The center's missions include facility investment planning; design and construction; operations support; real property management; energy support; environmental compliance and restoration; and audit assertions, acquisition, and program management.

Air Force Security Forces Center

The Air Force Security Forces Center (AFSFC) organizes, trains, and equips Air Force security forces worldwide. The AFSFC identifies and delivers emergent and future force protection and force application solutions through modeling and simulation. AFSFC acts as the executive agency for the DoD MWD program. The working dog program, located at JBSA-Lackland, is the largest training center for military dogs and handlers in the world. .

Defense Language Institute English Language Center

The Defense Language Institute is the DoD executive agent responsible for English language training programs worldwide. The institute trains international military and civilian personnel to speak and teach English and manages the English as a second language program for the U.S. military. Annually, 2,500 resident students from more than 100 countries study at the Institute. The campus includes headquarters and academic facilities, a library, dining hall, officer and enlisted quarters, and student administration buildings.

Inter-American Air Forces Academy

The Inter-American Air Forces Academy (IAAFA) educates and trains military and civilian students from across the Americas in 31 technical, professional, operations, and support courses. The IAAFA graduates an average of 800 students a year. The intent of the

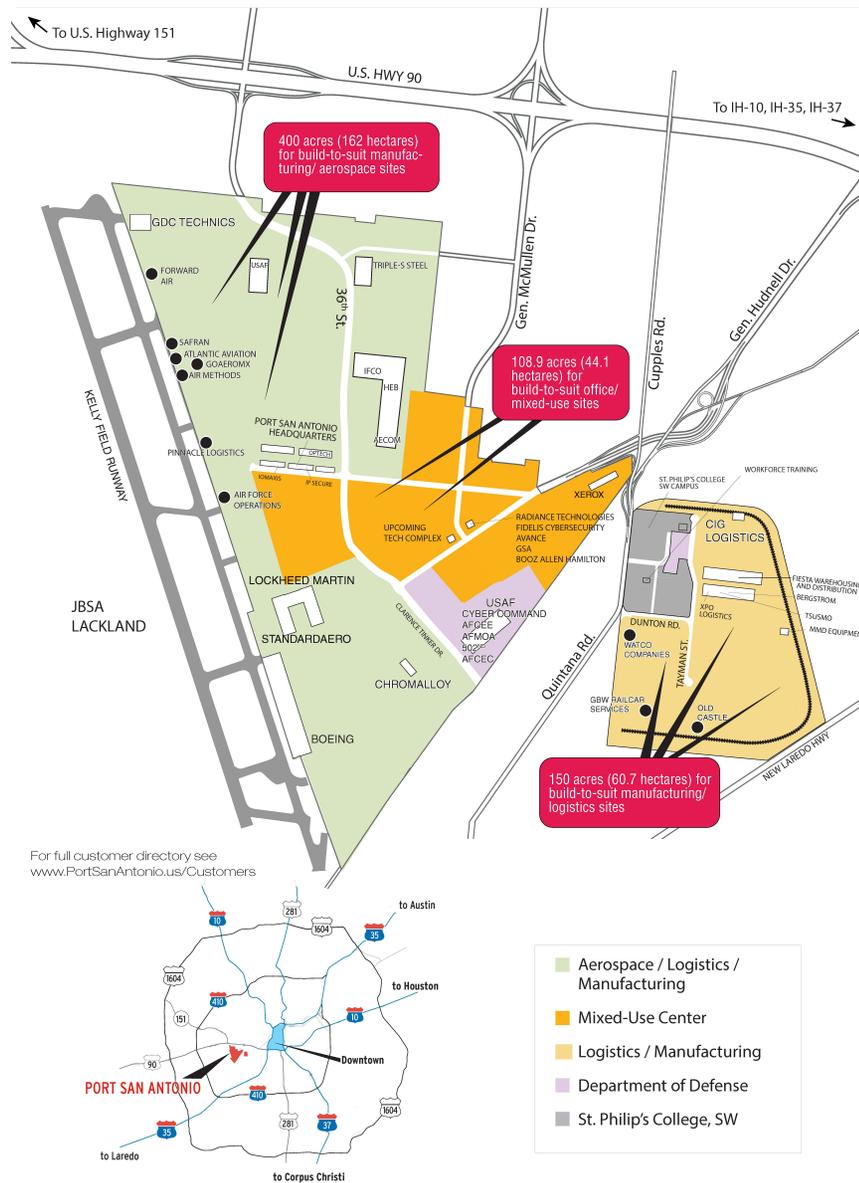
training is to foster collaborative working relationships between the U.S. and its allies and to build a shared vision.

Port San Antonio

The PSA, or the Port Authority of San Antonio, operates an adjacent industrial area that was formerly part of Kelly AFB, and PSA currently has an agreement with the Air Force for joint use of the airfield (see Figure 2-3). As a result of the 1995 BRAC process, 1,876 acres were transferred to PSA for civilian use to support industry and economic growth. PSA is a tax-exempt, self-sustaining enterprise incorporated in 1997 by the City of San Antonio as a separate political subdivision of the State of Texas.

A joint use agreement (JUA) was established in 2001 between the Air Force and PSA, which provided for both military and civilian operations at Kelly Airfield. The JUA was updated in 2013 to allow greater access by civil aircraft and to amend language to make the agreement acceptable to the FAA.

The DoD continues to have a large presence on the property with leases of approximately 200 acres. PSA's office complex provides over 750,000 square feet of strategic facilities that meet ATFP standards and accommodate thousands of uniformed and civilian personnel. The space encompasses the national headquarters for several key Air Force agencies, including the Air Force Medical Operations Agency, AFCEC, and the 16th Air Force Command. The PSA area also includes a multimodal logistics distribution center and aircraft MRO activities by Boeing, Lockheed Martin, and Standard Aero. These activities require shared use of the runway by civil and military aircraft. Air Force personnel — mostly professionals, including cybersecurity specialists, architects, engineers, and attorneys — account for over half of the 14,000 personnel who work at PSA.



For full customer directory see
www.PortSanAntonio.us/Customers

Source: Port San Antonio, 2020

Figure 2-3 Overview Map of Port San Antonio

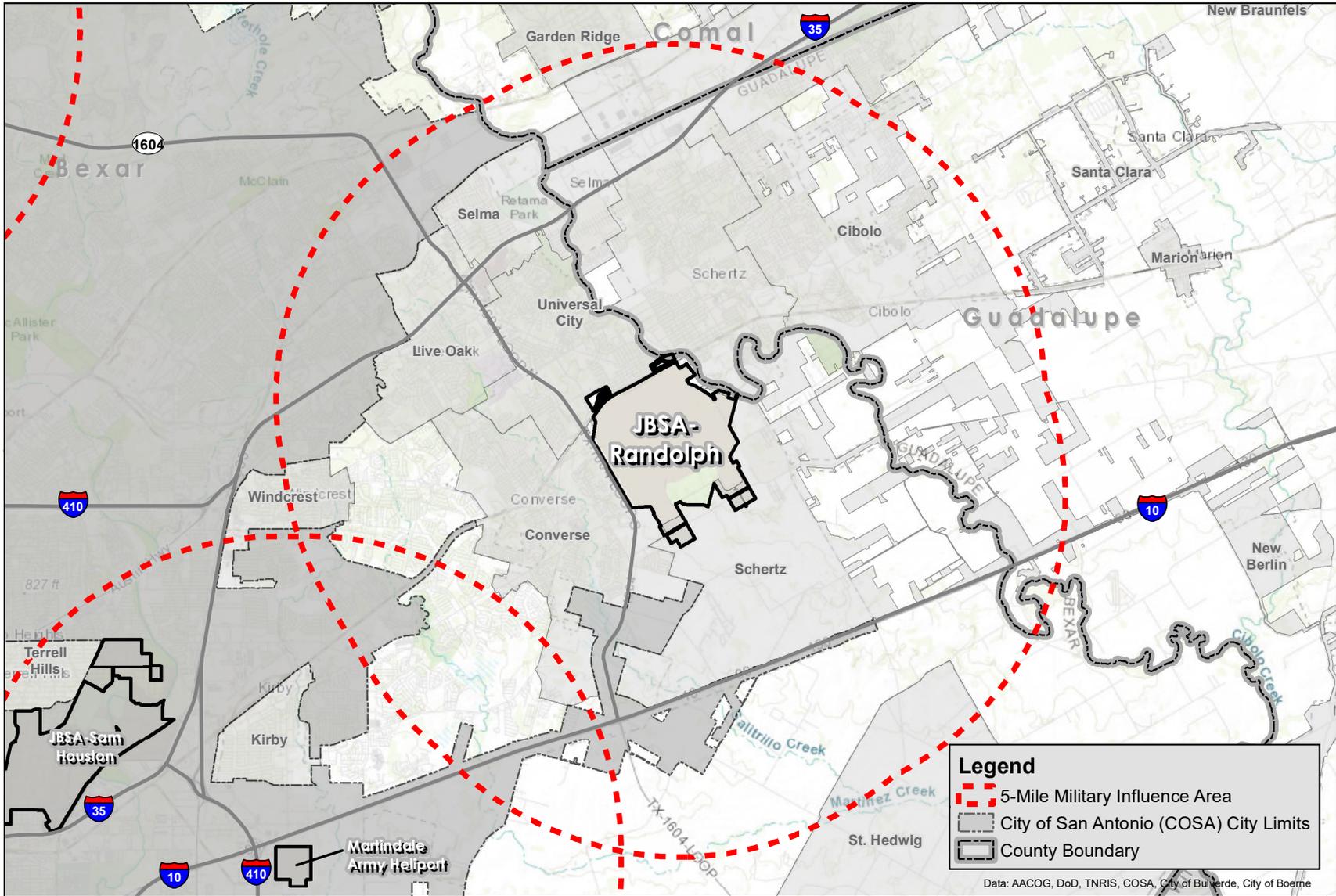
2.4 JBSA-Randolph

Location

JBSA-Randolph is located in Bexar County, 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 cities, including Cibolo, Garden Ridge, Live Oak, and Selma (see Figure 2-4).

History

JBSA-Randolph was founded in 1926, as the Army Air Corps needed a new airfield to accommodate training requirements. The City of San Antonio donated a 2,300-acre tract of land to the Army Air Corps in 1927. JBSA-Randolph received its name in 1931 as a dedication to Captain William Millican Randolph — a member of the installation's naming committee who died in a plane crash. In 1931, the Air Corps Training Center headquarters moved to JBSA-Randolph. On November 2, 1931, primary and basic pilot training for cadets and student officers began. Primary training courses continued until 1939, when the mission of JBSA-Randolph changed to basic pilot training. In March of 1943, the Central Instructor School was established, and the cadet pilot training program was replaced by pilot instructor training. In 1947, the Air Force became a separate service from the Army Air Forces. Likewise, after BRAC occurred in 2005, the DoD implemented joint basing within the region and combined the installation support functions to create the 502 ABW, which now provides installation support across all JBSA installations. However, the 502 ABW and the 12th Flying Training Wing (12 FTW) share the responsibility of protecting the JBSA-Randolph's flying mission.



**JBSA-Randolph
Military Influence Area**

0 2 4 Miles

Figure 2-4.

**JBSA
REGIONAL
COMPATIBLE USE PLAN**

Matrix

AACOG
Alamo Area Council
Of Governments



Facilities

Runways

The airfield is equipped with two Class B parallel runways running northwest/southeast on opposing sides of the base perimeter. Class B runways are primarily used by large, heavy, and high-performance aircraft. The airfield operates Monday through Friday from 7:00 a.m. to 7:00 p.m. and on Sunday from 1:00 p.m. to 4:00 p.m. and is closed on Saturday and federal holidays. Current hours of operation and the schedule for weekend hours or holidays are published by the DoD or FAA in Notices to Airmen. Extenuating circumstances can result in extended operating hours or suspended operations. The airfield may be temporarily closed in consideration of landing area conditions, crash crew equipment availability, status of navigational aids, and severe weather conditions.

Runway 15L/33R

This runway is 8,351 feet long and 200 feet wide and runs along the northeastern border of JBSA-Randolph. The overruns at each end of the runway are 1,000 feet long. This runway has a high-intensity approach lighting system with centerline sequenced flashers.

Runway 15R/33L

This runway is 8,352 feet long and 200 feet wide and runs along the southwestern border of JBSA-Randolph. This runway has precision approach path indicators.

Operational Support Facilities

Support facilities at JBSA-Randolph include a variety of facilities. Arguably the most important facilities are the many hangars located next to the parking apron that connects to the two runways. Other facilities that support maintenance and operations of the aircraft include trim pads, a test cell, T-38 suppressor, and a hush house.

Cantonment Area

The cantonment area at JBSA-Randolph includes a variety of facilities meant to maintain Airmen and their families. The facilities include military dorms, schools, commissary, Army and Air Force Exchange Service exchange, medical clinics, fitness centers, transient lodging, security facilities, and sports fields.

Current Mission and Operations

The 12 FTW, the host unit at JBSA-Randolph, conducts training for undergraduate pilots, 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 12 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 12 FTW Operations Group in accordance with the JBSA-Randolph Noise Management Plan.

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 12 FTW for training. In addition to flying training mission, the 12 FTW provides repair or replacement of external parts on aircraft engines from aircraft at JBSA-Randolph and other Air Force installations.

In 2019, JBSA-Randolph completed 212,600 flight operations, making it the busiest towered operation within the U.S. Air Force for nine years running and over 50,000 operations more than the next closest airfield.

Future Operations

To enable the U.S. Air Force to train in a new two-seat jet trainer, the Air Force is scheduled to bed-down the new T-7A Red Hawk at JBSA-Randolph by 2023. The T-7A aircraft will replace the aging T-38 Talon trainer. The new T-7A 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. The T-7A will also have more advanced information systems capability over the T-38. While specific noise data has not been modeled, the T-7A is anticipated to have a larger noise profile than the T-38. This could result in increased impacts on the communities surrounding the JBSA-Randolph airfield. Additionally, with an increased data link requirement, there may be line-of-sight considerations for the new T-7A.

Units

12th Flying Training Wing

The 12 FTW is comprised of three flying groups and a maintenance group, including the 12th Operations Group (12 OG) and the 12th Maintenance Group (12 MG), which are both located at JBSA-Randolph. The 12 FTW oversees four single-source aviation pipelines, including combat systems officer training, pilot instructor training, remotely piloted aircraft (RPA) pilot training, and basic sensor operator qualification. The 12 FTW collaborates with the 502 ABW in protecting mission space for flight operations. The 12 FTW also has two geographically separated units: the 306th Flying Training Group at the Air Force Academy in Colorado Springs and the 479th Flying Training Group at Naval Air Station Pensacola. The 12 FTW also hosts the Introduction to Fighter Fundamentals (IFF) program, UPT, and conducts electronic warfare training for the Air Force and multinational forces.

12th Operations Group

The 12 OG has many responsibilities, including overseeing pilot instructor training, IFF student and instructor training, weapons systems officer training, and RPA pilot and basic sensor operator training. The 12 OG is made up of the 12th Operations Support Squadron (12 OSS), the 99th Flying Training Squadron (99 FTS), 435th Fighter Training Squadron (435 FTS), 558th Fighter Training Squadron (558 FTS), 559th Fighter Training Squadron (559 FTS), and 560th Fighter Training Squadron (560 FTS).

The 99 FTS, 559 FTS, and 560 FTS conduct pilot instructor training in the T-1, T-6, and T-38 aircraft. The 99 FTS also has the responsibility of conducting UPT. The 435 FTS completes IFF training in the T-38 Talon only. The 558 FTS has the Air Force's only undergraduate remotely piloted aircraft training program and provides three different courses for officers and enlisted airmen.

12th Operations Support Squadron

The 12 OSS is responsible for airfield management, ATC, airspace management, simulator training, scheduling, flight records, registrar, weather, international training, and aircrew flight equipment for all 12 OG training.

12th Maintenance Group

The 12 MG provides on- and off-equipment support for 187 aircraft assigned to JBSA-Randolph and Naval Air Station Pensacola.

359th Medical Group

The 359th Medical Group provides complete medical and health services for current Air Force servicemembers and their dependents at JBSA-Randolph and to veterans within the San Antonio region.



Air Education and Training Command

The AETC is charged with the mission to recruit, train, and educate Airmen to deliver airpower to America. AETC is headquartered at JBSA-Randolph and includes Air Force Recruiting Service and the Air University. AETC has 16 active-duty wings and seven Reserve wings and operates across 12 major installations throughout the United States and many support tenant units around the world.

Air Force Personnel Center

The Air Force Personnel Center (AFPC) provides personnel support services and programs for active-duty and retired military personnel and their dependents and civilian Air Force personnel. While headquartered at JBSA-Randolph, AFPC is responsible for the personnel operations of 1.77 million Airmen, retirees, and dependents around the world.

Reserve Units

JBSA-Randolph is utilized by three different Air Force Reserve units, including the 39th Fighter Training Squadron (39 FTS), the 340th Fighter Training Group (340 FTG), and the 415th Flight Test Squadron (415 FLTS). The 39 FTS and 340 FTG are responsible for the training and provision of a reserve of instructor pilots to supplement the AETC instructor cadre if there is a requirement for mobilization. The 415 FLTS ensures the T-38 aircraft is airworthy after any major maintenance is performed on the aircraft at JBSA-Randolph.

2.5 Seguin Auxiliary Airfield

Location

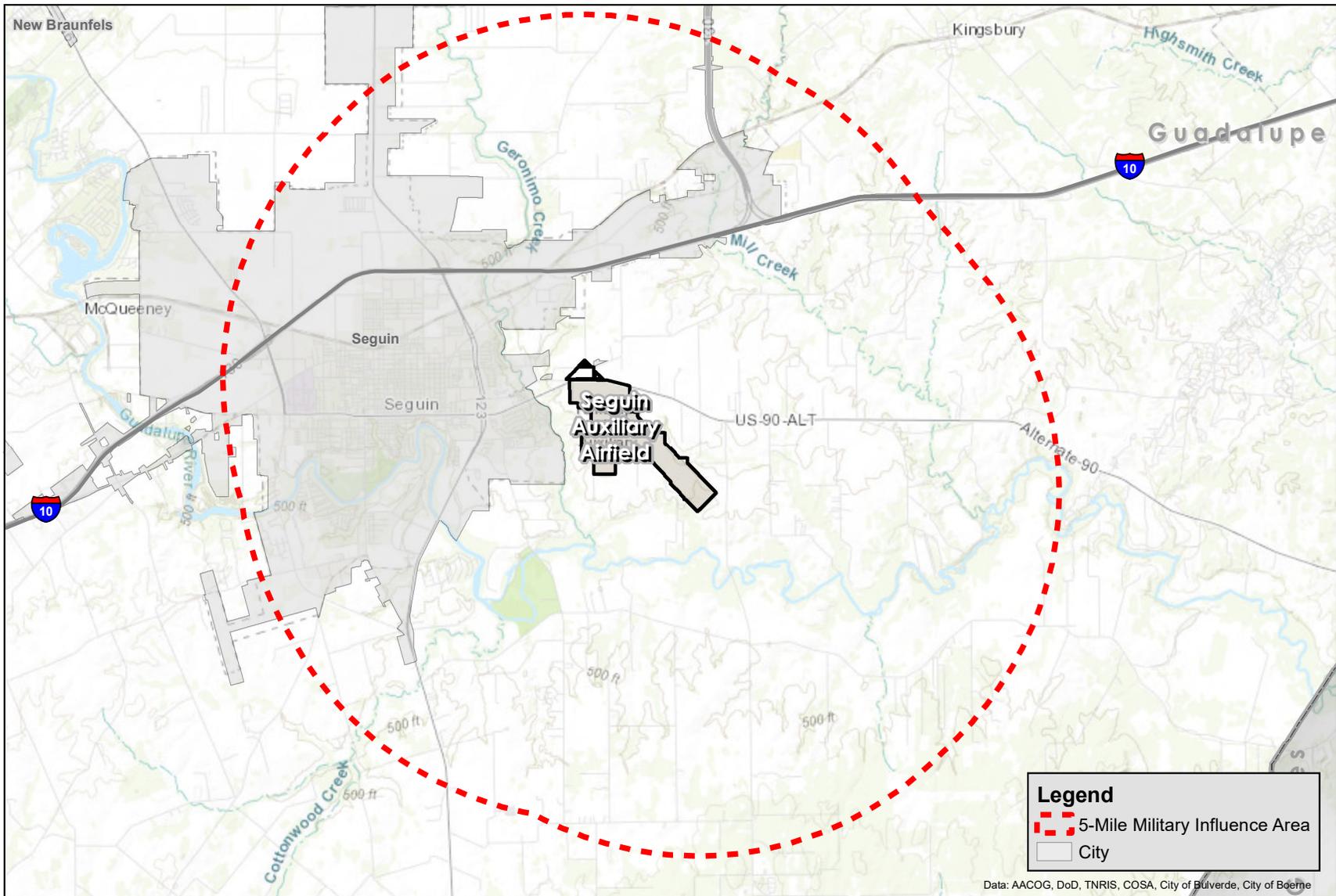
SAAF is centrally located in Guadalupe County, three miles east-southeast of the City of Seguin and almost 27 miles east of JBSA-Randolph. The airfield has one runway and covers 961 acres (see Figure 2-5), and it is an unattended airport and restricted to use by the military; authorization is required prior to landing at the airfield. The infrastructure and environs at SAAF are the responsibility of JBSA-Randolph.

History

SAAF was built in 1941 and originally had three runways to serve as an auxiliary training field for Randolph Army Airfield. In 2012, the airfield temporarily closed for renovations that included the removal of two abandoned runways and widening of the remaining runway. In 2015, the airfield was reopened. The 560 FTS is the primary user of SAAF and uses the field for most of its touch-and-go training.

Facilities

SAAF consists of one runway, one taxiway, one ramp, a fire station, and two runway supervisory units (RSU). The runway is a Class B runway, designated as Runway 13/31, and measures 8,350 feet long and 150 feet wide.



Seguin Auxiliary Airfield Military Influence Area



0 1 2 3 Miles

Figure 2-5.





Current Mission and Operations

JBSA-Seguin supports the flight instruction training mission and UPT 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 SAAF in 2015, and the airfield is operational to support the flight instruction training mission. The airfield operates sunrise to sunset Monday through Friday and is closed on weekends and federal holidays. However, SAAF is occasionally in use on weekends to support the training mission.

FEMA and DLA use the airfield as an incident support base in times of natural disasters, such as Hurricane Harvey relief efforts in 2017.

Future Operations

Like JBSA-Randolph, starting in 2023, the new T-7A aircraft is anticipated to begin utilizing SAAF for training operations, which could expand the noise footprint at SAAF due to the larger noise profile than the T-38.

Units

Seguin Auxiliary Airport has no units stationed at the airfield. The facility is an unattended airport and restricted to military use.

2.6 Martindale Army Heliport

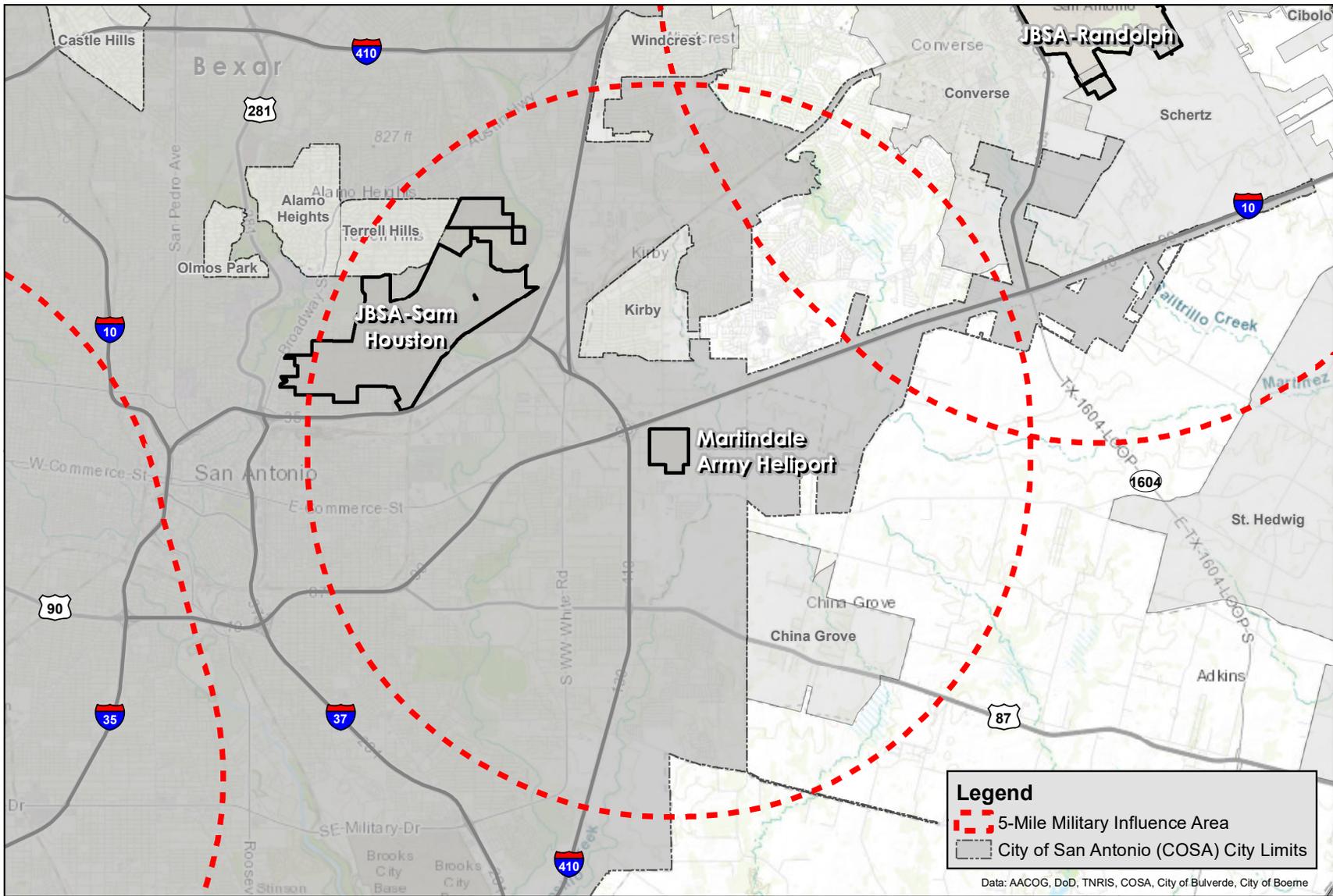
MAHP is a TXARNG installation housing an aviation company and two units that are part of a TXARNG Aviation Support Battalion. While the installation is a part of the TXARNG, one of the units that is housed at MAHP has developed a strong and mutually beneficial relationship with JBSA units. Trainees from JBSA primarily utilize the rotary wing aircraft for medical training while the TXARNG pilots are able to conduct more realistic MEDEVAC training on a more frequent schedule.

Location

MAHP is located southeast of the interchange of I-10, east, and Interstate 410 (I-410), east, within the City of San Antonio. The installation is generally located within the eastside of San Antonio municipal boundary. The installation is located entirely within Bexar County and is within a mile south of the City of Kirby (see Figure 2-6).

History

MAHP is a 218-acre TXARNG facility that has operated in San Antonio under the jurisdiction of the Texas National Guard since the 1950s. The airfield was originally founded as a part of many training bases during World War II in support of pilot training at Randolph AFB. The airfield's primary mission is to support and maintain rotary wing aircraft for the TXARNG and TMD; however, the facility also has an important rotary wing refueling capability for the region and State of Texas. The installation is currently home to three units from the TXARNG.



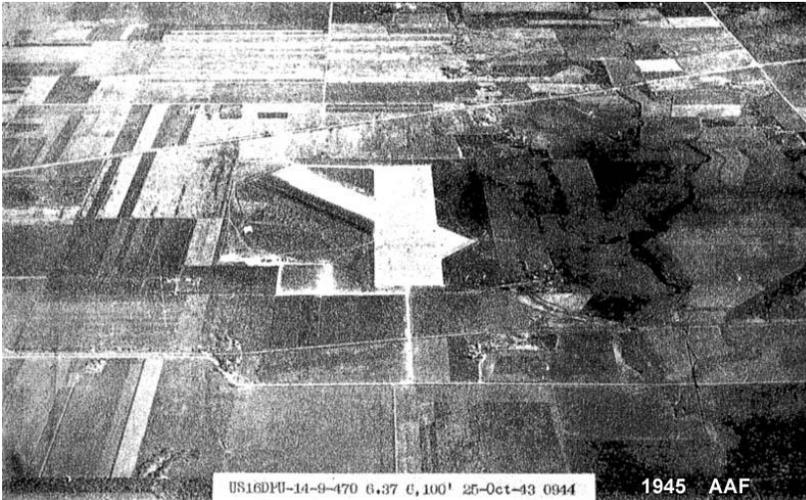
Martindale Army Heliport Military Influence Area



0 1 2 3 Miles

Figure 2-6.





Source: MAHP
Aerial view of Martindale Army Heliport from 1945



Source: MAHP
Aerial view of Martindale Army Heliport from 2012

Military Strategic Importance

MAHP is a TXARNG facility that supports 10 UH-60 Blackhawk helicopters through maintenance, training, and logistical support. Currently, the airfield supports almost half of all the Blackhawk helicopters in the TXARNG. While supporting the State's mission set, the aircraft and personnel have a multitude of missions, which include humanitarian assistance/disaster relief, medical support, and homeland security. Additionally, when activated to federal service, the personnel and aircraft can serve a variety of roles, including MEDEVAC, reconnaissance, command and control, and troop transport.

MAHP's UH-60 Blackhawks support missions for many training personnel across JBSA. The aircraft support flight medicine training at JBSA-Camp Bullis, JBSA-Fort Sam Houston, JBSA-Lackland, and JBSA-Randolph. Additionally, some Army South (ARSOUTH) personnel utilize support from MAHP for MEDEVAC training. If support for MEDEVAC training from MAHP was unavailable, aircraft would have to originate from Fort Hood.

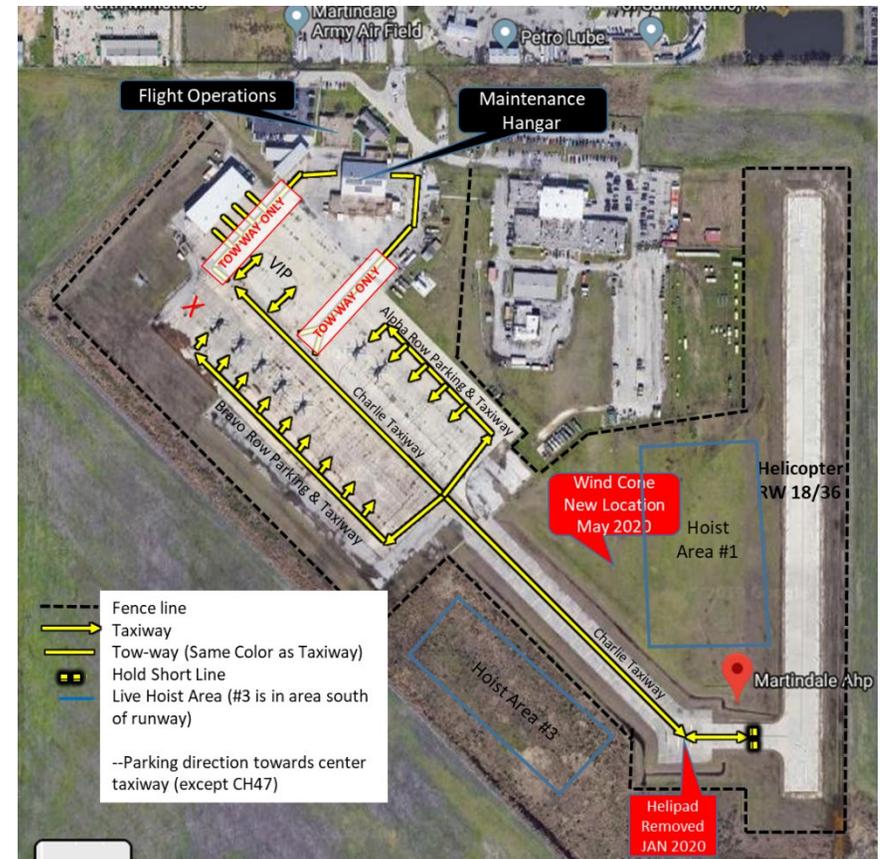
Facilities

MAHP has many different facilities to support the aviation requirements of the TXARNG and TMD. The facilities include structures used for administration; aircraft support facilities, such as fuel storage and refueling equipment; a runway; tarmac two hangars; and a motor pool for the aviation support equipment.

MAHP includes several buildings being used for administrative purposes. Additionally, the installation has a flight operations building located next to the maintenance hangar. This building includes the flight communication equipment required for safe and efficient communication with rotary wing aircraft in the area. Important aircraft support facilities include the installation's fuel storage capabilities and refueling equipment for jet fuel, Jet A type aviation fuel, which allows the installation to support transient aircraft. This support is an

important capability for the region and the State of Texas, especially when responding to emergency and recovery operations or when operations are staged out of MAHP, which occurred during and after Hurricane Harvey in 2017.

Other important facilities include the capability to place six UH-60s in two separate hangars (one hangar with four spaces and one hangar with two spaces), space to park 18 rotary wing aircraft on the tarmac, and an active runway — Runway 18/36. In 2010, Runway 18/36 was built and is currently 1600 feet long by 75 feet wide and is made of concrete.



Source: MAHP

Figure 2-7 Martindale Army Heliport Ramp and Parking Procedures



Current Mission and Operations

Martindale Army Heliport Mission

Units stationed at MAHP have a mission that is threefold. Therefore, the heliport must be prepared to support the TXARNG's MEDEVAC assets and maintain readiness to respond to state and federal missions.

State Missions

Missions from the State of Texas come in a variety of types. The State missions include humanitarian assistance/disaster relief (e.g., hurricanes, flooding, wildfires, ice storms), medical support (e.g., Operation Lone Star, rabies eradication), supporting at-risk youth programs (e.g., ChalleNGe/STARBASE), and supporting the DHS (e.g., border/shore/highway defense, Operation Border Star — Law Enforcement Agencies, counter drug aviation).

Federal Missions

The TXARNG, like in other states, can be activated through Title 10 status, which effectively “federalizes” the National Guard units. This status places the units under the control of the Secretary of Defense and the President of the United States. When this occurs, the National Guard units from MAHP may deploy to support emergency or contingency operations throughout the United States and the world. Most recently, Company C, 2-149 Aviation was deployed to Afghanistan in support of Operation Enduring Freedom in 2012.

Martindale Operational Footprint

MAHP's operational footprint is mostly confined to the area near the installation's traffic pattern and commonly used routes to travel between MAHP and JBSA-Camp Bullis. However, depending on operational requirements from the state or federal government, routes may need to be changed, and the operational footprint may change based on need.

Operations

The TMD provides mission direction at MAHP. These TXARNG units stationed at MAHP schedule training, carry out maintenance requirements, and provide logistical support to other rotary aircraft. Additionally, the full-time staff provide fueling support to other TXARNG aircraft who land at MAHP, and the airfield serves as a staging area when conducting disaster response and recovery operations.

Rotary wing operations occur from 10:00 a.m. to midnight every Monday through Friday and one weekend a month, known as a drill weekend, throughout the year. The typical training pattern averages 32 flights per week and an additional 72 flights during a drill weekend. Annually, the installation averages approximately 1,000 arrivals and departures. Flight training is conducted in a box pattern around the Rosillo Creek tract, immediately east of the heliport. Training with UH-60 aircraft includes low altitude flying, extensive hovering, night flying with NVDs, and loud noises within the flight pattern. Additionally, the aviation unit will train extensively with the bambi bucket, a bucket suspended from cables attached to a helicopter that is used to deliver water for aerial firefighting, in the southeastern portion of the installation where there is a pond to support training. If there are state emergency operations, flights may occur as the mission dictates.

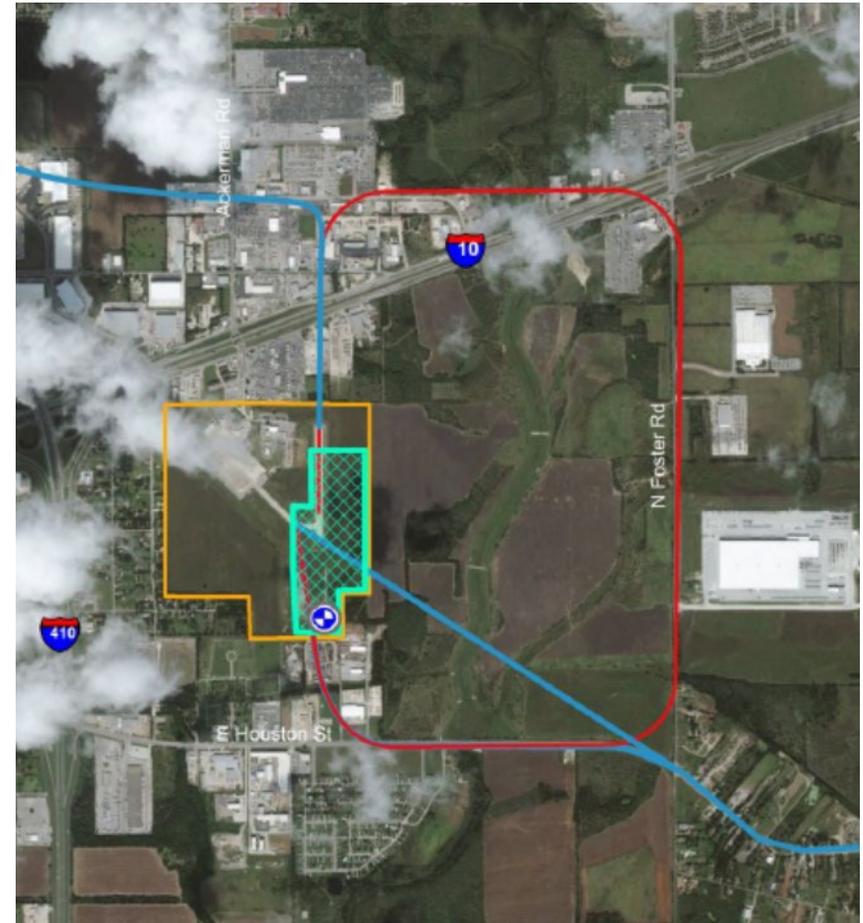
Traffic Pattern

The traffic pattern aircraft utilize around MAHP is generally rectangularly shaped, with the westernmost portion of the traffic pattern originating and culminating at the installation (see Figure 2-8). The route is approximately five miles long. The direction of travel within the traffic pattern is wind dependent and is either clockwise or counterclockwise. Altitudes within the traffic pattern vary based on departure and arrival. The location of takeoff on the runway may dictate the takeoff altitude; however, aircraft must meet a minimum of 30 feet above ground level (AGL) prior to clearing the cross fence that is located around the runway. Another part of the traffic procedures includes a notice to operators that when weather does not allow aircraft to reach 1500 feet mean sea level (MSL), operators should maintain cloud clearances with their aircraft.

The image on the right depicts the traffic pattern that flies predominately used over open space, commercial, industrial, and some residential land uses. However, the area east of Rosillo Creek and northwest of the intersection of North Foster Road and East Houston Street is zoned as residential mixed district (RM-4), which can include the following uses:

- Single-family dwellings (detached, attached, or townhouse)
- Two-family dwellings
- Three-family dwellings
- Four-family dwellings
- Row-house or zero-lot line dwellings
- Accessory dwellings

Dwellings in this district must have a minimum lot size of 4,000 square feet and a minimum lot width of 15 feet. Additionally, public and private schools are a permitted use within this zoning district.



Source: Martindale Army Heliport
MAHP traffic pattern is in red and the MAHP installation boundary is in orange

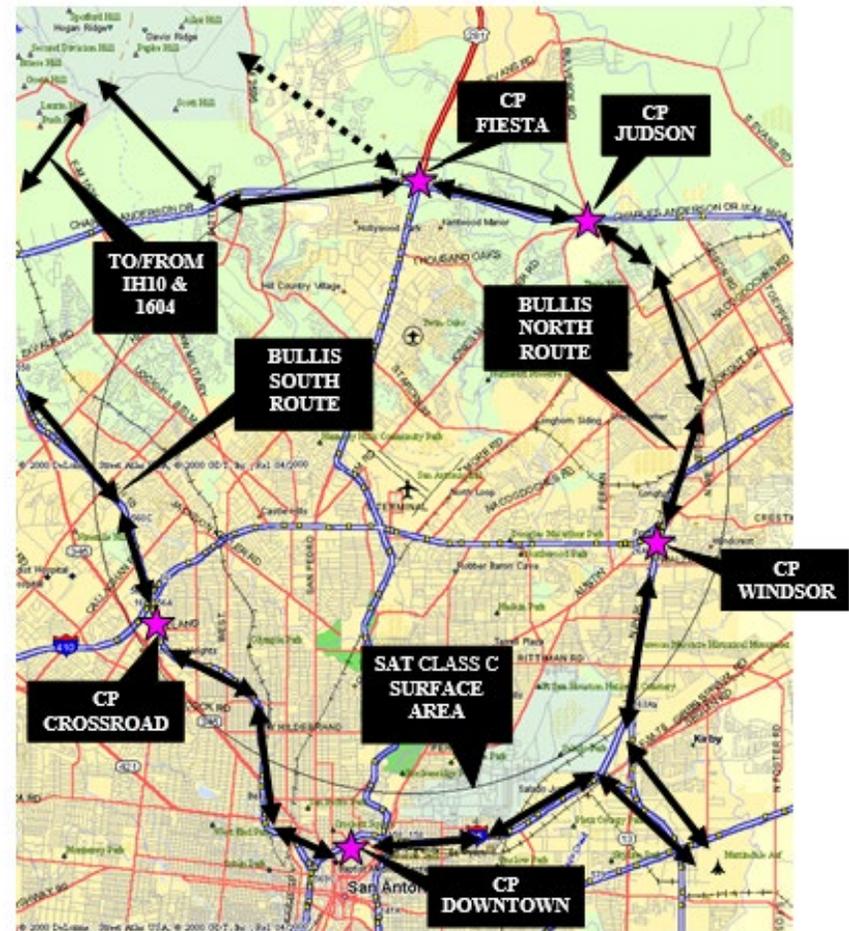
Figure 2-8 MAHP Traffic Pattern

Routes

Camp Bullis Routes

There are two typical routes that aircraft from MAHP use to travel between MAHP and JBSA-Camp Bullis. The Bullis North Route starts at MAHP and generally follows I-410 north until it veers north at Weidner Road and Lookout Road. The route then takes a north-northwestern turn. At this point, the route begins to travel west along Farm to Market Road (FM) 1604/East Charles William Anderson Loop until it reaches U.S. Highway 281 (U.S. 281). The route then veers toward JBSA-Camp Bullis or until it reaches Bitters Road and FM 1604 and then veers towards JBSA-Camp Bullis.

The other route, Bullis South Route, begins by travelling northward along I-410 until it reaches I-35. The route then follows I-35 southwest until it reaches I-10 when the route then veers north along I-10 until it reaches the intersection of FM 1604 and I-10. At this point, aircraft traveling along this route then veer towards their destination at JBSA-Camp Bullis. When travelling either of these routes, operators of rotary wing aircraft shall maintain at or below 1,900 MSL, with the goal to be as high as possible. Both routes can be viewed in Figure 2-9. Both routes may be traveled to or from JBSA-Camp Bullis.



Source: MAHP Procedures, September 2020

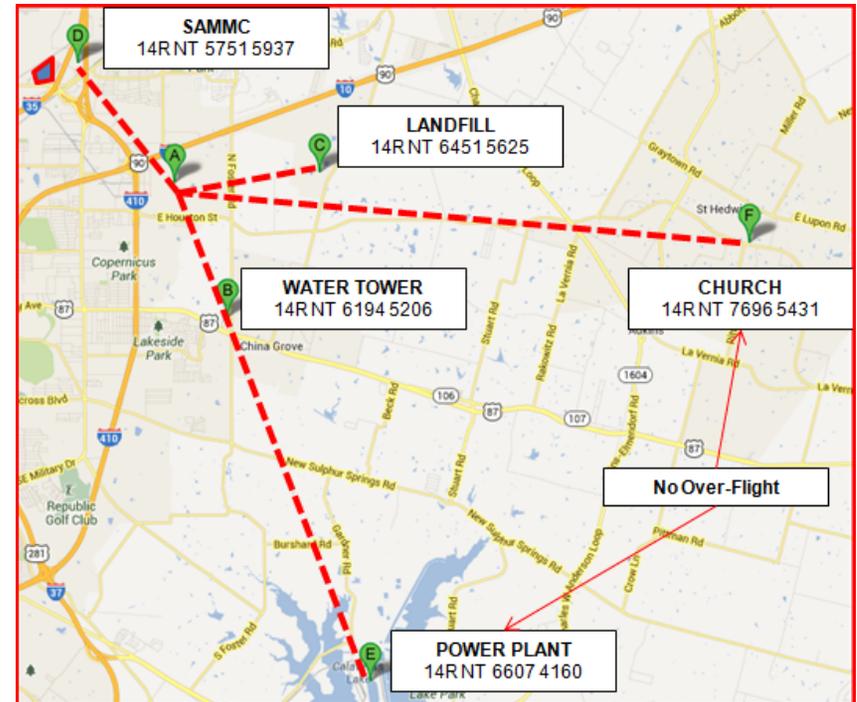
Figure 2-9 Martindale Army Heliport Bullis North and South Routes

Arrival/Departure Routes

MAHP has four arrival and departure routes. These routes are from the northwest, east-northeast, east, and south-southwest. The northwest arrival/departure route is from the interchange of Loop 410 and I-35. This arrival/departure route is within the same route of Bullis North/South Routes and is given the name of the San Antonio Military Medical Center (SAMMC) arrival/departure.

The east-northeast arrival/departure route is named “Landfill” as it flies over the Republic Services Tessman Road Landfill. The third arrival/departure route named “Church” is located east of the installation and has the landmark of Annunciation Catholic Church in Saint Hedwig. Lastly, the south-southwest approach generally comes from the Calaveras Power Plant located in Calaveras Lake and approaches MAHP in line with the water tower located in the north of U.S. Highway 87 (U.S. 87) and South Foster Road.

As described in Figure 2-10, neither the Calaveras Power Plant nor Annunciation Catholic Church can be over flown.



Source: MAHP Procedures, September 2020

Figure 2-10 Martindale Army Heliport Arrival/Departure Routes



Future Operations

There is potential for an upgrade to the current aircraft or an entirely new outfitting of aircraft at MAHP. These aircraft could include newer versions of the UH-60 Blackhawk or an aircraft like an MV-22 Osprey with vertical takeoff and landing capabilities. The changes in the type of aircraft at MAHP could increase the current noise footprint dramatically, which could impact the communities that are located and developing around MAHP.

Units

Three units utilize MAHP: Company C, 2-149 Aviation; the Headquarters and Support Company; and Company A of the 449th Aviation Support Battalion. All three units are a part of the TXARNG.

Company C, 2-149 Aviation

Company C, 2-149 Aviation is composed of 12-UH-60 Blackhawk helicopters and 62 personnel. The units are authorized 15 UH-60 aircraft but currently have 12. The unit's primary mission is to support the TXARNG's MEDEVAC requirements while maintaining the highest levels of readiness for state and federal missions. The aviation unit assists the State of Texas with civil support of local agencies during domestic emergencies, including wildfire suppression, flood rescue operations, humanitarian aid, and disaster relief. Additionally, the unit provides MEDEVAC training for enlisted and officers from JBSA.

Aviation Support Companies

The Headquarters and Support Company and Company A of the 449th Aviation Support Battalion utilize facilities on MAHP. The two companies' main mission is to conduct full-spectrum aviation support operations for the 36th Combat Aviation Brigade (CAB) and play a major role in the TMD mission to conduct defense support to civil authorities (DSCA) within the United States and support state and federal agencies as directed. The companies utilized structures at

MAHP for administrative purposes and a structure for maintenance activities. The companies also utilize a large portion of their space for vehicle and equipment storage and for a motor pool.



3

Regional Compatibility Assessment



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Chapter 3 assesses new and emerging issues discovered within the JBSA RCUP Study Area. The assessment utilized information compiled as part of the RCUP through contributions from stakeholders and information that was researched as new and emerging issues were discovered. This assessment was used in the development of the recommendations and strategies to address these issues and minimize or mitigate the impacts from these issues within the region.



3.1 Compatibility Factors Overview

In relation to military readiness, compatibility can be defined as the balance or compromise between community and military needs and interests. The goal of compatibility planning is to promote a collaborative environment in which both community and military entities communicate and coordinate in the identification and implementation of mutually-supportive actions that allow both parties to achieve their objectives. This collaborative approach will provide the context in which policies and actions are developed and recommended in the RCUP Implementation Plan.

Several variables determine whether military and community plans, programs, and activities are compatible or in conflict. For the JBSA RCUP, 25 compatibility factors, or general types of compatibility problems (Figure 3-1), were used to identify, assess, and establish the specific set of compatibility issues that are occurring in the Study Area.

A compatibility issue is defined as something that impacts, hinders, or presents an obstacle to either the military mission(s) or to nearby communities and that requires an action to be resolved or effectively mitigated. This chapter provides an assessment of each compatibility issue that was identified for the JBSA RCUP. The issues are evaluated in terms of the existing or potential impacts they have or may have on the military and/or surrounding communities and in terms of the severity of those impacts.

Each compatibility issue is identified under one of the 25 compatibility factors, and this chapter is organized alphabetically by the compatibility factors that had issues associated with them. For example, compatibility issues were identified for the Biological Resources factor. These issues are identified with the alpha-numeric code BIO-1 and BIO-2 whereas BIO is the abbreviation for the Biological Resource factor, and 1 and 2 identify them as the first Biological Resource issue and second Biological Resource issue.



Figure 3-1 Compatibility Factors used to Assess Issues within the Study Area

3.2 Compatibility Factor Evaluation

Methods

This section outlines the methodology that was used in assessing the 25 compatibility factors for compatibility issues of specific concern for JBSA, MAHP, and surrounding communities.

The assessment of compatibility issues consisted of a comprehensive and inclusive discovery process to identify significant stakeholder issues relative to the 25 compatibility factors. Due to the number of stakeholders, two separate groups were interviewed at the beginning of the project. One group was interviewed in January of 2020 and the other group in February of 2020. Additionally, follow-up interviews and rescheduled interviews took place virtually after the initial two sets of interviews were completed. Each interview with key stakeholders discussed the RCUP process and identified any compatibility issues the stakeholder felt existed or could exist in the future. The following stakeholder groups participated:

- JBSA
 - 502 ABW/CI
 - JBSA-Camp Bullis
 - JBSA-Lackland
 - JBSA-Randolph
- Texas Army National Guard
 - Martindale Army Heliport
- Cities
 - City of Boerne
 - City of Bulverde
 - City of Cibolo
 - City of Converse
 - City of Fair Oaks Ranch
 - City of Helotes
 - City of Kirby
 - City of New Braunfels
 - City of San Antonio
 - City of Schertz
 - City of Seguin
 - City of Selma
 - City of Shavano Park
 - City of St. Hedwig
 - City of Universal City
- Counties
 - Bexar County
 - Kendall County
- Regional agencies and authorities
 - CPS Energy
 - Guadalupe-Blanco River Authority
 - Port San Antonio
 - San Antonio River Authority
 - San Antonio Water Supply
- Regional organizations
 - Alamo Area Metropolitan Planning Organization
- Economic development and real estate development organizations
 - City of Converse Economic Development Corporation
 - City of San Antonio Office of Economic Development
 - Grace PG Group
 - Real Estate Council San Antonio
 - San Antonio Board of REALTORS
 - San Antonio Chamber of Commerce
 - Vickrey & Associates
- Elected officials
 - Office of City of San Antonio City Council District 4 Councilmember Dr. Adriana Rocha Garcia
 - Office of City of San Antonio City Council District 10 Councilmember Clayton Perry
 - Office of State Senator Jose Menendez, District 26
- Conservation groups
 - Compatible Lands Foundation
 - Greater Edwards Aquifer Alliance
 - Green Space Alliance



Additional compatibility issues were identified through meetings with the RCUP Policy Committee (PC) and Technical Working Group (TWG) and based on the technical evaluation and experience of the project consultant. Opportunities for additional stakeholder input were provided on the project website and at other stakeholder events throughout the project.

The development of strategies that address the identified compatibility issues (see Chapter 4 Implementation Plan) was both directly and indirectly affected by the evaluation process. Issue assessment included determining the severity of each issue's impact(s) on both the missions at JBSA and MAHP and the quality of life of residents in the region. The severity of impacts was also used to help prioritize implementation.

When reviewing the assessment information that is provided in this chapter, it is important to note the following:

- This assessment is not designed or intended to be utilized as an exhaustive technical evaluation of existing or future conditions within the RCUP Study Area.
- Of the 25 compatibility factors considered, 10 were determined to be inapplicable to this RCUP based on a lack of associated issues, stakeholder/public input, and RCUP team experience. The 10 inapplicable factors include the following:
 - Air Quality
 - Anti-Terrorism/Force Protection
 - Changing Climate
 - Cultural Resources
 - Dust/Smoke/Steam
 - Frequency Spectrum Capacity
 - Public Services
 - Public Trespassing
 - Scarce Natural Resources
 - Vibration

3.3 List of Current and Emerging Issues

The following is the list of new and emerging issues for the JBSA RCUP. This list may change as more information on issues is gained and/or the JBSA RCUP TWG or PC find an issue no longer meets the criteria required to be a part of this RCUP.

Table 3-1 New and Emerging Issues

| ISSUE ID | ISSUE STATEMENT |
|----------|--|
| BIO-1 | Military activities and community development may impact wildlife on military installations. |
| BIO-2 | Installations can become refuges for wildlife that can impact communities surrounding installations. |
| COM-1 | Need for greater coordination and standardized development review process. |
| COM-2 | Need for formalized communication between the military and surrounding jurisdiction staff to facilitate early awareness of planning issues and opportunities prior to transmittal of development applications for military review. |
| COM-3 | Need for a designated community point-of-contact (POC) at JBSA and MAHP to facilitate proactive information-sharing and awareness with surrounding jurisdictions on compatibility planning issues. |
| COM-4 | Protecting land around military installations through acquisition, easements, land use buffers, and other partnering initiatives is a worthwhile but often complex process. |
| COM-5 | Need for detailed economic impact data that are inclusive of all military installations in the RCUP to quantify the importance of the military to the region. |

(Table 3-1 New and Emerging Issues Continued)

| ISSUE ID | ISSUE STATEMENT |
|----------|--|
| COM-6 | Delayed execution of memorandums of agreement (MOA) for coordination between JBSA and surrounding jurisdictions. |
| ED-1 | Potential for industrial-scale wind energy development that is incompatible with military missions. |
| FSI-1 | Concern for future frequency interference on new aircraft at JBSA-Randolph. |
| HA-1 | Need for communities surrounding JBSA installations and MAHP to support military personnel housing needs and quality of life standards for servicemembers and their families. |
| IE-1 | Proposed new highway construction near JBSA and MAHP installations will increase the likelihood of future development near the installations. |
| IE-2 | Potential for development-related growth west toward Castroville in Medina County and to the northwest Hill Country will impact JBSA. |
| LAS-1 | Concern for the potential future impacts of aircraft serving long-leg international routes from SAT on regional airspace used by the military. |
| LAS-2 | Unregulated UASs pose a safety concern to military aircraft and create security issues for military installations. |
| LEG-1 | JLUSs are referenced under Texas annexation law. As “Compatibility Use Plan” is not specifically referenced, this plan will not automatically be applicable to Texas annexation law. |



(Table 3-1 New and Emerging Issues Continued)

| ISSUE ID | ISSUE STATEMENT |
|----------|---|
| LEG-2 | State law requires resold homes to include a disclosure that explains the home “may be affected by high noise or air installation compatible use zones or other operations.” However, disclosures are not required for new home sales. |
| LG-1 | Development around JBSA and MAHP has increased over the past few years and is projected to continue. Vertical development incorporating red LED lights and light pollution can create safety issues for the military when utilizing night vision equipment during training. |
| LG-2 | Regional street lighting and other utility energy saving programs are not aligned with dark skies policy and do not address glint and glare from residential solar arrays. |
| LU-1 | Development around JBSA installations is affecting drainage and runoff, which causes flooding near and on the installations. |
| LU-2 | Fragmented ability to implement land use controls surrounding JBSA installations and the MAHP. |
| NOI-1 | Incompatible uses have been developed within the noise contours near JBSA installations. |
| NOI-2 | Noise impacts associated with large-scale training exercises. |
| RC-1 | Roads around JBSA installations experience congestion during peak travel times. |
| RC-2 | Need for JBSA and MAHP participation in the Alamo Area Metropolitan Planning Organization (AAMPO). |
| SA-1 | Incompatible development within the JBSA-Randolph airfield safety zones and MAHP landing approach. |

(Table 3-1 New and Emerging Issues Continued)

| ISSUE ID | ISSUE STATEMENT |
|----------|--|
| SA-2 | Concern for Bird/Wildlife Aircraft Strike Hazard (BASH) potential. |
| VO-1 | Potential for incompatible development within the JBSA airfield imaginary surfaces and landing approaches near MAHP. |
| VO-2 | Future power line corridors may impact low-level aircraft flight. |
| WQQ-1 | Increased development of greenfields and pervious areas in the region will result in impermeable surfaces that affect water quality, increase surface runoff, and impact aquifer recharge. |

3.4 Issues Assessment Example

The new and emerging issues evaluated in the report were discovered through stakeholder interviews, review of regional documents, and input from the Project Team. Each new and emerging issue will be reported in the same manner for readability and accessibility purposes. The following example provides the structure of how each new and emerging issue will be assessed.

Example Analysis

| | |
|---|---|
| Issue ID: XX-1 | Issue Statement: Issue statement will be here. |
| Issue Description: Issue description will be here. | |

Analysis: The issue will be examined in depth here.

Sources Cited: Any sources utilized within the analysis will be cited here.

3.5 Biological Resources (BIO)

Biological Resources include species that are listed by federal and/or state agencies as threatened or endangered, as well as those species' habitats. Biological Resources may also include "species of concern" that are living organisms in need of concentrated conservation efforts and areas, such as wetlands and migratory corridors, that are critical to the overall health and productivity of an ecosystem. The presence of sensitive biological resources in an area where increased use or development is planned may prompt special considerations and protective measures and should be identified as a concern early in the planning process.

BIO-1

| | |
|--|--|
| Issue ID: BIO-1 | Issue: Military activities and community development may impact wildlife on military installations. |
| Issue Description: Due to the size of JBSA and MAHP and the types of military activities that occur at these installations, there are potential impacts to wildlife, such as interference with impacts to endangered species and safety concerns for wildlife. Endangered species, such as the golden-cheeked warbler (GCW), present training space challenges at JBSA-Camp Bullis. | |

Analysis: Within Bexar, Comal, Guadalupe, and Kendall counties, there are 30 species listed as endangered or threatened. This list, paired with military compatibility, poses a unique set of challenges, as sustaining the military mission continues to be the top priority for these bases. See Table 3-2 for the list of endangered and threatened species from U.S. Fish and Wildlife Services.



At JBSA-Camp Bullis, a major hindrance of operations is the presence of the endangered GCW, which has a major habitat in the installation. Due to the nature of this endangered species, certain areas used for operations and training may be restricted from expanding in the future.

The 502 CES natural resources manager noted that there are three primary reasons for the GCW being listed on the endangered and threatened species list. They include the following:

1. Present or threatened destruction, modification, or curtailment of habitat;
2. Depredation or predation (mostly associated with development); and
3. Continued fragmentation of existing habitat by development or land use practices.

The continued destruction of GCW habitat within the region leaves JBSA holding a larger share of the GCW remaining habitat and population, which puts more pressure/restrictions on JBSA to maintain the current habitat.

Table 3-2 Endangered and Threatened Species in Bexar, Comal, Guadalupe, and Kendall Counties

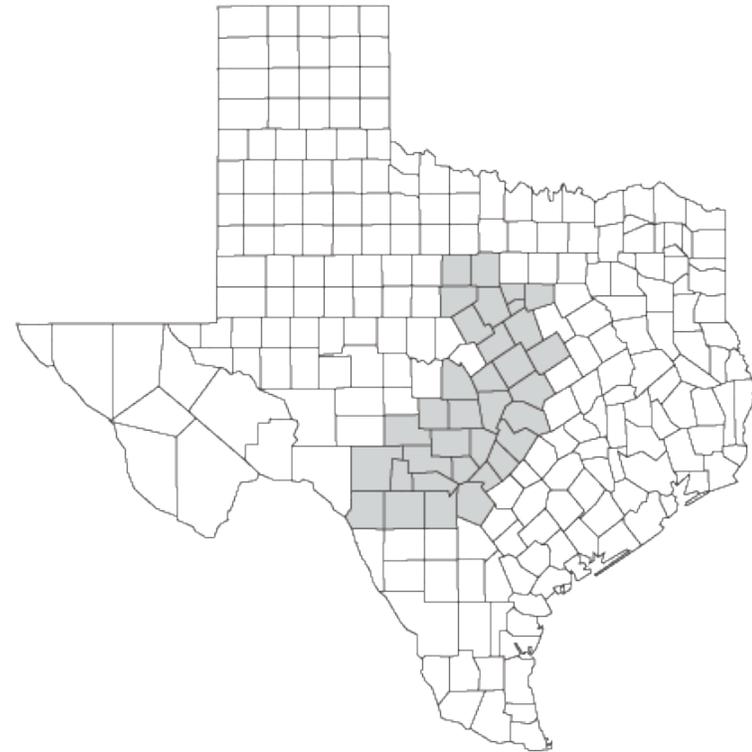
| Classification | Scientific Name | Common Name |
|----------------|--------------------------|---------------------------------------|
| Amphibians | Typhlomolge rathbuni | Texas blind salamander |
| Arachnids | Cicurina baronia | Robber Baron Cave meshweaver |
| Arachnids | Cicurina madla | Madla Cave meshweaver |
| Arachnids | Cicurina venii | Braken Bat Cave meshweaver |
| Arachnids | Cicurina vespera | Government Canyon Bat Cave meshweaver |
| Arachnids | Neoleptoneta microps | Government Canyon Bat Cave spider |
| Arachnids | Texella cokendolpheri | Cokendolpher Cave harvestman |
| Birds | Calidris canutus rufa | Red Knot |
| Birds | Charadrius melodus | Piping plover |
| Birds | Dendroica chrysoparia | Golden-cheeked Warbler |
| Birds | Grus americana | Whooping crane |
| Birds | Haliaeetus leucocephalus | Bald Eagle |
| Birds | Vireo atricapilla | Black-capped Vireo |
| Clams | Cyclonaias necki | Guadalupe Orb |
| Clams | Fusconaia mitchelli | False Spike |
| Clams | Lampsilis bergmanni | Guadalupe Fatmucket |
| Clams | Lampsilis bracteata | Texas fatmucket |
| Clams | Quadrula aurea | Golden Orb |

Source: U.S. Fish and Wildlife Service, 2021

(Table 3-2 *Endangered and Threatened Species in Bexar, Comal, Guadalupe, and Kendall Counties continued*)

| Classification | Scientific Name | Common Name |
|--------------------|--|------------------------------|
| Crustaceans | Stygobromus (=Stygonectes) pecki | Peck's Cave amphipod |
| Fishes | Etheostoma fonticola | Fountain darter |
| Fishes | Gambusia georgei | San Marcos gambusia |
| Flowering plants | Sclerocactus brevihamatus ssp. Tobuschii | Shorthook fishhook cactus |
| Flowering plants | Streptanthus bracteatus | Bracted jewelflower |
| Flowering - plants | Echinocereus reichenbachii var. albertii | Albertii |
| Flowering plants | Zizania texana | Texas wild rice |
| Insects | Batrisodes venyivi | Helotes mold beetle |
| Insects | Heterelmis comalensis | Comal Springs riffle beetle |
| Insects | Rhadine exilis | A ground beetle |
| Insects | Rhadine infernalis | A ground beetle |
| Insects | Stygoparnus comalensis | Comal Springs dryopid beetle |

Source: U.S. Fish and Wildlife Service, 2021



Source: Texas Parks and Wildlife, 2020

Figure 3-2 Golden-cheeked Warbler Habitat in Texas

To address these concerns and to limit encroachment, partners of JBSA-Camp Bullis are acquiring conservation lands and easements for the GCW. The GCW is endangered because the trees they utilize in nesting have been cleared to build housing in an expanding metropolitan area. Of all the birds in Texas, the GCW is the only one that nests exclusively in the state (See Figure 3-2).



Other bases have concerns with wildlife as well. At MAHP, the most abundant wildlife observed were mixed blackbird species, dove species, and sparrow/finch species. These species have been spotted feeding on grass seeds near runways at MAHP. This feeding has the potential to pose a grave threat to the operations of the airfield, as birds in flight may damage or destroy aircraft and/or harm the operators and servicemembers.

Near JBSA-Lackland, urban and suburban development has caused feral hogs, coyotes, and venomous snakes to be pushed onto the installation, creating potential safety concerns for servicemembers. A REPI proposal will purchase development rights of lands adjacent to the base boundaries to remedy this issue and control encroachment of the built environment. This proposal will promote compatible land use, strengthen the base's mission, avoid costly workarounds and delays, and protect the safety of military personnel. There are, including the proposal for JBSA-Lackland, three REPI proposals within the JBSA network. The additional two are the JBSA-Camp Bullis and JBSA-Randolph proposals, which are both from 2019. The goal with these programs is to allow for wildlife to exist alongside the base and to mitigate potential problems.

Some neighboring uses of the installations attract potentially hazardous wildlife, which could impact the safety of the servicemembers and community residents. The Republic Services Landfill, located on the far east side of the City of San Antonio and near MAHP, has been known to attract vultures, crested caracara, cattle egrets, and mixed blackbird species — all are hazardous to aviation operations. The landfill is located less than two miles east of MAHP and approximately 6.25 miles from JBSA-Randolph, making wildlife attracted to this location a regional issue.

BIO-2

Issue ID: BIO-2

Issue: Installations can become refuges for wildlife that can impact communities surrounding installations.

Issue Description: Because installations can become unintended refuges for wildlife, these populations can be inadvertently increased, and this increased population can spread to surrounding communities and create unsafe situations and destroy property, such as the case with the feral hog and deer population on JBSA-Camp Bullis.

Analysis: To maintain operations and missions of each base in the Study Area, wildlife management tactics can cause animals to migrate between the base and into expanding communities. These tactics have many impacts on civilian life outside of the installation boundaries.

Each year, approximately 550 feral hogs are removed from San Antonio military bases, which equates to approximately 175 hogs removed from JBSA-Camp Bullis per year. The feral hogs are either dispatched where captured or trailered and hauled to a permitted slaughter facility. This invasive species causes approximately \$50,000,000 in property damage each year in Texas and is responsible for the destruction of flora, soils, hydrology, floodplains, wetland, and karst topography and is dangerous to human life. Outside of the base, there are trapping and hunting initiatives to control the population, and on the installation, feral hog hunting is incentivized through cheaper permits. Additionally, there is a robust trapping program at JBSA-Camp Bullis. This trapping program has trapped 292 hogs. However, without natural predators, feral hogs have the potential to cause substantial issues for generations to come.

Other notable species of concern within JBSA-Camp Bullis and the abutting City of Fair Oaks Ranch are the white-tailed and axis deer populations. In 2000, there were 2,800 total deer within Fair Oaks Ranch, whereas in 2010, there were 5,678. However, population management measures, such as feeding bans, seem to be working, as in 2019, the population had decreased to 1,729.

According to the 502 CES natural resources manager, no axis deer have been reported on JBSA-Camp Bullis for the last three years, and white-tailed deer numbers have been fairly stable with a very slight decline from 2005-2020. The average estimated population from 2005-2020 is 1,107 white-tailed deer. The maximum white-tailed deer population during that time was 1,345 (2019), and the minimum population was 908 (2018) deer. The population is based on annual white-tailed deer surveys, which are completed each summer. White-tailed deer are also known to have higher densities in urban areas than in rural areas. A Texas A&M AgriLife Extension article titled *Managing Overabundant White-Tailed Deer* stated that white-tailed deer populations grow rapidly in these areas (urban) due to the lack of natural predators, patchy habitats, abundant food resources, and increased offspring survival. JBSA-Camp Bullis is the only military installation with an active, lethal deer management program, which allows for military personnel and their families to hunt on the base.



3.6 Communication/Coordination (COM)

Communication/Coordination refers to programs, plans, and partnerships that promote interagency communication and coordination and dissemination of information to the public and other stakeholders. Interagency communication serves the general welfare by promoting a more comprehensive planning process that is inclusive of all affected stakeholders. Interagency coordination also seeks to develop and include mutually-beneficial policies for local communities and the military in local planning documents, such as comprehensive plans. Providing relevant and timely information to the public keeps them informed of activities and instills a sense of confidence and support.

COM-1

| | |
|---|--|
| Issue ID: COM-1 | Issue: Need for greater coordination and standardized development review process. |
| Issue Description: Many jurisdictions within the RCUP planning area forward development applications to JBSA for comment prior to an approval action. There is a varying degree in the type of information forwarded to JBSA from different jurisdictions, which can impact the JBSA review times. There are varying response times of JBSA comments to the different jurisdictions, which can impact whether the comments are received with sufficient time for consideration prior to an approval action. As a result, there may be missed opportunities to weigh concerns from the military in development application reviews and approvals that could impact the military operations. | |

Analysis: Of the 28 jurisdictions within the Study Area, only seven or 25% have some sort of coordination with JBSA or MAHP (see Figure 3-3 and Figure 3-5). This coordination includes formal or informal development review coordination. If only the formal coordination is counted — in the wake of a memorandum of understanding (MOU) or MOA — then only one jurisdiction or 4% would have any coordination at all. When including and evaluating other jurisdictions in the region outside of the five-mile Military Influence Area (MIA) (see Figure 3-4), the percent of jurisdictions with any form of formal coordination falls to 3%. Due to overall lack of coordination and standardized development review process, this problem is widespread throughout the region and may lead to incompatible development.

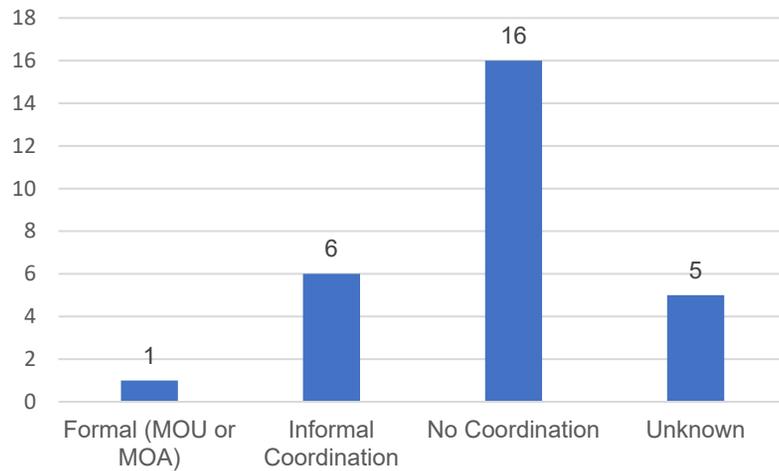


Figure 3-3 Military and Jurisdictional Coordination within the Study Area

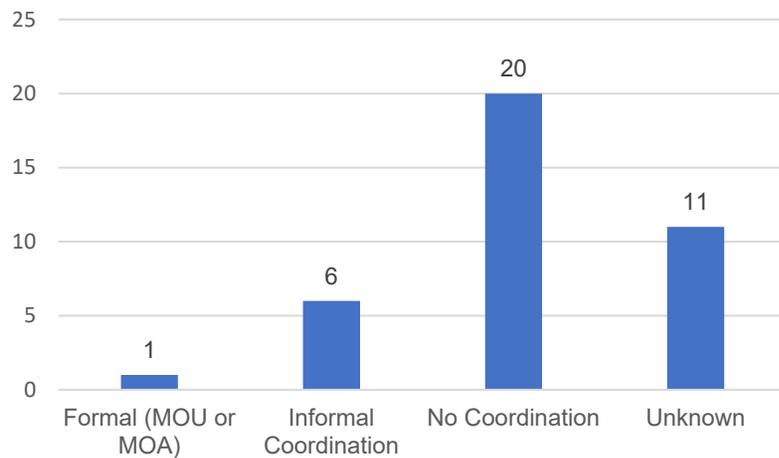
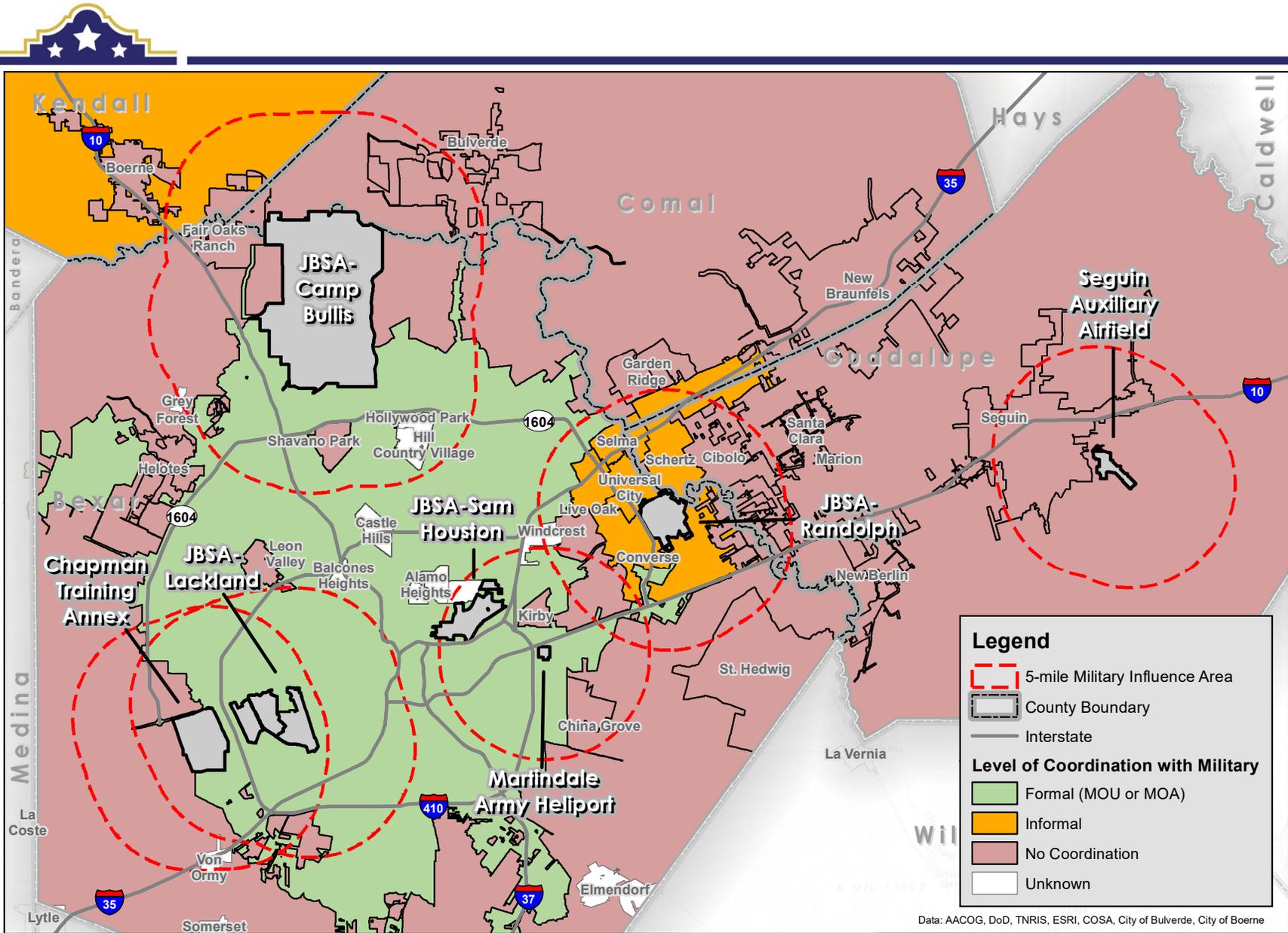


Figure 3-4 Military and Jurisdictional Development Review Coordination within the Greater Region

In the rapidly growing metropolitan statistical area (MSA), development may occur in the imaginary surface areas, safety zones, noise contours, or MIAs that does not conform to military compatibility guidelines. Communication and coordination of new development will continue to be a crucial component of the regions as urban and suburban growth continues and as ETJ and city boundaries continue to expand.



Development Review Coordination



0 5 10 Miles

Figure 3-5.



COM-2

| | |
|--|--|
| Issue ID: COM-2 | Issue: Need for formalized communication between the military and surrounding jurisdiction staff to facilitate early awareness of planning issues and opportunities prior to transmittal of development applications for military review. |
| Issue Description: Mutual information-sharing of community activities and development that has the potential impact on Air Force and TXARNG operations and development and changes in military operations that can impact the surrounding communities occur informally and generally as a result of personal relationships. Early and formalized communication processes promote proactive collaboration between the military and surrounding jurisdictions, regardless of staff changes, to address compatible development on military installations and in surrounding communities. | |

Analysis: The development review process for the jurisdictions within the Study Area provides an arrangement for the military to review current development applications within nearby jurisdictions. While these reviews are integral to ensuring compatible development around military installations, the process as it stands now only allows for a short review period by the military and does not account for future projects, which could have potential to be incompatible. These communities and installations lack an early awareness channel to communicate potential planning issues or upcoming developments.

The City of San Antonio facilitates meetings between JBSA and developers. Though this process is not included in the MOU and MOA, it is helpful for JBSA to resolve potential issues with the development partners.

Texas House Bill (HB) 3167, which was signed into law in June of 2019 and became effective the first of September of the same year, states that Cities and Counties now have 30 days to approve, approve with conditions, or deny a preliminary plat, final plat, replat, development plan, subdivision construction plan, site plan, or a land development application. If the city does not meet this timeframe, the plan is automatically approved. While HB 3167 creates a timeline for Cities and Counties to provide a decision on applications, developers must cooperate with these jurisdictions to produce quick and responsive answers to any development questions to make HB 3167 effective.



COM-3

| | |
|---|---|
| Issue ID: COM-3 | Issue: Need for a designated community POC at JBSA and MAHP to facilitate proactive information-sharing and awareness with surrounding jurisdictions on compatibility planning issues. |
| Issue Description: During RCUP interviews, stakeholders noted confusion of knowing who to speak with at JBSA regarding compatibility planning issues — whether it is the 12 FTW or the 502 ABW/CI. | |

Analysis: As for whom to contact at JBSA and MAHP, there is confusion among communities when making contact and engagement for planning issues or development review; part of this issue stems from high turnover at JBSA. This communication issue is unfortunately extensive throughout the region, as most jurisdictions had an informal connection to their local installation, usually on a personal basis and in a limited or non-official capacity. When consolidation occurred at JBSA, confusion likely started as to which entity or party was responsible for maintaining the channel through which information flowed between the military and local governmental entities.

COM-4

| | |
|--|---|
| Issue ID: COM-4 | Issue: Protecting land around military installations through acquisition, easements, land use buffers, and other partnering initiatives is a worthwhile but often complex process. |
| Issue Description: Conservation efforts around JBSA to create open space “buffers” helps prevent incompatible development and preserves natural resources. However, the process for securing these buffers, whether through acquisition, easements, or partnerships, is a complex transaction that can be time-consuming and burdensome. Identifying opportunities to streamline the overall process would benefit all stakeholders involved. | |

Analysis: Private landowners, agencies, and jurisdictions who are interested in creating a buffer area through acquisition, easements, transfer of development rights, or other partnerships must go through a laborious process in order to establish some sort of cushion between installations and other land. Urban growth expanding adjacent to the installations is creating incompatible development and negative externalities. This problem has been expressed to occur near JBSA-Randolph near Converse. Some solutions currently integrated include fee simple acquisitions and easement solutions. The Defense Economic Adjustment Assistance Grant (DEAAG) program supported the purchase of a clear zone (CZ) around JBSA-Randolph in 2016 with a \$4.7 million grant. This program may be able to continue funding initiatives like this at other installations, which proves beneficial for the base, community, wildlife, and other partners.

While DEAAG can be effective, it should not be considered a one-size-fits-all approach. There are many elements of the land acquisition process it does not address, such as demolition of structures, trees, or perpetual maintenance.

In addition, using a land trust as a holding entity until the land can be turned over to the military can be problematic for few reasons. The land trust may not have the ability to keep the land maintained and free of vagrants or other public nuisances.

The utilization of local communities as the holding entity allows for the jurisdiction to monitor and maintain properties until they are transferred to the military. As an example, in 2020, the City of Universal City acted as the project manager to clear 10 structures within the CZ of JBSA-Randolph. The work was facilitated through an interlocal agreement between the City of Universal City and AACOG, which was facilitated by an intergovernmental service agreement (IGSA) signed between JBSA and AACOG.

COM-5

Issue ID: COM-5

Issue: Need for detailed economic impact data that are inclusive of all military installations in the RCUP to quantify the importance of the military to the region.

Issue Description: Having up-to-date economic impact data is imperative to communicating the importance of the military presence in the region. The most recent economic data was published in 2020 but does not include the TXARNG. The 2020 statement does not have the fidelity to fully appreciate the local economic impact, such as secondary and ancillary businesses that benefit from JBSA by North American Industry Classification System (NAICS) codes or a breakdown of JBSA economic output/benefit to the local economy and by specific military activity, organization, or group within JBSA.

Analysis: The current economic impact statement does not reflect the regional economic impact in enough detail for the public to fully appreciate the military presence. TXARNG and MAHP operations are not included in the Texas Comptroller of Public Accounts economic impact statement while JBSA is included, and this lack of information makes for gaps in terms of economic information when looking at the larger impact these installations have on the region. Additionally, the figures are provided for JBSA as one entity and are not on a per-installation basis. Providing the economic data for each installation could help better identify specific needs for housing, transportation, and other quality of life factors surrounding each installation.

Two studies outline the economic impact of these bases. In 2011, the total impact of the installations was 189,148 people employed and an economic output of \$27.7 billion. The second study provided figures for years 2015, 2017, and 2019 for JBSA as it relates to the Texas economy. See Table 3-3 for the exact figures.



Table 3-3 **Estimated Total Contribution of JBSA to the Texas Economy**

| Report Year | 2015 | 2017 | 2019 |
|--|-------------|-------------|-------------|
| Total direct employment | 57,136 | 64,967 | 73,707 |
| Total employment (direct and indirect) | 282,995 | N/A | 210,998 |
| Output (billions) | \$48.7 | \$30.37 | \$41.3 |
| Gross domestic product (billions) | \$28.8 | \$18.7 | \$25.2 |
| Disposable personal income (billions) | \$17 | \$12.2 | \$13.0 |

Source: (Graf, K., Taylor, A., & Nguyen, S.); (Graf, K., Taylor, A., & Temkin, J.); (Graf, K., Taylor, A., Socol, D., & Fujimoto, Lt. Col. [Ret.], USAF, D.).

However, these studies do not explain if indirect employment also includes induced employment, and the 2017 year does not have total employment figures but does include total direct employment. Both studies look at only DoD impacts and not TXARNG, which is a technical oversight.

These issues are characterized by the importance of JBSA and other San Antonio bases to the region, as well as the lack of thorough communication to the State. The problem can be traced to JBSA not utilizing local studies like the one from 2011, which detailed the impacts of JBSA on the region. The later studies do not underscore the total connections and importance of JBSA or MAHP.

COM-6

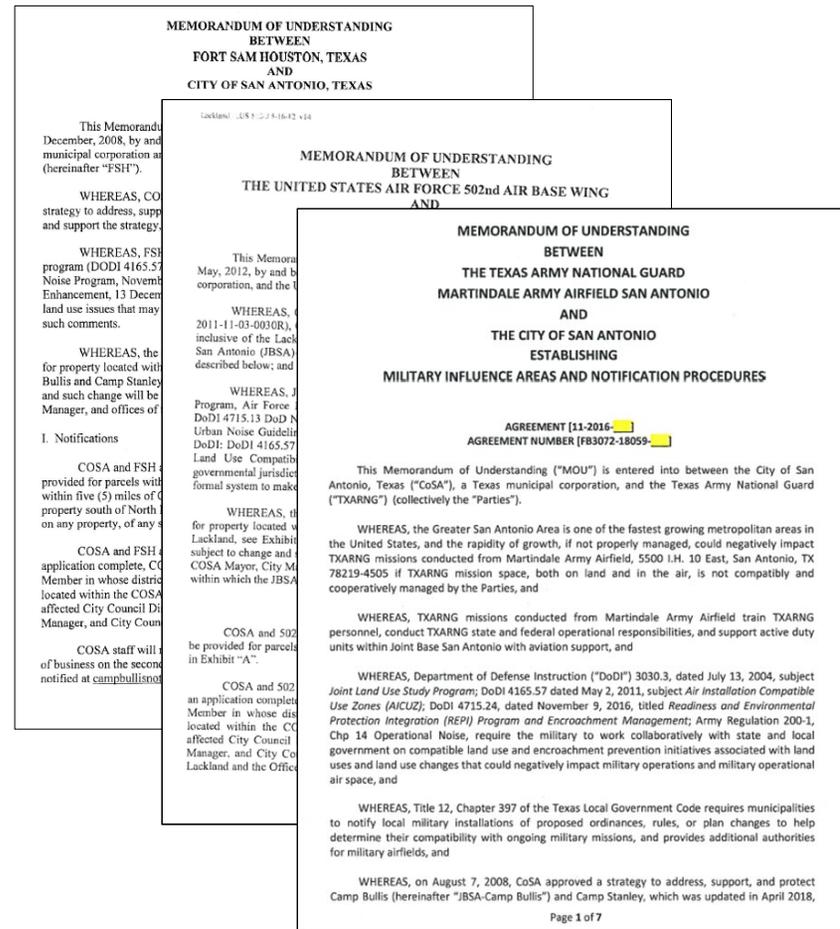
| | |
|---|--|
| Issue ID: COM-6 | Issue: Delayed execution of MOAs for coordination between JBSA and surrounding jurisdictions. |
| Issue Description: MOAs between JBSA and some surrounding communities have been drafted but not executed. Approval of the MOAs for execution have been delayed between the Air Force and local jurisdictions. Issues with drafting MOAs have not been communicated by the Air Force to the jurisdictions for collaborative resolution, and there have been instances where jurisdictions do not agree to the terms and/or the scope of the language proposed by the Air Force. The absence of MOAs that define terms for coordination in a single document places a burden on JBSA staff to track the planning requirements of each jurisdiction and can lead to delays with JBSA development application reviews. | |

Analysis: Jurisdictions would like MOAs or MOUs signed with JBSA to define requirements and responsibilities for the development review process. As discussed in issue COM-1, the lack of development review coordination exists throughout the region.

The City of San Antonio's current agreements with the military may serve as an example for other jurisdictions to utilize to increase coordination throughout the region. The City of San Antonio currently has a development review MOU with JBSA at two installations and the TXARNG at MAHP.

Figure 3-6 displays the three current development review agreements between the City of San Antonio and JBSA-Camp Bullis, JBSA-Lackland, and the TXARNG and MAHP.

During the project, JBSA 502 ABW/CI noted that they were in direct discussions with jurisdictions to complete a standardized MOA or MOU that could be utilized between JBSA and jurisdictions. As of this writing, the process of completing the MOA/MOU is still ongoing.



Information bulletins describing MOUs are uploaded and available through <https://docsonline.sanantonio.gov/>

Figure 3-6 City of San Antonio Development Review Agreements with JBSA and TXARNG



3.7 Energy Development (ED)

The development of energy sources, including alternative energy sources such as solar, wind, or geothermal, could pose compatibility issues related to glare (solar energy), vertical obstruction (wind turbines and geothermal steam plumes), and radar operations (wind generation). Supporting alternative energy development for both energy security and economic reasons is in the best interest of both the military and communities. The emphasis of this analysis is to identify gaps in coordination and/or communication regarding energy development and to increase understanding of communities' pursuits, opportunities sought by alternative energy developers, and the intersection of these endeavors with military missions in order to improve communication and coordination efforts that ensure mutually compatible development. By identifying potential sources of conflict, if uncoordinated or pursued in isolation from either the community, private development, or the military unilaterally, this process serves to highlight the existence of potential conflicts and address technological approaches or processes and communication and coordination approaches to prevent any entity from encroaching upon the other.

ED-1

Issue ID: ED-1

Issue: Potential for industrial-scale wind energy development that is incompatible with military missions.

Issue Description: The development of future industrial wind energy projects in areas used for military flight operations, if not coordinated with the military early to identify and address potential impacts, could have an adverse impact on military readiness, including flight operations and training that would impair or degrade the ability to perform warfighting missions. Wind turbines can be vertical obstructions and impair functionality of radar systems. Currently, wind turbines and wind farms are within approximately 150 miles of JBSA-Randolph and impact training routes for aircraft originating from JBSA-Randolph.

Analysis: Though crucial in sustainable energy development, wind farms have the potential to impact military missions due to their high stature and permanent nature. Military personnel in training or operations missions would be required to maneuver around the structures or cease operations at lower altitudes altogether. Since wind turbines can reach heights of 600 feet tall and wind farms can cover thousands of acres of land, installations may have to alter their training missions, some involving rescue maneuvers in lower flying planes, due to alternative energy development. Sometimes associated with wind turbines are transmission lines, which transfer electricity from one place to another. Though not as tall as wind turbines, the transmission lines may still hinder low-level operations, trainings, and missions.

According to openei.org, there is a commercial-sized windfarm approximately 103 miles west-southwest of JBSA-Randolph and approximately 85 miles from San Antonio. The Anacacho Wind Farm is just west of Uvalde, Texas, and houses 55 wind turbines since it was established in 2012. The aerial map below shows the Anacacho Wind Farm location (red identifier) relative to the San Antonio region.



Source: Google Maps

Figure 3-7 Location of Anacacho Wind Farm

Additionally, most military installations utilize radar in their operations, and wind turbines may create false returns, which hinder data collection and mission operations. The lighting on wind turbines can also impact low-light vision training. UAS usage is also rising, which causes concern for flying near and/or around wind turbines.

Wind turbines can also impact ground-based radar systems by creating clutter on the receiver, reducing detection sensitivity, obscuring potential targets, and scattering target returns, which effectively reduces target detection, creates false targets, interferes with target tracking, and impedes critical weather forecasting. However, in most cases, wind turbines must be in the line of sight of a radar to impact it.

Alternative energy structures, like wind turbines, can also impact Next-Generation Radar (NEXRAD) weather radars. Turbines create what looks like a stagnant thunderstorm on a radar, which can impede critical weather forecasts and make detection of severe weather, such as tornadoes and thunderstorms, impaired or impossible.

If wind turbines are located close to an airfield, they can interfere with navigational aids, such as tactical air navigation (TACAN) and very high frequency (VHF) omnidirectional radio range (VOR), resulting in changes to minimum vectoring altitudes, decision heights, and minimum descent altitudes, which may prevent aircraft from taking off or landing in certain weather conditions.

Various types of instrumentation are utilized in military ranges, including telemetry, microwave facilities, and communications. Wind turbines can affect this instrumentation if they are in the line of sight between transmitters and receivers.

Some localized solutions exist, including the Texas Senate Bill 277 and HB 445, which exempts all wind farms within 30 nautical miles from a military base of tax incentives, which effectively reduces the probability that one would be built within that buffer. Additionally, since Texas is served almost entirely by one electric grid, the Office of the Governor pursued rules with the Electric Reliability Council of Texas and the Public Utility Commission of Texas, which would mandate that before starting a study about a project tying into the electric grid, the company would have to prove contact has been made with the DoD's Military Aviation and Installation Assurance Siting Clearinghouse. The



Texas Early Notification Tool (TENT) was meant to provide military, industry, and community stakeholders with information to foster early engagement before beginning development. If the area selected intersects a military asset notification area that warrants early notification, the tool will generate an output with the notification areas and associated POC.

3.8 Frequency Spectrum

Impedance/Interference (FSI)

Frequency spectrum refers to the entire range of electromagnetic frequencies used for communications and other transmissions, which includes communication channels for radio, cellular phones, and television. In the performance of typical operations, the military relies on a range of frequencies for communications and support systems. Similarly, public and private users rely on a range of frequencies in the use of cellular telephones and other wireless devices daily.

FSI-1

| | |
|---|---|
| Issue ID: FS-1 | Issue: Concern for future frequency interference on new aircraft at JBSA-Randolph. |
| Issue Description: The new T-7A aircraft may experience spectrum interference when it is deployed to JBSA-Randolph. The advanced technology included in the aircraft and its requirements for constant data transfers to the ground for training purposes could result in spectrum interference. One issue is the line-of-sight transmissions for the new integrated, virtual, real-time data feed. Additionally, new 5G networks may affect this operation. While the T-7A has not been delivered to JBSA-Randolph, testing should consider potential frequency spectrum interference challenges and solutions. | |

Analysis: For JBSA and regional jurisdictions, new technology may interfere with regional spectrum interference; however, no new specific issues have been identified. This lack of identified issues is because the new technology has not been fielded yet, and technical specifications and requirements have not been released at the time of this writing. However, it is estimated that with the arrival of the T-7A aircraft — which will replace the T-38C — and simulators to JBSA in 2023 that some of these technologies may interfere with other regional equipment. The potential issues have not been scaled yet but could be widespread, depending on the final requirements and specifications of the T-7A.



3.9 Housing Availability (HA)

Local housing availability addresses the supply and demand for housing in the region, the competition for housing that may result from changes in the number of military personnel stationed at an installation, and the supply of military family housing provided by the DoD.

HA-1

| | |
|-----------------------|---|
| Issue ID: HA-1 | Issue: Need for communities surrounding JBSA installations and MAHP to support military personnel housing needs and quality of life standards for servicemembers and their families. |
|-----------------------|---|

Issue Description: Because not all housing needs for JBSA and MAHP personnel and students can be met on-installation, housing in communities is necessary to support personnel and student needs and ensure force retention. Because housing requirements vary according to personnel, a range of housing types and sizes and occupancy types (owner versus rental units) are needed. Housing must also be affordable based on ability to pay. Housing is linked to other factors that influence overall quality of life for servicemembers and their dependents — educational institutions must provide high quality learning and communities must provide a range of amenities (dining, shopping, recreating). When these needs cannot be met in the vicinity of a military installation, personnel locate further away to achieve a higher quality of life standard.

Analysis: There is not an adequate supply of housing located on JBSA-Randolph and JBSA-Lackland to meet the needs of all stationed personnel. Off-installation housing can be too expensive for servicemembers, and the Basic Allowance for Housing (BAH) does not meet their needs in finding housing near the installations. The BAH for the San Antonio region is provided in Table 3-4.

Table 3-4 San Antonio Military Housing Area 2021 BAH Rates

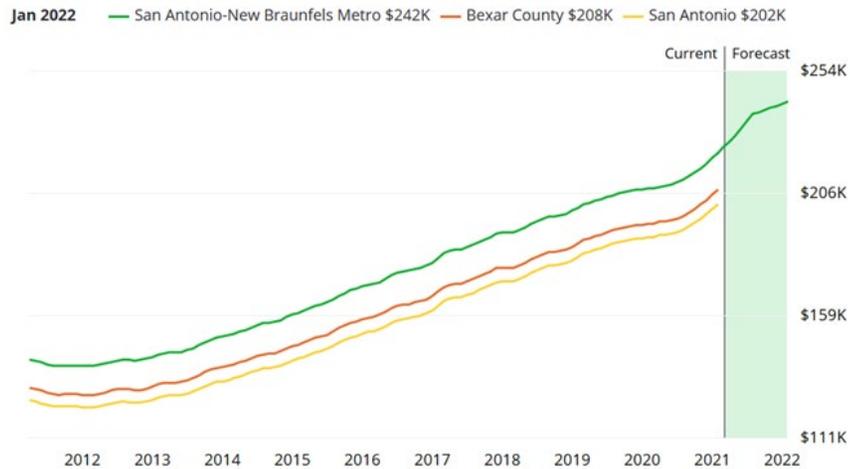
| Grade | With Dependents | Without Dependents |
|-------|-----------------|--------------------|
| E01 | \$1,653 | \$1,239 |
| E02 | \$1,653 | \$1,239 |
| E03 | \$1,653 | \$1,239 |
| E04 | \$1,653 | \$1,239 |
| E05 | \$1,761 | \$1,434 |
| E06 | \$1,788 | \$1,548 |
| E07 | \$1,803 | \$1,659 |
| E08 | \$1,812 | \$1,773 |
| E09 | \$1,830 | \$1,779 |
| W01 | \$1,800 | \$1,623 |
| W02 | \$1,809 | \$1,770 |
| W03 | \$1,821 | \$1,782 |
| W04 | \$1,842 | \$1,791 |
| W05 | \$1,905 | \$1,797 |
| O01E | \$1,806 | \$1,761 |
| O02E | \$1,815 | \$1,776 |
| O03E | \$1,851 | \$1,788 |
| O01 | \$1,770 | \$1,542 |
| O02 | \$1,785 | \$1,728 |
| O03 | \$1,818 | \$1,785 |
| O04 | \$1,920 | \$1,794 |
| O05 | \$2,013 | \$1,800 |
| O06 | \$2,028 | \$1,803 |
| O07 | \$2,040 | \$1,806 |

Table Source: *Militarybenefits.info*, 2021

Though the needs of the military servicemembers have not been quantified in a regional housing assessment for JBSA – one of the recommendations of the RCUP – the following illustrates the general relationship of the housing and rental market to BAH. There are obvious subtleties by geography and housing types that cannot be assessed without a detailed JBSA housing needs assessment.

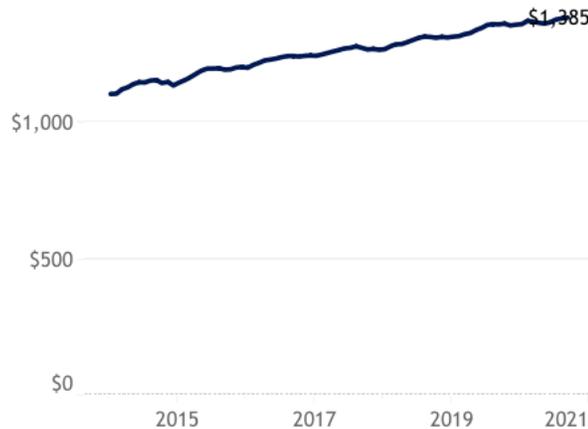
The average cost of housing ownership and rental costs by area is shown on Figures 3-8 and 3-9 and indicates an increase in the regional San Antonio market from \$141,000 in 2011 to \$224,000 in 2021, which is a 59% increase over the 10-year period. When the forecast through 2022 is added, the increase goes up to 72%. The average rental cost has increased from \$1,105 per month in 2014 to \$1,385 in 2020, which is a 25% increase over the six-year period.

Using 2021 military pay and BAH rates, an E-5 with dependents will be provided \$1,761 per month in BAH at JBSA. However, as a rule, 30% of total income should be spent on housing. Therefore, when E-5 military pay and BAH are combined, an E-5 receives \$4,739 per month in income. Using this amount and multiplying by 30% equals \$1,421.70 per month available for housing. According to the Office of the Under Secretary of Defense for Personnel and Readiness and Office of Military Compensation Policy, 17% of BAH in the JBSA Military Housing area should be spent on utilities. Adjusting the available income for utilities, leaves an E-5 with \$1,180 for rent or mortgage payments. Based on the average current rental rate in San Antonio of \$1,385, the E-5 cannot afford rent. Further, making several assumptions, an E-5 could theoretically afford a \$223,835 home using a 30-year fixed mortgage at 3.14% APR making no down payment. Currently, housing prices in San Antonio and Bexar County are less than this mortgage, but the larger MSA is not affordable for the E-5. Further, lower enlisted ranks would be able to afford even less housing in the area.



Source: Zillow research data, 2021

Figure 3-8 Housing Prices in San Antonio-New Braunfels MSA, Bexar County, and San Antonio 2011-2021



Source: Zillow research data, 2021

Figure 3-9 Zillow Observed Rent Index in San Antonio from 2014-2021

In areas surrounding the installations, average lot sizes automatically out-price servicemembers, as the average lot size is six acres in Kendall County and three to five acres for most lots in Fair Oaks Ranch, according to a TWG Discussion on July 29-30, 2020. In the City of Schertz, municipal requirements for building materials make affordable housing difficult. This problem is further underscored by the fact that the DoD has been moving away from the housing business within their installations. Most on-base housing is now privatized, with limited new housing being built.

However, there are reasons to have more stringent building standards within jurisdictions. For instance, requiring higher standards for building material requires developers to build housing that will last for longer periods of time, which will impact the rate at which neighborhoods progress through their life cycle of growth, stability, decline, and renewal. If jurisdictions have less stringent building standards, neighborhoods will progress through this life cycle at a faster rate, which could leave the jurisdiction responsible for housing stock that has deteriorated at a faster pace than if the neighborhood had required different building materials.

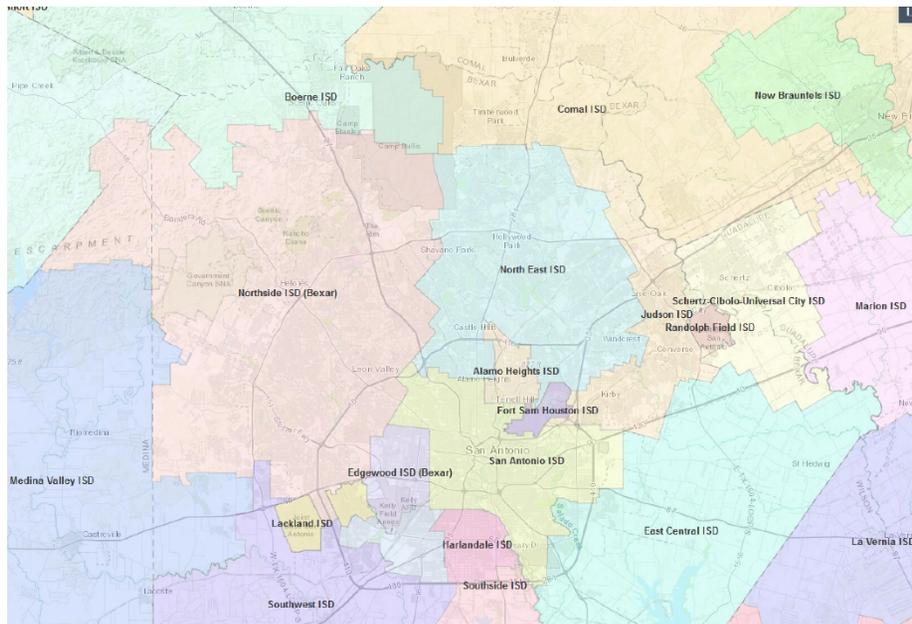
Some jurisdictions do not allow for multifamily housing. Of the 28 jurisdictions within the Study Area, only 14 are confirmed to allow for the zoning of multifamily housing as shown in Table 3-5. Allowing for multifamily housing is a step toward making available housing meet the needs of servicemembers who may not be able to find housing on-base.

Table 3-5 Multifamily Housing Zoning in the Region

| Zoning for Multifamily Housing | Number of Jurisdictions |
|--------------------------------------|-------------------------|
| Yes | 14 |
| No | 8 |
| N/A | 4 |
| Unknown | 2 |
| Total Jurisdictions Evaluated | 28 |

Housing is linked to factors that influence overall quality of life for servicemembers and their dependents. Studies conducted by the Office of Secretary of Defense (OSD) that address why military families decide to live in the housing they choose cite for-sale listings, rental advice, and quality of neighborhood or schools as determining factors when deciding where to live. Educational institutions must therefore provide high-quality learning and communities must provide a range of amenities (dining, shopping, recreating) to attract and retain servicemembers. When these needs cannot be met in the vicinity of a military installation, personnel locate further away to achieve a higher quality of life standard.

The regional public school districts are shown on Figure 3-10.



Source: Texas Education Agency, 2020

Figure 3-10 San Antonio Independent School Districts

Niche.com measures the quality of school districts using weighted criteria including academics (state assessment proficiency, SAT/ACT scores), teachers grade (teacher salary, teacher absenteeism, state test results), culture and diversity (racial and economic diversity), parent/student surveys, health and safety (chronic student absenteeism, suspensions/expulsions), resources and facilities (expenses per student and staffing), clubs and activities (expenses per student), and sports (number of sports and participation).

Based on the analysis conducted by Niche.com, school districts in the San Antonio region generally scored from a “B” to an “A” rating in the areas surrounding JBSA installations and MAHP. However, the area surrounding JBSA-Lackland generally scored lower, other than the Lackland independent school district (ISD), which scored an “A” rating.



3.10 Infrastructure Extension (IE)

Infrastructure refers to the public services and supporting facilities, including water and wastewater lines and treatment centers, electric grid components, and roadways, that make existing and proposed development feasible. Public services and facilities should be appropriate for the type of urban or rural development they serve but also limited to the existing and planned needs and requirements of the area. The provision of a safe transportation system, including facilities that support all modes of transportation (automobile, mass transit, railway, highway, bicycle, pedestrian, air, etc.) is an important infrastructure component. An adequate transportation system contributes to local, regional, and state connectivity; supports economic development and growth more generally; and is key to a vibrant community and high quality of life.

Infrastructure plays an important role in land use compatibility. Infrastructure can enhance the operations of an installation and nearby communities by providing needed services while eliminating competition for resources. Conversely, infrastructure can create encroachment issues if facilities are expanded without considering the consequences of future development. The extension or expansion of community infrastructure to areas adjacent to an installation can induce growth that may result in incompatible uses and conflicts between a military mission and community activities and needs. Within general planning efforts and through appropriate consideration and guidance, infrastructure extensions can serve as a mechanism to guide development toward appropriate areas, protect sensitive land uses, and improve compatibility between community land uses and military missions.

IE-1

| | |
|---|---|
| Issue ID: IE-1 | Issue: Proposed new highway construction near JBSA and MAHP installations will increase the likelihood of future development near the installations. |
| Issue Description: Texas Department of Transportation (TxDOT) is planning roadway expansions or improvements throughout the region. Planned expansions near JBSA installations and MAHP will catalyze future development that could impact future military operations if not coordinated. Between 2019 and 2045, 18 major roadway projects are anticipated in the region, including the flyover at Loop 1604 and FM 78 and upgrade of FM 3351, which could generate development near JBSA-Camp Bullis. | |

Analysis: Road projects by TxDOT will impact the region by facilitating higher volumes of traffic to deeper reaches of the region that did not have connections before. The result of these connections will be more development, which could impact military operations in new areas. Not only will this connectivity create future issues with potential development in now unobstructed locations, but the transportation infrastructure also includes lighting, which also exacerbates the regional night sky pollution, which is already an issue in the region. Between now and 2045, there is more than \$9.3 billion allocated to transportation projects in the four-county area of Bexar, Comal, Guadalupe, and Kendall.

This issue is currently widespread and is expected to continue, as the current population grows by about 100 people per day, and this growth is expected to continue. Increased traffic due to roadway expansions can cause issues in transporting supplies, personnel, and/or equipment between bases as development and roadway expands. This expansion also may impact off-base servicemembers' abilities to get to the bases. Some current regional strategies are driven by Fair Oaks Ranch, which is in contact with TxDOT to work through the FM 3351 project. Fair Oaks Ranch would like more participation from

JBSA-Camp Bullis with the FM 3351 project and would like to talk about lighting issues and if TxDOT will address those issues.

IE-2

Issue ID: IE-2

Issue: Potential for development-related growth west toward Castroville in Medina County and to the northwest Hill Country will impact JBSA.

Issue Description: Future development in the west, towards Castroville, and northwest, into Hill Country, will affect transportation, land use, and housing in the region. The urbanization of these areas and the corridors that serve them could potentially impact compatibility with JBSA.

Analysis: In Bexar County and Kendall County, there is potential for more growth in undeveloped areas west and northwest of San Antonio. This growth could lead to transportation, land use, and housing impacts in the region. The problem has become more prevalent as more affordable land is purchased closer to the urban core of San Antonio. Future extension projects will only exacerbate this problem.

Near Castroville and southwest of JBSA-Lackland Chapman Training Annex (Fmr. Medina Annex), new housing developments are beginning to form and encircle the installation. What was once wide-open space is now potentially impacting the mission and operations of the base. Increased residents mean more potential grievances about noise and lighting, which may lead to negative community relations between the base and the surrounding areas.



3.11 Land/Air Space Competition (LAS)

The military manages and uses land and air space to accomplish testing, training, and operational missions. These resources must be available and of sufficient size, cohesiveness, and quality to accommodate effective training and testing. Military and civilian land and air operations can compete for limited space, especially when the usage areas are near each other. Use of these shared resources can impact future development and operations for all users.

LAS-1

Issue ID: LAS-1

Issue: Concern for the potential future impacts of aircraft serving long-leg international routes from SAT on regional airspace used by the military.

Issue Description: SAT is exploring establishing direct routes to Europe to extend its economic reach and attract international business along with expansion of the runway to 11,000 feet to support larger aircraft. The routing of these flights with larger aircraft are a potential concern due to their impact on the regional airspace used by the military.

Analysis: The concern for potential future impacts of aircraft serving long-leg international routes on regional airspace used by the military is impacted and addressed by the San Antonio Airport System (SAAS), the City of San Antonio, and JBSA. San Antonio is trying to attract international headquarters and needs international routes to Europe to achieve this.

JBSA-Randolph is located 12 miles east of SAT. JBSA-Randolph's parallel runways extended centerlines intersect with the SAT Runway 4-22 extended centerline. While air traffic control tower (ATCT) personnel at both airports coordinate and manage the occasional interference in traffic, use of SAT's Runway 4-22 tends to stop when JBSA-Randolph is active. As a result, although today's occasional use of SAT's Runway 4-22 is manageable, increased or regular use of Runway 4-22 (or another runway in a similar alignment) would increase dependency on JBSA-Randolph. As such, it is not recommended to consider primary runways (arrival or departures) that would interfere with JBSA-Randolph operations (i.e., in the Runway 4-22 alignment).

Table 3-6 Runway Length Requirements by Aircraft

| Aircraft | Take-off Length Requirement (feet) to 4,700 NM (Europe) |
|-------------|---|
| A330-900neo | TBD |
| A350-900 | 10,400 |
| 767-200ER | 10,500 |
| 787-8 | 14,600 |
| 787-9 | 13,200 |
| 787-8F | N/A |

Source: San Antonio Airport System, Strategic Development Plan, Airport Master Plan, Volume I — Master Plan Update, Chapter 5 — Demand/Capacity and Facility Requirements

Though SAT does not have any international routes outside of Mexico, as the region expands, it is anticipated that more flights will be added, meaning runway lengths will need to be extended to accommodate the flights. Direct flights to certain western European locations are possible with the existing runway length of 8,500 feet but are compatible with only the Boeing 757-200 and the Boeing 767-300/400ER at reduced payloads only.

Within the airport’s planning horizon, all European destinations with an extensive fleet mix would require a runway extension (depending on the aircraft). For the Boeing 787-9, the critical aircraft for passenger European flights, the runway length requirements to Europe are:

- Maximum allowable take-off weight (MATOW) of 13,200 feet (the longest length of similar aircraft types),
- 90% load factor: 12,500 feet, and
- 75% load factor: 10,700 feet (most realistic load factor).

Other suitable aircraft for these types of trips would require between 9,450 feet for the Airbus A350-900 and 12,200 feet for the Boeing 777-300ER (not shown in Table 3-6). Based on the aircraft most likely to be utilized for these trips, the Boeing 787-9, the recommended runway length, based on a 75% load factor, through the 20-year airport planning horizon is 10,700 feet.

During the development of this report, members of the SAT Authority, JBSA, and TXARNG were brought together to address these concerns. Additionally, while the SAAS Strategic Development Plan, developed in 2019, estimated flights to Europe from SAT could start to take place as early as 2028, with daily flights starting in 2038, the effects of the COVID-19 pandemic still have not been included in that forecast. Until the long-term effects of COVID-19 on air travel are known, forecasting the start of European flights from SAT could be difficult.

LAS-2

Issue ID: LAS-2

Issue: Unregulated UASs pose a safety concern to military aircraft and create security issues for military installations.

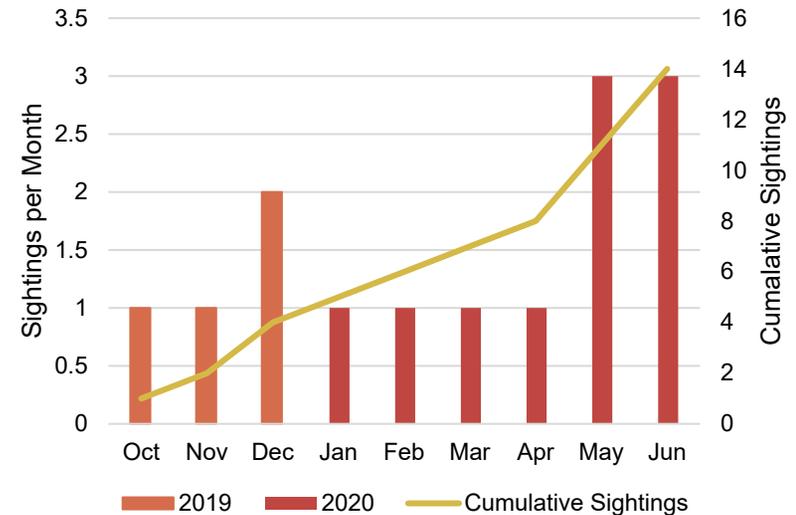
Issue Description: The FAA has developed guidelines for the safe operation of UASs around airports and military airfields and established regulations within the surrounding airspace under its control. However, unauthorized UASs can pose safety hazards to Air Force and TXARNG pilots and aircraft and cause security concerns for surveilling or entering military installations.

Analysis: Since UAS or drone technology is becoming more affordable, the increased usage of these systems may pose safety and security concerns for operations, missions, and training at JBSA and MAHP installations. Drones are defined by the FAA as small UASs that weigh between .55 pounds and 55 pounds. Currently, there are 10,054 registered drones in the region as of the third quarter of 2020. Drone use near JBSA and TXARNG airfields and installations can create safety concerns for aircraft strikes and security concerns for surveilling military operations on installations.

While there have not been serious issues with drones in this region yet, the proliferation of drones will continue as technology advances and the cost of systems decrease.

The first documented sighting of UASs by the FAA were between November of 2014 and August of 2015. During this timeframe, Texas observed 39 sightings and one within the Study Area. Since then, there has been a dramatic increase of sighting according to the FAA. Using data between October of 2019 and June of 2020, Texas recorded 148 sightings. These sightings included 12 in the City of San Antonio and two in Universal City. This increase is 1,400% between the first recorded sighting and the most recent data from October of

2019 through June of 2020. The UAS sightings by month from October of 2019 through June of 2020 are shown in Figure 3-11.



Source: Federal Aviation Administration

Figure 3-11 UAS Sightings by Month in the Study Area from October 2019 to June 2020

In addition to documented reports of drone strikes with Army and Coast Guard helicopters disrupting flight operations and training missions, incursions into JBSA airspace has been noted by staff at JBSA-Camp Bullis.

3.12 Legislative Initiatives (LEG)

Legislative Initiatives are proposed changes in relevant policies, laws, regulations, or programs that could have a significant impact on one or more substantive areas of concern to both the installations and to stakeholder groups. The assessment of compatibility issues that fall under Legislative Initiatives focus on initiatives with general and broad implications.

LEG-1

Issue ID: LEG-1

Issue: JLUSs are referenced under Texas annexation law. Because “Compatibility Use Plan” is not specifically referenced, this plan will not automatically be applicable to Texas annexation law.

Issue Description: The Municipal Annexation Right to Vote Act (MARVA) created a provision for annexing land around military bases. The provision allows a municipality to annex the area adjacent to military installations, which conduct active training programs. The act requires the municipality to allow the residents within the proposed annexation area to vote on the matter, but if the annexation is not approved, the municipality will have “the authority to adopt and enforce an ordinance regulating the land use in the area in the manner recommended by the most recent joint land use study.” While the nomenclature may seem insignificant, the final version of this RCUP could have less influence if MARVA is not amended to include Compatibility Use Plans.

Analysis: Verbiage to specifically include “Compatible Use Studies/Compatible Use Plans” within the MARVA may be necessary for the short- and long-term viability of this RCUP to the region. This problem began when JLUSs transitioned to being called Compatible Use Plans at the direction of the OLDCC, and when chapter 43 of the Texas Local Government Code was amended on August 15, 2017 and took effect on December 1, 2017.

The issue is limited to verbiage that states “the authority to adopt and enforce an ordinance regulating the land use in the area in the manner recommended by the most recent joint land use study.” If the nomenclature is not inclusive of “Compatible Use Plans” or “Compatible Use Studies,” then these plans may not be administered in the same way a JLUS would.



LEG-2

Issue ID: LEG-2

Issue: State law requires resold homes to include a disclosure that explains the home “may be affected by high noise or air installation compatible use zones or other operations.” However, disclosures are not required for new home sales.

Issue Description: New homes are not required to have a real estate disclosure explaining that the home may be affected by high noise or other military operations or is within an AICUZ. New homeowners may not be accustomed to noise from aircraft overflight and impacts from other military activities, which will result in complaints to JBSA and the TXARNG.

Analysis: This issue exists throughout the state of Texas and continues to be a concern as communities continue to develop closer to military installations. State law requires resold homes near installations to disclose that the home may be impacted by high noise from military installation operations per AICUZ or JLUSs. However, as new communities continue to develop, the impact of not requiring this disclosure for new home construction is a major concern, as residents within these same areas may experience these impacts.

According to Texas Property Code, Title 2. Conveyances, Chapter 5. Conveyances, Section 5.008 Seller’s Disclosure of Property Condition, “A seller of residential real property comprising not more than one dwelling unit located in this state shall give to the purchaser of the property a written notice as prescribed by this section or a written notice substantially similar to the notice prescribed by this section which contains, at a minimum, all of the items in the notice prescribed by this section.” This includes the following disclosure:

“11. This property may be located near a military installation and may be affected by high noise or air

installation compatible use zones or other operations. Information relating to high noise and compatible use zones is available in the most recent Air Installation Compatible Use Zone Study or Joint Land Use Study prepared for a military installation and may be accessed on the Internet website of the military installation and of the county and any municipality in which the military installation is located.”

The Texas Association of Realtors (TAR) Seller’s Disclosure Notice Form Number 1406 provides buyers with legally mandated information about a property. The information ranges from whether the property has a dishwasher to the type of water supply servicing the structure. Though the disclosure contains a statement that the property “may be located near a military installation and may be affected by high noise or air installation compatible use zones or other operations,” the disclosure does not specifically reference noise and compatibility zones documented in “compatible use plans,” such as the RCUP, and only applies to the transfer of existing residential properties. Since “Compatible Use Plan” is the new nomenclature for JLUSs and the findings and analysis in a CUP may update compatibility zones from an AICUZ or JLUS, the absence of this reference means that the disclosure is not capturing the most current impacts from military operations and geographic areas of applicability.

3.13 Land Use (LU)

Land use planning and regulation is within the government’s responsibility to protect the public’s health, safety, and welfare. Local jurisdictions’ general plans and zoning ordinances can be the most effective tools for preventing or resolving land use compatibility issues. These tools ensure the separation of land uses that differ significantly in character. Land use separation also applies to properties where the use of one property may adversely impact the use of another. For instance, industrial uses are often separated from residential uses to avoid impacts from noise, odors, and lighting.

LU-1

| | |
|--|--|
| Issue ID: LU-1 | Issue: Development around JBSA installations is affecting drainage and runoff, which causes flooding near and on the installations. |
| Issue Description: Development around JBSA installations is affecting the amount of runoff onto the installations and contributing to drainage issues and flooding on installations. Flooding can cause security and operational issues as was the case at JBSA-Randolph, which lost 14 training days of runway use in 2019 due to flooded runways. | |

Analysis: Regional jurisdictions and organizations and the State of Texas are impacted by this issue. There is runway flooding occurring at JBSA-Lackland and JBSA-Randolph. Notably, JBSA-Randolph expressed that flooding on both runways is an operational issue, and ponding may be caused by stormwater from a number of sources, including off installation. It is also important to note that the City of San Antonio is considering drainage solutions for stormwater south of JBSA-Lackland and in the vicinity of Leon Creek as the result of the State passing flood mitigation projects. The problem is currently isolated to JBSA-Lackland and JBSA-Randolph but has the potential to impact other installations should rainfall, development, or drainage factors change in the future.

Current regional solutions include the Bexar County Flood Control program, which is a 10-year, \$500 million capital improvement program that was established by the Bexar County Commissioners Court in 2007. The program is designed to address flooding from a regional perspective rather than by political or jurisdictional boundaries and is the result of a partnership between Bexar County, the San Antonio River Authority (SARA), the City of San Antonio, and 20 suburban cities. This group is known as Bexar Regional Watershed Management.



Additionally, the National Weather Service completed a historic rainfall study for Texas in 2018 called Atlas 14. The study showed heavier rainfall is taking place and the risk of flooding may be higher than originally believed. Jurisdictions throughout the state are using Atlas 14 rainfall totals to update floodplain maps. Currently, five jurisdictions have adopted Atlas 14 rainfall totals within the Study Area — Balcones Heights, Bexar County, the City of Cibolo, the City of San Antonio, and the City of Seguin.

LU-2

Issue ID: LU-2

Issue: Fragmented ability to implement land use controls surrounding JBSA installations and the MAHP.

Issue Description: There are several jurisdictions that surround JBSA installations and MAHP, including Cities and Towns that have land use authority and Counties that do not. Because of the fragmented ability to implement land use controls and the different jurisdictions surrounding the installations, there is no consistent set of development standards that apply within the contiguous area surrounding JBSA installations and the MAHP.

Analysis: This issue exists throughout the Study Area where different jurisdictions are within the MIA of each installation. Though this is an ongoing issue, there are many jurisdictions that have land use authority within the MIAs surrounding JBSA and MAHP installations. Currently, there are 28 jurisdictions within the MIAs of JBSA-Camp Bullis, JBSA-Lackland, JBSA-Randolph, MAHP, and SAAF. These jurisdictions include 24 cities and four counties. There are three cities (City of Converse, City of Von Ormy, and the City of Windcrest) within two MIAs of two installations, and the City of San Antonio is within five MIAs. Bexar County is within five of the installations' MIAs, and Comal and Guadalupe Counties are both within two of the MIAs. The jurisdictions and the MIAs they are located within are displayed in Table 3-7.

Cities and towns within the MIAs have land use authority and can implement land use recommendations from previous JLUSs and this RCUP report. However, there is no requirement to act in concert or guarantee they will implement the recommendations as written in the reports. This potential for noncoherent implementation creates differences in development standards throughout the Study Area, which can create confusion for developers and JBSA and TXARNG staff when trying to work with different jurisdictions. Further, due to the

multitude of jurisdictions, JBSA and TXARNG staff are required to recognize and understand the nuances between each jurisdiction, which raises the learning curve for new staff and makes a larger knowledge gap when a staff person leaves.

It is worth noting that Counties are highlighted in navy blue with white text and are listed at the end, as they do not have land use authority. Those elements highlighted in yellow with brown text are the jurisdictions within multiple MIAs.

Table 3-7 Jurisdictions within Each Installation MIA

| JBSA-Camp Bullis | JBSA-Lackland | Chapman Training Annex | Martindale Army Heliport | JBSA-Randolph | Seguin Auxiliary Airfield |
|------------------|---------------|------------------------|--------------------------|------------------|---------------------------|
| Boerne | San Antonio | San Antonio | China Grove | Cibolo | Seguin |
| Bulverde | Leon Valley | Von Ormy | San Antonio | San Antonio | Guadalupe County |
| San Antonio | Von Ormy | Bexar County | Converse | Converse | |
| Fair Oaks Ranch | Bexar County | | Kirby | Garden Ridge | |
| Grey Forest Hill | | | Terrell Hills | Live Oak | |
| Country Village | | | Windcrest | Santa Clara | |
| Hollywood Park | | | Bexar County | Schertz | |
| Shavano Park | | | | Selma | |
| Bexar County | | | | St. Hedwig | |
| Comal County | | | | Universal City | |
| Kendall County | | | | Windcrest | |
| | | | | Bexar County | |
| | | | | Comal County | |
| | | | | Guadalupe County | |

Cities are listed in black text with white background. Cities within multiple MIAs are written in tan with yellow background. Counties are written in white text with a navy-blue background.

Previous JLUSs and the RJIS completed for communities have provided several options to support comprehensive land use implementation at a regional level. The RJIS provided several alternatives for a regional organization to oversee implementation of the regional strategy recommendations and provided a strategy to develop a regional JLUS implementation coordinating board/task force. Another example to assist with the implementation of comprehensive land use recommendations was for the establishment of a JBSA-Randolph JLUS Implementation Task Force, which would have been responsible for the monitoring and implementation of the recommended JLUS strategies and act as a forum for continued communication and sharing of information and current events associated with military compatibility. Additionally, an objective in the JBSA-Lackland JLUS was to, “Create an implementation body to advocate for adoption of recommended compatibility measures and promote continued dialogue.” These previous recommendations would help support comprehensive land use implementation within the region.

Additionally, the JBSA-Camp Bullis JLUS from 2009 included a strategy to grant Counties regulatory authority for military installation protection. This strategy was also recommended in the RJIS in 2015. These recommendations would help provide the Counties with land use authority and allow them to implement land use recommendations within their jurisdiction.



3.14 Light and Glare (LG)

This compatibility factor refers to man-made lighting (streetlights, airfield lighting, building lights) and glare (direct or reflected light) that disrupts vision. Light sources from commercial, industrial, recreational, and residential uses can cause excessive glare and illumination at night, which impacts the use of military NVDs and aircraft operations. Conversely, high intensity lights in military areas (such as airfield lighting) may have a negative impact on adjacent communities.

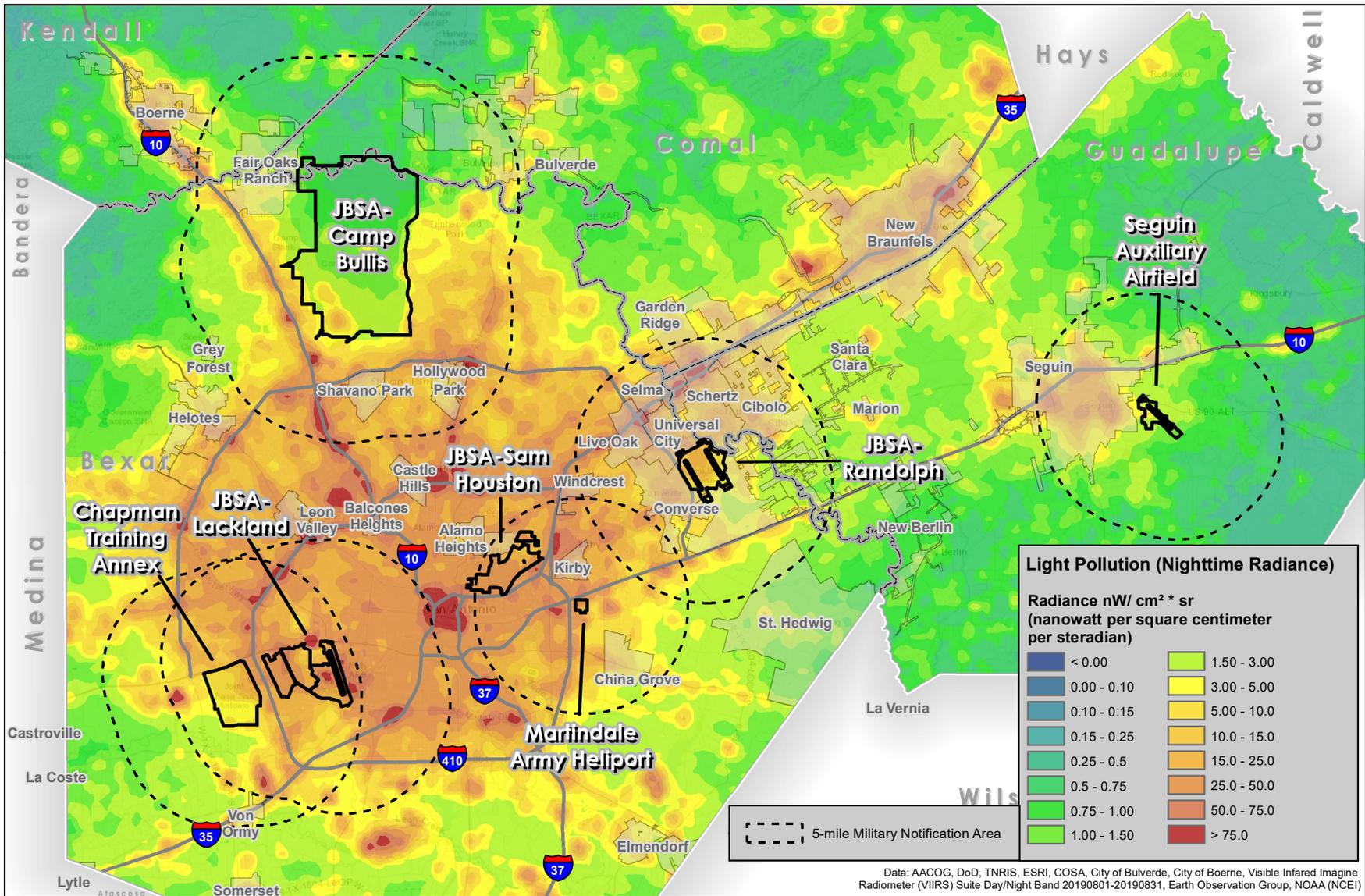
LG-1

| | |
|-----------------------|---|
| Issue ID: LG-1 | Issue: Development around JBSA and MAHP has increased over the past few years and is projected to continue. Vertical development incorporating red LED lights and light pollution can create safety issues while utilizing night vision equipment during training. |
|-----------------------|---|

Issue Description: The development of land near military installations increases the likelihood a vertical obstruction with a red LED light will be constructed and for the area to produce more ambient light. The creation of vertical obstructions with red LED lights presents a hazard to pilots while they are in flight due to the red LEDs not being observable through night vision goggles. Additionally, the presence of increased ambient light degrades or eliminates the effectiveness of night vision equipment. These conditions can impact the quality and quantity of training and result in night training being conducted at other locations where ambient night lighting is conducive to night training.

Analysis: Light pollution is caused by overly bright, outdoor lighting that shines when or where it is not needed. When light pollution is reduced, the view of the night sky is preserved. This reduction can also be attributed to cost savings (utilities/electricity), health improvement, and improved safety of communities.

The light pollution in the Study Area is on Figure 3-12 and shows that the issue exists throughout the region and light pollution has a cumulative, spillover effect. Therefore, if one jurisdiction chooses to implement an initiative, as shown on Figure 3-13, to reduce their light pollution but another adjacent jurisdiction does not, the overall regional impact may be diluted.



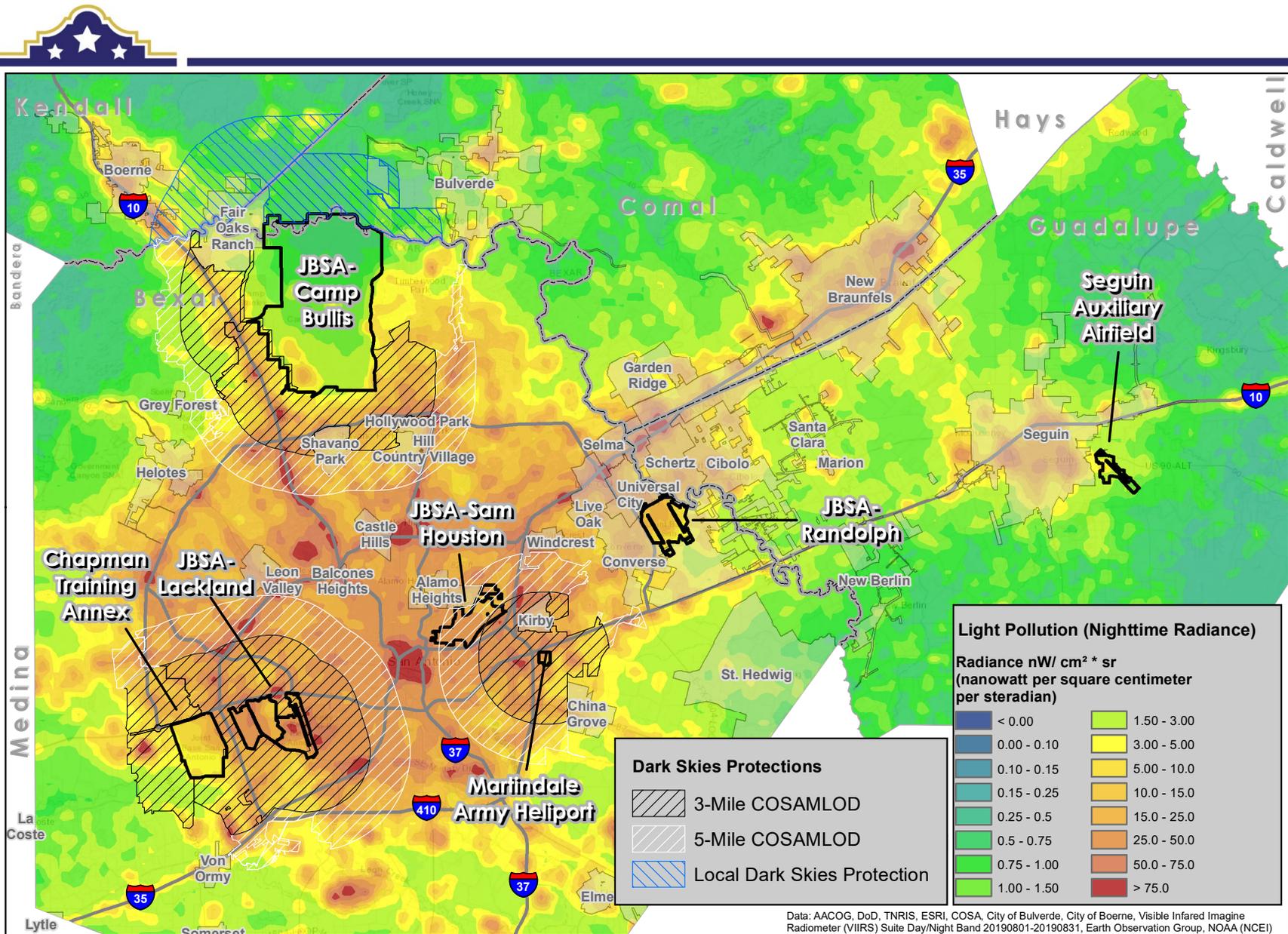
Dark Skies (Light Pollution) in the Study Area



0 5 10 Miles

Figure 3-12.





Dark Skies Protections in the Study Area



0 5 10 Miles

Figure 3-13.



Grandfathered equipment may linger after the passage of new regulations for dark sky-friendly equipment. Dark sky-friendly equipment refers to outdoor lighting fixtures that minimize glare while reducing light trespass and sky glow. Dark sky friendly equipment is approved by the International Dark-Sky Association (IDA). The equipment is required to be fully shielded and to minimize the amount of blue light in the nighttime environment.

Addressing the continued use of older, less standardized equipment is a central pillar to ensuring the region can comprehensively address light pollution. For example, despite the adoption of lighting standards within the City of San Antonio, the area around MAHP has distracting lighting that can be dangerous for TXARNG pilots taking off or landing at MAHP. The following photos were provided by the TXARNG to provide an idea of current conditions regarding lighting around MAHP.



Daytime view from Martindale Army Heliport looking north towards I-10



Nighttime view from Martindale Army Heliport looking north towards I-10



Daytime view from Martindale Army Heliport looking east



Daytime view from Martindale Army Heliport looking south toward East Houston Street



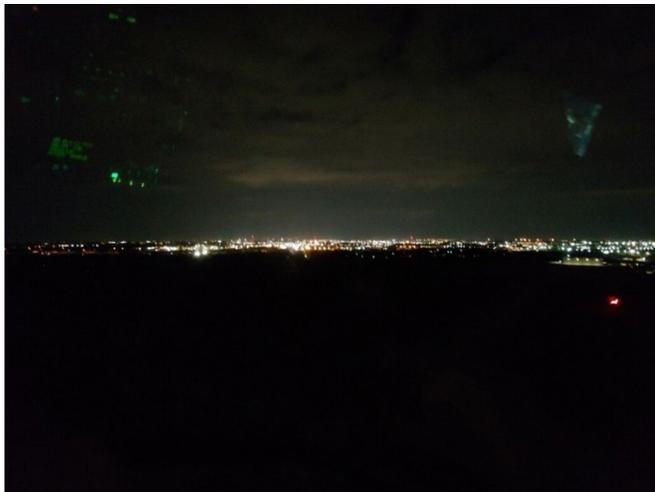
Nighttime view from Martindale Army Heliport looking east



Nighttime view from Martindale Army Heliport looking south towards East Houston Street

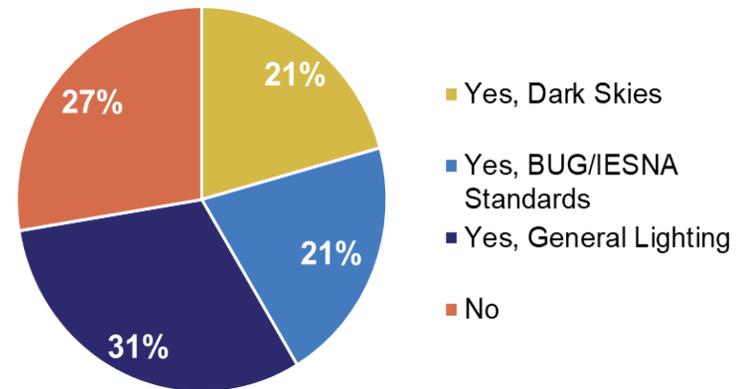


Daytime view from Martindale Army Helicopter looking west toward Loop 410



Nighttime view from Martindale Army Helicopter looking west toward Loop 410

Light pollution, as an issue, has been ongoing and is expected to only intensify as the region continues to grow in population and develop. Jurisdictions throughout the Study Area have passed dark sky ordinances and lighting ordinances with some backlight, uplight, and glare (BUG)/Illuminating Engineering Society of North America (IESNA) in the region as shown on Figure 3-13 and 3-14. Six jurisdictions have passed a dark sky ordinance, another six have passed BUG/IESNA Standard, nine have general lighting ordinances, and eight have none.



Source: Matrix Design Group Analysis of Local Ordinances, 2020

Figure 3-14 Jurisdictional Dark Sky Ordinances in the Study Area

There are regional and local organizations that support the creation of dark sky preservation. These organizations include the IDA Texas chapter, the Hill Country Alliance, the Kendall County Friends of the Night Sky, and the Comal County Friends of the Night Sky.

LG-2

Issue ID: LG-2

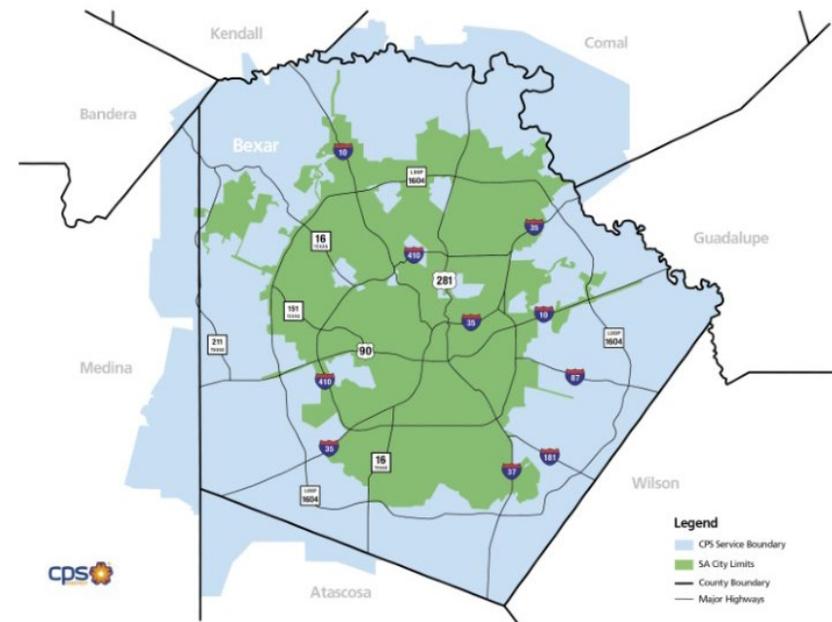
Issue: Regional street lighting and other utility energy saving programs are not aligned with dark skies policy and do not address glint and glare from residential solar arrays.

Issue Description: CPS Energy has many incentive programs to lower energy consumption and increase customer cost savings. However, these programs are not designed to directly address dark skies, which benefit military night training with night vision equipment, or glint and glare from solar arrays, which can impact daytime pilot visibility.

Analysis: This issue was discovered during the research phase of this project and impacts the Study Area where CPS Energy is the electricity provider.

CPS Energy

CPS Energy has a lighting incentive program available to those in their service area (Figure 3-15) that has been successful in its implementation. CPS Energy also has qualifying measures or LED lighting upgrades, which includes tube lights, bulbs, and fixtures. These upgrades must be approved by Design Lights Consortium®, ENERGY STAR®, Lighting Design Lab, or the U.S. Department of Energy's LED Lighting Facts®. Some other CPS Programs include Weatherization where, in 2020, Franklin Energy installed LED lighting in 3,558 homes. However, savings vary significantly based on installed lamp type because of the various baselines in effect for this measure. CPS Energy also has residential programs, which include a home energy assessment, multifamily energy assessment, and incentives to purchase ENERGY STAR lighting from select retailers. The final program, which includes outdoor lighting upgrades, is a commercial program, which offers a plethora of energy solutions.

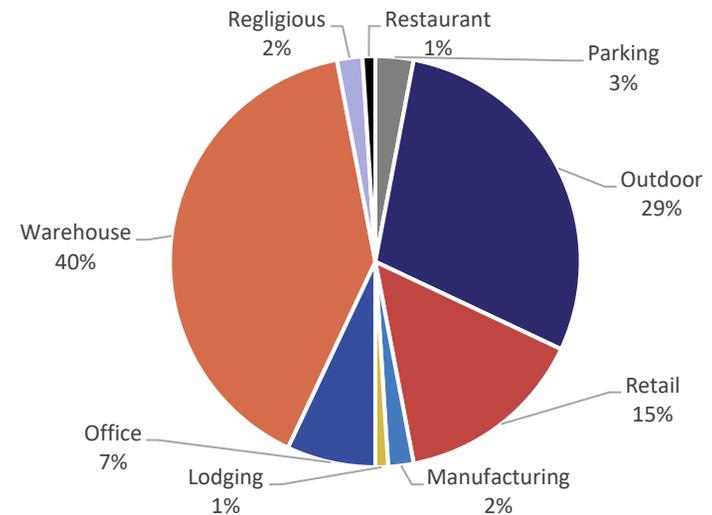


Source: Wellssolar.com, 2020

CPS Energy service boundary is covered by the blue area and inclusive of the City of San Antonio, which is in green.

Figure 3-15 CPS Energy Service Boundary

Commercial and Industrial (C&I), part of the commercial programs offered by CPS Energy, provide energy assessments to identify opportunities and rebates for measures, including lighting, HVAC, and refrigeration. Within the lighting impacts shown on Figure 3-16, 29% of the energy savings were found in outdoor uses. This percent equated to 54,127,863 kWh of gross energy savings in 2020. However, these new or replacement lighting may not follow dark sky guidelines.



Source: Frontier Energy, Inc., 2020

Outdoor building accounts for 29% of all C&I lighting impacts, and warehouse accounted for most of these impacts at 40% of all C&I lighting impacts.

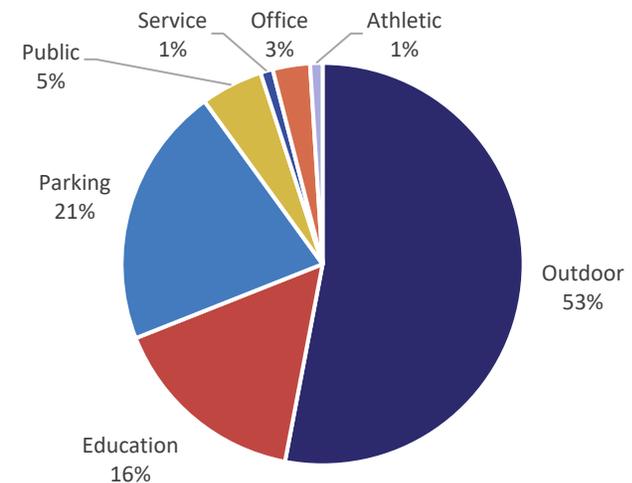
Figure 3-16 Percent of kWh Savings by Building Type for Sampled Lighting Projects



The Schools and Institutions (S&I) Program, part of the commercial programs from CPS Energy, registered 53% of its lighting impacts from outdoor uses (Figure 3-17). This percent equated to 3,132,350 kilowatt hours of gross energy savings in 2020. This program, while successful, does not have dark sky guidelines for the implementation of outdoor lighting.

The C&I and S&I programs' outdoor lighting upgrades combined for 16,539 megawatt hours of energy savings in 2019 alone. The incentives and programs upgrading outdoor lighting are efficient. However, per a CPS Energy representative, none of the current programs or incentives require or utilize dark sky requirements. Per an CPS Energy representative, whenever a project is submitted by a developer or business in the City of San Antonio, it must adhere to the lighting ordinances and MLOD if required. While most of the CPS Energy service area is within the City of San Antonio boundary, there is area outside of the City of San Antonio that could benefit from dark sky requirements tied to the energy efficient upgrades

Additionally, the CPS Energy representative noted that when developing street lighting, their standard is LED lighting. CPS Energy incorporates the appropriate shielding and downward lighting when the lighting is within or near an MLOD.



Source: Frontier Energy, Inc., 2020

Outdoor delivers 53% of all S&I solutions through lighting impacts.

Figure 3-17 Schools and Institutions Percent of kWh Savings by Building Type for Sampled Lighting Projects

Guadalupe Valley Electric Cooperative

The Guadalupe Valley Electric Cooperative (GVEC) does not currently offer energy efficiency lighting programs. GVEC does maintain some but not all the streetlights within their service area, and the maintenance is dependent on contracts with the cities in their service area.

Property Assessed Clean Energy (PACE)

The Property Assessed Clean Energy (PACE) Act was passed by the Texas legislature in 2013. The act created an innovative financing tool that allows owners of commercial, industrial, nonprofit, and large multifamily residential properties access to low-cost, long-term loans to conduct energy efficiency and water conservation improvements to real property. Since the establishment of PACE, over 35 counties and cities have implemented the program in their jurisdictions, resulting in 26 executed projects that are valued at over \$100 million in loans. PACE allows a local government the authority to designate an area within its legal jurisdiction where record owners of listed building types have access to this financing tool.

AACOG administers the program and provides education and outreach. PACE financing may pay for qualified improvements to eligible properties. Qualified improvements are permanent improvements intended to decrease water or energy consumption or demand, including a product, device, or interacting group of products or devices on the customer's side of the meter that use energy technology to generate electricity, provide thermal energy, or regulate temperature. Under PACE, products or devices that are not permanently fixed to real property are not considered to be qualified improvements. A qualified improvement may be high-efficiency lighting system upgrades.

These programs, while instrumental to the conservation of energy in the region, do not include requirements for light conservation or dark sky policies.



3.15 Noise (NOI)

Sound that reaches unwanted levels is considered noise. The central issue with noise is the impact, or perceived impact, on people, animals (wild and domestic), and general incompatibility with noise-sensitive land uses, such as residences, schools, and hospitals. Exposure to high noise levels can have a significant impact on human activity, health, and safety. The decibel (dB) scale is used to quantify sound intensity. To help understand the relevance of decibels, a normal conversation often occurs at 60 dB, while an ambulance siren from 100 feet away is about 100 dB. Noise associated with military operations (overflight of military aircraft, firing of weapons, etc.) may create noises in higher dB ranges.

NOI-1

Issue ID: NOI-1

Issue: Incompatible uses have been developed within the noise contours near JBSA installations.

Issue Description: The DoD provides land use guidance within noise zones to encourage jurisdictions to adopt land use policy and regulation for compatible development of noise sensitive land uses, such as residences, educational institutions, and health care facilities. Land uses incompatible with the DoD land use guidance have been developed within noise contours at JBSA installations, which can impact quality of life and generate noise complaints to the military.

Analysis: Within the entire region, many different land uses have been developed within the noise contours of the airfields studied in this RCUP. Incompatible land uses exist within the noise contours of JBSA-Lackland, JBSA-Randolph, SAAF, and MAHP.

The noise contours have been chronicled in three different studies. For JBSA-Lackland, JBSA-Randolph, and SAAF, the contours are predicated in their respective AICUZ studies. The AICUZ studies for JBSA-Lackland and JBSA-Randolph/SAAF were completed by the AFCEC in October of 2019 and October of 2017, respectively. Additionally, MAHP had a noise study completed by the U.S. Army Public Health Center in April of 2018. These reports, their assessments, and conclusions were used in assessing the noise contours for each of the airfields.

For total acres and estimated population of off-base land within JBSA-Lackland, JBSA-Randolph, and SAAF, see Tables 3-8 and 3-9.

Table 3-8 Total Acres and Estimated Population of Off-Base Land within JBSA-Lackland, JBSA-Randolph, and SAAF

| Noise Zone (dB DNL) | JBSA-Lackland | | JBSA-Randolph | | SAAF | | Total | |
|---------------------|---------------|----------------------|---------------|----------------------|-------|----------------------|-------|----------------------|
| | Acres | Estimated Population | Acres | Estimated Population | Acres | Estimated Population | Acres | Estimated Population |
| 65-69 | 1,685 | 5,359 | 1,941 | 1,243 | 1,263 | 88 | 4,889 | 6,690 |
| 70-74 | 553 | 1,925 | 664 | 420 | 409 | 29 | 1,626 | 2,374 |
| 75-79 | 105 | 254 | 156* | 37* | 21 | 1 | 282 | 292 |
| 80-84 | 14 | 20 | 0 | 0 | 0 | 0 | 14 | 20 |
| 85+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 2,357 | 7,558 | 2,741 | 1,700 | 1,693 | 118 | 6,791 | 9,376 |

Source: JBSA-Randolph and Seguin AICUZ Study, 2017; JBSA-Lackland AICUZ Study, 2019

JBSA-Randolph only uses ranges from 65-69, 70-74, and 75+ decibels in their table displaying noise zones. The noise contours of 80+ fall outside of the installation; these figures are aggregated in the 75-79 range.

The MAHP noise study does not provide the acreages for the land areas beneath the traffic pattern loop or noise contours. It is unknown how many acres are within the MAHP noise contours or the estimated population who live within the contours.

Table 3-9 Off-Installation Land Area within Noise Zones for the Chapman Training Annex (Fmr. Medina Annex)

| Noise Zone (dB PK15) | Acres | Population |
|----------------------|-------|------------|
| 87-104 | 592 | 631 |
| >104 | 37 | 37 |
| 115-130 | 1,750 | 2,791 |
| >130 | 251 | 249 |
| TOTAL | 2,630 | 3,708 |

Source: JBSA-Lackland, 2019

JBSA-Lackland Land Uses within Noise Contours

Per the JBSA-Lackland AICUZ, the Air Force does not have specific land use recommendations associated with 115 to >130 dBPK15 noise contours from the detonation of explosives (i.e., explosives), but their location relative to homes and other noise-sensitive uses are a concern as shown in Table 3-10. There is a moderate risk for future noise complaints associated with Chapman Training Annex training activities.

Table 3-10 JBSA-Lackland Off-Installation Existing Land Use Acreage Compatibility within AICUZ Noise Zones

| Designation | Generalized Land Use Category | Noise Zone (dB DNL) | | | | | Total |
|--------------|-------------------------------|---------------------|-------------------|-------|-------|------|-------|
| | | 65-69 | 70-74 | 75-79 | 80-84 | 85+ | |
| Incompatible | Mobile Homes | - | 1.2 | 0.3 | - | - | 1.5 |
| | Rural Residential | 240.0 ¹ | 28.9 ¹ | 4.7 | 7.6 | - | 281.2 |
| | Single-Family Residential | 235.1 ¹ | 86.7 ¹ | 32.4 | 5.2 | - | 359.4 |
| | Multifamily Residential | 4.9 ¹ | - | - | - | - | 4.9 |
| | Commercial | - | - | - | 0.7 | - | 0.7 |
| | Industrial | - | - | - | - | - | - |
| | Institutional | - | - | - | - | - | - |
| | Vacant | - | - | - | - | - | - |
| | Agricultural | - | - | - | - | - | - |
| | Office and Business Park | - | - | - | - | - | - |
| | Other | - | - | - | - | - | - |
| | Undesignated | 7.1 | 2.1 | 4.7 | 0.7 | - | 14.5 |
| | Total | Incompatible | 487.1 | 118.7 | 42.1 | 14.2 | - |

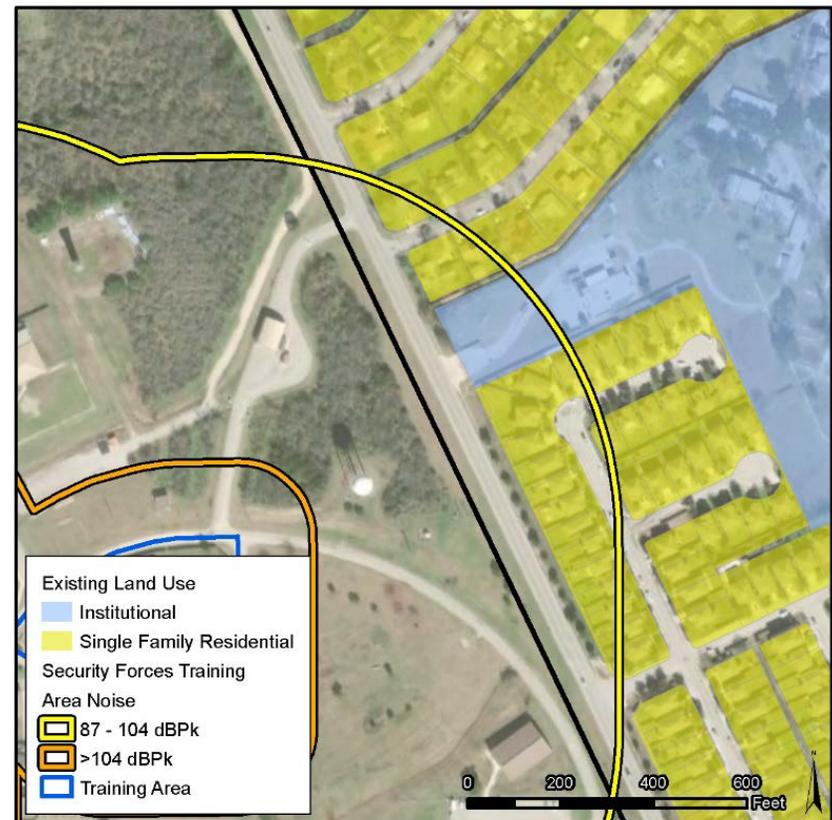
Source: JBSA-Lackland AICUZ Study, 2019

Note: All contour areas on-installation are excluded from the counts:
¹incompatible with exception



The Chapman Training Annex also has noise contours that extend outside the installation boundary to the east and southwest and include 87-104 dB Pk15 noise zones that originate from a small arms range. Incompatible land uses within this noise contour include residential land uses within Valley High North subdivision along Ray Ellison Boulevard as shown in Figure 3-18. Chapman Training Annex includes an EOD range, which has 115-130 dBPk15 and >130 dBPk15 noise contours. These noise contours extend to two subdivisions; however, the Air Force does not have specific land use recommendations associated with 115 to >130 dBPk15 noise contours that originate from explosives. As stated in the JBSA-Lackland AICUZ, this lack of mitigation strategies puts the installation at a moderate risk for future noise complaints, which could be associated with the small arms range or the EOD range.

The JBSA-Lackland 2019 AICUZ Study carefully delineates and quantifies the compatible and incompatible land uses within the noise contours that extend off the installation and into neighboring jurisdictions. The noise contours that extend off the installation include 65-85 dB DNL noise contours. In summary, there are currently 1,387.5 acres of incompatible development within the noise contours at JBSA-Lackland as shown in Table 3-11 and Figure 3-19.



Source: JBSA-Lackland AICUZ Study, 2019

Chapman Training Annex Noise Contours within Valley High North

Figure 3-18 Noise Contours Extending into Residential- and Institutionally-Zoned Areas near JBSA-Lackland



JBSA-Randolph Land Uses within Noise Contours

Existing off-base land uses within the JBSA-Randolph AICUZ footprint are shown in Table 3-12. The land to the north of JBSA-Randolph is generally more developed than the area to the south. The 65- to 69-dB DNL noise contours on Runway 15R extend slightly off-base, but there are no incompatible land uses in the area. Runway 15L has residential and commercial land uses within the 65- to 69-dB DNL and the 70- to 74-dB DNL noise contours. There are also two churches and one school identified within the 70- to 74-dB DNL noise zone. Existing land uses and areas of concern are shown on Figures 3-20 and 3-21.

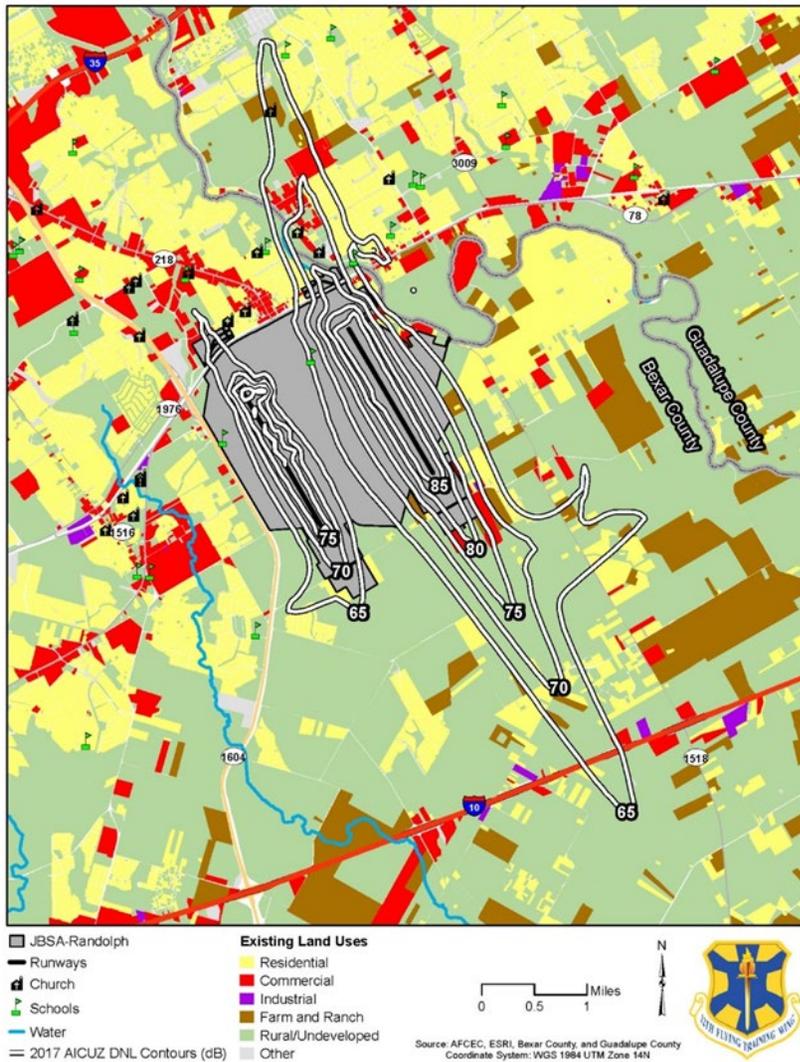
The land to the south of JBSA-Randolph is mostly undeveloped; however, there are master-planned communities developing to the south of JBSA-Randolph. Within the southern noise contours there are single-family homes on large acre lots, which are within the 65- to 69-dB DNL and the 70- to 74dB DNL noise zones. The 65- to 69-dB DNL noise contours, which extend from Runway 15L/33R, extend further east of the installation and may impact residential areas in Willow Grove, which is a residential development east of JBSA-Randolph, and Rhine Valley Development on the eastern side of FM 1518. Additionally, a portion of the McArthur Park residential community is in the 65- to 69-dB DNL noise zone of Runway 33L. Planned developments exist within the 75- to 79-dB DNL and the 80- to 84-dB DNL noise contours that extend off base south of Runway 33R. Residential land use within these zones is incompatible, and commercial and public uses are discouraged.

Public assembly land uses, such as churches and schools, can be considered compatible within the 65- to 69-dB DNL and 70- to 74-dB DNL noise zones with proper noise attenuation measures. Mobile homes are incompatible within all noise zones or contours. Additionally, within the 75- to 79-dB DNL and the 80- to 84-dB DNL noise contours, residential land use is incompatible, and commercial and public uses are discouraged.

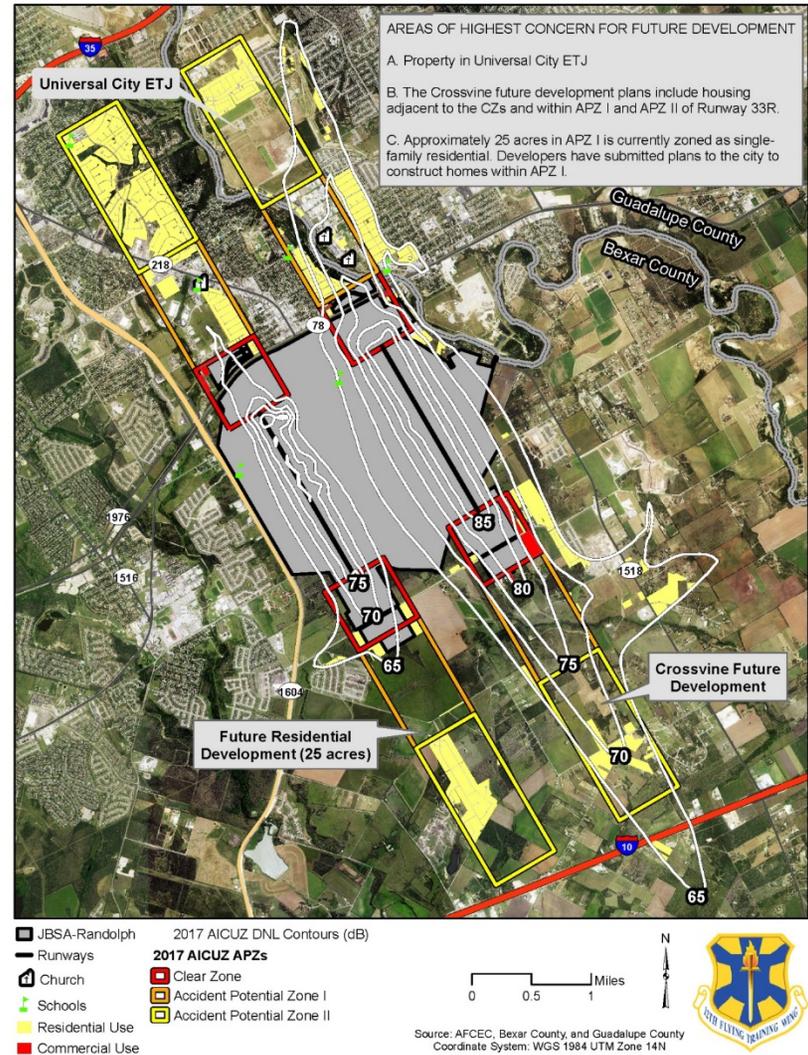
Table 3-12 Existing Off-Base Land Uses within the JBSA-Randolph AICUZ Footprint

| Land Use | Noise Zones (acres) | | | |
|-------------------|---------------------|-------|-------|-------|
| | 65-70 | 70-75 | 75-80 | 80-85 |
| Residential | 335.4 | 70.3 | 1.2 | 1.5 |
| Commercial | 133.9 | 75.3 | 28.1 | 2.3 |
| Industrial | 0.0 | 2.2 | 0.0 | 0.0 |
| Farm and Ranch | 159.3 | 23.3 | 6.5 | 0.0 |
| Rural/Undeveloped | 1,158.7 | 393.6 | 108.3 | 9.6 |
| Other | 153.7 | 79.4 | 0.0 | 0.0 |

Source: JBSA-Randolph AICUZ 2017



Source: JBSA-Randolph, 2017
Figure 3-20 Existing Land Uses within the JBSA-Randolph 2017 AICUZ Noise Contours



Source: JBSA-Randolph, 2017
Figure 3-21 Areas of Compatibility Concerns at JBSA-Randolph

SAAF Incompatible Land Uses within Noise Contours

Most of the area around SAAF is rural and open rangeland with some isolated single-family homes. However, there is incompatible development within the noise contour areas. The existing off-base land uses within the SAAF AICUZ footprint are shown in Table 3-13, and the areas of concern are shown on Figure 3-22.

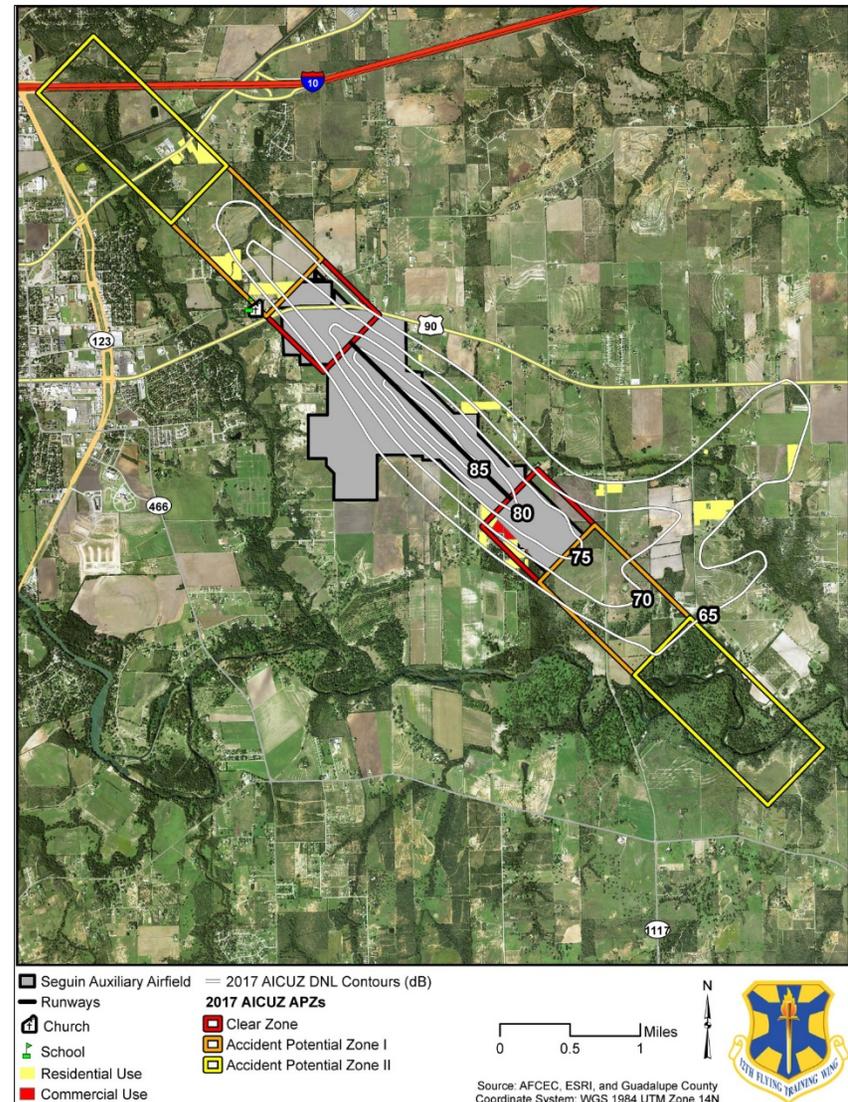
There are low-density residential areas, including a few single-family homes and mobile homes, as well as one commercial property, within the 70- to 74-dB DNL noise contour area. Residential land use is strongly discouraged in this noise zone. There are additional residential areas within the 65- and 69-dB DNL within the northern noise contours. Residential use in this zone is also discouraged. There is also manufactured housing on the eastern boundary of the airfield and on the northern side of U.S. 90 within the 65- to 69-dB DNL and 70-dB to 74-dB DNL noise zones. Mobile homes are incompatible within all noise zones.

To the south, there are a few single-family homes within the 65- to 69-dB DNL noise zone.

Table 3-13 Existing Off-Base Land Uses within the SAAF AICUZ Footprint

| Land Use | Noise Zones (acres) | | | |
|-------------------|---------------------|-------|-------|-------|
| | 65-70 | 70-75 | 75-80 | 80-85 |
| Residential | 71.8 | 19.8 | 0.0 | 0.0 |
| Commercial | 5.9 | 7.7 | 3.1 | 0.0 |
| Industrial | 0.0 | 0.0 | 0.0 | 0.0 |
| Farm and Ranch | 401.6 | 155.1 | 9.7 | 0.0 |
| Rural/Undeveloped | 746.9 | 188.4 | 2.5 | 0.0 |
| Other | 37.1 | 38.4 | 5.6 | 0.0 |

Source: JBSA-Randolph, 2017



Source: JBSA-Randolph, 2017

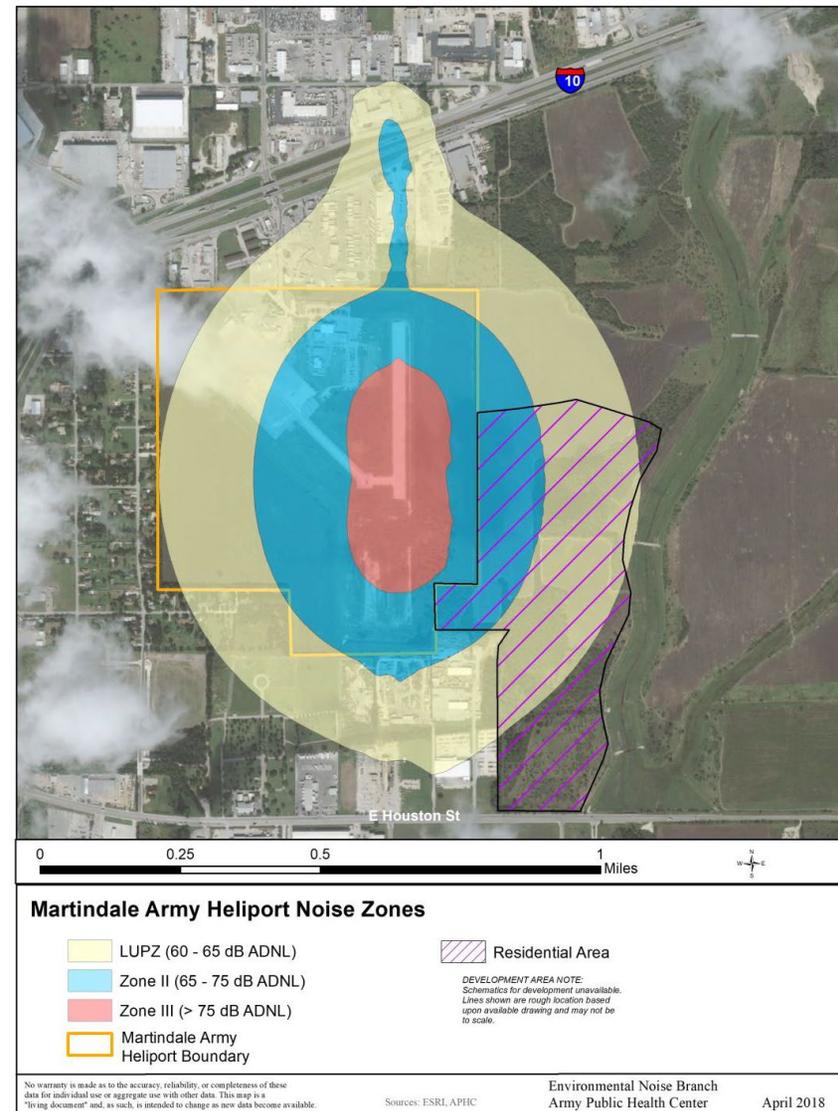
Figure 3-22 Areas of Compatibility Concerns at SAAF

Martindale Army Helicopter Land Uses within Noise Contours

MAHP has had an environmental noise consultation completed by the U.S. Army Public Health Center in 2018. This study displayed the noise zones around the installation (see Figure 3-23) and found a proposed housing area within Zone II (65- to 75-dB ADNL) that could be impacted by noise and generate complaints if the proposed development was constructed.

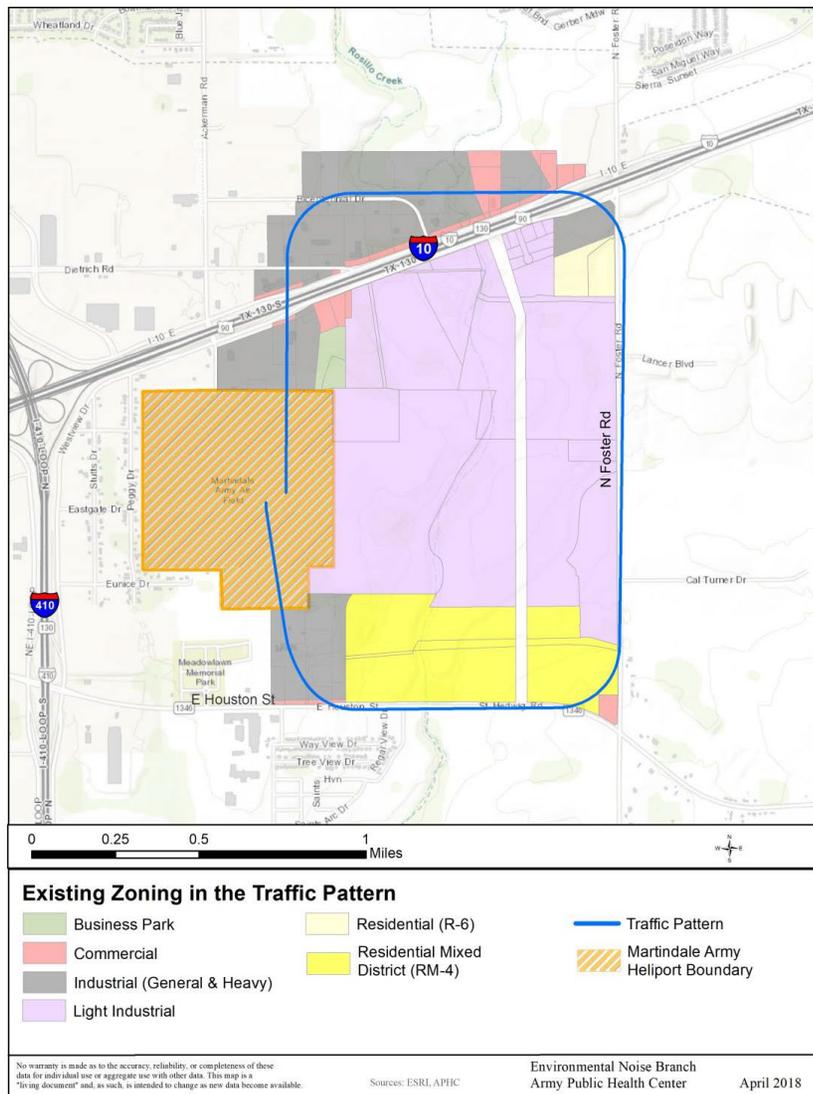
Additionally, the study found that the normal traffic pattern for rotary aircraft, shown on Figure 3-24 and 3-25, could expose the population to levels of noise that would be a nuisance. The study found that, based on the potential for annoyance, sleep disturbance, activity interference, and speech interference from the helicopter activity, noise-sensitive land uses within 1,000 feet of the eastern boundary are strongly discouraged. The study also recommended residential buyers are made aware that the property is within proximity to a military heliport, which has frequent operations both during the day and at night.

The study also shows that existing zoning, as shown on Figure 3-24, allows for residential development within Zone II and for a proposed development adjacent to and east of the base (Figure 3-23).

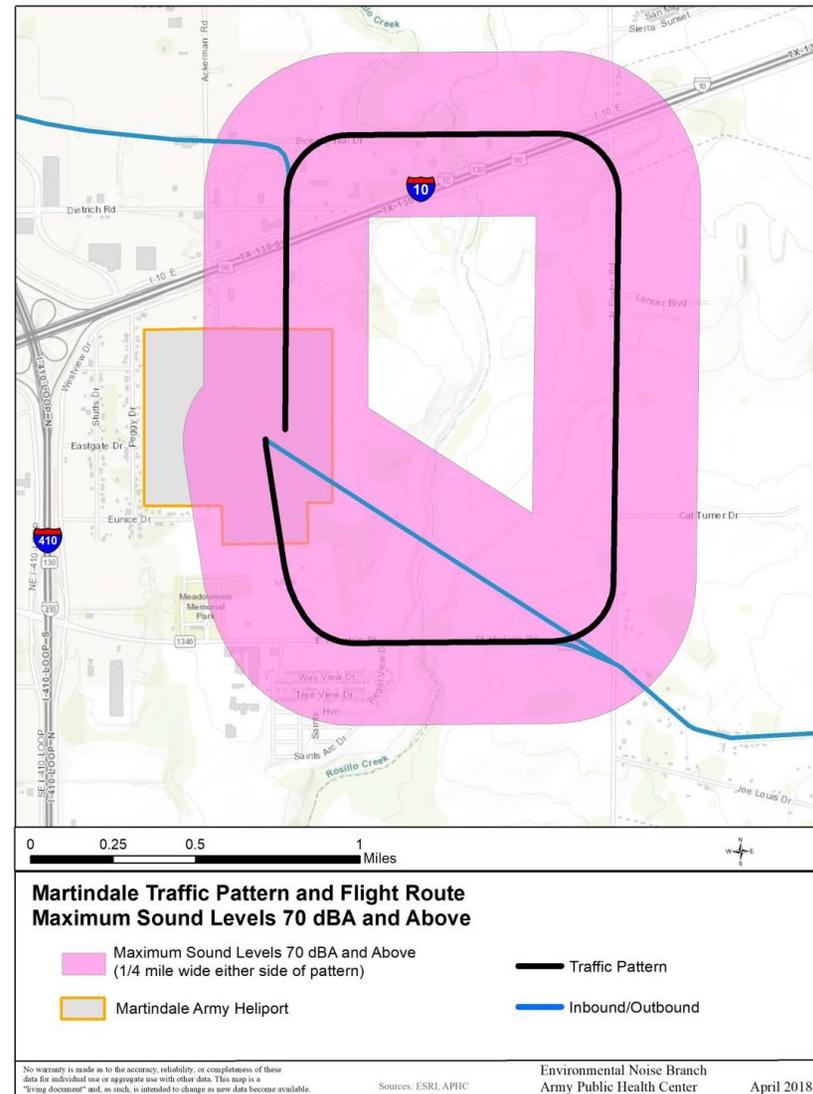


Source: Environmental Noise Consultation, 2018

Figure 3-23 MAHP Noise Zones



Source: Environmental Noise Consultation, 2018
 Figure 3-24 Existing Zoning in the MAHP Traffic Pattern



Source: Environmental Noise Consultation, 2018
 Figure 3-25 MAHP Traffic Pattern and Flight Route
 Maximum Sound Level 70 dBA and Above

NOI-2

Issue ID: NOI-2

Issue: Noise impacts associated with large-scale training exercises.

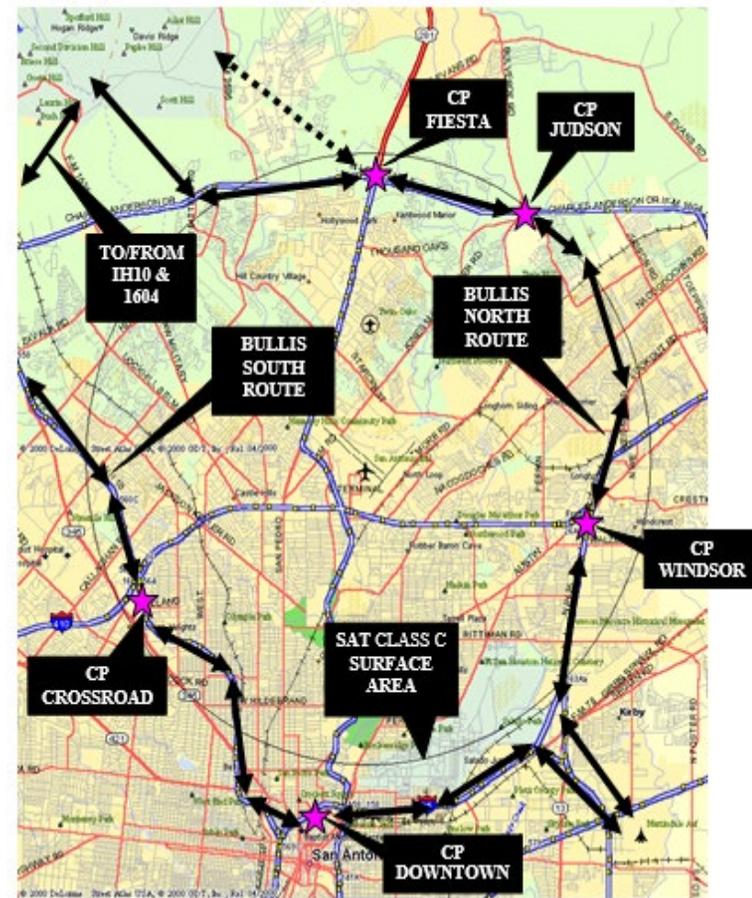
Issue Description: There are large-scale Air Force and TXARNG training and engagement activities for aircraft and rotary wing pilot training that occur within the regional area. These activities involve larger numbers of aircraft and operations that generate noise. Depending on the location of the activities, communities in the region may be impacted by noise and other related activities.

Analysis: The issue exists where there are MTRs, approach and departures (also known as arrival/departure) routes, and rotary wing routes over populated areas.

Noise is defined as “unwanted sound,” and aircraft noise is an environmental impact from aviation that is almost unavoidable, regardless of the aircraft being utilized. Noise can impact the region in several ways. Noise can become a community annoyance, disrupt sleep, have negative impacts on academic performance in children, and could increase the risk of cardiovascular disease of people living in the vicinity of airports. As the region continues to urbanize and densify where it is already urban, the impacts associated with noise will only continue to increase.

While aviation noises are intermittent in nature, compared to continuous road traffic noise generated by vehicles on a busy road, and, typically, shorter in duration, environmental impacts still exist. Further, when aircraft fly in formation, the noise intensity increases. The airfield manager of MAHP described multi-aircraft formations (greater than two helicopters) as having the potential to amplify major sound issues. Figure 3-26 shows the common rotary wing routes used in the Alamo Area. Predominately, these routes are flown over populated areas where noise impacts can have a greater impact on

communities. If the TXARNG needs to complete training exercises with multiple rotary wing aircraft (two or more aircraft), the increased intensity may reduce the quality of life for those below.



Source: TXARNG

Figure 3-26 Commonly Used Routes by the TXARNG from Martindale Army Heliport



This issue exists throughout the region. Currently, there are thousands of flights undertaken within the region every year. While JBSA-Camp Bullis does not have aircraft stationed at the installation, JBSA-Lackland had 36,568 annual flight operations in 2018. The rotary wing unit at MAHP operates 1,000 annual flights per year, which equates to 32 flights per week and an additional 72 flights on a drill weekend. Additionally, JBSA-Randolph has 248,049 projected annual flight operations. In these instances, an aircraft operation is defined as one takeoff or one landing. Lastly, SAAF has 102,264 projected annual flight operations.

There are many different regional solutions to address this issue. JBSA has multiple noise complaint processes available to the public. JBSA posts alerts regarding future aircraft operations on their website and their social media accounts.

- Website (<http://www.jbsa.mil>)
- Facebook (<https://www.facebook.com/JointBaseSanAntonio>)
- Twitter (twitter.com/JBSA_Official)

Additionally, JBSA-Lackland encourages the community to contact their public affairs (PA) office:

- Phone: 210-671-2907
- E-mail: 502abw.paola.Inbox@us.af.mil

Lastly, a JBSA-Randolph PA officer will inform local officials about upcoming events and post notifications to their website. Concerned citizens are directed to the 12 FTW PA office phone.

- Phone: 210-652-1272

3.16 Roadway Capacity (RC)

Roadway capacity refers to the adequacy of existing freeways, highways, arterials, and local roads in providing sufficient mobility, connectivity, and access to military installations and points of interest in surrounding communities.

As urban development continues to expand into rural areas, roads once used primarily to provide access for agricultural uses and limited local traffic begin to function as urban arterial roadways. These once rural roads often become the main transportation corridors for all types of traffic — from residential to commercial trucking — and can assist or impede access to military installations. As transportation systems grow and provide more capacity, these facilities may induce and encourage growth as rural areas become more accessible.

RC-1

Issue ID: RC-1

Issue: Roads around JBSA installations experience congestion during peak travel times.

Issue Description: Roads around JBSA installations experience traffic congestion, which can create safety issues and increased travel times for traffic going to installations and around them. With respect to JBSA-Randolph, there has been a recent increase in the amount of traffic traveling to and from the installation from Cibolo due to the number of Airmen residing there. Rocket Lane continues to experience congestion in Converse, and the City of Live Oak is concerned about traffic congestion due to urbanization around the city. During training graduation days at JBSA-Lackland, there can be between 3,000 and 5,000 visitors, which can cause traffic backups at the main gate, and the main gate at Camp-Bullis experiences congestion.

Analysis: One of the top priorities at a military installation is keeping the installation secure, which involves the screening of vehicles and individuals passing through the entry gates to access the base. A single authorized vehicle entering the base does not typically take a long time to process with the proper credentials; however, the main gate's capacity during times of heavy traffic flow onto JBSA installations may create congestion when entering the main gate.

JBSA-Randolph

A recent increase in the amount of traffic traveling to and from the installation from Cibolo is the result of the number of Airmen residing there. Rocket Lane continues to experience congestion in Converse, and the City of Live Oak is concerned about traffic congestion due to urbanization around the city.

JBSA-Lackland

During training graduation days, there can be between 3,000 and 5,000 visitors, which can cause traffic backups at the main gate.



JBSA-Camp Bullis

During AM and PM peak traffic hours, traffic backs up at the JBSA-Camp Bullis main gate.

Most of the road network around JBSA facilities operates at an unsustainable level of service, and the roadway network is defined as congested during peak hours and PM hours. By 2040, the JBSA region will continue to see significant rises in demand for the transport system with the addition 1.1 million people to the population.

Due to this continued development and with vehicle miles traveled rising, the levels of congestion would worsen. During an RCUP focus group discussion, a TxDOT representative stated the highest population growth is expected to occur on the far-west side, downtown San Antonio, and the region's far-north side. By 2040, the north side of the city would be congested. Except for Wurzbach Parkway, all major roads on the north and west sides of the city outside of Loop 410 would surpass capacity. The south side will also face considerable congestion.

TxDOT has prioritized many roadway projects that address congestion around JBSA installations. Key projects programmed and funded include the following:

- **FM 3351** — Expand from two to four lanes, with turn lanes, bike lanes, and sidewalks.
- **U.S. 90** — Expand from four-lane divided highway to six-lane expressway and improve U.S. 90 and Loop 1604 interchange.
- **FM 1518** — Expand from two to four lanes with raised median, shared-use path, turn lanes, and sidewalks.
- **FM 1535** — Expand from two to four lanes with raised median or center turn lane, bike lanes, and sidewalks.
- **Loop 1604** — Expand from four to 10 lane expressway, including two HOV-special use lanes, and improving the Loop 1604 and Interstate 10 interchange.
- **I-10** — Add four lanes, including two HOV lanes. Now eight lanes.

RC-2

Issue ID: RC-2

Issue: Need for JBSA and MAHP (TXARNG or TMD) participation in the AAMPO.

Issue Description: There is a desire among the Federal Highway Administration (FHWA) for the military to be more active within the AAMPO. The Air Force may attend meetings or provide input on a case-by-case basis but not at regular intervals. Additionally, by-laws for AAMPO do not allow JBSA a seat on the AAMPO policy committee.

Analysis: Currently, AAMPO by-laws prohibit JBSA from having a seat on the policy committee. While JBSA can attend meetings voluntarily or provide input when consulted, there is no mechanism in place to ensure they have input on all policy decisions. The absence of representation can have consequences for AAMPO and JBSA, including the lack of awareness of regional transportation plans, programs, projects, or other regional initiatives; input on decisions made by AAMPO on transportation projects; and the AAMPO not receiving critical transportation information from JBSA. The composition of the AAMPO Policy Board is shown on Figure 3-27.



| <u>Members</u> | <u>Alternate Members</u> | <u>Affiliation</u> |
|-------------------------------------|----------------------------|--|
| Jordana Matthews | Mayor Louis Cooper | Advanced Transportation District |
| Michael J. Lynd, Jr. | Vacant | Alamo Regional Mobility Authority |
| Commissioner Tommy Calvert | Vacant | Bexar County |
| Renee Green, P.E. | Vacant | Bexar County |
| Trish DeBerry | Vacant | Bexar County |
| Rebeca Clay-Flores | Vacant | Bexar County |
| Councilmember Shane Hines | Councilmember Jason Hurta | City of New Braunfels |
| Councilwoman Melissa Cabello Havrda | Vacant | City of San Antonio |
| Councilwoman Shirley Gonzales | Vacant | City of San Antonio |
| Councilman Clayton Perry | Vacant | City of San Antonio |
| Councilwoman Ana E. Sandoval | Vacant | City of San Antonio |
| Razi Hosseini, P.E. | Bianca Thorpe, P.E. | City of San Antonio |
| Bridgett White | Rudy Niño | City of San Antonio |
| Mayor Donna Dodgen | Don Keil | City of Seguin |
| Commissioner Kevin Webb (Chair) | Commissioner Scott Haag | Comal County |
| Mayor Chris Riley | Cheryl Landman | Greater Bexar County Council of Cities |
| Judge Kyle Kutscher | Commissioner Jim Wolverton | Guadalupe County |
| Commissioner Christina Bergmann | Jeff Haberstroh | Kendall County Geographic Area |
| Councilman Kevin Hadas | Mayor Mary Dennis | Northeast Partnership |
| Gina Gallegos, P.E. | Jonathan Bean, P.E. | Texas Department of Transportation |
| Javier Paredes | Kristi Villanueva | VIA Metropolitan Transit |
| Ex-Officio | | |
| Diane Rath | Vacant | Alamo Area Council of Governments |
| Kevin Wolff | Vacant | Bexar County |
| Greg Wood | Vacant | Federal Highway Administration |
| Vic Boyer | Vacant | San Antonio Mobility Coalition |
| Nick Page | Vacant | Texas Department of Transportation |
| Jeff Arndt | Vacant | VIA Metropolitan Transit |

Source: AAMPO, 2021

Figure 3-27 Transportation Policy Board List



| Members | Alternate Members | Affiliation |
|--------------------------|----------------------------|--|
| Manjiri Akalkotkar | Christina Castano | Advanced Transportation District |
| Stella Garcia | Sean Scott | Alamo Area Council of Governments |
| Reggie Fountain, P.E. | Dave Wegmann, P.E. | Alamo Regional Mobility Authority |
| Dave Wegmann, P.E. | Jesse Garcia, P.E. | Bexar County |
| Garry Ford, P.E., PTOE* | Mary Hamann, P.E. | City of New Braunfels |
| Marc Jacobson, P.E. | Lilly Banda | City of San Antonio |
| Bianca Thorpe, P.E.** | Lauren Simcic | City of San Antonio |
| Christina DeLaCruz, P.E. | Greg Reininger | City of San Antonio |
| David Rabago, P.E., CFM | Ismael Segovia | City of Seguin |
| Tom Hornseth, P.E. | David Vollbrecht, P.E. | Comal County |
| David Dimaline | Manny Longoria | Greater Bexar County Council of Cities |
| Allen Dunn, P.E. | Scott Larson | Guadalupe County |
| Jeff Carroll, P.E. | Katherine Schweitzer, P.E. | Kendall County Area |
| Yida Capriccioso | Lydia Kelly | MPO Bicycle Mobility Advisory Comm. |
| Robert Hanley, AIA | Brian Crowell | MPO Pedestrian Mobility Advisory Comm. |
| Blake Partridge | Joel Hicks | Northeast Partnership |
| Nicholas Wingerter | Vacant | Private Transportation Providers |
| Clayton Ripps, P.E. | Mark Mosley, P.E. | Texas Department of Transportation |
| Kammy Home, AICP | Art Herrera | VIA Metropolitan Transit |

* Chair
 ** Vice Chair

Prior to the start of the JBSA RCUP project, JBSA only attended AAMPO meetings on an as-needed or case-by-case basis. This minimal participation was partly because JBSA did not have representation on either of the committees as shown on Figure 3-28.

During this project, the AAMPO was contacted by the AACOG to see if JBSA could be given a regular position on the Technical Advisory Committee (TAC) within AAMPO. AAMPO responded by stating their organizational policies would need to be amended to include a JBSA representative on their committees. On September 28, 2020, AAMPO amended their policies to include a JBSA representative on their MPO TAC. JBSA provided AAMPO with an appointment letter for JBSA executive director of community initiatives to become a permanent member of the TAC. As an example of this addition, the updated TAC list is provided in Figure 3-29.

Source: AAMPO, 2020

Figure 3-28 Technical Advisory Committee List



| <u>Members</u> | <u>Alternate Members</u> | <u>Affiliation</u> |
|--------------------------|---------------------------------|--|
| Manjiri Akalkotkar | Christina Castano | Advanced Transportation District |
| Stella Garcia | Sean Scott | Alamo Area Council of Governments |
| Reggie Fountain, P.E. | Dave Wegmann, P.E. | Alamo Regional Mobility Authority |
| Dave Wegmann, P.E. | Jesse Garcia, P.E. | Bexar County |
| Garry Ford, P.E., PTOE* | Mary Hamann, P.E. | City of New Braunfels |
| Marc Jacobson, P.E. | Lilly Banda | City of San Antonio |
| Bianca Thorpe, P.E.** | Lauren Simcic | City of San Antonio |
| Christina DeLaCruz, P.E. | Greg Reininger | City of San Antonio |
| David Rabago, P.E., CFM | Ismael Segovia | City of Seguin |
| Tom Hornseth, P.E. | David Vollbrecht, P.E. | Comal County |
| David Dimaline | Manny Longoria | Greater Bexar County Council of Cities |
| Allen Dunn, P.E. | Scott Larson | Guadalupe County |
| John Anderson | Vacant | Joint Base San Antonio |
| Jeff Carroll, P.E. | Katherine Schweitzer, P.E. | Kendall County Area |
| Yida Capriccioso | Lydia Kelly | MPO Bicycle Mobility Advisory Comm. |
| Robert Hanley, AIA | Brian Crowell | MPO Pedestrian Mobility Advisory Comm. |
| Blake Partridge | Joel Hicks | Northeast Partnership |
| Nicholas Wingerter | Vacant | Private Transportation Providers |
| Clayton Ripps, P.E. | Mark Mosley, P.E. | Texas Department of Transportation |
| Kammy Home, AICP | Art Herrera | VIA Metropolitan Transit |
| * Chair | | |
| ** Vice Chair | | |

Source: AAMPO, 2020

Figure 3-29 Technical Advisory Committee List with JBSA Representation



3.17 Safety (SA)

Safety zones are areas in which land uses that concentrate large numbers of people should be restricted due to higher risks to public safety. Activities that can create such a risk and that are considered when defining safety zones include aircraft operations and live-fire weapons ranges.

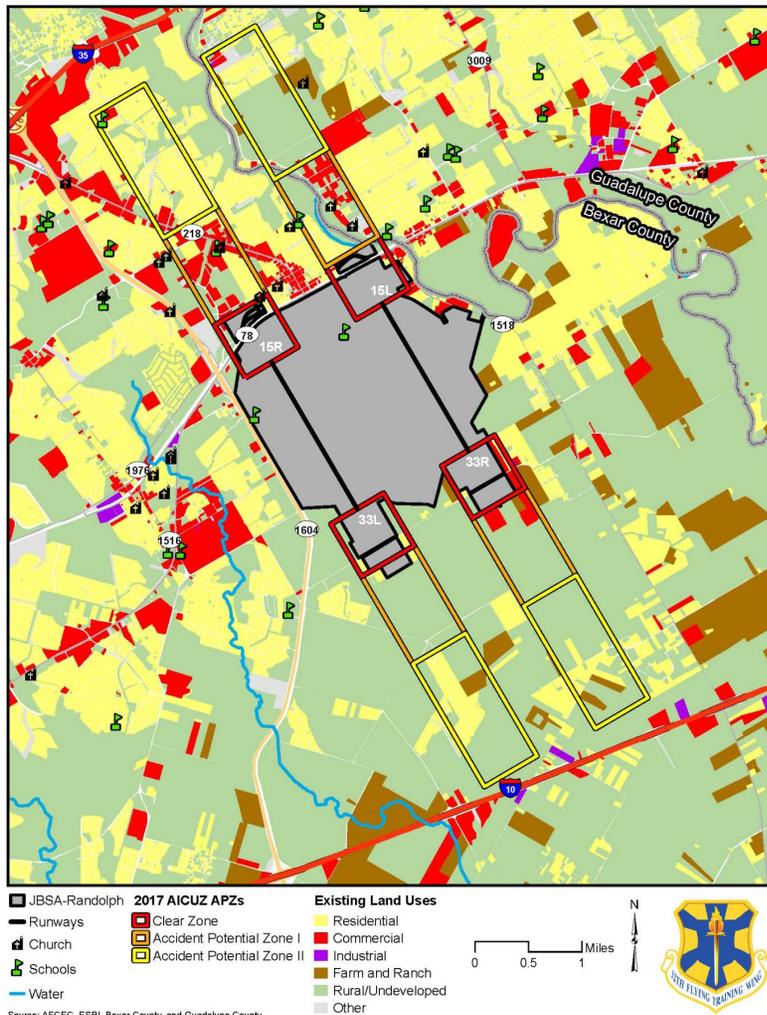
Military installations often engage in activities or contain facilities that, due to public safety concerns, require special consideration by local jurisdictions when evaluating compatibility. It is important to establish compatible land use policies near military airfields and live-fire weapon ranges to minimize risk from potential accidents.

SA-1

| | |
|--|--|
| Issue ID: SA-1 | Issue: Incompatible development within the JBSA-Randolph airfield safety zones and MAHP landing approach. |
| Issue Description: The safety zones, comprised of the CZ, Accident Potential Zone I (APZ I), and Accident Potential Zone II (APZ II), are where the statistical probability of an aircraft mishap is greatest. Incompatible development, such as residential uses or uses that encourage congregations of people within safety zones, can put the public at risk. These safety zones extend from the runway ends at JBSA-Randolph into the surrounding communities. Additionally, there are incompatible developments adjacent to MAHP, which affect the landing of aircraft. | |

Analysis: For JBSA-Randolph, the safety zones are made up of the CZ, APZ I, and APZ II. The safety zones were created after the Air Force conducted studies on historical data throughout the military and found that more accidents occurred the closer an aircraft is to the runway. Based on those studies, each safety zone has a different likelihood of an aircraft mishap. Based on those likelihoods, the DoD promulgated land use guidance for each safety zone based on density and land use.

According to the latest AICUZ Study completed at JBSA-Randolph, there are incompatible existing land uses within each of the safety zones as shown on Figure 3-30. The quantity of existing off-base land uses within the JBSA-Randolph AICUZ footprint are shown in Table 3-14. The estimated population within each land use in the safety zones is shown in Table 3-15.



Source: JBSA-Randolph AICUZ Study, 2017

Figure 3-30 Existing Land Uses within JBSA-Randolph Safety Zones

Table 3-14 Existing Off-Base Land Uses within the JBSA-Randolph AICUZ Footprint

| Land Use | Safety Zones (acres) | | |
|-----------------|----------------------|-------|---------|
| | CZ | APZ I | APZ II |
| Residential | 40.2 | 158.5 | 560.6 |
| Commercial | 32.0 | 230.9 | 40.5 |
| Industrial | 0.2 | 0.0 | 1.0 |
| Farm and Ranch | 3.2 | 9.3 | 69.5 |
| Rural/Developed | 80.3 | 795.1 | 1,043.6 |
| Other | 11.1 | 183.2 | 212.7 |

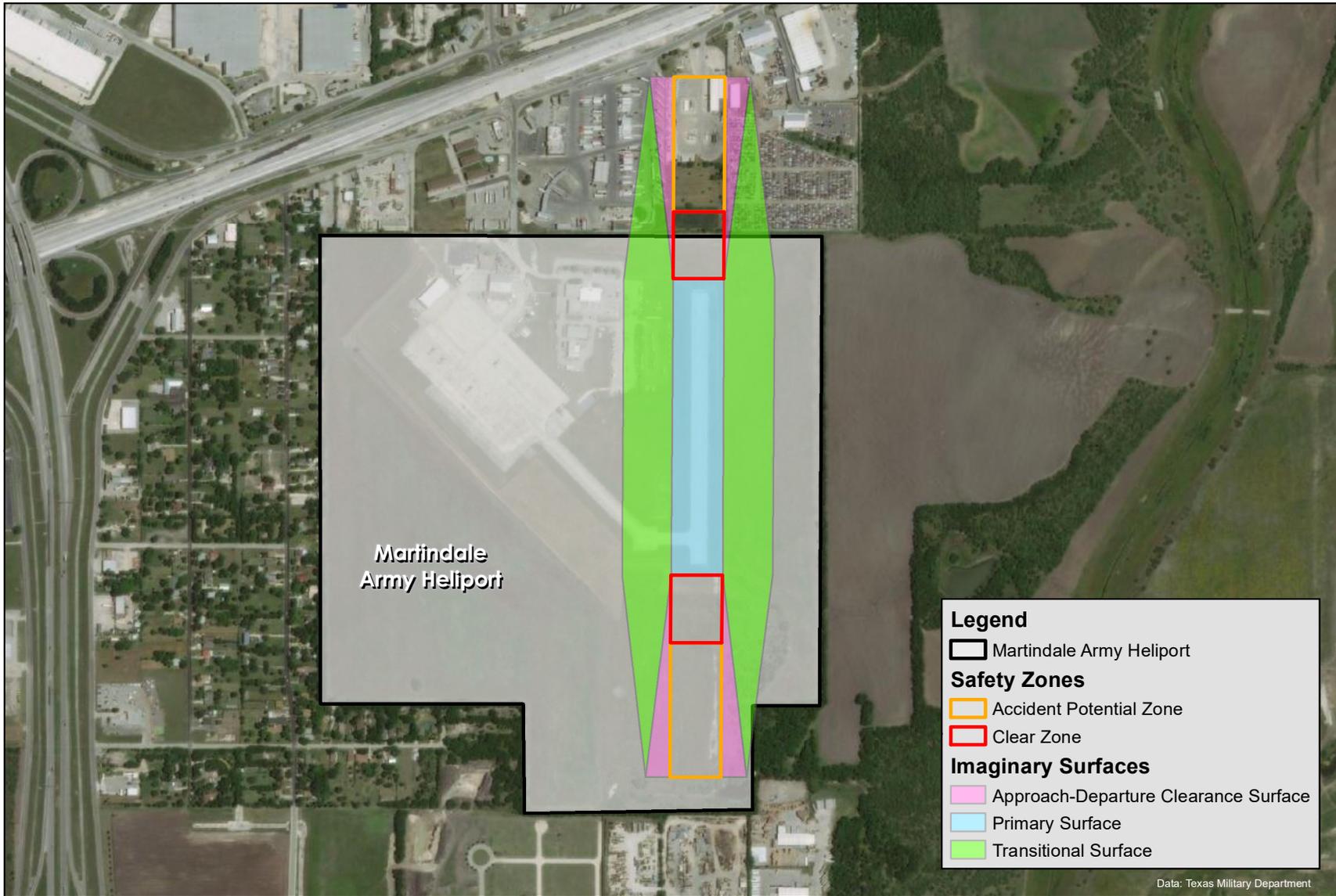
Source: JBSA-Randolph AICUZ Study, 2017

Table 3-15 Off-Base Land Acreage and Estimated Population within the APZs and CZs at JBSA-Randolph

| Zone | Land Acreage | Population |
|--------|--------------|------------|
| CZ | 167 | 256 |
| APZ I | 1,377 | 2,192 |
| APZ II | 1,928 | 3,357 |
| Total | 3,472 | 5,805 |

Source: JBSA-Randolph AICUZ Study, 2017

MAHP also has safety zones that extend off the northern perimeter of the installation. The portions of these safety zones that extend off the installation, which include parts of the CZ and APZ (MAHP has only one APZ), are entirely within the jurisdiction of the City of San Antonio. The entire off-installation area is currently zoned as industrial, and the portion of land in the CZ includes an active drainage detention pond, which is part of the property that includes an Iron Skillet restaurant, Petro Truck Stop, and a repair stop. The APZ includes parts of the same active drainage detention pond and open space, and the remainder of the APZ is made up of a trucking facility.



Martindale Army Heliport, Safety Zones and Imaginary Surface Areas



0 500 1,000
Feet

Figure 3-30.



Clear Zones at JBSA-Randolph

According to the 2017 JBSA-Randolph AICUZ Study, there are incompatible land uses within all four CZs at JBSA-Randolph. Any structure or obstruction within the CZ, whether permanent or temporary, is a safety threat. In 2017, there were 40 acres of residential development and 32 acres of commercial development within the CZs.

Most of the CZs, which extend beyond the installation's northern perimeter, are within the city limits of Universal City. This includes approximately 40 single-family homes in the eastern part of the northwestern CZ, and there are a few commercial businesses within the western portion of the northwestern CZ. FM 78 and other local roads traverse the northwestern and northeastern CZs. The northeastern CZ includes land uses with single-family homes, apartments, various commercial businesses and services, and part of Universal City's Veteran Park. Additionally, the eastern portion of the northwestern CZ includes a landfill.

Accident Potential Zones at JBSA-Randolph

The northern APZs include land within the jurisdiction of Schertz, Selma, and Universal City. The northwestern APZ I is located entirely within the city limits of Universal City. This area is mostly made up of commercial land uses along State Highway (SH) 218 (Pat Booker Road) and includes high-density and single-family residential development within the eastern portion. There are two places of worship within APZ I, and mobile homes are located near the intersection of Kitty Hawk Road and SH 218. APZ II is mostly made up of single-family residential land uses, and pockets of multifamily residential use are located along Universal City Boulevard. An elementary school is also located within APZ II.

The northeastern APZ I is partially located within the city limits of Universal City and Schertz. APZ I includes small industrial and commercial uses, two places of worship, and a school. APZ II is within Universal City's ETJ and the city limits of Selma. Most of APZ II is

undeveloped land; however, there are residential land uses in the northern portion of APZ II. The existing residential development within APZ II has a higher density than what is allowed by Air Force land use guidance.

Most of the land within the southeastern APZ I and APZ II is undeveloped land. However, there are residential uses within both APZ I and APZ II.

Additionally, most of the land within the southwestern APZs is undeveloped. There are residential uses within the southwestern APZ I and APZ II.

Incompatible Land Uses

Clear Zones

Almost all land uses within the CZ are considered incompatible with Air Force land use guidance. The land uses allowed are agriculture (except livestock), highways and street right-of-way (given they should not be wider than two lanes, and the rights-of-way should be fenced or frangible and not include sidewalks or bicycle trails), and undeveloped land.

APZ I

All residential land uses are incompatible within APZ I. Public assembly in the form of churches and schools is not compatible in APZ I. Mobile homes are not allowed in APZ I.

APZ II

Most residential land uses are incompatible within APZ II; however, single-family detached homes are allowed if they do not exceed two dwelling units per acre. Public assembly in the form of churches and schools is not compatible in APZ II. Mobile homes are not allowed in APZ I.



Incompatible land use is expected to continue within the safety zones at JBSA-Randolph depending on the development of residential areas within both the north and south APZs. As noted in the JBSA-Randolph AICUZ Study from 2017, the areas of highest concern for future development are within the northeastern APZ II, within the Universal City ETJ; a future residential development within the southwestern APZ II; and the Crossvine future development within the southeastern APZ I and APZ II.

MAHP does not have as significant future problems due to the limited areas for development within its CZ and APZ. Additionally, MAHP only needs to coordinate with the City of San Antonio for land use issues, whereas JBSA-Randolph must coordinate with multiple jurisdictions within its safety zones.

There are several resolutions to address incompatible development near installations with a flying mission. These solutions range from state bills to city ordinances. HB1640 (84th Legislature 2015), Texas Local Government Code §397.005 was amended to require defense communities to notify the base of proposed development within one and a half statute miles from the centerline of the runway and five miles from each end of the paved surface of the runway.

The City of Converse has a zoning overlay district that regulates building heights, solar development, and sound attenuation requirements for new construction within one and a half miles of JBSA-Randolph's runway. Further, the City of Converse restricts development of vacant land within the CZs.

The City of San Antonio addresses incompatible development in many ways. The City of San Antonio implements an Airport Hazard Overlay District over JBSA-Lackland runways, JBSA-Randolph, SAT, and Stinson Airport. These overlay zoning districts address special siting, use, and compatibility issues, which require use and development regulations in addition to those found in the underlying zoning districts. If any regulation in an overlay zoning district requires lower densities,

greater setbacks, or otherwise imposes greater standards than those required by the base zoning district, the more restrictive standard applies. The zoning designation of property located within an overlay district shall consist of the regular zone symbol and the overlay district symbol as a suffix. For example, if a parcel is zoned "RE" and is also located within the Edwards Recharge Zone District (ERZD), the zoning designation of the property would be "RE". In effect, the designation of property as being within the ERZD places such property in a new zoning district classification and all procedures and requirements for zoning and rezoning must be followed.

The City of San Antonio also utilizes MIAs and military notification areas. In compatibility planning, an 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:

- Promote an orderly transition between community and military land uses so that land uses remain compatible.
- Protect public health, safety, and welfare.
- Maintain operational capabilities of military installations and areas.
- 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.
- Establish compatibility requirements within the designated area, such as requirements for sound attenuation and aviation easements.

The MIA for JBSA-Randolph within the City of San Antonio covers all the area within five miles of the installation's perimeter that is within the city limits of the City of San Antonio or the City of San Antonio's ETJ. Within this area, any development applications will be coordinated with JBSA.

The MIA for MAHP includes the area within one half mile of the box pattern flown around the airfield. Within this area, the City of San Antonio notifies MAHP if there are development applications and provides the TXARNG with the complete development application. The TXARNG is then responsible for providing an official response with all TXARNG concerns within five working days for minor plats and within 10 working days for all other applications. The TXARNG responses are advisory only, and the City of San Antonio may request, but cannot require, any recommendations that the City does not have the authority to enforce.

The City of Schertz passed Resolution Number 15-R-06 on January 13, 2015. The resolution from the City Council of the City of Schertz, Texas was in support of JBSA-Randolph to include additional property sale and lease notice and limited expansion of local government code Chapters 397 and 397A to the area surrounding JBSA-Randolph. This resolution requested the Texas legislature to approve and submit to the Governor for the passage of legislation of two amendments to address greater property-owner awareness and future development compatibility.

The City of Schertz has implemented zoning regulations within the JBSA-Randolph AICUZ APZs. While the City has not adopted an AICUZ overlay district, it does enforce restrictions through zoning regulations.



SA-2

| | |
|---|---|
| Issue ID: SA-2 | Issue: Concern for BASH potential. |
| Issue Description: Low-level flight training in the region puts pilots at a greater risk for aircraft strikes with birds and wildlife when higher concentrations of both are present on airfields and in training areas. | |

Analysis: The primary concern at JBSA is bird activity, more so than ground-based wildlife, interfering with air operations. Annually, the Air Force, Navy, and Marine Corps aircraft record at least 3,000 wildlife strikes each year to the FAA. Every year, those strikes cause more than \$75 million in damage. Over the past 20 years, more than 69,000 wildlife-aircraft strikes have occurred with Air Force aircraft, which killed 23 aviators, destroyed 12 aircraft, and caused more than \$400 million worth of equipment damage.

Kelly Field has 50 bird strikes a year on average. Meanwhile JBSA-Randolph averages 38 bird strikes a year, while SAAF averages three per Major Alexander Sieg, 12 FTW BASH chief. According to the BASH program at JBSA-Lackland, the average annual cost of strikes on aircraft assigned to Kelly Field is approximately \$76,000, while the average annual cost of strikes on all aircraft close to Kelly Field is \$176,000.

JBSA air traffic is in addition to regular commercial and private air traffic and a major bird migration corridor between North and South America. The birds' peak intervals are early in the morning and just before sunset. Doves, meadowlarks, grackles, bats, and falcons are among the animals most often involved. Vultures do the most harm because they swarm around any carcasses near the airfield.

Several variables factor into determining whether a specific land use will create BASH issues. Therefore, the location in relation to air operations and the unique development aspects of each land use must be assessed on a case-by-case basis. It is important to note that

the BASH issue may be directly related to a component of the primary property use (i.e., landfills, water features, or stormwater retention ponds in a residential development) or to amenities associated with a land use (i.e., water hazards on a golf course).

There are some land uses that have a higher probability to attract hazardous birds. These uses include agriculture, conservation lands, landfills, lakes and ponds, open space, public/semi-public, rural residential, and vacant/undeveloped. Within approach and departure flight tracks and near JBSA, bird attractants that could impact aircraft operations at the airfield exist. These attractants include wetlands, agricultural land uses, and areas that accumulate standing water during and after periods of rain. Standing water, temporary or permanent, can be a serious hazardous bird attractant.

The BASH prevention program was implemented by the DoD to address the reduction of wildlife hazards through proactive mitigation of resident bird and wildlife species and proximity to migratory routes. Bird movements, both daily and seasonal and especially in the months of April and October, increase the risk of potential hazards. The BASH teams assist in bird hazard reduction throughout the Air Force. Wildlife entering the base and causing issues with regular activities on the base is manageable. BASH team personnel are trained in bird control and have experience in wildlife ecology, land management, and flight operations. They also have current information on authorized control equipment and techniques. The BASH program guarantees mission readiness and combat capability while offering the safest possible flying environment. The program is intended to reduce the risk to aircrews, aircraft, and the environment around them.

The Air Force has developed a Bird Avoidance Model (BAM) using geographic information system (GIS) technology as an essential tool for analysis and correlation of bird habitat, migration, and breeding characteristics combined with key environmental and man-made geospatial data. This online tool is known as the U.S. Avian Hazard Advisory System (USAHAS).

To mitigate bird strike incidents and protect military members, mitigation instruments, such as habitat/vegetation management, bird cannons, radars, and herbicides/insecticides, are all continuously implemented by the BASH program at JBSA.

The Bird/Wildlife Aircraft Strike Threat team has an approved system for the pruning and removal of selected trees at JBSA-Randolph in an ongoing effort to eliminate airfield obstructions at JBSA-Randolph. In order to increase aviation and community protection, trees that pose a serious risk to aviators and the residents they fly over will be changed.

The bird dispersal team consists of approximately 30 members and uses pyrotechnics to conduct bird harassment near the flight line, often called bangers, screamers, and cracker shells. Fired using a shotgun or pistol, the pyrotechnics make a loud noise to startle the birds and drive them away from the runways. The U.S. Department of Agriculture staff wildlife biologist, Vivian Prothro, works with the bird dispersal team and offers information and experience on existing methods of bird harassment.

A bird radar, which transmits bird activity within four miles of the base, is used to assess the bird threat status. Also, pilots may report activity. BASH teams manage habitat by maintaining Air Force guidelines for the height of the grass in the infield, which is seven to 14 inches, and by using the AFCEC to classify the types of insects and plants birds consume.

Bird strikes have decreased by almost 55% since last year due to the efforts of the BASH program. There were 22 recorded bird strikes per

month in 2015, while there were just 10 in mid-2019, per month. Not only have the efforts of the BASH program provided safer aircraft operations by minimizing bird strikes, but it has also reduced the cost of aircraft repairs by the Air Force due to less strikes.



3.18 Vertical Obstructions (VO)

Vertical obstructions are buildings, trees, structures, or other features that encroach into the navigable airspace or line-of-sight of radar signal transmission pathways that are used by the military. These obstructions can be a safety hazard to both military personnel and the public and may impact military readiness.

Vertical obstructions can include man-made structures, such as buildings, telephone poles, utility transmission towers, and radio antennas, as well as natural elements, such as tall trees and land features. Vertical obstructions can compromise the value of low-level flight training by limiting the areas where such training can occur and/or interfere with radar transmissions and compromise the integrity of data transmission between the transmitter and receiver. Although freedom from vertical obstructions is most critical near the transmitter, the geographic area impacting the transmissions (the radar viewshed) can be broad depending on the distance between the transmitter and receiver and must also be clear of vertical obstructions.

VO-1

Issue ID: VO-1

Issue: There is potential for incompatible development within the JBSA airfield imaginary surfaces and landing approaches near MAHP.

Issue Description: Jurisdictions near JBSA and MAHP airfields do not have ordinances that address structure heights per the DoD imaginary surfaces. This lack of ordinances could potentially allow for incompatible development to create vertical obstruction hazards for pilots and aircraft.

Analysis: Airfield protection, known as imaginary surfaces, addresses obstructions in proximity to an airfield and apply to the height of all vertical structures or objects that may pose a safety risk to pilots and aircraft. Vertical structures or objects within these areas can create hazards to flight operations. The imaginary surface heights are based on the elevation of the airfield.

This issue concerns the military due to the cities potentially allowing incompatible vertical obstructions through approving specific development in locations that are critical for safe maneuvering of aircraft.

As defined above, there are three imaginary surfaces that have slope guidance relative to height limitations; they are the approach-departure clearance surface, which has a 50-foot horizontal to one-vertical-foot slope up to 500 feet for built structures; the conical surface, which has a 20-foot horizontal to one-vertical-foot slope; and the transitional surface, which has a seven-foot horizontal to one-vertical-foot slope from the runway centerline. The other imaginary surfaces have straightforward recommended height limitations, such as 150 feet or 500 feet for built structures, which makes it less challenging to determine if a structure will be a vertical obstruction.

For example, the approach-departure imaginary surface establishes a 50:1 glide slope at the end of each runway. For every 50 feet in horizontal distance from the end of the runway, objects are limited to one foot in height. Therefore, an object 5,000 feet from the end of the runway is limited to 90 feet in height (110 feet, less 10 feet for safety). The other transitional imaginary surfaces discussed in the technical background section have similar height limitations.

If this imaginary surface guidance is not considered or followed in future development, including renovations, then a risk could be created resulting in unsafe navigable airspace. If an aircraft mishap were to occur, then there could be damage to federal and private property, as well as safety risks for the general public. The results of this mishap could also delay and postpone mission training, which could ultimately degrade military capability for training in the future at JBSA and MAHP.

Land located within the approach-departure clearance surface areas outside the base are zoned for uses that could potentially exceed these slope heights. Heights that are exceeded near the active airfield and within the imaginary surfaces pose a greater risk to the safety of the general public, the pilot, and aircraft when performing flight training missions.

Many communities within the Study Area include building height restrictions in their zoning regulations. Table 3-16 provides an overview of the zoning and associated heights in the surrounding communities.

Table 3-16 Zoning and Associated Building Heights of Communities Near RCUP Installations

| Community | Zoning District | Height |
|---------------------|--|----------------|
| City of Converse | R-1, R-6 | 38 feet |
| | R-2, R-3, B-2, B-3, B-4, B-5, I-1 | 90 feet |
| City of San Antonio | RD Major Node RD Minor Node UD Minor Node C-2P, NC, C-1, C-2, O-1 | 25 feet |
| | RP, RE, R-20, R-6, R-5, R-4, R-3, R-2, R-1, RM-6, RM-5, RM-4, MF-18, MF-25, UD Major Node, UD-Multifamily-15, UD-Single-family, L, C-3 | 35 feet |
| | MF-33 | 45 feet |
| | MF-40, MI-1, I-1, I-2 O-1.5 | 60 feet |
| | MI-2 | 150 feet |
| City of Schertz | R-1, R-2, R-3, R-4, R-6, R-7, R-A, GH, TH, MHS, MHP, AD, MSMU, OP, NS, PUB | 35 feet |
| | GB, GB-2, M-1, M-2 | 120 feet |
| City of Seguin | A-R, R-R, S-R, R-1, R-2, DP-1, DP-2, ZL, MF-1, M-R | 30 feet |
| | MF-2 | 60 feet |
| | MF-3 | 96 feet |
| | NC, C, P, LI, I | Not Applicable |

(Table 3-16 Zoning and Associated Building Heights of Communities Near RCUP Installations continued)

| Community | Zoning District | Height |
|------------------------|--|----------------|
| City of Universal City | R1, R2, R3, R4, R-OT, R5, MH1, MH2, C2, C3, C4, C5 | 35 feet |
| | C1 | 30 feet |
| | PARK | Not Applicable |

Federal law requires that the FAA determine whether a structure that is proposed to be built or altered 200 feet AGL or higher or near an airport does not pose a hazard to the airspace. To remain consistent with changes to the Code of Federal Regulation (CFR) Part 77, the height of a structure identified as an obstruction has been lowered from 500 feet AGL to 499 feet AGL. All structures above 499 feet are considered obstructions, and the FAA will continue to conduct an aeronautical study on these types of structures to determine their effect on the navigable airspace and ensure they do not create a hazard.

VO-2

| | |
|--|---|
| Issue ID: VO-2 | Issue: Future power line corridors may impact low-level aircraft flight. |
| Issue Description: As future power line corridors are developed to provide linkages to state and national power grids, the heights of transmission lines could impact low-level aircraft flight if not properly coordinated with the JBSA and TXARNG. | |

Analysis: The primary concern with this issue is the height regulations for certain zoning districts located within the imaginary surfaces do not necessarily consider the recommended slope of FAA imaginary surface guidance. This issue concerns the military due to the cities potentially allowing unnecessary vertical obstructions through approving certain development in locations that are critical for safe maneuvering of aircraft.

The FAA considers any structure over 499 feet to be an obstruction to navigable airspace. For proposed structures over 499 feet in height, a study must be conducted to determine any actual impacts to navigable airspace based on locations of nearby airports/airfields, air traffic patterns, and similar factors. While aircraft operating within the region have workarounds for their flight paths for existing wind farms, the development of new wind farms may impact their ability to carry out their mission depending on the location of the farms in relation to approach and departure corridors and flight paths.

As defined in issue VO-1, there are three imaginary surfaces that have slope guidance relative to height limitations; they are the approach-departure clearance surface, the conical surface, and the transitional surface. The other imaginary surfaces have straightforward recommended height limitations, such as 150 feet or 500 feet for built structures, which makes it less challenging to determine if a structure will be a vertical obstruction.

CPS Energy, which is the power company owned by the City of San Antonio, and the GVEC, which serves much of Guadalupe County, provide electric services in the Study Area. Miles of transmission lines, most of which are above ground and suspended on either solid or latticed utility poles, are needed to provide electricity to the communities within the Study Area. During aviation operations, the position of utility poles and suspended lines between them, especially unmarked lines on approach and departure paths creates a major safety problem, particularly with in-flight operations where aircraft are traveling at slower speeds and lower altitudes, such as landings and take-offs. This issue can jeopardize the pilots' and the general public's safety.

Air Installation Compatible Use Zone Study

The AICUZ Study provides land use guidelines to prevent uses that can increase risk within APZs. Utilities listed in the transportation, communications, and utilities land use category are conditionally compatible within APZ I. Utilities within APZ II are compatible with no condition listed. These standards should be referred to when determining the location of existing and future power lines that fall within safety zones.



3.19 Water Quality/Quantity (WQQ)

Water quality/quantity concerns include the assurances that adequate water supplies of good quality are available for use by the military and surrounding communities to support current needs and future planned growth; that, within military installations and surrounding communities, stormwater infrastructure adequate to manage runoff at current levels and from projected impervious cover increases exists and will manage for both water quality and quantity; and that water supply for agriculture and industrial use is also considered./

WQQ-1

Issue ID: WQQ-1

Issue: Increased development of greenfields and pervious areas in the region will result in impermeable surfaces that affect water quality, increase surface runoff, and impact aquifer recharge.

Issue Description: Development over greenfields is occurring throughout the region, which is creating increased impermeable surfaces with a higher rate of stormwater runoff than pre-existing conditions. The urbanization of land will decrease water quality, increase rates of runoff, and impact aquifer recharge. Additionally, there are concerns for the military and public who rely on well water supplies, which may be impacted by fluctuations in quality and quantity.

Analysis: Development within the San Antonio-New Braunfels MSA is occurring at a fast pace, and the population of the region has grown substantially within the last 30 years.

Between 2010 and 2019, the City of San Antonio's population increased by 16.7% — a total increase of 221,092 people — according to the U.S. Census. San Antonio was ranked third in the entire country for the largest increase in population during that time. Regionally, New Braunfels increased its population by 56.4% during that same time period and was the third fastest growing city in the country, with a total population of 90,209 people. Since 1990, the San Antonio-New Braunfels MSA, made up of Atascosa, Bandera, Bexar, Comal, Guadalupe, Kendall, Medina, and Wilson counties, grew by 81.2%, with a total increase of 1,143,215 people in 39 years, as shown in Table 3-17.

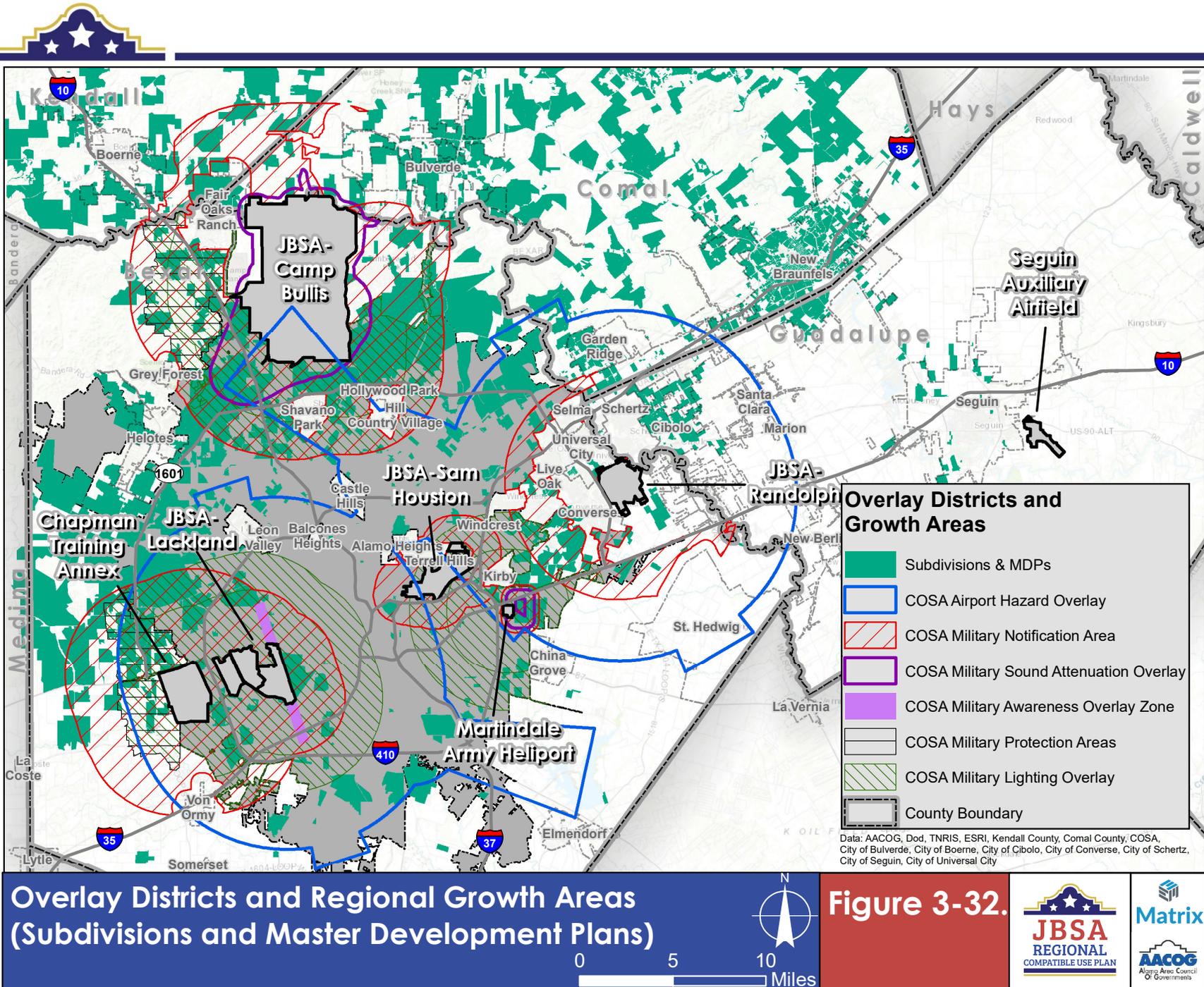
Table 3-17 San Antonio-New Braunfels Metropolitan Statistical Area Population Change 1990-2019

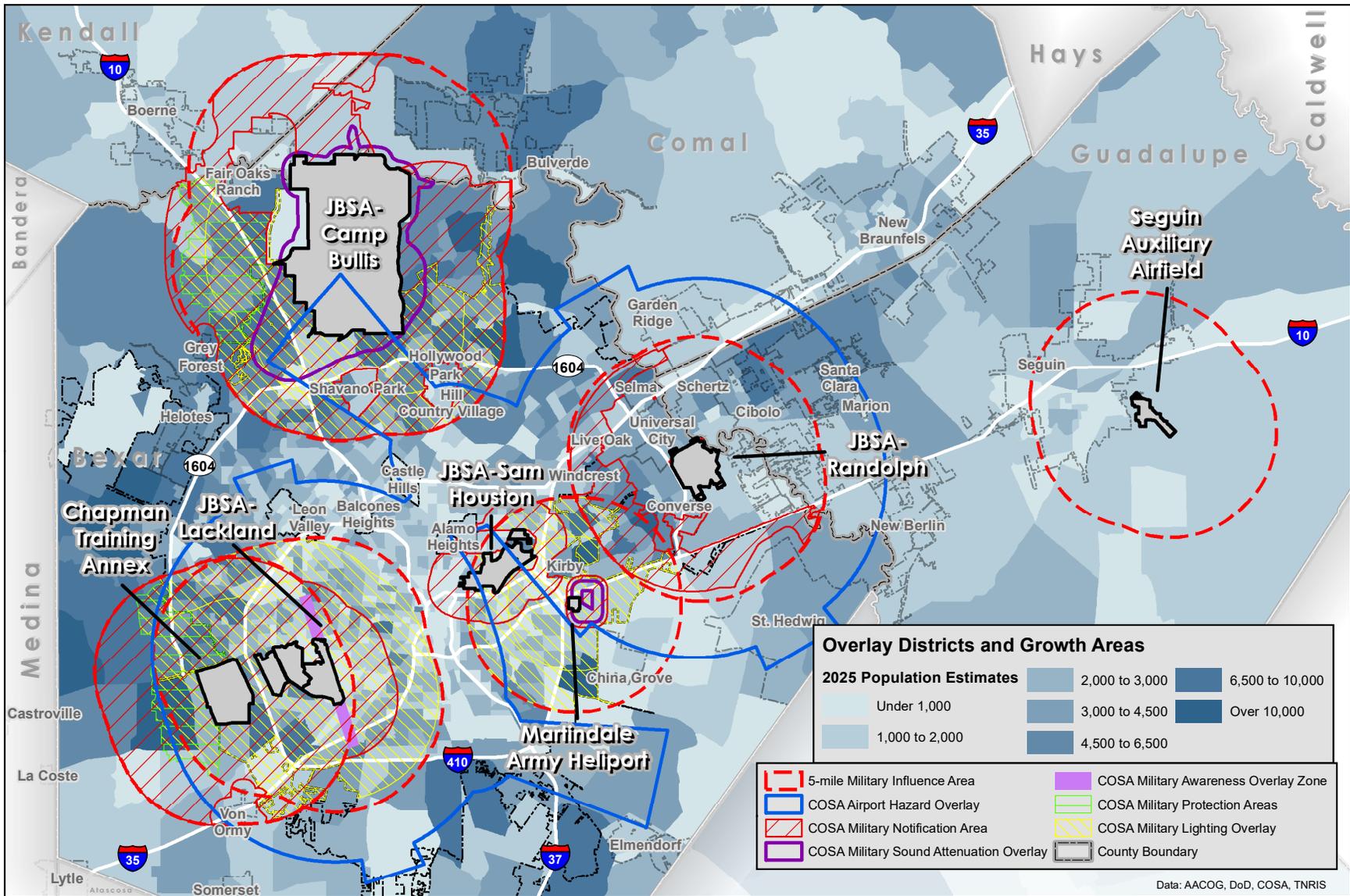
| Name | Population Census 1990-04-01 | Population Census 2000-04-01 | Population Census 2010-04-01 | Population Estimate 2019-07-01 |
|-------------------------------------|------------------------------|------------------------------|------------------------------|--------------------------------|
| San Antonio-New Braunfels MSA | 1,407,745 | 1,711,578 | 2,142,520 | 2,550,960 |
| Total Increase | | 303,833 | 430,942 | 408,440 |
| Percent Change from Previous Census | | 21.6% | 25.2% | 19.1% |

Source: U.S. Census data from multiple year groups

The increase in population has led to an increase in development within the region. Development commonly occurs on greenfields on the fringes of the metropolitan area because the land is less expensive. Greenfields are previously undeveloped areas outside a city and are typically on agricultural land. Understandably, this land is usually the preferred and sought-after area by developers due to ease of development compared to previously developed sites, which may have pre-existing environmental issues and are generally more costly to redevelop. Typically, greenfields are made up entirely of permeable surfaces, which improve water quality, produce less runoff than a typical developed sight, and have a positive impact on aquifer recharge.

Development can increase impermeable surfaces, such as asphalt, concrete, traditional stone, brick, concrete, or pavers, which can decrease water quality and produce more runoff, which can have a negative impact on aquifer recharge. Figures 3-32 and 3-33 show the regional growth areas where development is occurring and the jurisdictions with overlay districts to control and coordinate potential development issues, such as stormwater impacts within the MIAs.



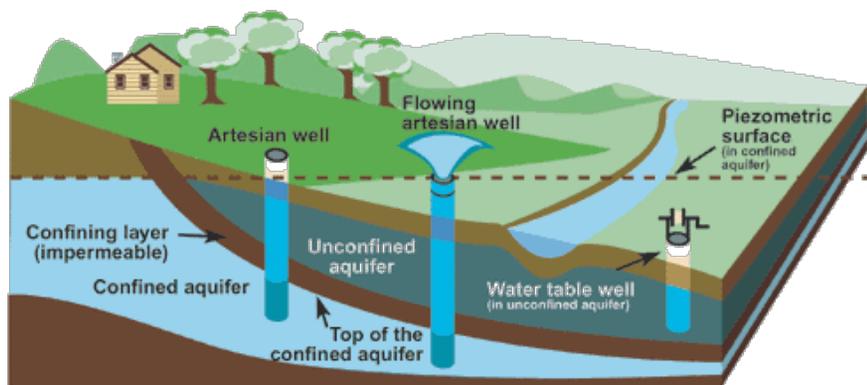


Overlay Districts and Regional Growth Areas



Figure 3-33.

Figure 3-34 illustrates the relationship of surface water impacts on aquifer recharge. As water runs off impermeable surfaces, it can pick up pollutants as it flows into storm drains, which then flow directly into rivers, lakes, and wetlands in the region. This water can have negative effects on the regional biodiversity and public health. Additionally, pollution that is carried from tributaries that flow into the San Antonio or Guadalupe Rivers can end up in the Gulf of Mexico. Another impact of impermeable surfaces is more runoff. Where water once permeated into the soil, it is now flowing into rivers and streams that previously did not have this volume of water. The result are streams and riverbank erosion and flooding, which can damage nearby development and have an affect biodiversity. Lastly, development in some areas of the region may reduce the total amount of water able to permeate the soil and recharge aquifers. This lack of water can affect the available water resources to the region.



Source: *Environment and Climate Change Canada*

Figure 3-34 Relationship of Surface Water to Wells and Aquifers

Current regional and local solutions are being implemented to address this issue both to mitigate these issues and to support the level of development required by the community. The City of San Antonio has several ways of addressing this issue, including stormwater design criteria in their Unified Development Code (UDC). These criteria encourage the installation of low impact development (LID) features, such as bioretention, permeable pavement with storage, engineered swales, engineered infiltration storm drain systems, and engineered wetlands. Credit toward Regional Storm Water Management Program (RSWMP) fees are considered and approved on a case-by-case basis by the director of transportation and capital improvements (TCI). The City of San Antonio also includes green infrastructure and LID in the San Antonio Tomorrow Comprehensive Plan, including a goal within the natural resources and environmental sustainability section of the document stating that the goal is to make San Antonio a national leader in stormwater management best practices and LID design. San Antonio also includes ways to address the reduction in permeable surfaces in their 2019-2029 Parks System Plan. This plan includes calls for the utilization of LID in the trail design strategy; a goal (goal 3) describing how the city's park system is the most resilient infrastructure in the city and that part of that resiliency comes from its green infrastructure, such as its urban forest; and, finally, Objective 3.4, which calls for stormwater to be slowed, reused, and allowed to recharge the aquifer as much as practical through low-impact, ecologically sensitive design. Another place San Antonio addresses this issue is within their climate action and adaptation plan. This plan references the use of public green spaces to sequester carbon dioxide as a mitigation strategy. Also, the Edwards Rules include best management practices (BMP) requirements for water quality over the recharge and, to a lesser extent, contributing zones.

The Greater Edwards Aquifer Alliance (GEAA) has recommendations from their Task Force Stormwater Management. They include the recommendation to better protect and manage floodplains for improved water quality within creeks and rivers whilst reducing flooding from peak flows. Lastly, in 2015, the City of San Antonio added Section 35-210 to Article II of its UDC, establishing a new voluntary LID/natural channel design protocol (NCDP) use pattern. This allows for the following objectives to occur:

- To eliminate the need for variances to utilize LID practices,
- To add incentives to encourage use of LID practices, and
- To establish performance standards required to earn the incentives.

Additionally, the City of San Antonio amended the Conservation Subdivision use pattern to provide greater incentives and to make use of the code more attractive. Developers using the LID or NCDP could utilize two incentives:

- Credit/offset-based incentive
 - If managing a minimum of 60% water quality volume (WQV) from increased impervious cover, then the applicant is eligible for the credit offset incentives according to the UDC.
 - Applicants using LID/NCDP practices and managing less than 60% of the WQV shall be eligible for bonus credit/offsets according to the UDC.
- Fee-based incentive
 - If managing a minimum of 60% WQV from increased impervious cover, then the applicant is eligible for the following fee-based incentives:

- Stormwater Fee Discount
- Stormwater Fee in Lieu of Discount
- Permeable Pavement Impervious Cover Credit

In addition to the City of San Antonio's incentives for mitigating the impacts of stormwater runoff, the SARA offers the Watershed Wise Rebate Program, which rebates construction of on-site stormwater BMPs to either new construction or a retrofit of existing property. The rebate program is available in Bexar, Wilson, Karnes, and Goliad Counties. BMPs must be designed using the San Antonio River Basin LID Technical Guidance Manual. In order to apply, projects need to have a minimum reimbursement request of \$15,000. The unit volume rebate amount is dependent on the BMP type. Funds are made available annually at the discretion of the River Authority's board of directors.

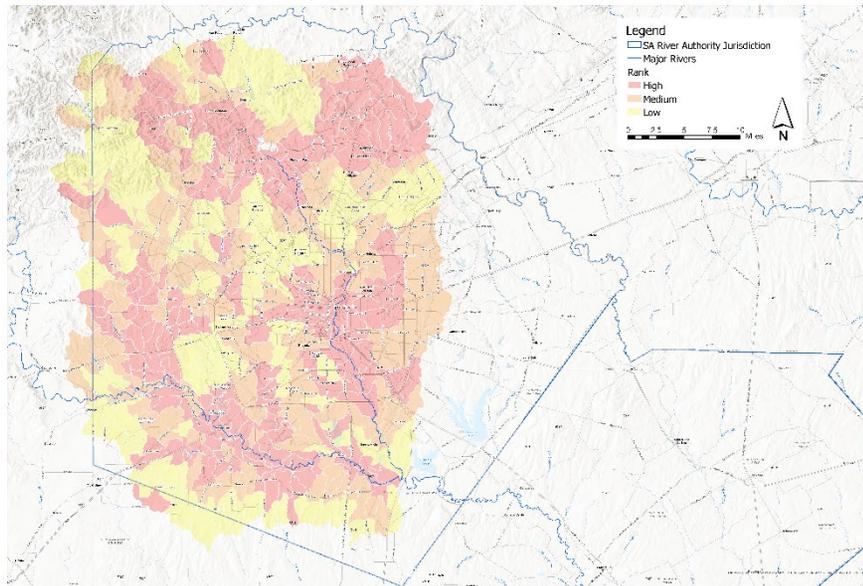




The 2020-2021 Watershed Wise Rebate scoring rubric focuses on six criteria:

- Project description
- Amount of treatment
- Impact on receiving body
- Operation and maintenance
- Location
- Commitment

Figure 3-35 shows high priority areas for the Watershed Wise Rebate Program.



Source: San Antonio River Authority, 2020

Figure 3-35 Sub-Basin Priority Areas for SARA, 2020-2021



4 Implementation Plan



Inside Chapter 4

- 4.1 Implementation Plan Guidelines 2
- 4.2 Military Influence Areas 3
- 4.3 Risk Assessment Mapping Tool 5
- 4.4 Responsible Party..... 7
- 4.5 How to Read the Implementation Plan 9

The Implementation Plan in this chapter presents the recommended courses of actions (strategies) developed through the collaborative effort between representatives from the local, state, and federal agencies; regional organizations; the Air Force; the TXARNG; the public; and other stakeholders that own or manage land or resources in the region. Because the JBSA RCUP is the outcome of a collaborative planning effort, the strategies included in this plan represent regional consensus and a realistic and coordinated approach to compatibility planning as developed by the stakeholders involved throughout the planning process.

The Implementation Plan provides the RCUP with an actionable playbook of strategies, which allow the RCUP to be a living document and relevant for many years. The plan includes a variety of strategies that promote regional compatibility through communication, coordination, policy, and regional tools. The objective in implementing

these strategies is to eliminate or mitigate existing or potential regional compatibility issues created through civilian and military dissonance.

Notably, the RCUP is not an enforceable plan but does provide a set of strategies solicited and agreed upon by the RCUP stakeholders to address the new and emerging compatibility issues within the region. A key recommendation will be to establish a RCUP Coordination Committee to continue the momentum of the project and assist with its implementation once the RCUP is complete. The committee will be composed of JBSA, TXARNG, developers, and other stakeholders throughout the Study Area to continue and expand the collaboration built through the JBSA RCUP. This committee will support the implementation of the strategies within this Implementation Plan, be able to adapt the strategies for unanticipated complications, recommend or refine specific recommendations, and adjust the strategies over time so they remain relevant.



4.1 Implementation Plan Guidelines

The key to a successful implementation plan is balancing the different needs of all involved stakeholders within the region. To produce an equitable plan, several guidelines were used as the basis for strategy development. These guidelines include the following:

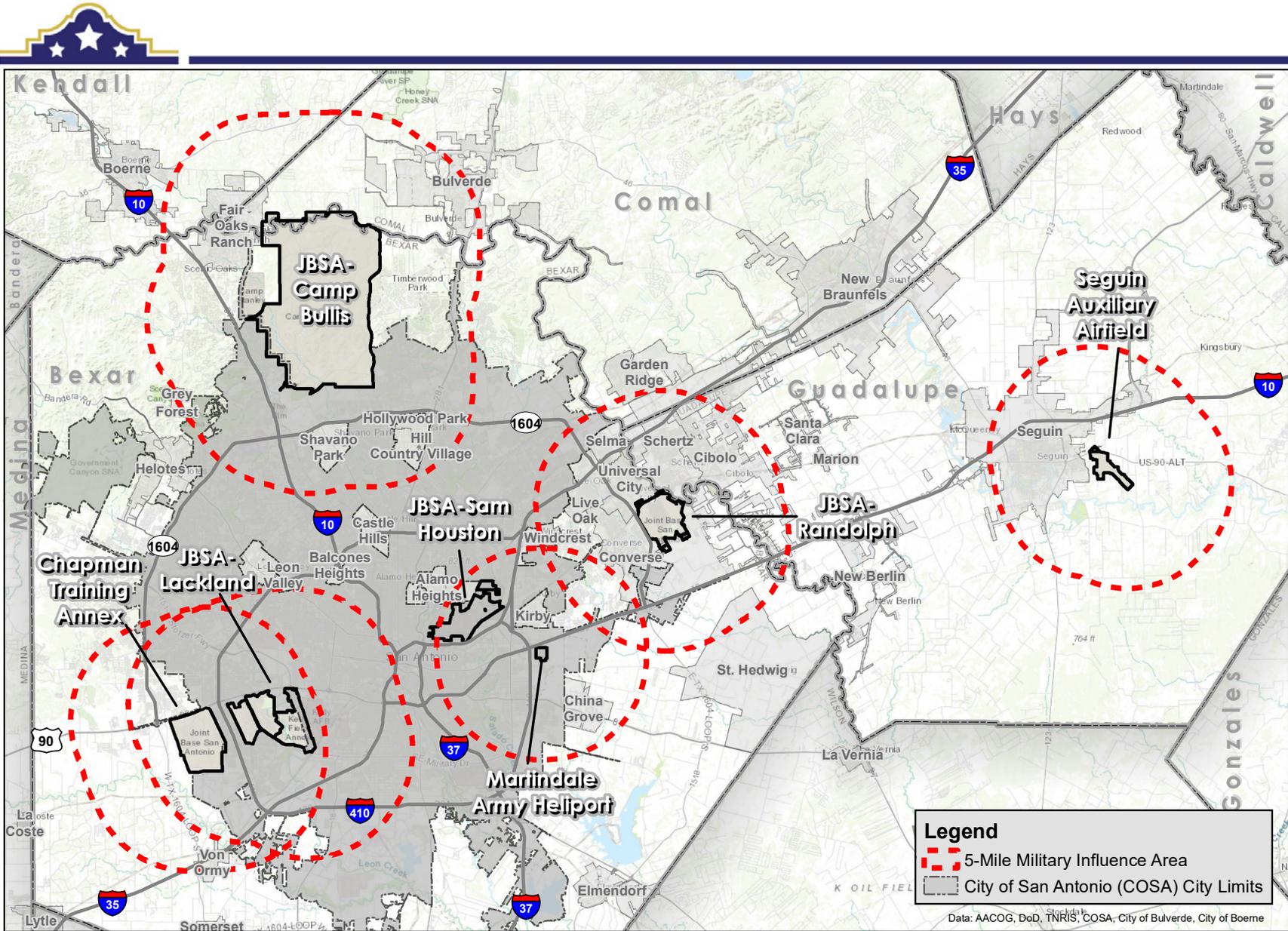
- Recommended strategies must not result in a taking of property value, which means rendering the property undevelopable or unable to achieve economic gain by the removal of development rights of the property as defined by state law. Some of the recommended strategies may involve establishment of a conservation easement on private property only if the landowner is willing to engage in such an action. Eminent domain, which is defined as a government entity taking private property with compensation for public use, is not included in any of the recommended strategies.
- Existing land uses should be grandfathered into any amendments to zoning or regulatory documents to avoid issues of non-compliance for these uses.
- Any proposed changes to regulatory or policy guidance, such as zoning ordinance or comprehensive plan amendments, should not affect any properties that have existing entitlements or have been previously approved for development.
- To minimize regulation, some of the strategies are only recommended within the specific geographic areas for which the issue they address occurs (e.g., within identified MIAs) instead of recommended for the whole RCUP Study Area.
- Some recommended strategies can only be implemented with new legislation.
- Any strategy that involves updating existing or developing new regulatory measures, such as amending a zoning ordinance or adding a new zoning overlay district to an existing zoning ordinance, or amends municipal guidance documents, such as comprehensive plans, are required to go through all legal processes before being implemented as required by Texas Statutes and local regulations, which may involve notification to affected property owners and/or land management entities and the holding of public hearings.
- Like other planning processes that include numerous stakeholders, the challenge is to create a solution or strategy to achieve an outcome that meets the needs of all parties. In lieu of eliminating strategies that do not have complete buy-in from all stakeholders, these strategies may result in the further creation of multiple approaches that address the same issue but tailored to individual circumstances.
- The implementation of any strategy requires the implementing jurisdiction or party to ensure there is no conflict between the strategy and any existing local, state, or federal law, as state and federal regulations are subject to periodic change.
- To take the next step with the Implementation Plan, the RCUP Implementation Committee shall include an action plan for each strategy that includes the following:
 - Lead agency/department for each responsible party or partner identified in the plan,
 - Detailed timeline for achieving the strategy,
 - Estimated cost, and
 - Potential sources of funding.

4.2 Military Influence Areas

In compatibility planning, 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 avigation easements.

An MIA delineates a geographic area where strategies are recommended to support compatibility planning and RCUP goals and objectives. In this way, MIAs are utilized in the JBSA RCUP as five-mile boundaries surrounding each of the installations included in this plan and comprising the Study Area where the recommended strategies apply (Figure 4-1).



5-Mile Boundary Military Influence Areas



0 5 10 Miles

Figure 4-1.



4.3 Risk Assessment Mapping Tool

As part of the JBSA RCUP, a Risk Assessment Mapping Tool was developed through the collaboration of stakeholders and close supervision provided by AACOG. The tool was created for a diverse userbase. Due to its interactive design and accessibility to stakeholders, the tool has the potential to be effective in assisting policy- and decision-makers in spatially identifying potential areas of concern and compatibility risks to JBSA's military mission based on specific criteria.

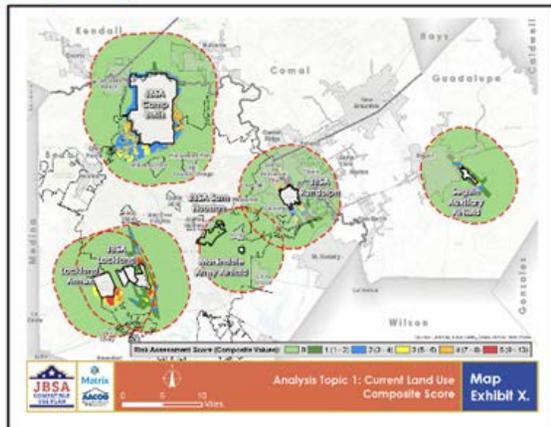
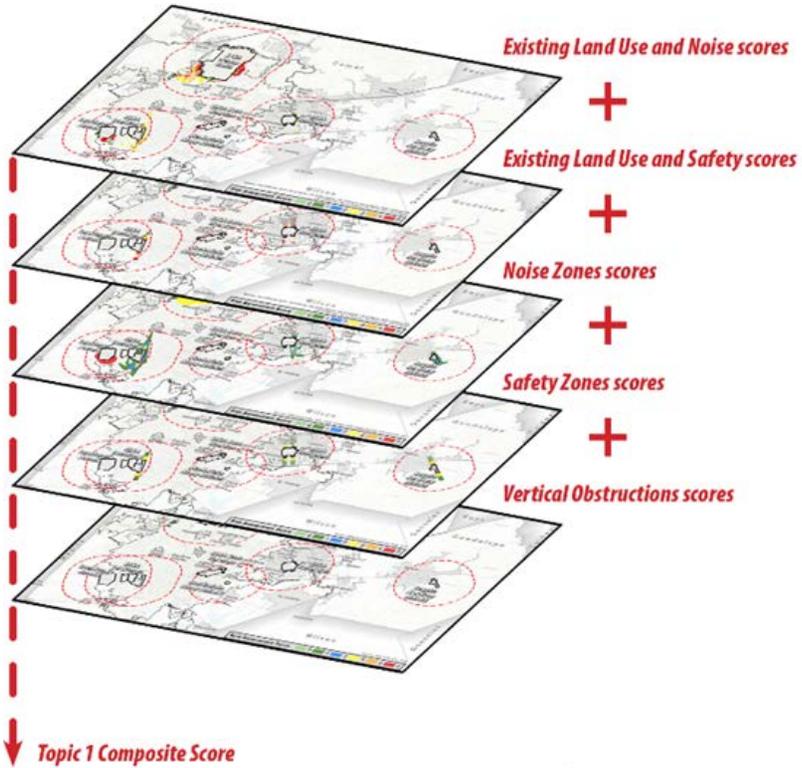
The Risk Assessment Mapping Tool consists of four analysis topics, each with underlying compatibility factors that influence the results of the analysis. The four analysis topics are:

- Current land use,
- Future growth,
- Environmental, and
- Coordination.

The Risk Assessment Mapping Tool runs each analysis topic based on the input criteria for each compatibility factor. This criterion is established by assessing the data for each compatibility factor and applying scores ranging from zero to five, with zero being no compatibility risk and five being the greatest compatibility risk to JBSA or the TXARNG mission. The scored data is converted to a raster layer. As a raster layer, the scoring applied to each individual compatibility factor can be added together to create the composite score for the analysis topic. Once this process is complete for each analysis topic, the four analysis topics are combined to create a final composite analysis map; this process is similar to the creation of compatibility factors.

The tool will be uploaded to a secure website and available to the public for use. Additionally, the JBSA RCUP is accompanied by the Risk Assessment Mapping Tool user guide, which provides an overview of the tool, breaks down each topic by their factors and provides a definitive description of the factor, the GIS data that was used for each factor, how the custom-designed model was created, and how it automates the process for each scenario created by the user.

The Risk Assessment Mapping Tool is a complementary part of the JBSA RCUP that can be updated when new GIS data become available. The tool is intended to augment the other strategies in the Implementation Plan and serve as an important mechanism for consultation when making long-term planning decisions near military installations in the region.



Example of How Each Compatibility Factor is Layered Together to Create a Composite Score

4.4 Responsible Party

Due to the Study Area’s regional nature, the JBSA RCUP includes a long list of stakeholders’ who are responsible for carrying out the recommendations within this Implementation Plan. Jurisdictions, the military, regional agencies and authorities, and regional organizations have been organized into groups based on their vicinity to the installations in the case of jurisdictions with land use authority and by type for regional organizations. In some instances, a jurisdiction may be organized within multiple installation geographies. These jurisdictions are highlighted in **gold**. Also, responsible parties without jurisdictional and/or land use authority, such as conservation agencies, economic development agencies, or developers, have been categorized by type. All of the responsible party tables in Tables 4-1 through 4-10 are organized alphabetically.

Table 4-1 Joint Base San Antonio

| Joint Base San Antonio |
|---------------------------|
| Chapman Training Annex |
| JBSA-Camp Bullis |
| JBSA-Lackland |
| JBSA-Randolph |
| Seguin Auxiliary Airfield |

Table 4-2 Texas Army National Guard and Texas Military Department

| Texas Army National Guard |
|---------------------------|
| Martindale Army Heliport |

Table 4-3 JBSA-Camp Bullis Counties and Cities

| JBSA-Camp Bullis Cities and Counties |
|--------------------------------------|
| Bexar County |
| City of Boerne |
| City of Bulverde |
| City of Fair Oaks Ranch |
| City of Grey Forest |
| City of Hill Country Village |
| City of Hollywood Park |
| City of San Antonio |
| City of Shavano Park |
| Comal County |
| Kendall County |

Table 4-4 JBSA-Lackland County and Cities

| JBSA-Lackland Counties and Cities |
|-----------------------------------|
| Bexar County |
| City of Leon Valley |
| City of San Antonio |
| City of Von Ormy |
| Port San Antonio |



Table 4-5 JBSA-Randolph/MAHP/SAAF Counties and Cities

| JBSA-Randolph Partners |
|------------------------|
| Bexar County |
| China Grove |
| City of Cibolo |
| City of Converse |
| City of Garden Ridge |
| City of Kirby |
| City of Live Oak |
| City of New Braunfels |
| City of San Antonio |
| City of Santa Clara |
| City of Schertz |
| City of Seguin |
| City of Selma |
| City of St. Hedwig |
| City of Terrell Hills |
| City of Universal City |
| City of Windcrest |
| Comal County |
| Guadalupe County |

Table 4-6 State Agencies

| State Agencies |
|--|
| Texas Department of Transportation (TxDOT) |
| Texas Parks & Wildlife (TPWD) |

Table 4-7 Regional Agencies and Authorities

| Regional Agencies and Authorities |
|---|
| CPS Energy |
| Edwards Aquifer Authority (EAA) |
| Guadalupe-Blanco River Authority (GBRA) |
| San Antonio International Airport (SAT) |
| San Antonio River Authority (SARA) |
| San Antonio Water Service (SAWS) |

Table 4-8 Regional Organizations

| Regional Organizations |
|---|
| Alamo Area Metropolitan Planning Organization (AAMPO) |
| Bexar County Military and Veteran Services Center |

Table 4-9 Economic Development and Real Estate Development Organizations

| Economic Development and Real Estate Development Organizations |
|--|
| Development Industry |
| Real Estate Council — San Antonio (RECSA) |
| San Antonio Board of REALTORS (SABOR) |
| San Antonio Chamber of Commerce |

Table 4-10 Regional Conservation Organizations

| Conservation Organizations |
|---|
| Audubon Texas |
| Bexar Audubon Society |
| Compatible Lands Foundation |
| Greater Edwards Aquifer Alliance (GEAA) |
| Green Space Alliance |
| Hill Country Alliance |
| Mitchell Lake Audubon Center/National Audubon Society |

4.5 How to Read the Implementation Plan

The strategies developed were designed to address the issues identified during the JBSA RCUP. The purpose of each strategy is to accomplish the following:

1. Avoid future actions, operations, or approvals that would cause a compatibility issue;
2. Eliminate existing compatibility issues where possible; and
3. Facilitate enhanced, ongoing communication and collaboration as mechanisms for effective compatibility planning and avoidance of future encroachment.

For ease of use, these strategies are presented in a table format showing the issues and strategies and information on how each strategy should be completed. Figure 4-2 highlights the different features of the strategy table, and the following paragraphs provide an overview of how to read the information.

Issue/Strategy ID

The issue/strategy identification number is an alpha-numeric number that provides a unique reference for each specific issue and corresponding strategy. For example, issue BIO-1 will have a corresponding strategy of BIO-1a.

Stamps



“Completed” stamp. This stamp indicates this recommendation was identified during the RCUP process and completed before the end of the process concluded.



“In Progress” stamp. This stamp indicates this recommendation has been initiated by the responsible parties indicated in the table.



Type of Strategy

This column of the strategy table identifies the type of strategy being recommended. The column contains at least one of the following icons to represent the tool type:

- | | |
|--|--|
|  Acquisition |  Coordination/Communication |
|  Education/Awareness |  Easement |
|  Legislative |  Comprehensive Plan |
|  Partnership |  Planning |
|  Policies |  Process |
|  Real Estate Disclosure |  Regulations |
|  Study |  Zoning |

Timeframe Column

The timeframe column indicates the timeframe of each strategy. The timeframes describe the year in which a strategy will be initiated or if the strategy requires ongoing action.

- | | |
|---|---|
|  | Short-term. Strategy to be initiated within one to two years following RCUP completion. |
|  | Mid-term. Strategy to be initiated within three to four years following RCUP completion. |
|  | Long-term. Strategy to be initiated in five or more years following RCUP completion. |
|  | Ongoing. Strategy will be utilized on a continuous, intermittent, or as-needed basis. |

Issue/Strategy Column

In bold type is a title that describes the issue followed by the strategy or strategies that address the issue. Each issue and strategy in bold are followed by the complete issue or strategy statement to provide a more complete description of the issue or strategy.

Responsible Party Column

At the right-end of the strategy is a series of columns that identify the stakeholders who serve as either a primary party or a partner in implementing that strategy. The primary party has the responsibility for implementing the strategy, while the partner plays a supporting role. The primary party identification, which is represented by a solid black square (■), designates that entity as responsible for implementing the strategy. The partner identification, which is represented by a hollow black square (□), designates that entity as having a key supporting role in the implementation of the strategy but is not directly responsible for the implementation. The responsible parties are designated and organized into groups in Section 4.4. Those groups are annotated at the top of the strategy table.



| Issue / Strategy ID # | Type(s) of Strategy | Timeframe | Issue / Strategy Description | JBSA | TxARNG | JBSA-Camp Bullis Counties, Cities, & Towns | JBSA-Lackland Counties, Cities, & Towns | JBSA-Randolph / SAAF / MAAF Counties, Cities and Towns | AACOG | State Agencies | Regional Agencies & Authorities | Regional Organizations | Economic Development & Real Estate Orgs | Conservation Organizations |
|-----------------------|--|---|---|------|--------|--|---|--|-------|----------------|---------------------------------|------------------------|---|----------------------------|
| BIO-1 | Military activities and community development may impact wildlife on military installations. | | | | | | | | | | | | | |
| BIO-1a |  |  | <p>Participate in the Sentinel Landscapes Partnership. The Sentinel Landscape Partnership is a group of federal agencies, state and local governments, and non-governmental organizations that work together to provide private entities sustainable land management practices around military installations and ranges. Together they work with private entities to protect vital military test and training missions, conserve habitat and natural resources, and strengthen the economies of farms, ranches, and forests. The partnership connects private landowners with voluntary assistance programs that support defense, conservation, and agricultural missions.</p> | ■ | ■ | □ | □ | | ■ | | | □ | | ■ |

Issue or Strategy ID Number.
Alpha numeric identifier used for reference.

Type(s) of Strategy.
Displays an icon for the strategy type or types used to address the issue.

Timeframe. Displays an icon for when the strategy should be initiated:

- Short-Term
- Mid-Term
- Long-Term
- Ongoing

Issue / Strategy Description.
Description of the Issue and Strategy.

Responsible Party.
The primary party and partner responsible entities. For example, the (■) denotes a primary entity with a key or lead role in implementation. The (□) denotes a partner entity who will have a key supporting role in the implementation of the strategy.

Figure 4-2 How to Read the RCUP Strategies

| Issue/Strategy ID # | Type(s) of Strategy | Timeframe | Issue/Strategy Description | JBSA | TXARNG | JBSA-Camp Bullis Counties, Cities & Towns | JBSA-Lackland Counties, Cities & Towns | JBSA-Randolph/ SAAF/MAHP Counties, Cities & Towns | AACOG | State Agencies | Regional Agencies & Authorities | Regional Organizations | Economic Development & Real Estate Orgs | Conservation Organizations |
|---------------------|--|---|---|------|--------|---|--|--|-------|----------------|------------------------------------|---------------------------|---|-------------------------------|
| BIO-1 | Military activities and community development may impact wildlife on military installations. | | | | | | | | | | | | | |
| BIO-1a |  |  | Participate in the Sentinel Landscapes Partnership. The Sentinel Landscape Partnership is a group of federal agencies, state and local governments, and nongovernmental organizations that work together to provide private entities sustainable land management practices around military installations and ranges. This partnership works with private entities to protect vital military test and training missions; conserve habitat and natural resources; and strengthen the economies of farms, ranches, and forests. The partnership connects private landowners with voluntary assistance programs that support defense, conservation, and agricultural missions. | ■ | ■ | □ | □ | | ■ | | | □ | | ■ |
| BIO-1b |  |  | Enact legislation to support Sentinel Landscapes program through tax credits and property tax abatement. Enact legislation to support the Sentinel Landscapes program through initiatives including conservation easement tax credits, property tax abatement for agriculture, and horticulture and forest lands assessed based on current use. <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i> | | | | | | □ | | | | | |
| BIO-2 | Installations can become refuges for wildlife that can impact communities surrounding installations. | | | | | | | | | | | | | |
| |  |  | For strategies that address this issue, see strategies BIO-1a and BIO-1b. | ■ | ■ | □ | □ | | ■ | | | □ | | ■ |
| COM-1 | Need for greater coordination and standardized development review process. | | | | | | | | | | | | | |
| COM-1a |   |  | Create a standardized development review process across all JBSA installations. JBSA creates a standardized development review process for all communities to streamline efforts and mitigate issues and entanglement. The process should include flexibility for differences between Cities and Counties. | ■ | | □ | □ | □ | □ | | | | | |
| COM-1b |  |  | Develop a regional notification web portal. Utilize a regional stakeholder to house a secure and accessible regional notification web portal. | ■ | ■ | □ | □ | □ | ■ | | | | ■ | |



| Issue/Strategy ID # | Type(s) of Strategy | Timeframe | Issue/Strategy Description | JBSA | TXARNG | JBSA-Camp Bullis Counties, Cities & Towns | JBSA-Lackland Counties, Cities & Towns | JBSA-Randolph/ SAAF/MAHP Counties, Cities & Towns | AACOG | State Agencies | Regional Agencies & Authorities | Regional Organizations | Economic Development & Real Estate Orgs | Conservation Organizations |
|---------------------|---|-----------|---|------|--------|---|--|--|-------|----------------|------------------------------------|---------------------------|---|-------------------------------|
| COM-1c | | | Establish a RCUP Implementation Committee. This committee would be created through an MOU between all jurisdictions/agencies with land use management and regulatory authority and JBSA/TXARNG. | ■ | ■ | ■ | ■ | ■ | ■ | □ | □ | □ | □ | □ |
| COM-1d | | | Conduct regional training on MOUs/MOAs. Conduct a regional training forum for the military, jurisdictions, and developers on planning notification prior to entering into agreements | ■ | ■ | ■ | ■ | ■ | ■ | | | | ■ | |
| COM-2 | Need for formalized communication between the military and surrounding jurisdiction staff to facilitate early awareness of planning issues and opportunities prior to transmittal of development applications for military review. | | | | | | | | | | | | | |
| COM-2a | | | Conduct quarterly planning coordination meetings. 502nd Community Initiatives and the planning department heads from Study Area jurisdictions should conduct quarterly meetings to share short- and long-term visions and goals, including changes in federal agency; DoD and JBSA policy/guidelines as they apply to development outside the fence line; real property development at JBSA; and changes to jurisdiction comprehensive plans, master plans, transportation plans, zoning, development projects, and capital improvement plans. To ensure feasibility and functionality, the meetings should align themselves within one of the RCUP subareas. Annually, all planning department heads and JBSA will meet for a state of the region address to understand long-term planning initiatives for the upcoming year. | ■ | ■ | ■ | ■ | ■ | □ | | □ | □ | | |
| COM-3 | Need for a designated community POC at JBSA and MAHP to facilitate proactive information-sharing and awareness with surrounding jurisdictions on compatibility planning issues. | | | | | | | | | | | | | |
| COM-3a | | | JBSA and TXARNG provide a designated community liaison based on subarea. Communities are able to build a relationship with their designated community liaison and are the communities' number one contact for planning questions and comments. This deliberate coordination and relationship will help build trust between the military and communities, provide a familiar face to interface, and increase the total organizational knowledge of the region. The designated community liaison will attend planning meetings within their subareas and create a relationship that will keep the military and the communities aware of any future plans. | ■ | ■ | □ | □ | □ | | | | | | |

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|---------------------|--|---|---|------|--------|---|--|--|-------|----------------|------------------------------------|---------------------------|---|-------------------------------|
| COM-3b |  |  | Establish internal information liaisons. Each jurisdiction and JBSA and TXARNG should, if they do not already, identify an internal liaison within their organization that is responsible for relaying information from outside parties to their organization to ensure that all entities are aware of pertinent information and that information does not stop at one person. | ■ | ■ | | | | | | | | | |
| COM-4 | Protecting land around military installations through acquisition, easements, land use buffers, and other partnering initiatives is a worthwhile but often complex process. | | | | | | | | | | | | | |
| COM-4a |  |  | For a strategy that addresses this issue, see strategy BIO-1a. | ■ | ■ | □ | □ | | ■ | | | □ | | ■ |
| COM-5 | Need for detailed economic impact data that are inclusive of all military installations in the RCUP to quantify the importance of the military to the region. | | | | | | | | | | | | | |
| COM-5a |  |  | Carry out a detailed economic impact assessment to identify direct and induced benefits from JBSA and MAHP. JBSA and TXARNG, while working with support from local jurisdictions, appropriate state agencies, and other cohort interests, should undertake a detailed evaluation of the economic benefits attributable to JBSA and MAHP and publish this information as a means of developing greater appreciation for the full scope of the benefits to the local communities, region, and state. | ■ | ■ | □ | □ | □ | □ | □ | | | □ | |



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|---|--|---|--|------|--------|---|--|--|-------|----------------|------------------------------------|---------------------------|---|-------------------------------|
| COM-6 Delayed execution of MOAs for coordination between JBSA and surrounding jurisdictions. | | | | | | | | | | | | | | |
| COM-6a |   |  | <p>Create a standardized MOA/MOU for a development review process across all JBSA installations. This MOA/MOU will be approved by the military and community within the Study Area. The creation of a standardized MOA/MOU for coordination between military and communities will set the foundation for faster adoption from both the communities and the military and provide a universal baseline for coordination to take place. The MOA/MOU should include:</p> <ul style="list-style-type: none"> • POC and contact information for each agency, • Role in addressing compatibility issues with the base, • Responsibility in addressing compatibility issues, • Community and military response times, and • Triggers for coordination and communication (such as infrastructure planning, water resources planning, and economic development). <p>JBSA and TMD should appoint one POC, whether military or civilian, that has the ranking and final decision-making authority for all submittals. Appointing an individual with this authority will streamline the chain of command process within JBSA and TMD, and, if comments are not received within 14 days, the jurisdiction will move ahead with their own development review.</p> | ■ | | ■ | ■ | ■ | | | | | | |
| COM-6b |  |  | <p>Request a Texas Attorney General opinion. Request a Texas Attorney General opinion for Texas Local Government Code Chapter 397.005 (e) and 397.006 397.006 (c-2). The attorney general opinion will provide a written interpretation of the law to provide clarity for both the military and jurisdictions across the state.</p> | | | | | | ■ | | | | | |
| ED-1 Potential for industrial-scale wind energy development that is incompatible with military missions. | | | | | | | | | | | | | | |
| ED-1a |  |  | <p>Coordinate early with the military on renewable energy development projects. Early collaboration between the military and developers on the compatibility of renewable energy projects is imperative to uninterrupted military operations and supporting fiscally-advantageous investments.</p> | ■ | ■ | | | | | | | | ■ | |
| ED-1b |  |  | <p>Consider legislation for regulating renewable energy within five miles of a military installation and under MTRs and MOAs. Consider creating statewide legislation to provide buffers around military installations and renewable energy exclusion areas under appropriate MTRs and MOAs to preserve operational capability within Texas. <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i></p> | | | | | | □ | | | | | |

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| FSI-1 | Concern for future frequency interference on new aircraft at JBSA-Randolph. | | | | | | | | | | | | | |
| FSI-1a |  |  | <p>Establish procedures to avoid frequency conflicts. Local jurisdictions should coordinate with JBSA on the review of projects with frequency requirements that could impact communications off-installation. The criteria that triggers coordination includes:</p> <ul style="list-style-type: none"> • Proximity to JBSA • Tower height • Power emission from tower sources • High output transmission devices | ■ | | ■ | ■ | ■ | | | | | | |
| FSI-1b |  |  | <p>Formalize communication procedures. Identify and convene a coalition of spectrum stakeholders to discuss use of frequencies and notification procedures for mitigating and troubleshooting possible service interruptions.</p> | ■ | ■ | □ | □ | □ | | □ | □ | □ | | |
| FSI-1c |  |  | <p>Employ radio frequency spectrum analysis technology. Employ radio frequency spectrum analyzer technologies, which are used to detect interference between frequency bands. Identify interference from on- and off-installation sources, including military and public/commercial users.</p> | ■ | | | | | | | | | | |
| FSI-1d |  |  | <p>Ensure compatible frequencies. The Federal Communications Commission is the government entity responsible for managing frequency usage. The military is assigned certain frequencies to use that, generally, do not interfere with civilian uses. The continued usage of only assigned frequencies should ensure no interference between military and civilian uses.</p> | ■ | | | | | | | | | | |
| FSI-1e |  |  | <p>Identify and map radio frequency interference free zones. JBSA should work with the jurisdictions to identify areas where radio frequency interference with the military mission should not occur. These maps should then be incorporated into general plans and zoning ordinances.</p> | ■ | | ■ | ■ | ■ | □ | | | | | |



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| HA-1 | Need for communities surrounding JBSA installations and MAHP to support military personnel housing needs and quality of life standards for servicemembers and their families. | | | | | | | | | | | | | |
| HA-1a | | | <p>Incorporate military housing needs in jurisdiction housing plans and City of San Antonio regional center plans. When a jurisdiction updates its comprehensive plan, the plan should include a discussion of military housing needs and programs to address housing needs for both permanent (family and unaccompanied servicemembers) 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 of off-base personnel by ZIP Code.</p> | ■ | □ | ■ | ■ | ■ | □ | | | □ | □ | |
| HA-1b | | | <p>Consider regional housing in the Public-Public, Public-Private (P4) Program. Through the P4 Program, JBSA could enter public and private partnerships that are designed to maximize limited resources, including funds, land assets, facilities, and personnel, for the mutual benefit of participating partners.</p> | ■ | | □ | □ | □ | | | | | □ | |
| HA-1c | | | <p>Establish a regional housing working group to address regulatory obstacles to workforce housing. The military, regional jurisdictions, and other regional organizations should collaborate to understand variations in local housing submarkets, identify where common housing issues exist throughout the region, and determine the best strategies to address those issues.</p> | ■ | ■ | ■ | ■ | ■ | □ | | | □ | ■ | |
| HA-1d | | | <p>JBSA establish military personnel needs by installation. JBSA provides analysis to the region to identify the needs from each installation for the region.</p> | ■ | ■ | | | | | | | | | |
| HA-1e | | | <p>Develop a resource tab on the regional web portal for military housing data. Creating access to the housing data is important for regional understanding of housing challenges.</p> | ■ | ■ | □ | □ | □ | ■ | | | □ | ■ | |

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| HA-1f |   |  | Reach out to Association of Defense Communities (ADC) to advocate for BAH rate at JBSA. Have the ADC advocate for a better BAH policy at JBSA and coordinate efforts with JBSA to petition OSD/Office of Management and Budget (OMB) out of cycle for higher BAH rates. | <input checked="" type="checkbox"/> | | | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | |
| HA-1g |  |  | Encourage school districts/charter schools in the Alamo Area to participate in the Texas Purple Star School Program. The Purple Star School Program helps schools respond to the educational and social-emotional challenges military-connected children face during their transition to a new school and keep these students on track to be college, workforce, and life-ready. <i>Other Primary Partner: school districts</i> | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | | | <input type="checkbox"/> | <input type="checkbox"/> | |
| HA-1h  |  |  | Enhance educational awareness of best practices to improve education for independent school districts. Create a toolbox of best practices for regional school districts to utilize to improve educational outcomes throughout the region. <i>Other Primary Partner: school districts</i> | <input type="checkbox"/> | | | | | <input type="checkbox"/> | | | | | |
| HA-1i |  |  | Develop regional awareness program for military families of ongoing initiatives that align military needs with school district improvements. Identify and provide military families an ongoing source of information that updates the families on what regional schools are doing to better themselves with military family needs. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | <input type="checkbox"/> | | | | | |
| HA-1j  |   |  | Exchange information between JBSA and their education initiatives with the Texas Commander's Council and align them with proposals in this report. Encourage the integration of information being worked on at different levels throughout the region and state into one report to the state legislature. | <input checked="" type="checkbox"/> | | | | | <input type="checkbox"/> | | | | | |



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| IE-1 Proposed new highway construction near JBSA and MAHP installations will increase the likelihood of future development near the installations. | | | | | | | | | | | | | | |
| IE-1a | | | Incorporate compatibility planning concepts into capital improvement plans (CIP)/infrastructure master plans. Incorporate compatibility planning concepts into CIPs/infrastructure master plans for infrastructure extensions and improvements. Avoid extension of infrastructure service adjacent or proximate to JBSA or MAHP for rezoning applications except to serve approved community/area plans or commercial and industrial development, which provides a compatible land use pattern and satisfies requirements set forth by a Certificate of Convenience and Necessity or the Texas Public Utilities Commission. | | | ■ | ■ | ■ | □ | | | | | |
| IE-1b | COMPLETED | | JBSA and TXARNG leadership have a membership or ex-officio status on the AAMPO Transportation Policy Board (TPB) and/or the Technical Advisory Committee (TAC). Military leadership involved with regional infrastructure planning will provide important coordination, communication, and engagement for future transportation projects. | ■ | ■ | | | | □ | | | ■ | | |
| IE-2 Potential for development-related growth west toward Castroville in Medina County and to the northwest Hill Country to impact JBSA. | | | | | | | | | | | | | | |
| IE-2a | | | Monitor development west of San Antonio and east of Castroville or the increase in usage of U.S. 90. JBSA should work with Medina and Bexar Counties to monitor increases in usage of U.S. 90 and identify any proposed development or land transactions in the area west of the City of San Antonio. | ■ | | □ | □ | □ | | | | | | |
| IE-2b | | | Update city, regional, and state transportation plans to address potential impacts to military operations. Transportation and infrastructure plans within the RCUP Study Area should promote compatible land use development and provide adequate ingress and egress flow to and from military installations. Adequate and appropriately planned infrastructure is critical for continued operation of JBSA and MAHP and continued compatible growth around the airfields. | □ | □ | ■ | ■ | ■ | □ | ■ | | □ | | |

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| IE-2c <i>IN PROGRESS</i> |  |  | Amend state legislation to allow Counties that are adjacent to a military installation that have an AICUZ or JLUS or other compatibility plans or studies to enter into development agreements. Consider amending Subtitle B. County Regulatory Authority, Title 7. Regulation of Land Use, Structures, Businesses, and Related Activities of the Texas Local Government Code to allow Counties that are adjacent to a military installation that have an AICUZ or JLUS or other compatibility plans or studies to enter into development agreements to promote compatible development and protect the public health, safety, and welfare in unincorporated areas. <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i> | | | | | | <input type="checkbox"/> | | | | | |
| IE-2d |  |  | Consider the use of development agreements between Counties and developers. Utilize development agreements to help developers and Counties consider impacts on military missions from growth in unincorporated areas. | | | ■ | ■ | ■ | <input type="checkbox"/> | | | | | |
| LAS-1 | Concern for the potential future impacts of aircraft serving long-leg international routes from SAT on regional airspace used by the military. | | | | | | | | | | | | | |
| LAS-1a |   |  | Create a civilian/military aviation coordination committee. The Air Force, FAA, SAT, and TXARNG should create a coordination committee to discuss, understand, and coordinate civil and military aviation matters. | ■ | ■ | | | | <input type="checkbox"/> | | ■ | | | |
| LAS-1b |  |  | Conduct an airspace study. The Air Force and TXARNG should work with the FAA, PSA, and SAT to conduct an airspace study to determine total capacity and impacts of the military training mission and commercial aircraft in the region. <i>Other Primary Partner: City of San Antonio Aviation Department</i> | ■ | ■ | | <input type="checkbox"/> | | <input type="checkbox"/> | | | | | |



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|---|--|---|---|-------------------------------------|-------------------------------------|---|--|--|-------------------------------------|--------------------------|------------------------------------|---------------------------|---|-------------------------------|
| LAS-2 Unregulated UASs pose safety concern to military aircraft and create security issues for military installations. | | | | | | | | | | | | | | |
| LAS-2a |  |  | Enhance awareness of federal UAS or drone regulation. Communities should work with JBSA and MAHP and the FAA to enhance awareness of federal regulation regarding the use and operation of UASs or drones. Awareness enhancements should include: <ul style="list-style-type: none"> Improving access to information available from the FAA at public locations; Adding links to jurisdictional websites to FAA and National Conference of State Legislatures UAS or drone websites, including the proposed regulation site (http://www.ncsl.org/research/transportation/current-unmanned-aircraft-state-law-landscape.aspx); and Hosting public meetings about drones and their impacts on military training and civilian/commercial aviation operations (invite a representative from the Texas A&M Corpus Christi FAA test site to speak on the issue). This meeting should be tied with another event that has already been planned. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | |
| LAS-2b |  |  | Partner with the FAA Law Enforcement Assistance Program (LEAP) program to enhance resources that support enforcing FAA regulations. The FAA LEAP program consists of special agents who are the POC for federal, state, local, tribal, territorial, and international law enforcement agencies. LEAP special agents can provide information on UAS or drone enforcement and registration matters. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | |
| LAS-2c |  |  | Adopt UAS ordinances. RCUP communities should consider adopting UAS or drone ordinances that dictate where and how UASs or drones can be used. These ordinances should include procedures for landowners within a determined distance from JBSA or MAHP to notify the installation(s) when they are going to use UASs or drones so that personnel are aware of the activity for safety and security reasons. | | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | | |
| LAS-2d |   |  | Create a website to upload and document UAS or drone sightings. As UAS and drone use increases, illegal drone use should be reported. Having an accessible and up-to-date database of sightings supports authorized UAS or drone users and a safe airspace. | <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"/> |
| LAS-2e |  |  | Promote UAS and drone use education through websites and FAA B4UFLY app. The Known Before You Fly website (knowbeforeyoufly.org) was created in partnership with the FAA, Academy of Model Aeronautics (AMA), and the Association for Unmanned Vehicle Systems International (AUVSI). The site helps educate prospective UAS and drone users about safe and responsible operations. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | | | | | |

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|---------------------|--|---|---|------|--------|---|--|--|-------|----------------|------------------------------------|---------------------------|---|-------------------------------|
| LAS-2f |  |  | Invest in UAS and drone detection, warning, and tracking systems. The military should invest in UAS and drone detection, warning, and tracking systems to help monitor nefarious or unauthorized UAS or drone activity. | ■ | | | | | | | | | | |
| LAS-2g |  |  | Initiate UAS and drone use education program targeting future users. Incorporate proper UAS or drone use into formal education on appropriate recreational UAS or drone usage for younger audiences and to cultivate more qualified candidates for companies using commercial UAS or drones in the region. <i>Other Primary Partner: school districts</i> | | | □ | □ | □ | | | | | | |
| LAS-2h |   |  | Partner with and continue to support the Safer Skies event. The Safer Skies event is sponsored by the San Antonio Police Department and put on by FAA Safety Team (FAAST), which seeks to bring awareness to regional flight hazards by creating events designed for commercial, governmental, and recreational users. | ■ | ■ | □ | □ | □ | □ | | ■ | | | |
| LAS-2i |   |  | Create a regional airspace working group of civilian and military members to deconflict rotary aircraft and UAS or drone aircraft in regional airspace. The regional airspace working group would be comprised of government agencies, commercial organizations, and military users who operate rotary wing or UAV/drone aircraft in the region. The purpose of the group would be to communicate and coordinate airspace use, optimize use, and bring awareness to users of new or future changes to rotary or UAV/drone use. | ■ | ■ | ■ | ■ | ■ | | | ■ | | | |
| LAS-2j |   |  | Create a regional airspace awareness program based on the Mid-Air Collision Avoidance (MACA) Program and installation BASH plans. The combination of the MACA program and regional BASH plans will provide the foundation for the creation of a regional airspace awareness program. The MACA program and BASH plans already bring awareness to mid-air hazards and bird/wildlife hazards. The integration of these programs and plans across the region provides comprehensive hazard identification and awareness. | ■ | ■ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
| LAS-2k |   |  | Partner with local communities to share UAV or drone awareness material. Include local communities on an e-mail or social media distribution list who can redistribute or reshare important UAV or drone and drone awareness information. | ■ | ■ | □ | □ | □ | | | | | | |



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| LAS-2l |   |  | Create a regional airspace working group of civilian and military members that meets on a semi-annual basis. Bringing together the civilian airspace users (law enforcement, commercial users, recreational pilots, etc.) and military users to establish a common operating picture and understanding is an important and formal way to help ensure airspace safety. There is potential to grow this working group from the Safer Skies group, which meets on an annual basis to discuss regional airspace hazards. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input checked="" type="checkbox"/> | | |
| LAS-2m |  |  | Create legislation to protect military installations and operational areas from UAS or drone surveillance. Amend Texas Code Chapter 423 to regulate the use of UAS or drones from surveilling military installations and operations. <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i> | | | | | | <input type="checkbox"/> | | | | | |
| LAS-2n |  |  | Amend legislation to include military installations as critical infrastructure for the prosecution of UAS or drone offenses. Amend Texas Code Chapter 423 to add military installations owned or operated by or for the federal government, the State, or another governmental entity to the list of critical infrastructures for prosecutable UAS or drone offenses. <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i> | | | | | | <input type="checkbox"/> | | | | | |
| LEG-1 | JLUSs are referenced under Texas annexation law. As “Compatibility Use Plan” is not specifically referenced, this plan will not automatically be applicable to Texas annexation law. | | | | | | | | | | | | | |
| LEG-1a |  |  | Amend MARVA to include CUPs. Amend MARVA to read, “...the authority to adopt and enforce an ordinance regulating the land use in the area in the manner recommended by the most recent joint land use study and/or compatible use plan or study associated with military compatibility.” <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i> | | | | | | <input type="checkbox"/> | | | | | |
| LEG-2 | State law requires resold homes to include a disclosure that explains the home “may be affected by high noise or air installation compatible use zones or other operations.” However, disclosures are not required for new home sales. | | | | | | | | | | | | | |
| LEG-2a |   |  | Amend legislation for real estate disclosures to apply to new residential construction. Amend Texas Property Code to include new home sales and add, “JLUS or military compatibility studies or plans,” to the verbiage of the disclosure. <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i> | | | | | | <input type="checkbox"/> | | | | <input type="checkbox"/> | |

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| LEG CONSOLIDATED LEGISLATIVE STRATEGIES | | | | | | | | | | | | | | |
| BIO-1b |  |  | Enact legislation to support the Sentinel Landscapes program through tax credits and property tax abatement. Enact legislation to support the Sentinel Landscapes program through initiatives including conservation easement tax credits, property tax abatement for agriculture, and horticulture and forest lands assessed based on current use. <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i> | | | | | | <input type="checkbox"/> | | | | | |
| ED-1b |  |  | Consider legislation for regulating renewable energy within five miles of a military installation and under MTRs and MOAs. Consider creating statewide legislation to provide buffers around military installations and renewable energy exclusion areas under appropriate MTRs and MOAs to preserve operational capability within Texas. <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i> | | | | | | <input type="checkbox"/> | | | | | |
| IE-2c |  |  | Amend state legislation to allow counties that are adjacent to a military installation that have an AICUZ, JLUS, or compatibility plans or studies to enter into development agreements. Consider amending Subtitle B. County Regulatory Authority, Title 7. Regulation of Land Use, Structures, Businesses, and Related Activities of the Texas Local Government Code to allow counties that are adjacent to a military installation that have an AICUZ, JLUS, or compatibility plans or studies to enter into development agreements to promote compatible development and protect the public health, safety, and welfare in unincorporated areas. <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i> | | | | | | <input type="checkbox"/> | | | | | |
| LAS-2m |  |  | Create legislation to protect military installations and operational areas from drone surveillance. Amend Texas Code Chapter 423 to regulate the use of drones from surveilling military installations and operations. <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i> | | | | | | <input type="checkbox"/> | | | | | |
| LAS-2n |  |  | Amend legislation to include military installations as critical infrastructure for the prosecution of drone offenses. Amend Texas Code Chapter 423 to add military installations owned or operated by or for the federal government, the state, or another governmental entity to the list of critical infrastructures for prosecutable drone offenses. <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i> | | | | | | <input type="checkbox"/> | | | | | |



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|---------------------|---|-----------|---|--------------------------|--------------------------|---|--|--|--------------------------|--------------------------|------------------------------------|---------------------------|---|-------------------------------|
| LEG-1a | | | Amend the Municipal Annexation Right to Vote Act (MARVA) to include Compatible Use Plans. Amend MARVA to read, "...the authority to adopt and enforce an ordinance regulating the land use in the area in the manner recommended by the most recent joint land use study and/or compatible use plan or study associated with military compatibility." <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i> | | | | | | <input type="checkbox"/> | | | | | |
| LEG-2a | | | Amend legislation for real estate disclosures to apply to new residential construction. Amend Texas Property Code to include new home sales and add JLUS or military compatibility studies or plans. <i>Primary Partners: Texas JLUS/Compatible Use Program coordination, state legislators</i> | | | | | | <input type="checkbox"/> | | | | <input type="checkbox"/> | |
| LG-1 | Development around JBSA and MAHP has increased over the past few years and is projected to continue. Vertical development incorporating red LED lights and light pollution can create safety issues for the military when utilizing night vision equipment during training. | | | | | | | | | | | | | |
| LG-1a | | | JBSA and the TXARNG implement dark skies protection on installations. JBSA and TXARNG establish dark skies programs and policies and implement them on their installations. | ■ | ■ | | | | | | | | | |
| LG-1b | | | Create a dark sky educational outreach program. Demonstrate the importance of dark skies for the region, its cumulative effect, and provide information on light blending. | <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"/> | ■ |
| LG-1c | | | Adopt lighting ordinances for dark skies. Communities will continue to adopt dark sky ordinances and amend current dark sky ordinances to decrease light pollution in the region. | | | ■ | ■ | ■ | | | | | | |
| LG-1d | | | Enforce all lighting and dark skies ordinances. Enforcement of current lighting and dark skies ordinances is important for maintaining effective ordinances. | | | ■ | ■ | ■ | | | | | | |

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| LG-1e |  |  | Develop a dark sky nonconforming database to assist in enforcing lighting and dark sky ordinances. Creating a database of nonconforming lighting uses will support authorities in effectively policing nonconformance. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | <input type="checkbox"/> |
| LG-1f |  |  | Create retrofit lighting incentive programs targeting point source lighting near and around approach and departure and other flight corridors and areas around the NOE route and training areas around JBSA-Camp Bullis and JBSA-Lackland. Creating a strategic buffer around installations and aggressively targeting non-compliant facilities with dark sky energy incentive programs that are aligned with dark sky policy. | <input type="checkbox"/> | <input type="checkbox"/> | | | | <input type="checkbox"/> | | <input checked="" type="checkbox"/> | | | <input type="checkbox"/> |
| LG-1g |  |  | Identify partners who can provide funding to support the retrofit lighting incentive programs. Establishing reliable partner(s) to finance the lighting initiatives is integral to creating a program that can execute projects quickly. Additionally, the partner should be able to provide fiscal analysis that highlights the time to payback period and the importance to the regional military mission. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | <input type="checkbox"/> |
| LG-1h |  |  | JBSA continues to develop a phased plan to assess and retrofit on-base lighting. JBSA continues to formulate a plan that addresses force protection and Unified Facilities Criteria (UFC) requirements while systematically and sustainably replacing the installation's lighting. | <input checked="" type="checkbox"/> | | | | | | | | | | <input type="checkbox"/> |
| LG-2 | Regional street lighting and other utility energy saving programs are not aligned with dark skies policy and do not address glint and glare from residential solar arrays. | | | | | | | | | | | | | |
| LG-2a |  |  | Align energy incentive programs with dark-sky-friendly lighting products and practices. Commercial, residential, and government incentive programs supported by energy companies should develop incentive programs in line with dark sky lighting products and practices to reap the benefits of lower energy consumption and reduced light pollution. | | | | | | | | <input checked="" type="checkbox"/> | | | |



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| LU-1 Development around JBSA installations is affecting drainage and runoff, which causes flooding near and on the installations. | | | | | | | | | | | | | | |
| LU-1a |    |  | Include the military on the Bexar Regional Watershed Consortium. Include JBSA and TXARNG as partners in this group to increase awareness and collaboration to help address flood issues throughout Bexar County. | ■ | | | | | | | | | | ■ |
| LU-2 Fragmented ability to implement land use controls surrounding JBSA installations and the MAHP. | | | | | | | | | | | | | | |
| LU-2a |   |  | For a strategy that addresses this issue, see strategy COM-1c. | ■ | ■ | ■ | ■ | ■ | ■ | □ | □ | □ | □ | □ |
| NOI-1 Incompatible uses have been developed within the noise contours near JBSA installations. | | | | | | | | | | | | | | |
| NOI-1a |   | | Continue to amend UDC, building codes, and zoning ordinances to incorporate recommended land use guidelines and sound attenuation measures for properties within the 65 dB and greater noise contour. If the adopted building codes of the jurisdictions do not require residential uses and other noise 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% of the structure is renovated. | □ | □ | ■ | ■ | ■ | □ | | | | □ | |

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| NOI-1b |  |  | Require notes on plats and titles that property is within an MIA. Jurisdictions should include language stating that the land is located in an area subject to overflight, noise, vibration, odors, or other impacts associated with the property's proximity to military installations or operation/training areas on all future subdivision surveys associated with lands located within one or more JLUS military notification areas. | | | ■ | ■ | ■ | | | | | | |
| NOI-1c |  |  | Conduct a notional noise model study. Conduct a notional noise model study for potential future aircraft that may be based at JBSA or TXARNG installations. | ■ | ■ | ■ | ■ | ■ | □ | | | | | |
| NOI-1d |  |  | Consider using noise contours from notional noise model studies. Jurisdictions should consider the use of noise contours from notional noise model studies for guiding policy and planning near military installations to help plan for and anticipate potential new missions. | □ | □ | ■ | ■ | ■ | □ | | | | | |
| NOI-2 | Noise impacts associated with large-scale training exercises. | | | | | | | | | | | | | |
| NOI-2a |   |  | Increase public understanding of noise sources. Increase community awareness of flight schedules and military operations throughout the entire RCUP Study Area through the use of local media sources, newsletters, brochures, and annual outreach functions hosted by JBSA and TXARNG in cooperation with each Study Area jurisdiction. | ■ | ■ | □ | □ | □ | □ | | | □ | □ | |
| NOI-2b |   |  | Incorporate noise contour maps into local planning documents. Develop noise overlays and/or contour maps for inclusion in planning documents. Incorporate policies and guidelines that address noise impacts from aircraft operations and DoD compatibility guidelines as an appendix that is easily accessible to the public. | | | ■ | ■ | ■ | | | | | | |
| RC-1 | Roads around JBSA installations experience congestion during peak travel times. | | | | | | | | | | | | | |
| RC-1a |  |   | JBSA conduct traffic studies at gates to assess impacts. Conduct a traffic study at gates to quantify demand cycles and address alternatives, such as the increase of public transit or public transit options. Depending on the outcome of the traffic study, other options could be an on-base circulator or an app that shows when congestion is highest. | ■ | | | | | □ | □ | | □ | | |



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| RC-1b | | | Consider transit/van pools onto installations and dedicated military park-and-rides. The implementation of transit/van pools and park-and-rides onto JBSA and TXARNG installations will help reduce traffic throughout the region and decrease gate times on installations. <i>Other Primary Party: VIA Metropolitan Transit</i> | ■ | ■ | | | | <input type="checkbox"/> | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| RC-1c | | | Coordinate and budget for gate improvements that affect off-installation roadway capacity and level of service. Identify, coordinate, and budget for necessary improvements to achieve more efficient functionality of installation egress/ingress points and improve localized congestion outside entry gates. | ■ | ■ | | | | | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| RC-1d | | | Consider implementing transportation demand management. Assess, develop, and implement transportation demand management strategies and policies to reduce travel demand (specifically single-occupancy private vehicles) or to redistribute the trip generation across space (additional entry gates) or time (staggered work hours/telecommuting). | ■ | ■ | | | | | <input type="checkbox"/> | | <input type="checkbox"/> | | |
| RC-1e | | | Utilize the Defense Community Infrastructure Program (DCIP) for part of the funding for the gates. DCIP is designed to address deficiencies in community infrastructure supportive of a military installation in order to enhance the military family quality of life, resilience, or military value. | ■ | | | | | | | | | | |
| RC-1f | | | Trade off gate improvements for rights-of-way or perpetual easements. Through agreements with TxDOT, military installations could receive gate upgrades in exchange for rights-of-way or perpetual easements. | ■ | | | | | <input type="checkbox"/> | ■ | | <input type="checkbox"/> | | |

IN PROGRESS

| Issue/Strategy ID # | Type(s) of Strategy | Timeframe | Issue/Strategy Description | JBSA | TXARNG | JBSA-Camp Bullis Counties, Cities & Towns | JBSA-Lackland Counties, Cities & Towns | JBSA-Randolph/ SAAF/MAHP Counties, Cities & Towns | AACOG | State Agencies | Regional Agencies & Authorities | Regional Organizations | Economic Development & Real Estate Orgs | Conservation Organizations |
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| RC-1g |  |  | Consider the creation of a regional transportation working group portal. The portal could include nontraditional members like school districts, the development community, and JBSA and would allow for knowledge/information-sharing across the region. This portal could exist outside of the AAMPO committees and provide an open discussion and awareness capacity for the region. | ■ | ■ | □ | □ | □ | □ | ■ | | ■ | | |
| RC-2 | Need for JBSA and MAHP/TXARNG participation in the Alamo Area Metropolitan Planning Organization (AAMPO). | | | | | | | | | | | | | |
| RC-2a |  |  | For a strategy that addresses this issue, see strategy IE-1b. | ■ | ■ | | | | □ | | | ■ | | |
| SA-1 | Incompatible development within the JBSA-Randolph airfield safety zones and MAHP landing approach. | | | | | | | | | | | | | |
| SA-1a |  |  | Amend zoning in APZs based on current AICUZ safety zones and rotary wing approach requirements. Cities adjacent to JBSA airfields and MAHP should evaluate, identify, and amend the allowable land uses within the current AICUZ safety zones and rotary wing approach-departure surfaces. Jurisdictions should work with their installations for correct boundaries and coordination on safety zones to ensure zoning is updated correctly. | □ | | | | ■ | | | | | | |
| SA-1b |  |  | Convene a JBSA- and TXARNG-wide TWG for regional flight safety. Convene a TWG comprising JBSA flight safety and airfield operations personnel to coordinate a unified message on airfield safety across the region. Include messaging in JBSA outreach with other airspace stakeholders in the region. | | | | | | | | | | | |
| SA-2 | Concern for Bird / Wildlife Aircraft Strike Hazard (BASH) potential. | | | | | | | | | | | | | |
| SA-2a |  |  | Monitor the incorporation of BASH guidelines for safety in impacted jurisdictions zoning ordinances/UDCs to protect military mission readiness and the public. This incorporation should include the monitoring of regional airports used for training purposes and the CALS at JBSA-Camp Bullis. | □ | □ | □ | □ | □ | ■ | | | | | □ |



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| SA-1b | | | Develop and distribute BASH educational material. Provide educational information to local jurisdictions and agencies in the region relative to reducing the potential for bird and wildlife attractants that may impede safe aircraft operations. Include education materials on the JBSA, MAHP, and jurisdiction websites. | ■ | ■ | ■ | ■ | ■ | ■ | | | | | □ |
| VO-1 | Potential for incompatible development within the JBSA airfield imaginary surfaces and landing approaches near MAHP. | | | | | | | | | | | | | |
| VO-1a | | | Incorporate imaginary surfaces or vertical obstruction zones in land use controls. Jurisdictions' imaginary surfaces next to JBSA or MAHP should incorporate the imaginary surfaces into their zoning code to protect future runway operational areas. | | | ■ | ■ | ■ | | | | | | |
| VO-1b | | | Include all airfields on the daily crane report distribution. The daily crane report helps airfields and airports maintain a high level of awareness of temporary vertical obstructions as part of 14 CFR Part 77 requirements. Ensuring distribution is reaching all airfields and airports within the Study Area is imperative to deconflicting potential hazards. | ■ | ■ | | | | | | ■ | | | |
| VO-1c | | | Educate and work with crane companies and contractors to coordinate informing communities and the FAA regarding location and timing. Regional crane companies, contractors, and crane operators need instruction on how to receive crane operating permits and how to notify the FAA. | ■ | ■ | □ | □ | □ | | | | | ■ | |
| VO-1d | | | Utilize a web-based temporary crane mapping tool to identify location, height, and time. A web-based temporary crane mapping tool would display simple information about crane operations throughout the region. This tool would assist airfield managers in identifying obstructions and give airspace users a better idea of potential vertical hazards in the region. | □ | □ | □ | □ | □ | ■ | | □ | | | |

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| VO-2 | Future power line corridors may impact low-level aircraft flight. | | | | | | | | | | | | | |
| VO-2a |   |  | Share proposals for structures exceeding 200 feet in height. Coordinate to ensure JBSA and the TXARNG are made aware of any proposals for structures greater than 200 feet tall within the Study Area. Cities should inform the JBSA and the TXARNG of future proposals for any development, including communication transmission towers that are within the identified Study Area. | | | ■ | ■ | ■ | | | | | | |
| VO-2b |  |  | Create awareness regarding Federal Regulation Title 14 Part 77, which establishes standards and notification requirements for objects affecting navigable airspace. Develop an awareness campaign to educate the Study Area constituents about FAA requirements. | ■ | ■ | | | | | | ■ | | □ | |
| WQQ-1 | Increased development of greenfields and pervious areas in the region will result in impermeable surfaces that affect water quality, increase surface runoff, and impact aquifer recharge. | | | | | | | | | | | | | |
| WQQ-1a |   |  | Emphasize infill development where possible and encourage the reuse of development sites to reduce the development of greenfields. Incentivize the infill development through incentive programs to reduce the development of greenfields. | □ | □ | ■ | ■ | ■ | | | ■ | | ■ | ■ |
| WQQ-1b |   |  | Establish GEAA project sites in the region for conducting a baseline analysis and subsequent soil carbon capture methods to increase storm water absorption/infiltration and triple carbon dioxide capture. Securing baseline data on what the current level of soil carbon and moisture holding capacity of the soils in public places will allow the GEAA to recommend best practices for the region and monitor the results. | □ | □ | □ | □ | □ | □ | | | ■ | | ■ |
| WQQ-1c |   |  | Create voluntary green infrastructure development standards to reduce the effects of impermeable surfaces in the Study Area. Jurisdictions update their UDCs to require developments have voluntary green infrastructure requirements. | ■ | ■ | ■ | ■ | ■ | | | | | | |



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|---------------------|--|---|--|------|--------|---|--|--|-------|----------------|------------------------------------|---------------------------|---|-------------------------------|
| WQQ-1d |   |  | <p>Consider green infrastructure best practices and grant funding opportunities with SARA and other agencies. Pairing of green infrastructure best practices and grant opportunities can help make green infrastructure more effective and easier to implement.</p> | ■ | ■ | ■ | ■ | ■ | | | ■ | | | |



