



Joint Land Use Study Report



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KEESLER AIR FORCE BASE

Joint Land Use Study

Joint Land Use Study Report

Prepared for:



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Three committees guided the JLUS process and developed the Joint Land Use Study – the Policy Committee, Advisory Committee and Technical Committee.

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The Policy Committee (PC) served an active and important role in providing policy direction during the development of Keesler Air Force Base (AFB) Joint Land Use Study (JLUS). The Policy Committee was comprised of the following individuals:

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Keesler AFB Joint Land Use Study

City of Biloxi



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Acronyms

A

AAO	Airport Overlay District
AC	Advisory Committee
AETC	Air Education and Training Command
AFB	Air Force Base
AFI	Air Force Instruction
AFPD	Air Force Policy Directive
AGL	Above Ground Level
AICUZ	Air Installation Compatible Use Zone
ANO	Airport Noise Overlay
APZ	Accident Potential Zone
AQ	Air Quality
AT/ FP	Anti-Terrorism / Force Protection

B

BASH	Bird Air Strike Hazard
------	------------------------

C

C	Commercial
CC	Climate Consideration
COMM	Communication / Coordination
CTA	Coast Transit Authority
CZ	Clear Zone
CZMA	Coastal Zone Management Act

D

DNL	Day Night Average A-weighted Sound Level
DoD	Department of Defense
DSS	Dust / Smoke / Steam

E

e.g.	For Example
EMOS	Existing Military Operation Surface
EPA	Environmental Protection Agency

F

FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FSI	Frequency Spectrum Impedance / Interference
FY	Fiscal Year

G

GRPC	Gulf Regional Planning Commission
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H

HCDC Harrison County Development Commission

I

I-10 Interstate I-10
I-110 Interstate I-110
ICEMAP Installation Complex Encroachment Management
Action Plan
IE Infrastructure Extension

J

JLUS Joint Land Use Study

L

LAS Land / Air Spaces
LDO Land Development Ordinance
LG Light and Glare
LU Land Use

M

MDA Mississippi Development Authority
MMCC Mississippi Military Communities Council
MPO Metropolitan Planning Organization
MS Mississippi

N

NGO Non-governmental Organization
NOAA National Oceanic and Atmospheric
Administration
NOI Noise

O

OEA Office of Economic Adjustment

P

PC Policy Committee
PT Public Trespassing

R

RC Roadway Capacity

S

SA Safety Zones

T

TOD Transit oriented development

U

U.S.	United States
USAHAS	United States Avian Hazard Advisory System

V

VFR	Visual Flight Rules
VO	Vertical Obstruction

W

WF	Waterfront
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Please see the next page.



Introduction

1

The Keesler Air Force Base (AFB) Joint Land Use Study (JLUS) is a collaborative planning effort sponsored by the City of Biloxi in partnership with the City of D'Iberville, and Harrison County. Gulf Regional Planning Commission (GRPC) served as the project manager. The JLUS was undertaken in an effort to guide planning and development in the areas surrounding Keesler AFB to help mitigate any future issues and enhance coordination among all entities involved in the process.

The Keesler AFB JLUS encourages a proactive approach to promote increased communication about the important decisions surrounding land use regulation, conservation, and natural resource management issues that affect both the local communities and the military. The aim of the JLUS process is to establish and encourage a working relationship between military installations and the neighboring communities that surround them so that encroachment issues related to current and future missions and local growth can be reduced or prevented. Encroachment issues refer to the conflicting uses of land, air, water, and other resources that can individually, or cumulatively, impact the military's ability to carry out all missions.

The compatibility factors considered in this document are described in the Compatibility Assessment (Chapter 5 of the JLUS or Chapter 5 of the Background Report). A review of these factors led to the development of a set of strategies to address compatibility concerns. The recommended strategies become the toolbox of measures for implementation that include policy, planning and zoning, coordination and communication, and outreach methods.

One of the key recommendations is the formation of a JLUS Coordination Committee responsible for overseeing the implementation progress in the months and years after the JLUS is completed. The recommended strategies are outlined in more detail in Chapter 6, Implementation Plan.

What is a Joint Land Use Study?

A JLUS is a planning process accomplished through the collaborative efforts of stakeholders in a defined study area to identify compatible land uses and growth management guidelines within, and adjacent to, an active military installation. These stakeholders include local community, state, and federal officials, residents, business owners, federal resource agencies and landholders, nongovernmental organizations, and the military. The process is intended to establish and encourage a working relationship among military installations and proximate communities to prevent and / or reduce encroachment issues associated with future mission expansion and local growth. A JLUS is produced by and for local communities, with the primary funding provided by the Department of Defense (DoD) Office of Economic Adjustment (OEA). The match fund for the Keesler JLUS was provided by the Mississippi Development Authority (MDA). The project sponsor and grant administrator for the Keesler AFB JLUS is the City of Biloxi; the project is managed by the Gulf Regional Planning Commission (GRPC).

JLUS Goals and Objectives

The goal of the Keesler AFB JLUS is to protect the viability of current and future operations, while simultaneously guiding community growth, sustaining the environmental and economic health of the region, and protecting public health, safety, and welfare.

To achieve this goal, three primary JLUS objectives were identified:

- **Understanding.** Convene community and military representatives to identify, confirm, and understand compatibility issues and concerns in an open forum, considering both the community and military perspectives and needs. This includes increasing public awareness, education, and opportunities for input organized in a cohesive outreach program.
- **Collaboration.** Encourage cooperative land use and resource planning among Keesler AFB and surrounding communities so that future community growth and development are compatible with the Keesler AFB missions and operations, while seeking ways to reduce operational impacts on land within the study area.
- **Actions.** Provide a set of mutually supported tools, activities, and procedures from which local jurisdictions, agencies, and Keesler AFB can select, prepare, and approve / adopt in order to implement recommendations developed during the JLUS process. The actions include both operational measures to mitigate installation impacts on surrounding communities and local government and agency approaches to reduce community impacts on military operations. These tools help decision makers resolve compatibility issues and prioritize projects within their annual budgeting cycles.

Why Prepare a Joint Land Use Study?

Collaboration and joint planning among military installations, local jurisdictions, and agencies protect the long-term viability of existing and future military missions. Working together also enhances local economies and industries without having compatibility become an issue. Recognizing the close relationship that should exist between installations and adjacent communities, the OEA implemented the JLUS program to mitigate existing and future conflicts and enhance communication and coordination among all affected stakeholders. This program aims to preserve the sustainability of local communities while protecting current and future research, development, acquisition, testing, and missions at Keesler AFB.

Public Outreach

The JLUS process was designed to create a locally relevant document that builds consensus and garners stakeholder support. To achieve the JLUS goals and objectives, the Keesler AFB JLUS process included a public outreach program providing a variety of participation opportunities for interested parties.

Stakeholders

An early step in any planning process is stakeholder identification. Informing and involving stakeholders early is instrumental to identifying, understanding, and resolving their most important issues through the development of integrated strategies and measures. Stakeholders include individuals, groups, organizations, and governmental entities interested in, affected by, or affecting the outcome of the JLUS document. Stakeholders identified for the Keesler AFB JLUS include:

- Local jurisdictions (cities of Biloxi and D'Iberville and Harrison County)
- DoD officials (including OEA representatives) and military installation personnel
- Local, county, regional, and state planning, regulatory, and land management agencies

- State and federal regulatory agencies
- The public (including residents, businesses, and landowners)
- Environmental advocacy organizations
- Non-Governmental organizations (NGOs)
- Other special interest groups (including local educational institutions, school districts, and Mississippi Power)

Policy Committee and Technical Advisory Groups

The development of the Keesler AFB JLUS was guided by two committees and one subcommittee, comprising community leaders, Keesler AFB personnel, federal and state agencies, resource agencies, local governments, and other stakeholders.

JLUS Policy Committee. The Policy Committee (PC) consisted of officials from participating jurisdictions, military installation leadership, and representatives from other interested and affected agencies. The PC was responsible for the overall direction of the JLUS, preparation, and approval of the study design, policy recommendations, and draft and final JLUS documents.

JLUS Advisory Committee. Membership of the Advisory Committee (AC) included representatives from local jurisdictions, agencies, and Keesler AFB with technical expertise in one or more of the compatibility factor issue area. The AC was responsible for identifying and studying technical issues. The AC assisted in data gathering, provided technical input, and reviewed the JLUS issues and recommendations. The AC identified and addressed technical issues, provided feedback on report development, and assisted in the development and evaluation of implementation strategies and tools.

JLUS Technical Subcommittees. The need to include additional members and specialized technical subcommittees is necessary to ensure that all issues have adequate representation via technical and local knowledge. These

additional members also assisted with and provided information for the development of strategies relative to their expertise and experience.

Public Workshops

In addition to the PC and AC meetings, a series of public workshops were held throughout the development of the JLUS. These workshops provided an opportunity for the exchange of information with the greater community, assisted in identifying the issues to be addressed in the JLUS, and provided input on the proposed strategies. Each workshop included a traditional presentation and a facilitated exercise providing a “hands on,” interactive opportunity for the public to participate in the development of the plan. A summary of these meetings is provided below.



Public Workshop #1 at the D'Iberville Town Green conducted August 23, 2016

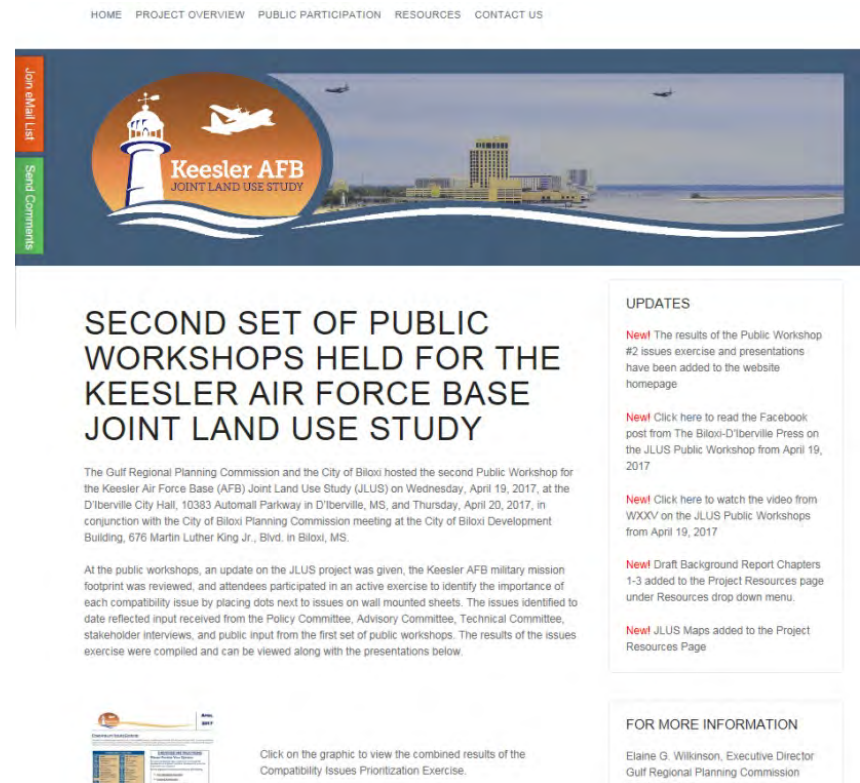
Public Outreach Materials

JLUS Fact Sheet / Compatibility Factors Brochure. At the beginning of the JLUS project, a Fact Sheet, or JLUS Update, was developed describing the JLUS program, objectives, methods for the public to provide input into the process, overview of the 25 compatibility factors that were analyzed throughout the project, and the proposed Keesler AFB JLUS Study Area. This Fact Sheet was made available at the workshops for review by interested members of the public and posted on the website for download.

These Fact Sheets served as an informational brochure describing each compatibility factor considered for JLUS development. While not every factor may apply to the Keesler AFB JLUS, this list provided an effective tool to conduct a comprehensive evaluation of compatibility factors within the study area.

Strategy Tools Brochure. JLUS strategies incorporate a variety of actions that local governments, military installations, agencies, and other stakeholders can take to promote compatible land use planning. This brochure provided an overview of strategy types that can be applied to address study area compatibility issues.

Website. A project website was developed to provide stakeholders, the public, and media representatives with access to project information. The website was maintained for the entire duration of the project to make information easily accessible. Information contained on the website included program points of contact, schedules, relevant documents and maps, public meeting information, and downloadable comment forms. The project website is located at www.keeslerjlus.com.



Keesler JLUS website

JLUS Study Area

The Keesler AFB JLUS Study Area was designed to address land near the installation that may impact or may be impacted by current or future military operations. Figure 1 shows the extent of this area, which encompassed Keesler AFB, the cities of Biloxi and D'Iberville, and Harrison County.

The delineation of the study area boundaries was determined based on the evaluation of the proximity of areas adjacent to Keesler AFB and the anticipated magnitude of impacts associated with various military mission operations.

Figure 1

JLUS Study Area

Legend

- Installation Boundary
- AFB Housing Areas
 1. Thrower Park
 2. West Falcon
 3. East Falcon
 4. Harrison Court
 5. Sand Hill Landing
- City
- Unincorporated Communities
- County
- Interstate / Highway
- Major Road
- Local Road
- Railroad
- Waterbody
- Stream / River
- Airport

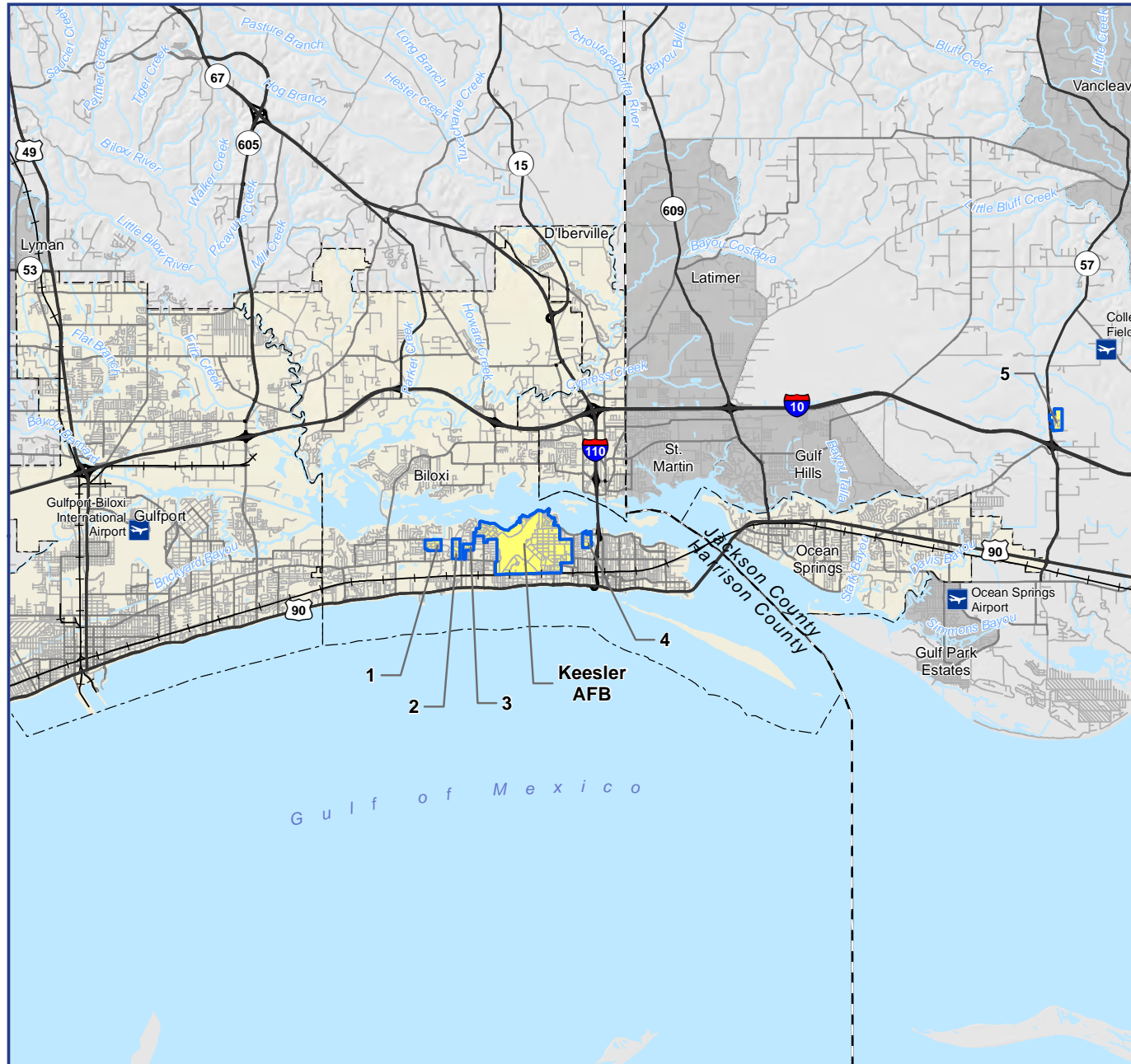
Sources:
USGS, 2015. MGC, 2016.



Matrix
DESIGN GROUP



0 1 2 3
Miles





Community Profiles

2

The study area for the Keesler Air Force Base (AFB) Joint Land Use Study (JLUS) covers large expanses of south Mississippi and is focused on Keesler AFB. The study area includes three communities in Mississippi. These communities are: the Cities of Biloxi, D'Iberville, and Harrison County. An analysis of the JLUS study area communities is provided to give a look at the civilian side and the partners who participated in the JLUS.

Study Area Growth Trends

It is important to examine past, current, and future growth trends to understand the types and amount of growth and development occurring in the Study Area. Identifying growth patterns for the area surrounding Keesler AFB is one part in determining potential future compatibility issues or areas of concern associated with where new growth may extend that could impact or be impacted by military operations. This section provides a brief summary of the recent and projected future population changes within the JLUS Study Area, as well as economic trends and an overview of community development that could be indicators of future growth.

Population

Population data is based on the 2010 data provided by the United States (U.S.) Census. Population numbers show the growth or decline in a geographical area. Population is a major factor for the economy of the JLUS Study Area and ultimately supports employment and housing opportunities.

Table 1 shows the 2000 and 2010 census totals and percent change in populations of the state, and of the jurisdictions within the JLUS Study Area.

Table 1 Study Area Population, 2000-2010

Jurisdiction	2000	2010	Number Change	Percent Change
State of Mississippi	2,844,658	2,967,297	122,639	4.3%
Harrison County*	36,323	46,367	10,044	27.7%
City of Biloxi	50,644	44,054	6,590	-13.0%
City of D'Iberville	7,608	9,486	1,878	24.7%

*Harrison County population is for unincorporated Harrison County

Source: U.S. Census Bureau 2000, 2010

The populations in the City of Biloxi decreased slightly from 2000 to 2010. Part of this trend is due to an out-migration that Biloxi experienced during and after Hurricane Katrina. Although there was a migration out of this area, many people returned and rebuilt after the storm. The decrease in population for Biloxi contrasts with the population growth in the City of D'Iberville, unincorporated Harrison County, and Mississippi. The increase in population in D'Iberville is partially attributed to the annexation of a growth area in Harrison County. According to the Trip Reduction and Ride Share Program for Keesler AFB many military and civilian personal live in Biloxi and Woolmarket, which is located northwest of Keesler AFB and St. Martin, which is located northeast of the installation in western Jackson County.

Future Population Projections

Future population growth is predicated on the expected growth associated with the tourism industry in the cities of Biloxi and D'Iberville. Keesler AFB also supports a large concentration of jobs, with approximately 4,000 military personnel, and is the largest employer in Biloxi. Table 2 indicates the forecasted population between 2013 and 2040 for cities and the county within the JLUS Study Area.

These projected populations are not exact; however, they are projections to help cities and counties develop land use priorities to reduce impacts of future growth challenges.

Table 2 Population Projections, 2013 – 2040

Jurisdiction	2013	2020	2030	2040	Percent Change
Mississippi	2,976,872	3,044,812	3,092,410	3,500,000	17.6%
Harrison County*	187,104	213,275	230,514	237,607	27.0%
City of Biloxi	47,161	55,863	63,664	64,298	36.3%
City of D'Iberville	10,386	12,044	13,036	13,713	32.0%

**Harrison County population includes Biloxi, D'Iberville, Gulfport, Long Beach, and Pass Christian, and unincorporated Harrison County*

Source: U.S. Census 2009 – 2013 American Community Survey 5-Year Estimates, U.S. Census Population Projections; 240 Mississippi Unified Long-Range Transportation Infrastructure Plan; Mississippi Gulf Coast Area Transportation Study 2040 Long-Range Transportation Plan

Economic Overview

The primary economic activity throughout the JLUS Study Area is largely centered on the gaming industry that has been prevalent in the area since the early 1990s. The gaming industry has continued to be an important economic driver in the area, even after the impacts from Hurricane Katrina.

Mississippi

Mississippi has one of the nation's lowest per capita income rates and one of the lowest living costs. For much of the state's early years, Mississippi was highly dependent on the cotton industry. Today, agriculture is still a significant employment sector, although no longer the largest. Mississippi's greatest industries in terms of employment are educational services, health care and social assistance, followed by the manufacturing industry and retail.

Harrison County

Harrison County is the center for employment in the region. The major employers in Harrison County are Keesler AFB, Naval Construction Battalion Center (NCBC), and Memorial Hospital. In total Harrison County's largest employers are in the government industries, including Keesler AFB, the Harrison County School District, and the Naval Construction Battalion Center in Gulfport.

Harrison County is making an effort to diversify its economy by creating industrial parks in unincorporated land. Following Hurricane Katrina, the demand for industrial space in Harrison County increased and the vacancy rates of the parks decreased by approximately 20 percent. The Harrison County Development Commission recently opened a new industrial park in Saucier near Highway 49. Although most development in the county is concentrated along the waterfront and transportation routes, Harrison County is now experiencing growth areas further north of Interstate 10 (I-10).

City of Biloxi

The City of Biloxi's economy is largely driven by the gaming industry and Keesler AFB. The largest employer in Biloxi in 2015 was Keesler AFB, employing over half of the city's workforce. The second leading industry was the gaming industry, employing 47 percent of the workforce and bringing in over \$800 million in gaming revenue in 2010.

Tourism in Biloxi, and for most of the Gulf Coast region, is a large contributor to the economy. The largest tourist draw in Biloxi has been casino gaming. In 2014, 15.3 million tourists visited casinos on the Mississippi Gulf Coast, bringing in gross revenue of over \$1.5 billion. While the casino gaming industry is a draw, the beaches and water recreation have also been highly attractive commodities in Biloxi. In addition, the MGM Park is home to an AA minor-league baseball team, the Biloxi Shuckers, as well as special events.

Like most coastal cities, Biloxi was impacted by Hurricane Katrina in 2005. Many developments that were set for construction prior to Katrina were never brought to fruition. One such example was a 26-story high rise condo tower that was approved right before Katrina struck and was never built afterwards. East Biloxi was particularly affected and the process to rebuild was slow due to floodplain construction constraints and high insurance costs. Since then, Biloxi has had a resurgence in development. The State legislature's approval to build casinos on land, rather than on barges, led the reconstruction efforts in the city.

City of D'Iberville

The City of D'Iberville is growing in commercial industries and local businesses. Presently, its largest industry is retail, employing approximately 20 percent of its workforce and generating almost \$200 million. The second greatest industry is accommodation and food services.

The city is continuing to grow with many planned developments for the future. One of the most successful developments is the Promenade Shopping Center, which opened in 2009 and consists of 700,000 square feet of commercial space. Additionally, the City is looking to add a new shopping center west of Interstate 110 (I-110) and south of I-10. The shopping center, called Gulf Coast Galleria, is intended to be a contemporary shopping destination on the Gulf Coast and will include a hotel, shopping stores, and a dining and entertainment complex. The city also acquired its first casino, the Scarlet Pearl Casino Resort, in late 2015. The new casino employs 1,200 people. There are plans underway to redevelop the Old Town into a

mixed-use development called the French Market. This will help revitalize the area after the impacts from Hurricane Katrina and will bring in more jobs to the city.

Current Development Overview within the Study Area

Land uses throughout the JLUS Study Area range from open space in unincorporated Harrison County, to the residential and urban population center in the City of Biloxi. This section discusses the setting in the immediate vicinity of Keesler AFB.

North

Keesler AFB is bordered to the north by the Back Bay of Biloxi. The Back Bay is an active commercial shipping channel supporting industry on Bayou Bernard. The Back Bay of Biloxi includes barge traffic and provides opportunities for recreation, such as boating and fishing. Also north of the base is the Oak Park neighborhood, which is a single family residential neighborhood. This neighborhood has upscale waterfront properties with docks. On the north side of the Back Bay, which is over a half a mile wide, is the remaining part of the City of Biloxi, which extend north almost five miles. This includes single family and multifamily housing, as well as the Biloxi High School. Additionally, D'Iberville is located north of the installation, east of Biloxi. The city extends almost five miles north from the Back Bay of Biloxi. Interstate 10, which runs east to west, is located north of Keesler AFB, approximately a mile and a half north of the Back Bay.

East

East of Keesler AFB is mainly single family residential in Biloxi. Past I-110, on the east, are casinos and hotels. This area in Biloxi continues to be developed, which is evidenced by the new MGM stadium. Although the gaming industry is expanding, gaming cannot go west of the I-110. United States (U.S.) Highway 90 continues through Biloxi and extends northeast on the Biloxi Bay Bridge into Ocean Springs.

South

Directly south of Keesler AFB lies single family residences in Biloxi, as well as Biloxi Junior High School, Old Biloxi Cemetery, and churches. Irish Hill Drive and the CSX Transportation rail line run east to west, abutting the south end of the installation. United States Highway 90 is a main thoroughfare that runs west to east along the southern part of Biloxi, by the coastline. Directly south of the highway is the stretch of beach, which has restaurants located along the waterfront. Much of the restaurants and attractions along the beach were destroyed by Katrina and have since been restored. The beach provides public access to the Mississippi Sound, which connects to the Gulf of Mexico.

West

West of Keesler AFB is a mix of single family residential and commercial development in Biloxi. Popp's Ferry Bridge connects the southern end of Biloxi to the northern end across the Back Bay.

Projected Study Area Growth

City of Biloxi

Today, growth areas in Biloxi include Woolmarket, which is located north of the Back Bay, north of I-10 and east of Mississippi Highway 67. This area, which was annexed by the City of Biloxi in 1999, has historically been agricultural and forested land. Seventy-six percent of undeveloped land that does not have environmental constraints associated with it, such as floodplain and wetlands are located in the Woolmarket area. This area is slated for an increase in low-density residential development.

The Woolmarket Regional Activity Center is also being proposed in the area at I-10 and Mississippi Highway 67. These uses will include high intensity commercial and residential development. Another growth area in Biloxi is the Cedar Lake Regional Activity Center, which is located at I-10 at Cedar Lake Road. This will be a mixed-use development area, including commercial, institutional and high-density residential areas.

City of D'Iberville

Northeast of the installation lies the City of D'Iberville, intersected by I-10 and I-110. D'Iberville has plans to develop the waterfront into commercial and mixed-use in the proposed French Market District, which was once the Old Town. The French Market District is proposed to be a transit oriented development (TOD), melding Coast Transit Authority (CTA) services, diverse housing types, and commercial development. The CTA transit center on Central Avenue and Rodriguez Street supports businesses in the district and provides connectivity between D'Iberville and Biloxi. Housing opportunities in the French Market District will include affordable rentals. The district considers growth in the area and can accommodate a diverse population, including those who train or work at Keesler AFB. This redevelopment of the Old Town would act as a town center. The square is proposed on Central Avenue and Rodriguez Street.



Military Profile

3

Keesler Air Force Base (AFB) is located in Harrison County, on the Gulf Coast of Mississippi. Located within the City Biloxi's limits, the installation comprises approximately 1,653 acres in the southern portion of the city, just south of US Highway 90.

The mission operations performed within Keesler AFB provide valuable insight into the importance of Keesler AFB as a national strategic asset and its relationship with communities in the region. The purpose of this information is to enable stakeholders to make informed decisions about the future development and economic growth of communities proximate to Keesler AFB that could potentially impact the viability and future role of the base.

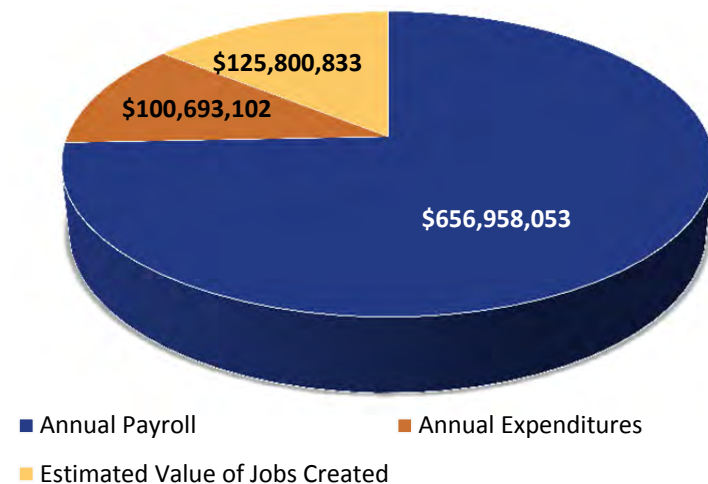
Regional Economic Benefit

The Keesler Joint Land Use Study (JLUS) Study Area comprises the Cities of Biloxi and D'Iberville, Harrison County and other surrounding jurisdictions that are impacted by and have the potential to impact the Keesler AFB operating area. Keesler AFB is a significant economic engine for the surrounding regional area and is one of the largest employers in Biloxi, Mississippi (MS) and Harrison County.

In Fiscal Year 2015 (FY 15), Keesler AFB had an estimated economic impact of \$883 million. Figure 2 shows the breakdown of the total economic impact of Keesler AFB in the region. In FY 15, Keesler AFB directly employed 8,284 military personnel, which includes active duty as well as the student and reservist population and 3,501 civilian personnel, which includes Base Exchange and commissary, contractors, and civil services. The total

payroll associated with these jobs is almost \$657 million. It is estimated that 3,539 jobs are created indirectly in the surrounding communities in support of Keesler AFB, valued at \$125,800,833.

Figure 2 Keesler AFB Economic Impact, FY 15



Source: Keesler Air Force Base Fiscal Year 2015 Economic Impact Analysis

In addition to the \$657 million payroll created by Keesler AFB, the Base has over \$100 million in direct annual expenditures. These expenditures cover categories such as construction, Base Exchange, school impact aid / tuition assistance, health care, lodging, and services.

Installation Setting

Keesler AFB is situated on the Mississippi coast approximately 90 miles east of New Orleans, Louisiana and 60 miles west of Mobile, Alabama. The installation is located in the City of Biloxi, Mississippi and includes pockets of privatized housing separate from the Base operational area within the City of Biloxi and Jackson County.

Keesler AFB is located north of UA Highway 90, surrounded by urban developed areas of the City of Biloxi to the west, south, and east. These built-out areas contain established residential neighborhoods consisting of predominantly single family homes with pockets of neighborhood commercial development along collector streets such as Pass Road and Iberville Drive to the west. Abutting the southern perimeter of the installation is the CSX Transportation rail line, which separates the installation from the residential area on the south side of Irish Hill Drive. The Biloxi Junior High School and the Old Biloxi Cemetery are also located on Irish Hill Drive, immediately south of the installation. On the north side of Keesler AFB is the Back Bay of Biloxi – an 8.1 square mile estuary fed from the Biloxi and Tchoutacabouffa rivers and Mississippi Sound.

The installation comprises training, administration and housing facilities, runway and airfield facilities, the Keesler Medical Center, and Base support and recreation facilities, including a marina and golf course.

One additional area in the City of Biloxi, east of Keesler AFB and south of Bayview Avenue – Harrison Court, is also part of Keesler AFB and contained privatized housing prior to Hurricane Katrina. The homes were not rebuilt and the site is currently vacant.

Local Communities Working Together

As a community presence, Keesler AFB contributes to more than just the local economy. Keesler AFB recognizes that in a city, continued support of the local population and government officials is invaluable. Keesler AFB understands the value of volunteering and engaging with the community. In 2014, the installation reported 139,312 of community volunteer hours.

Military Operations

Primary operations at Keesler AFB include electronics training, weather reconnaissance, tactical airlift support, disaster response, medical care and training, management of Air Force training, and training for various disciplines for other branches of the Armed Forces. Operations are conducted to execute missions by the host units and tenant organizations. The following are the host units and tenant organizations that operate at Keesler AFB:

Host Units

- 81st Training Wing
- 81st Training Group
- 81st Medical Group
- 81st Mission Support Group
- 2nd Air Force

Tenant Organizations

- 403rd Wing
- 85th Engineering Installation Squadron
- Mathies Noncommissioned Officers Academy
- Center for Naval Aviation Technical Unit

Military Footprint

Several elements are associated with the primary operations at Keesler AFB. These elements are either tangible, meaning that they are either physically seen and / or heard, or intangible, meaning that they exist within space without being seen or heard. One example of a tangible element is noise associated with aircraft activity; one example of an intangible element is the flight path taken by an aircraft. A person can see a plane in the sky and see it moving, but cannot necessarily see the path it has taken or see where it will continue. These tangible and intangible elements comprise the military footprint. Oftentimes, the footprint is not contained within the confines of the military installation; noise, for example, does not stop at the fence line. The military footprint can potentially affect areas adjacent to or near the installation. Conversely, activities occurring in communities near or adjacent to a military installation can potentially affect the military footprint.

Elements associated with the Keesler AFB include:

- Runway Class Airspace
- Approach and Departure Flight Tracks
- Imaginary Surfaces
- Code of Federal Regulation (CFR) Title 14 Part 77 Obstruction Evaluation Area
- Existing Military Operations Surface
- Aircraft Noise Contours
- Aircraft Safety Zones
- Bird / Wildlife Air Strike Hazard (BASH)

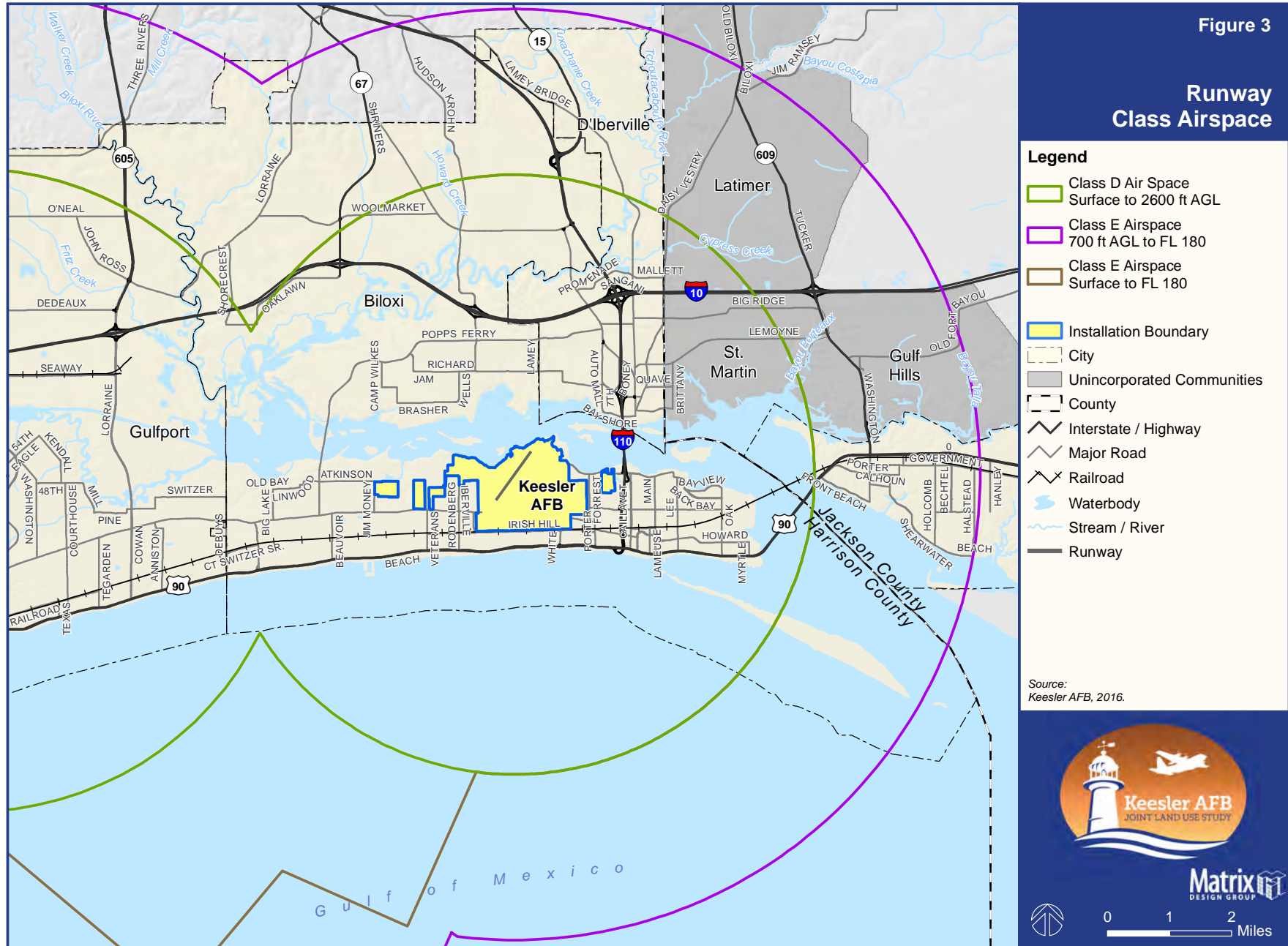
Maintaining and sustaining these elements plays a significant role in the long-term viability of Keesler AFB and continued mission readiness.

Runway Class Airspace

To help controllers and pilots deal with varying traffic conditions in the sky, United States airspace has been divided into six different classes (A, B, C, D, E, and G). These different classes have different requirements for entry into the airspace, pilot qualifications, radio and transponder equipment, and Visual Flight Rules (VFR) weather minimums.

Within the JLUS Study Area, Keesler AFB and Gulfport-Biloxi International Airport are surrounded by Class D airspace. This airspace classification requires an operational control tower, and that two-way communication is established prior to entry.

Another Class E airspace surrounds both Keesler AFB and Gulfport-Biloxi International Airport and extends from 700' above the surface to 18,000'. This extension of the Class E airspace that is oriented to the Keesler AFB runway and is present to protect arrival and departure flight tracks. The airspace surrounding the Keesler AFB airfield is depicted on Figure 3.



Please see the next page.

Approach and Departure Flight Tracks

Flight tracks are prescribed flying routes. Prescribed flight tracks or routes are typically implemented by all airfields / airports within a set area to ensure predictable flight operations. These routes act similarly to surface highways and establish consistent routes for all active aircraft. The flying routes are designed to coordinate airspace use with other aircraft that is not affiliated with Keesler AFB including aircraft associated with civilian airports within the Gulf Coast region.

These flight tracks provide guidance to planners about the typical area of operations that occur at the airfield. These are created using information gathered from air traffic controllers, pilots, and other sources. When flight tracks are developed they attempt to avoid urban development as much as possible to reduce impacts and risk to the general public and commercial or general aviation activities, but safety of operations is paramount in the design of these tracks. Figures 4 through 6 illustrate the primary flight tracks used by Keesler AFB aircraft for Runways 3/21.

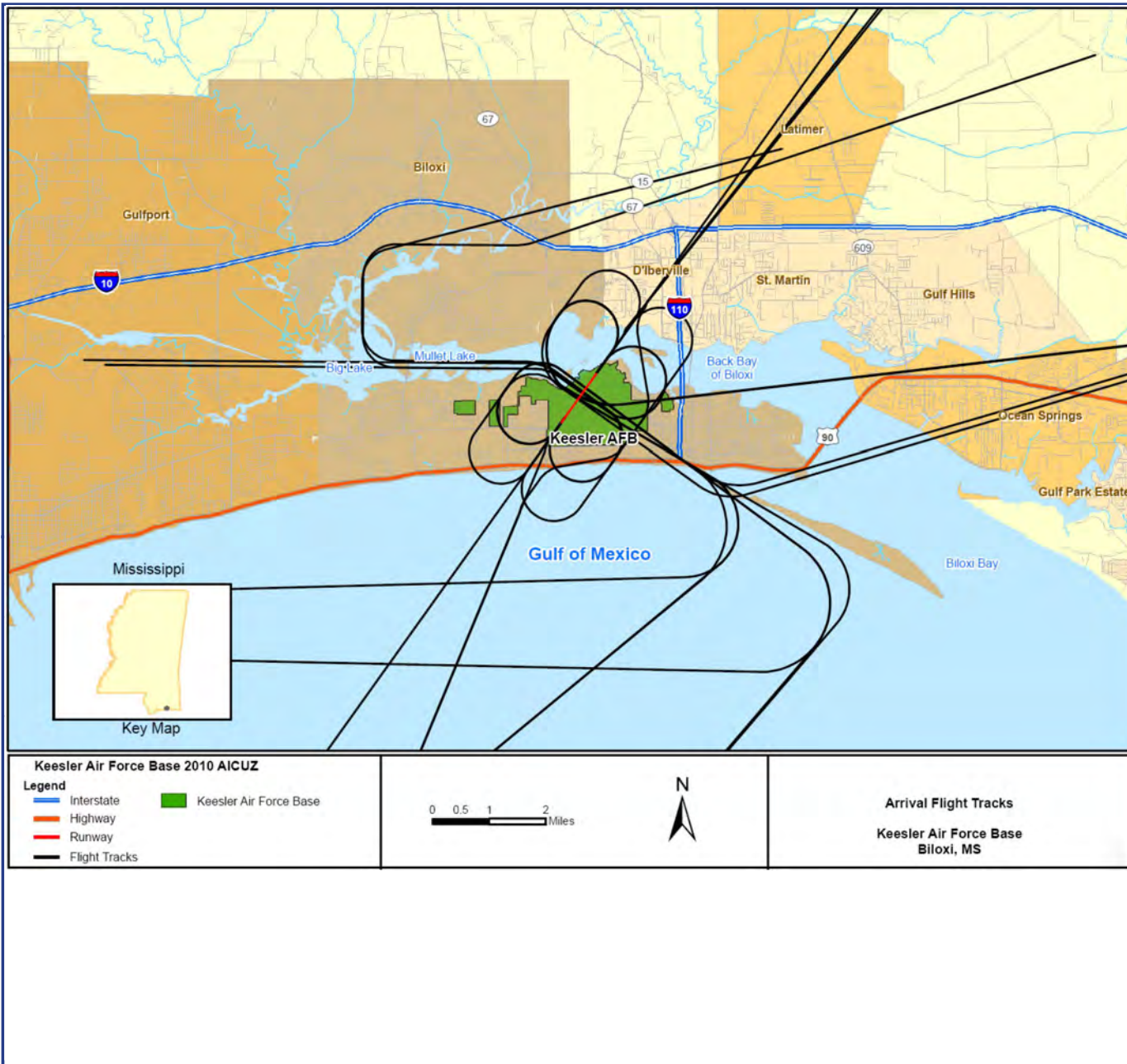


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Source:
Keesler AFB, 2016



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Figure 5

Departure Flight Tracks

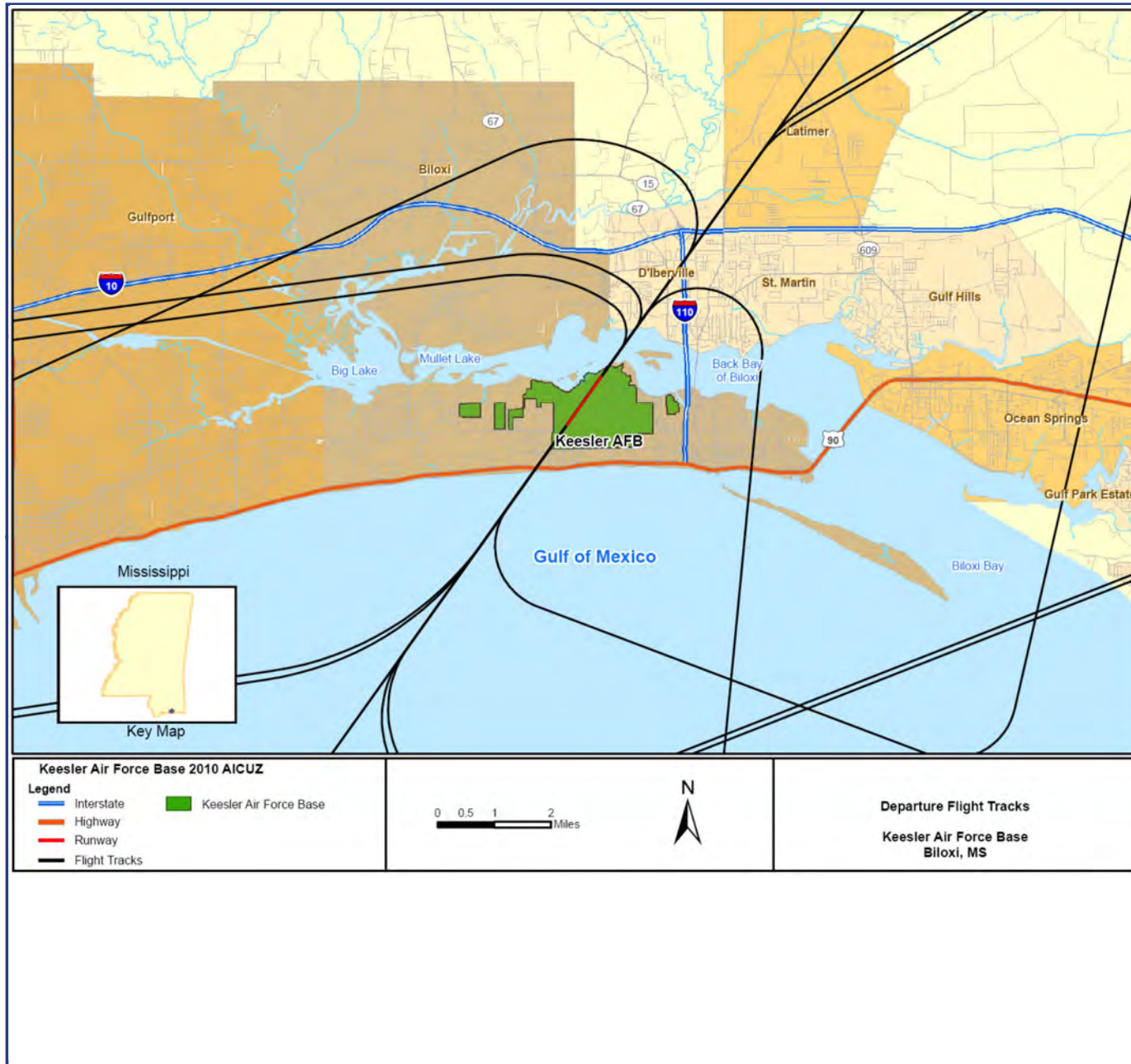
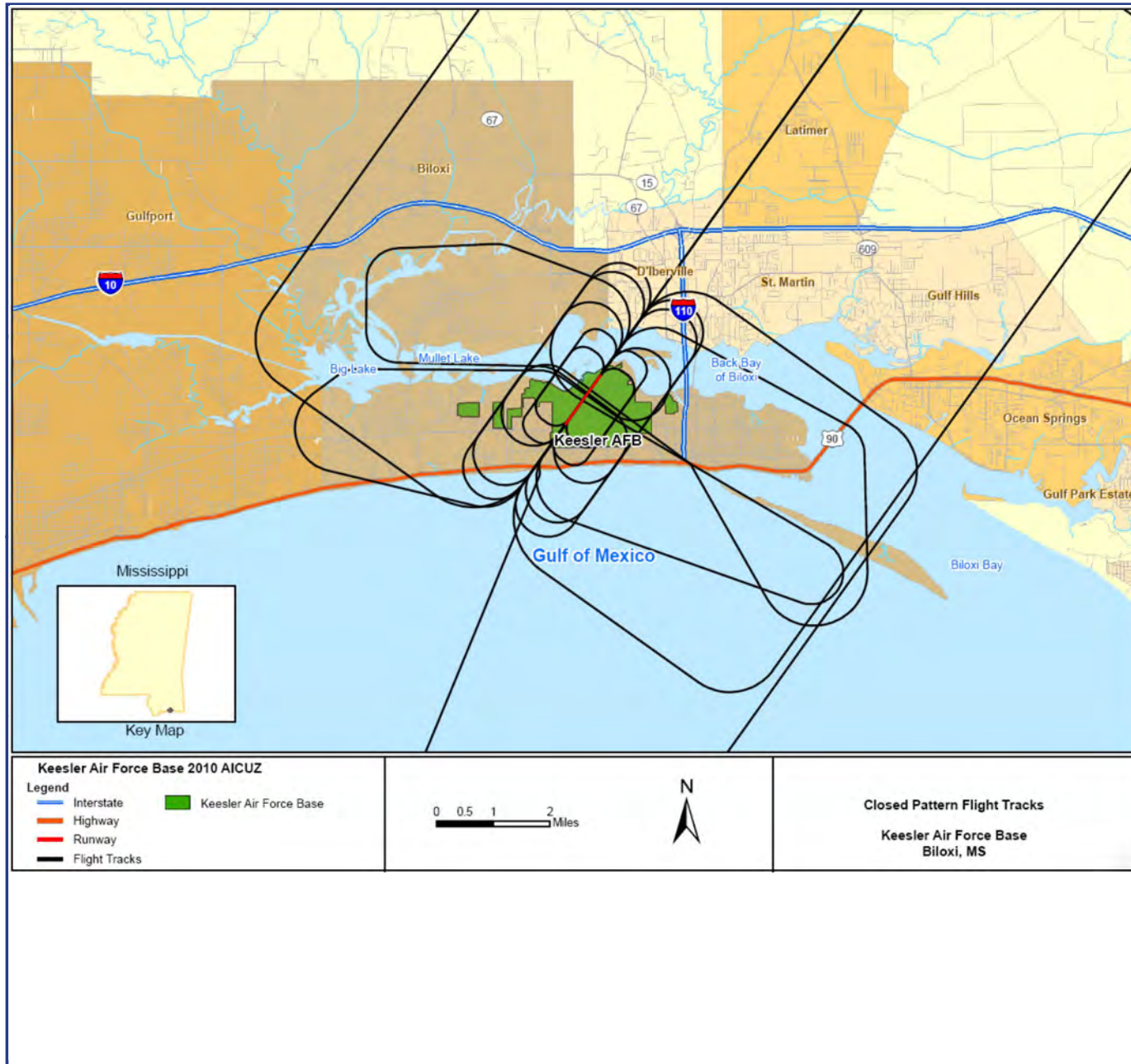


Figure 6

Closed Pattern Flight Tracks



Source:
Keesler AFB, 2016



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Imaginary Surfaces

The Department of Defense (DoD) has identified certain imaginary surfaces criteria around military use runways to determine how structures and facilities are evaluated and identify if they pose a vertical obstruction relative to the airspace around a runway. The imaginary surfaces of an active runway are used to define the required airspace that must remain free of vertical obstructions in the vicinity of aviation operations to ensure safe flight approaches, departures, and patterns. The various imaginary surfaces build upon one another and are designed to guide the height of structures so there are no vertical obstructions to air navigation and operations, either natural or man-made. The imaginary surfaces relative to Keesler AFB's runways are illustrated on Figure 7.

Figure 7

Imaginary Surfaces

Legend

Airfield Imaginary Surface

- Primary Surface
- Approach/Departure Clearance Surface (50:1)
- Approach/Departure Clearance Surface (Horizontal)
- Inner Horizontal Surface (150 ft)
- Conical Surface (20:1)
- Outer Horizontal Surface (500 ft)
- Transitional Surface (7:1)

- Installation Boundary
- City
- Unincorporated Communities
- County
- Interstate / Highway
- Major Road
- Railroad
- Waterbody
- Stream / River
- Runway

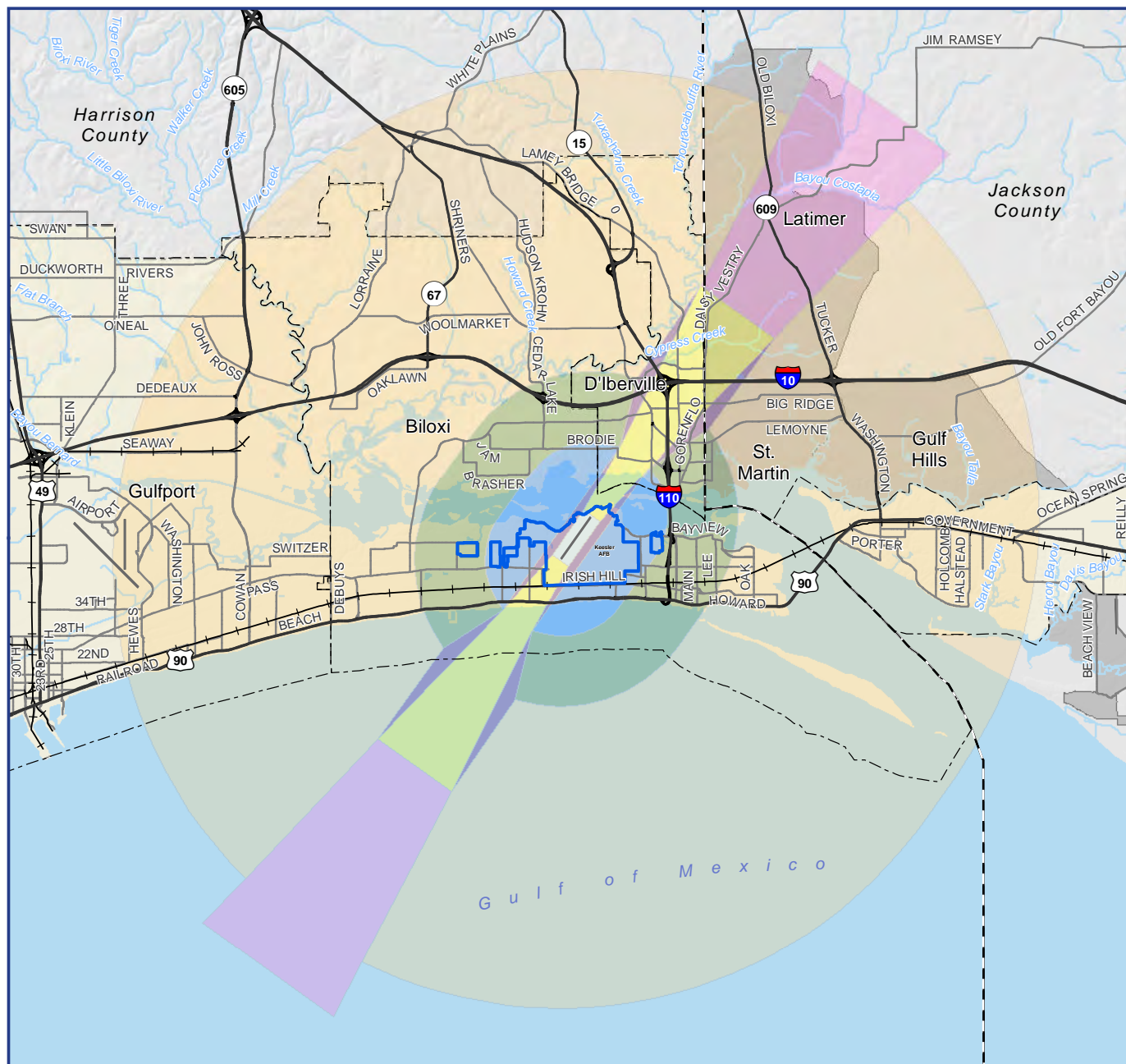
Source:
Keesler AFB, 2016.



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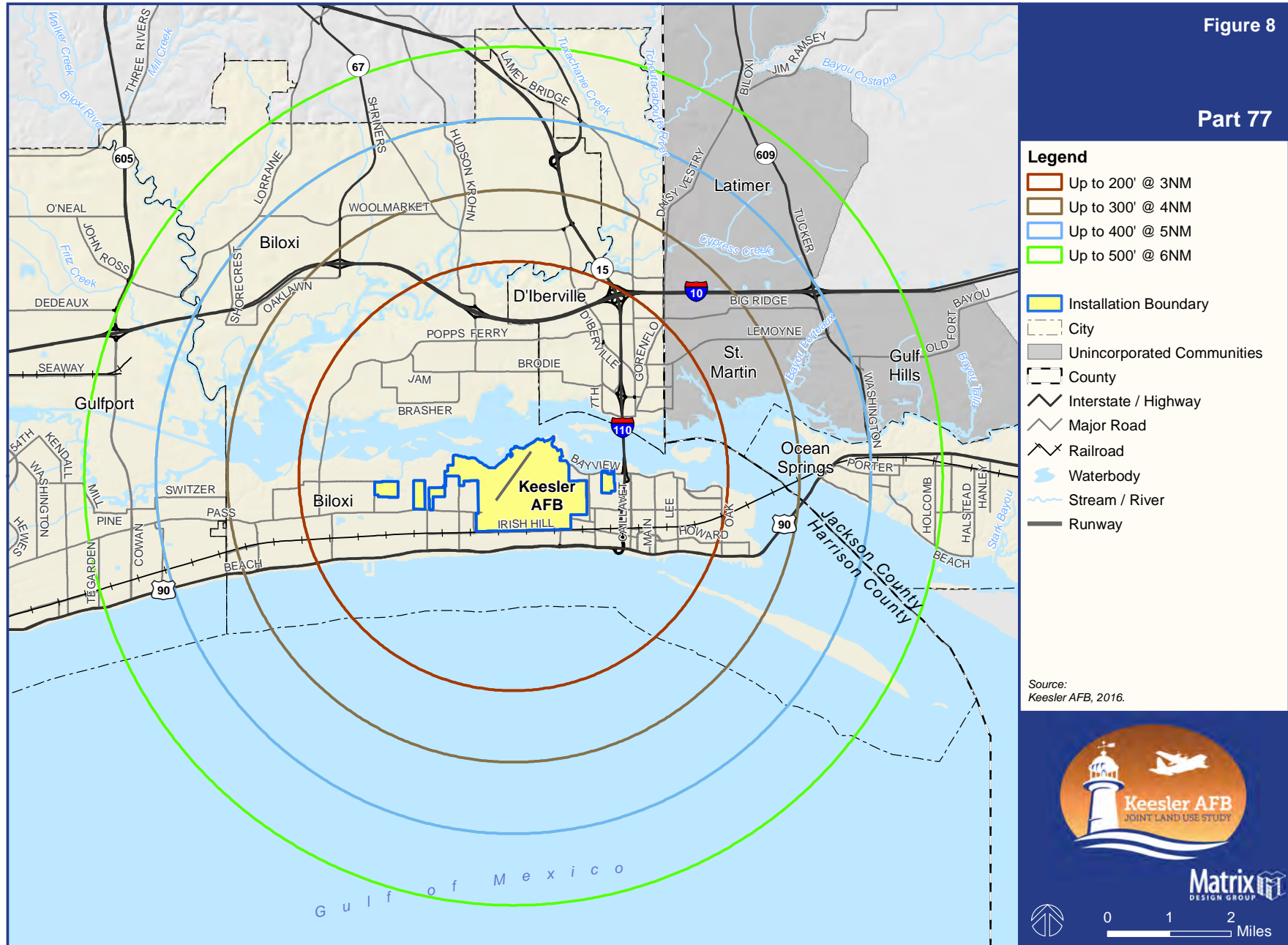
FAA Part 77 Obstruction Evaluation Area

In addition to the imaginary surfaces established by the DoD, the (FAA) has also established guidance to reduce the potential for accidents surrounding an airfield. Associated with the imaginary surfaces of an active airfield and in relation to flight operations from an airport (military or civilian), vertical obstructions are assessed through compliance with Code of Federal Regulation (CFR) Title 14 Part 77 Safe and Efficient Use and Preservation of the Navigable Airspace, which establishes standards and notification requirements for objects affecting navigable airspace. Figure 8 illustrates the Part 77 defined footprint based on the elevation of the runway.

Code of Federal Regulation (CFR) Title 14 Part 77 is commonly referred to as Part 77 compliance, this regulation provides details to evaluate the potential for a vertical obstruction based on the elevation of the airfield, the height and resulting elevation of the new structure or facility, and the location of the structure or facility in relation to the airfield in question. The guidance and process for obstruction evaluation is more fully detailed in Chapter 4, Existing Tools under federal tools.

Figure 8

Part 77



Existing Military Operations Surface

The Existing Military Operations Surface (EMOS) is unique to Keesler AFB and created to support training missions at Keesler AFB by developing airspace criteria. It is used to identify height thresholds for structures in the navigable airspace. The EMOS Area is a flat surface that extends from the thresholds of the runway along the projection of the centerline, both southwest and northeast for 1-3/4 nautical miles.

The EMOS defines airspace criteria that are needed for the continuance of the existing air mission. Figure 9 shows the EMOS for Keesler AFB as developed by the City of Biloxi. This map is a graphical interpretation of the EMOS developed from the definition provided by Keesler AFB and contains deviations from the EMOS definition.

Figure 9

Existing Military Operations Surface

Legend

Height Hazard Elevation (ft)

- 0.0 - 1.0
- 1.1 - 100
- 110 - 150
- 160 - 200
- 210 - 250
- 260 - 300
- 310 - 400
- 410 - 530

- Installation Boundary
- City
- Unincorporated Communities
- County
- Interstate / Highway
- Local Road
- Railroad
- Waterbody
- Stream / River

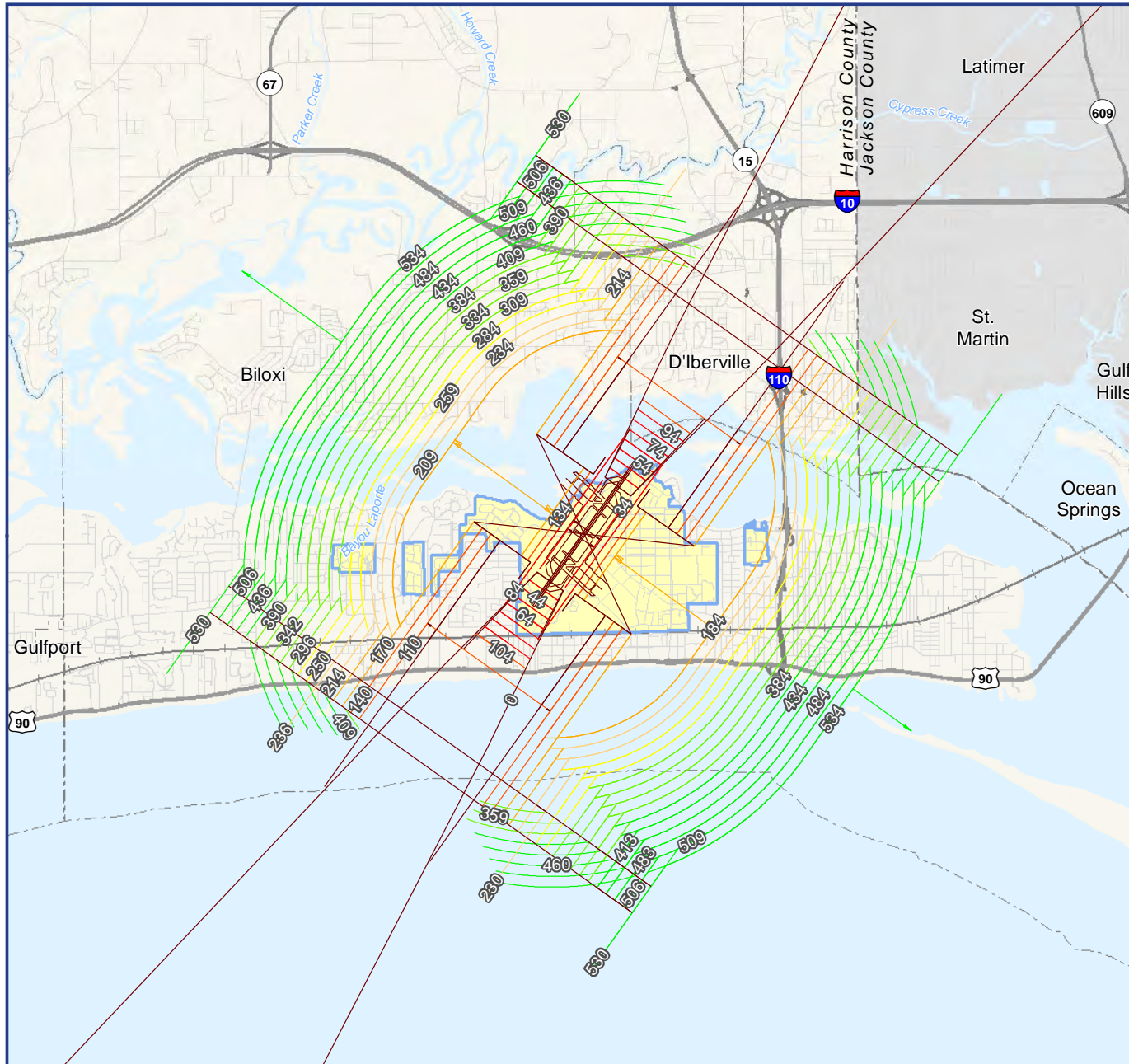
Source:
City of Biloxi Height Hazard Overlay Map, 2005.



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Miles



Airfield Noise Contours

Noise created from military operations is consistently one of the most common impacts military bases have on neighboring communities. Because of this, noise contours were modeled and depicted in the Keesler AFB 2010 Air Installation Compatibility Use Zone (AICUZ) Study which illustrates the extent of this impact on the surrounding community. The noise contours for Keesler AFB are depicted on Figure 10.

Of the JLUS Study Area jurisdictions, only small areas in the City of Biloxi to the southwest and north of Keesler AFB are within the 65 dB Day-Night Average Sound Level (DNL) noise contour.

Figure 10

Noise Contours

Legend

DNL Noise Contour (dB)

- 65 DNL
- 70 DNL
- 75 DNL
- 80 DNL

- Installation Boundary
- City
- Interstate / Highway
- Major Road
- Local Road
- Railroad
- Runway

Source:
Keesler AFB, 2010.



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0 1,000 2,000 Feet



Aircraft Safety Zones

Per Air Force regulations, airfield safety zones are recommended to assist communities in developing land uses compatible with airfield operations and protect the health and safety of its citizens. The safety zones are referred to as Clear Zones (CZs) and Accident Potential Zones (APZs) I and II. The safety zones are illustrated on Figure 11. The Air Force has identified APZs and CZs at each end of the runways based on historical data for aircraft mishaps.

The CZ begins at the end of each runway and is the area where mishap involving aircraft operations are most likely to occur. Because of this, development is completely restricted in the CZ. The APZ I begins at the end of each CZ and typically experiences fewer mishaps than the CZ. Limited development is permitted in the APZ I. The APZ II begins at the end of each APZ I and typically experiences the least amount of accidents of all the safety zones. Development is least restricted in the APZ II due to the reduced risk of accidents.

Figure 11

Safety Zones

Legend

Safety Zone

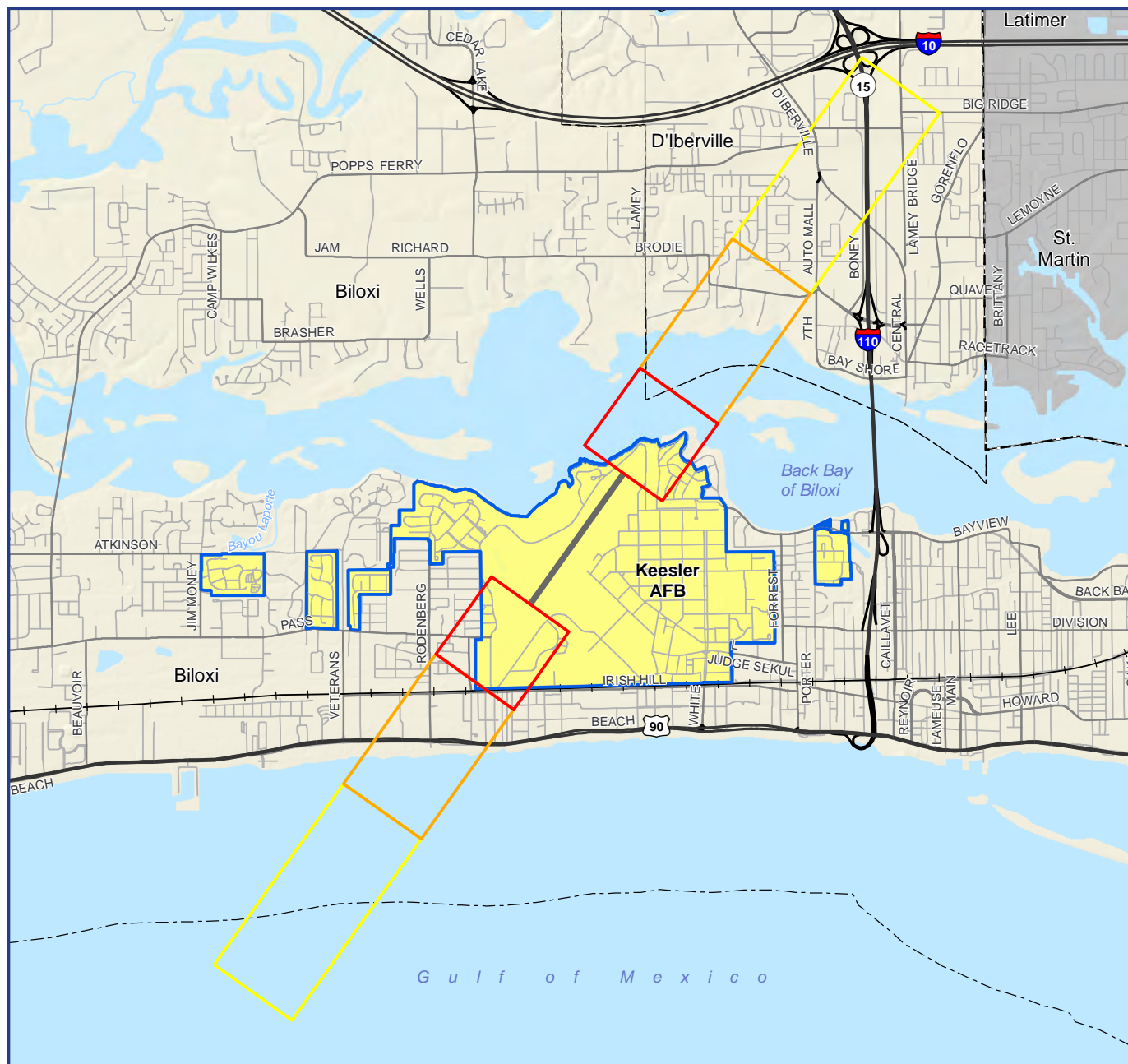
- Clear Zone
- APZ I
- APZ II

- Installation Boundary
- City
- Unincorporated Communities
- County
- Interstate / Highway
- Major Road
- Local Road
- Railroad
- Waterbody
- Stream / River
- Runway

Source:
Keesler AFB, 2016.



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Bird / Wildlife Air Strike Hazard (BASH)












Airports, due to the nature of their operations, typically have large, open, grassy areas where various species of wildlife congregate. Additionally, some land uses, like golf courses, are often situated near airports because they can easily achieve the height and density restrictions imposed by aircraft activity. Unfortunately, golf courses also have large, open, grassy areas and oftentimes also feature water – another wildlife attractant. To help maximize safety to the pilots, military installations, and neighboring communities, the FAA recommends a minimum five-mile radius extending outward from the military installation to be free of wildlife attractants. This is an effort to minimize mishaps between wildlife and aircraft. The five-mile radius of the Keesler AFB air operations area is illustrated in Figure 12.

Since 1985, Keesler AFB has experienced 508 bird air strikes. Approximately 33 percent of these strikes were doves, 9 percent were swallows, and 4 percent were killdeer. In 2015, Keesler AFB experienced 17 bird air strikes. Hazards within the Keesler AFB JLUS Study Area that can attract birds and other wildlife include four golf courses – Royal Gulf Hills Golf Course, Sunkist Golf Course, Gulf Hills Golf Course, and Great Southern Golf Club. Other water features that may attract birds are the Back Bay of Biloxi, the Mississippi Sound, and the Pond at Hiller Park.

Figure 12

BASH Relevancy Area

Legend

-  5-mile BASH Relevancy Area
-  Installation Boundary
-  City
-  Unincorporated Communities
-  County
-  Interstate / Highway
-  Major Road
-  Railroad
-  Waterbody
-  Stream / River
-  Runway

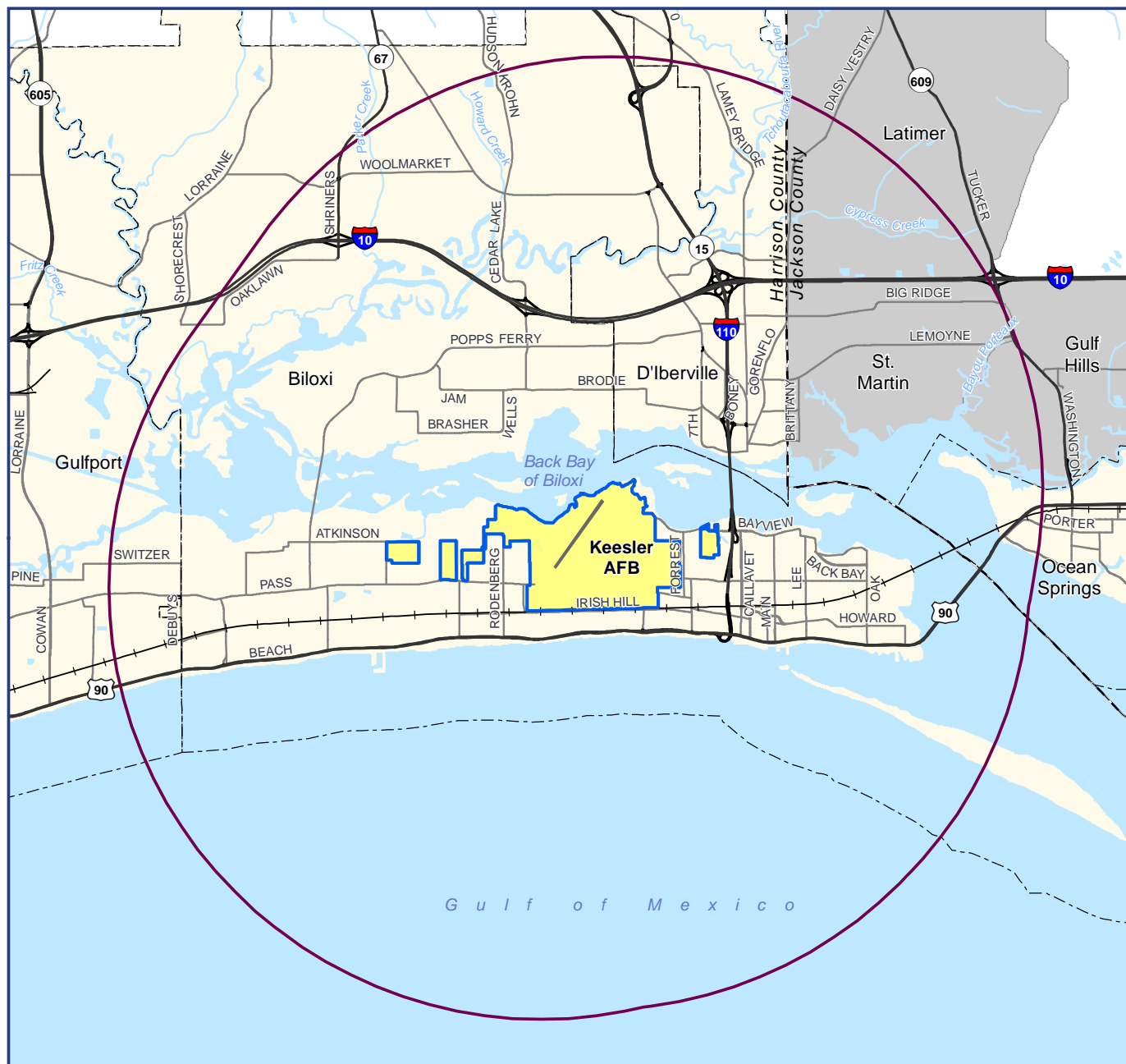
Source:
Keesler AFB, 2016.



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Compatibility Tools 4

There are many existing tools that can be used to encourage, promote, and manage compatibility between military installations and their neighboring communities. This chapter provides an overview of compatibility tools currently used or applied in evaluating and addressing compatibility issues in the Keesler Air Force Base (AFB) Joint Land Use Study (JLUS) Study Areas. Relative to compatibility planning, there are a number of existing plans and programs, which are either designed to address compatibility directly or which indirectly address compatibility issues through the topics they cover. This summary provides an overview of key plans and programs that impact compatibility planning organized by level of government.

There are three types of planning tools evaluated relative to their applicability: permanent, semi-permanent, and conditional. Permanent planning tools include acquisition programs, either fee simple purchase of property or the purchase of development rights. Semi-permanent tools include regulations such as zoning or adopted legislation. Conditional tools include memorandums of understanding, intergovernmental agreements, and other policy documents such as comprehensive plans and general plans that can be periodically modified.

The tools listed in this chapter are not exhaustive, but are meant to provide a general overview of the primary tools currently utilized in the JLUS Study Area.

Federal Plans and Programs

Federal programs provide authority for state and local governments to implement actions to protect the military and the community.

Air Force Instruction 32-7063 Air Installations Compatible Use Zones (AICUZ) Program

Air Force Instruction (AFI) 32-7063 was updated in 2015 to implement the Air Installations Compatible Use Zones (AICUZ) Program and Air Force Policy Directive (AFPD) 90-20, Encroachment Management. The Instruction applies to all Air Force installations with active runways. The Instruction identifies the requirements to implement and maintain the AICUZ program and implements AFPD by identifying the requirements for compatible land use and development to preserve operational capability. The Instruction provides land use tables, which sets land use compatibility guidelines within the Clear Zones (CZs) and Accident Potential Zones (APZs) as well as for Noise Zones. The procedures were created to develop, implement, and maintain compatible land uses that are in compliance with all federal, state, and local requirements.

Air Force Instruction 90-2001 Encroachment Management

Air Force Instruction 90-2001 was published in September 2014 to implement the Encroachment Management Program. The Instruction applies to all Air Force installations to address encroachment issues and prevent or reduce the impacts of encroachment. The Instruction includes the Encroachment Management Framework, which has four elements: Organize, Assess, Act, and Monitor. Organization encompasses leadership involvement, a cross-functional management structure, an issue evaluation structure, a designated Executive Director at the installation level, and a geographic scope. Assessment includes studying internal and external relationships and developing encroachment studies, such as an Installation Complex Encroachment Management Action Plan (ICEMAP). Acting involves implementation of programs. Lastly, monitoring involves maintaining awareness of mission needs and encroachment issues.

Bird / Wildlife Aircraft Strike Hazard Program (BASH)

The Bird / Wildlife Aircraft Strike Hazard (BASH) program is a Department of Defense (DoD) Partners in Flight program created to help implement and improve aviation safety programs. The BASH program is consistent with the Federal Aviation Administration (FAA) Wildlife Hazard Mitigation Program requirements to assess and mitigate threats to wildlife from aircraft. Thus, the BASH program is designed to minimize wildlife and bird strike damage to military aircraft by controlling bird habitat near airports, alerting aircrew and operations personnel of hazards, and providing increased levels of flight safety, especially during the critical phases of flight, such as take-off and landing operations. Keesler AFB maintains a BASH Plan to minimize the threat of bird strikes to aircraft and protect local wildlife.

Environmental Protection Agency Climate Change Adaptation Plan

The Environmental Protection Agency (EPA) Climate Change Adaptation Plan uses expert judgment, combined with information from peer reviewed scientific literature on the impacts of climate change, to identify potential environmental vulnerabilities. It presents priority actions that the Agency will take to begin integrating climate adaptation planning into its activities.

Federal Aviation Act

The Federal Aviation Act was enacted in 1958 to provide methods for overseeing and regulating civilian and military use of airspace over the U.S. The Act requires the Secretary of Transportation to make long-range plans that formulate policy for the orderly development and use of navigable airspace. The intent is to serve the needs of both civilian aeronautics and national defense, but does not specifically address the needs of military agencies. Military planning strives to work alongside local, state, and federal aviation law and policies, but sometimes must supersede these and other levels of government due to national security interests. The FAA was created as a result of the Act to manage the airspace over the U.S.

The 500-foot rule, promulgated by the FAA, states that every citizen of the U.S. has “a public right of freedom of transit in air commerce through the navigable air space of the United States.” The rule was formally announced in the 1963 Court of Claims ruling in *Aaron v. United States* and states that flights 500 feet or more above ground level (AGL) do not represent a compensable taking because flights 500 feet AGL enjoy a right of free passage without liability to the owners below.

Another important outcome of the Act is CFR Title 14 Part 77, commonly known as Part 77, which provides the basis for evaluation of vertical obstruction compatibility. This regulation determines compatibility based on the height of proposed structures or natural features relative to their distance from the ends of a runway. Using a distance formula from this regulation, local jurisdictions can easily assess the height restrictions near airfields. Additional Part 77 information is located at <http://www.faa.gov/>.

The FAA has identified certain imaginary surfaces around runways to determine how structures are evaluated and identify if they pose a vertical obstruction relative to the airspace around a runway. The levels of imaginary surfaces build upon one another and are designed to eliminate obstructions to air navigation and operations, either natural or man-made. The dimension or size of an imaginary surface depends on the runway classification.

Federal Emergency Management Agency (FEMA)

The Federal Emergency Management Agency (FEMA), created in 1979, is an agency of the U.S. Department of Homeland Security. The mission of the agency is to support citizens and first responders in preparing, protecting, responding, recovering, and mitigating man-made and natural hazards. FEMA is responsible for coordinating government-wide relief efforts, including, intergovernmental coordination during disasters, encouraging insurance, and providing federal assistance programs for disaster related losses.

Through the National Flood Insurance Program, FEMA makes flood insurance available to communities that adopt and enforce a floodplain management ordinance. Flood risk areas are depicted on the Flood Insurance Rate Map (FIRM), which can influence where and how structure may be built. The intent of this program is to reduce flood damages throughout a community through floodplain management.

Noise Control Act of 1972

The Noise Control Act of 1972 determined that noise that is not adequately controlled has the potential of endangering the health and welfare of people. It states that all Americans are entitled to an environment free from noise that can jeopardize their general health and quality of life. Along with state, local, and territorial governments, actions from the federal government were needed to ensure that the objectives of the Act were met.

Concurrently, military installations were experiencing impacts related to encroaching urban development located adjacent to their boundaries and the resulting complaints from military flight operation noise. The DoD responded by establishing the AICUZ program which was subsequently adopted by the Air Force as AFI 32-7063.

The Noise Control Act, as well as the AICUZ program, are important because encroaching development and increased population near military installations often create compatibility concerns. As communities grow, it is

important that the military installation, developers, and the affected communities work together to mitigate the issue of noise and develop strategies to coexist.

Partners in Flight Program

The DoD has implemented a program entitled Partners in Flight that sustains and enhances the military testing, training, and safety mission through habitat-based management strategies. The program assists natural resource managers in monitoring, inventory, research, and management of birds and their habitats. As part of the Partners in Flight program, a strategic plan is created that can be incorporated into a BASH plan. This program reaches beyond the boundaries of the installation to facilitate community partnerships and determine the current status of bird populations to prevent the further endangerment of birds.

United States Avian Hazard Advisory System (USAHAS)

The U.S. Avian Hazard Advisory System (USAHAS) is a geographic information system-based bird avoidance model developed by the U.S. Air Force used for “analysis and correlation of bird habitat, migration, and breeding characteristics, combined with key environmental and man-made geospatial data.” The model provides up-to-date information – “near real-time” – about bird activity and movements to assist pilots and flight planners in the scheduling and use of flight routes. The model can also be used as a forecasting tool to estimate bird strike risk. Information from the North American Breeding Bird Survey, Audubon Christmas Bird Count, bird refuge databases, and the U.S. Air Force Bird-Aircraft Strike database as well as public domain information regarding landfill locations is used to formulate the bird activity and movement data. The model is available for use by agencies and the public, accessible from the USAHAS website at <http://www.usahas.com/>.

Keesler AFB Plans and Programs

The Keesler AFB plans and programs provide guidance for land uses and development activities on and adjacent to the installation. These tools govern land use decisions that occur inside the fence line or within the boundary of the military mission footprint in relation to the military mission or proposed military mission.

These tools also provide guidance and establish measures for standard operating procedures during certain events, such as a bird air strike hazard conditions and / or the parameters for conducting missions within the range of the complex. There are various installation tools that are instrumental in assisting and guiding land use decisions in regards to base operations.

Air Installation Compatible Use Zones (AICUZ) Study

The DoD initiated the AICUZ program to assist government entities and communities in anticipating, identifying, and promoting compatible land use and development near military installations with aircraft activity. The AICUZ program involves coordinating the efforts of installation commanders and local community leaders and other government agencies to encourage compatible development of land in proximity to military airfields. It also serves to protect the health, safety, and welfare of civilians and military personnel by encouraging land development that is compatible with aircraft operations, while protecting the public investment in the installation. This program recommends compatibility measures and land uses that are compatible with specific elements of military airfields, including elevated sound levels, accident potential zones, and obstruction clearance criteria.

The AICUZ program has two objectives. The first is to assist local, regional, state and federal officials in protecting and promoting the public health, safety, and welfare by promoting compatible development within the AICUZ area of influence. The second is to protect Air Force operational capability from the effects of land use that are incompatible with aircraft operations.

Bird Aircraft Strike Hazard (BASH) Plan

Keesler AFB last updated its BASH Plan in December 2016 and is currently in review for 2017. The purpose of the plan is to reduce the amount of bird and wildlife strike hazards in the vicinity of the installation. The plan takes into consideration both resident and seasonal bird populations. This plan establishes procedures for reducing bird strikes through bird management and alerting pilots of bird activity.

Waivers

Waivers must be submitted for any project on an Air Force base that creates an obstruction or intrusion to the airfield and airspace. According to AFI 32-7063 Air Installations Compatible Use Zones (AICUZ) Program, there are uses within the clear zones that are prohibited and are not able to be waived, including:

- Uses that release into the air any substance which would impair visibility or otherwise interfere with the operation of aircraft, e.g. steam, dust, and smoke;
- Uses that produce light emissions, either direct or indirect (reflective), which would interfere with pilot vision;
- Uses that would attract birds or waterfowl, such as the operation of sanitary landfills, maintenance of feeding stations, or growing of certain vegetation;
- Uses that produce electromagnetic emissions which would interfere with aircraft computer/communication systems or navigational equipment; and
- Explosive facilities or activities.

Keesler AFB utilizes waivers for such land uses. The Base must review existing waivers and plans to eliminate obstructions on an annual basis and then must submit the review to Air Education and Training Command (AETC) every other year to “approve requests to close and amend airfield waivers.”

The latest Keesler AFB Annual Review of Waivers was conducted in October 2016 and is currently in coordination for 2017. In 2016, there were 41 waivers listed, 19 permissible deviations, and 6 exceptions to the airfield and airspace criteria.

White Paper on Height Hazard Airspace Criteria and Illustrative Map

The White Paper on Height Hazard Airspace Criteria was created to provide local jurisdictions an approximate illustration of the airfield surface areas at Keesler AFB, to communicate definitions and criteria for the airfield surface areas, and to provide examples for determining controlling surface area heights. The definitions provided in the white paper are consistent with the AICUZ, Unified Facility Criteria for Airfield and Heliport Planning and Design, and FAA Part 77. These are listed in Chapter 3 of the Background Report, under the Military Footprint, Imaginary Surfaces section. The Existing Military Operations Surface is an airfield surface area which is supported by installation and Airfield Instructions including KAFI13-204, AFTTP 3-3.C-130J (paragraph 4.6.4 and Table 4.2), AFI11-202V3, AFI11-2C-130JV3 and AFTTP 3-3.C-130J, as well as the General Aeronautics 60:1 Rule. The white paper includes a height hazard map for illustrative purposes.

State of Mississippi Plans and Programs

Mississippi Coastal Zone Management Program

In response to the 1972 Coastal Zone Management Act (CZMA), Mississippi established the Coastal Program through Section 57-15-6 of the Mississippi Code in 1972, which was approved by the National Oceanic and Atmospheric Administration (NOAA). The Coastal Program established guidelines and procedures to regulate development within coastal areas.

Mississippi Code § 17-1

The following sections in the Mississippi Code explain municipal governing authority for zoning, comprehensive plans, and subdivisions regulations.

Zones § 17-1-7

State Law grants authority to the governing authorities of jurisdictions to create zones within the municipality or county in order to impose restrictions with regards to agricultural lands and farm buildings, to regulate and restrict the erection, reconstruction, alteration, repair or use of buildings, structures or land within the defined zones, in accordance with the specific regulations prescribed by the zone.

Comprehensive Plan § 17-1-11

Mississippi Code § 17-1-11 allows the governing authority of each municipality or county to prepare, adopt, and carry out a comprehensive plan in order to promote coordinated physical development that is representative of the existing and future needs of the jurisdiction. The governing authority may also individually or jointly establish a local planning commission with authority to develop a comprehensive plan, a zoning ordinance and map, subdivision regulations, building or setback lines, and to make recommendations to the jurisdiction on the enforcement of and amendments to all of the aforementioned items. Mississippi Code states that a comprehensive plan must, at a minimum, include:

- Goals and objectives for long-range development of the entire jurisdiction, and must address residential, commercial and industrial development, parks, open space and recreation, street or road improvements, public schools, and community facilities;
- Background information and definitions of land use categories;
- Population and economic growth projections for the area covered by the plan;

- A transportation plan map depicting the functional classifications of all existing and proposed roadways covered within the land use plan, as well as alternate transportation systems as applicable; and
- A community facilities plan to be used as the basis for a capital improvement plan for housing, schools, parks and recreation, public buildings and facilities, and infrastructure.

Mississippi Code does not require municipalities or counties to develop and adopt comprehensive plans.

2040 Mississippi Unified Long-Range Transportation Infrastructure Plan

The Mississippi Unified Long-Range Transportation Infrastructure Plan was created through the Mississippi Department of Transportation. The plan, created in 2015, identifies the state's most critical transportation needs for the present and future, compares funding for such projects, and recommends strategies for the implementation of projects. The plan recognizes that Biloxi has extensive transportation systems for rail and public transit.

Mississippi Development Authority

The Mississippi Development Authority (MDA) is an economic and community development agency for the State of Mississippi. The MDA works to retain and expand existing industries and businesses in Mississippi as well as attract new businesses to the state in order to foster a strong state economy. The agency also provides technical assistance to entrepreneurs and small business owners, manages the state's energy programs, and promotes the state as a destination location.

As part of the Mississippi Development Authority, the State of Mississippi has a Mississippi Military Communities Council (MMCC), which was officially formed in 1997 through an executive order signed by Governor Kirk Fordice. The council promotes the military missions in Mississippi at the federal level,

while also advising the State governor and legislature on federal actions that have the potential to affect the military missions in the state.

Regional Plans and Programs

Gulf Regional Planning Commission (GRPC)

The Gulf Regional Planning Commission (GRPC) provides general planning support to twelve cities and three coastal counties in Mississippi: Gulfport, Biloxi, Waveland, Bay St. Louis, Diamondhead, Pass Christian, Long Beach, Ocean Springs, D'Iberville, Gautier, Pascagoula, Moss Point, Hancock County, Harrison County, and Jackson County. The commission develops comprehensive plans, land use / mitigation studies, and the long range transportation plan for the Gulf region. Since 1973, the GRPC has served as the Mississippi Gulf Coast Metropolitan Planning Organization (MPO) for the urban areas of Gulfport-Biloxi and Pascagoula-Moss Point.

Biloxi Bay Area Chamber of Commerce Military / Veterans Affairs Committee

The Military / Veterans Affairs Committee is a committee within the Biloxi Bay Area Chamber of Commerce. The committee hosts and sponsors various projects and events with and for Keesler AFB. The Biloxi Bay Area Chamber of Commerce is comprised of businesses in the Biloxi Bay Area with the mission to enhance and promote Biloxi.

Biloxi Chamber of Commerce Military Affairs Committee

The Military Affairs Committee is a committee within the Biloxi Chamber of Commerce, an organization made up of businesses throughout the city. The committee was created to enhance the relationship between Biloxi and the military through event support. The Military Affairs Committee hosts many events in conjunction with Keesler AFB. The Biloxi Chamber of Commerce also took part in bringing a military installation to the city in the early 1940s, which would later become Keesler AFB.

Harrison County Development Commission

The Harrison County Development Commission (HCDC) is the one-stop for economic development inquiries in Harrison County. In addition, HCDC established the Harrison County Military Team, which was initially created to support the protection of military installations on the Gulf and now works, along with the Mississippi Military Communities Council, to strategically engage military influencers and decision-makers in attracting and retaining military missions in South Mississippi. HCDC also produces the annual Salute to the Military report, which recognizes the economic and community impacts the military has in South Mississippi.

Mississippi Gulf Coast Chamber of Commerce Coast Centurion Association

The Coast Centurion Association is a part of the Mississippi Gulf Coast Chamber of Commerce. The Centurions, founded in 1995, support the Armed Forces across the Gulf Coast and are dedicated to the retention of military installations and military presence on the coast, which includes Keesler AFB. The association is made up of community leaders and military personnel who are all dedicated to the Gulf Coast's military presence.

Plan for Opportunity, Regional Sustainability Plan for the Mississippi Gulf Coast

Plan for Opportunity is a comprehensive sustainability plan created in 2013 through the GRPC and the Mississippi Gulf Coast Sustainable Communities Initiative. The plan was created for the Mississippi Gulf Coast, which includes the counties of Hancock, Harrison, and Jackson. Over a hundred organizations, agencies, and groups and thousands of individuals on the coast participated in the creation of the Sustainability Plan.

The purpose of the plan is to guide the economic growth and development, housing, employment, and transportation opportunities to foster a sustainable region into the future.

Local Jurisdictions Plans and Programs

In Mississippi authority to regulate land use is delegated by the state to counties and municipalities. The nature of a jurisdiction's authority to regulate local land use depends on that jurisdiction's local government.

In Mississippi, counties and municipalities have land use and zoning authority. The governing authorities for counties and municipalities have been enabled through state code to prepare and adopt a comprehensive plan, zoning ordinance, and subdivision regulations. Neither counties nor municipalities are required by the State to adopt comprehensive plans or zoning ordinances, but are permitted to at the discretion of the governing authority.

City of Biloxi

City of Biloxi Comprehensive Plan

The City of Biloxi Comprehensive Plan was adopted in 2009. The long-term plan provides a vision for the city and guidance for land use decision making. The plan includes goals, objectives, and actions to fulfill the vision that is has for the city.

The following action was found to be compatible with military operations:

- "Maintain height restriction for development around Keesler Air Force Base to prevent negative impacts to its operations."

The following keys issues related to Keesler AFB were identified in the plan:

- "East-west connections across the City and the County are limited by waterways and federal land restrictions (primarily Keesler Air Force Base)."

- “There is a pressing need for housing in the region as a result of Hurricane Katrina and locating housing in East Biloxi near major employers (e.g., casinos, Keesler AFB) provides significant advantages. However, housing is the land use that is most vulnerable to catastrophic storm damage because of the threat to the personal safety and property of residents and this issue must be addressed in locating and designing new housing in East Biloxi.”
- “Keesler Air Force Base and the Back Bay of Biloxi are physical barriers that restrict vehicular connections from West Biloxi to East and North Biloxi. Improving transportation corridors within West Biloxi and connections from West Biloxi to inland routes is crucial to timely evacuation during storm events as well as easing peak hour congestion.”
- “Determine suitable location for a future employment / light industrial center linked to the aerospace, Keesler AFB, and shipbuilding industries.”

Throughout the Comprehensive Plan, Keesler AFB is mainly acknowledged when discussing land use issues throughout the city. There are no goals or policies that specifically relate to Keesler AFB even though the plan acknowledges the economic importance of the installation.

City of Biloxi Land Development Ordinance

The Land Development Code for the City of Biloxi was adopted in 2010. The zoning ordinance establishes 31 zoning districts, one of which is the Planned Development – Gaming Establishment District. This district provides regulations for casino development, including hotels, restaurants, night clubs, and entertainment establishments that are associated with gaming. This district may only be established to overlay a Waterfront (WF) base zoning district. The only explicit dimensional standard is that the district area must be a minimum of three acres. All other dimensions, such as height and square footage of the building, are to be established in a Planned Development Master Plan.

The zoning ordinance also establishes four airport overlay districts: Airport Airspace Overlay, Airport Noise Overlay 1, Airport Noise Overlay 2, and Airport Noise Overlay 3. The Airport Overlay District (AAO) controls potential hazards to aircraft operations that use the navigable airspace near the airport at Keesler AFB. Structures within this overlay district must comply with FAA Regulation Part 77, as described in Section 4.2 of this chapter, and must not exceed the existing military operations surface. In addition, structures within this overlay may not create an interference with navigational signals or radio communications between aircraft at Keesler AFB and the control tower, create glare, make it difficult for pilots to distinguish airport lights, or otherwise endanger or interfere with aircraft operations at the installation.

Airport Noise Overlay 1 (ANO-1) applies to the areas outside of Airport Noise Overlay 3 (ANO-3) and that are exposed to a yearly DNL of 65 – 70 dB. Airport Noise Overlay 2 (ANO-2) applies to areas outside of ANO-3 and are exposed to a yearly DNL of 70 – 65 dB. ANO-3 applies to an approximate one square mile area southwest of Keesler AFB. Buildings that are constructed within these Airport Noise Overlays must be constructed in a way that reduces exterior-to-interior noise level reduction.

Although the Development Ordinance provides standards for Airport Noise Overlays, there are no safety standards identified for accident potential zones or clear zones for Keesler AFB. The Development Ordinance should include such standards especially since parts of the city lie within the Keesler AFB CZs and accident potential zones (APZs).

City of D'Iberville

City of D'Iberville 20 Year Comprehensive Plan

The City of D'Iberville 20 Year Comprehensive Plan was updated in 2015 from the 2010 Comprehensive Plan. The Plan is a long range land use development plan, focusing on present and future land uses throughout the

city. As a part of the existing and future land use evaluation, the following regarding Keesler AFB is recognized:

- Although the air base is approximately one mile from D'Iberville, height restrictions and noise impacts from the base could pose limitations on certain development within D'Iberville. As development proposals arise, city officials should evaluate the proposal for compliance with height limitations and the impact noise from the base would have on the development.

Although the Comprehensive Plan acknowledges height limitations and noise impacts due to Keesler AFB, the City of D'Iberville's Comprehensive Plan does not include specific policy that would protect Keesler AFB and mission critical activities from encroachment.

City of D'Iberville Zoning Ordinance

The City of D'Iberville Zoning Ordinance was adopted in 2012 and revised in 2014 and 2015. Under general regulation, the ordinance includes conflicting regulation per maximum heights of buildings within the city. As state below, section 5.3 would in fact allow a higher structure within the runway end and clear zones than allowed for in waterfront development. The following regulations are not compatible with military operations:

- Section 4.18.5: "Each of the following dimensional requirements shall apply to each use in the Waterfront District, except as specifically provided for in this Ordinance.
- A. Maximum Building Height: 110 feet, except as provided in Section 5.3"
- Section 5.3: General Regulations: "Buildings and structures located in the Runway End and Clear Zone, the Runway Airspace Plan and Profile, and the Runway Airspace Imaginary Surfaces for Keesler Air Force Base shall not exceed one hundred seventy feet (170') in height as established by the United States Department of Defense."

Outdoor lighting, or nighttime illumination as it is referred as in the Zoning Code, is not limited to parking lots, but Article 8: Off-Street Parking and Loading states:

- "All lighting fixtures used to illuminate parking area shall be arranged so that the source of light does not shine directly into adjacent residential properties and does not interfere with traffic."

There are no land use standards for noise zones related to Keesler AFB in the zoning ordinance because Keesler AFB noise contours do not extend into D'Iberville; however, the lack of land use standards related to density for development in safety zones is a concern and should be addressed.

Harrison County

2030 Harrison County Comprehensive Plan

The 2030 Harrison County Comprehensive Plan was adopted in 2008 for unincorporated Harrison County. The land use plan puts into effect goals, policies, and strategies for a framework of about 20 years. The plan takes into consideration the population for Keesler AFB, the level of employment at Keesler AFB, the installation's population, this population's risk to natural hazards, and transit services offered to the base. There are no goals or strategies that directly support the installation or address encroachment issues.

Harrison County Zoning Ordinance

The Harrison County Zoning Ordinance was adopted in 2000 and amended through 2008. The zoning ordinance divides the land within the county in 11 districts and provides development regulations for these districts. The zoning ordinance also establishes an Airport District as a Special Use District, in which any construction or improvements to buildings must comply with FAA regulations. There appears to be no existing or future impact from Keesler AFB related to safety and noise that would mandate the County stipulated standards within their zoning ordinance.

Please see the next page.



Compatibility Assessment

5

COMPATIBILITY FACTORS

AQ	Air Quality	LAS	Land / Air / Sea Spaces
AT	Anti-Terrorism / Force Protection	LU	Land Use
BIO	Biological Resources	LEG	Legislative Initiatives
CC	Climate Consideration	LG	Light and Glare
COM	Coordination / Communication	MAR	Marine Environments
CR	Cultural Resources	NOI	Noise
DSS	Dust / Smoke / Steam	PT	Public Trespassing
ED	Energy Development	RC	Roadway Capacity
FSC	Frequency Spectrum Capacity	SA	Safety Zones
FSI	Frequency Spectrum Impedance / Interference	SNR	Scarce Natural Resources
LHA	Local Housing Availability	VO	Vertical Obstructions
IE	Infrastructure Extensions	V	Vibration
		WQQ	Water Quality / Quantity

A number of factors assist in determining whether community and military plans, programs, and activities are compatible with joint land uses such as community activities and military installations. For this Joint Land Use Study (JLUS), 25 compatibility factors were used to identify, determine, and establish a set of key JLUS compatibility issues.

Methodology and Evaluation

The methodology for the Keesler Air Force Base (AFB) JLUS consisted of a comprehensive and inclusive discovery process to identify key stakeholder issues associated with the compatibility factors. At the initial Policy Committee (PC), Advisory Committee (AC), and Technical Subcommittee workshops and public forums, stakeholders were asked to identify the location and type of issue in conjunction with compatibility factors they thought existed today or could occur in the future. As a part of the evaluation phase, the PC, AC, Technical Subcommittee, and the public examined and prioritized the extent of existing and potential future compatibility issues that could impact land within or near the Study Area. Other factors and associated issues were analyzed based on available information and similarity with other community JLUS experiences around the country.

The selection and inclusion of strategies is directly and indirectly affected by the evaluation of issues. Issues were prioritized into four different categories with an associated timeframe to determine the timeframe for initiating strategies by the primary and partner agencies. These strategies are provided in the JLUS Report Chapter 6 Implementation Plan.

Compatibility Assessment

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

Of the 25 compatibility factors considered, seven were determined to be inapplicable to this JLUS:

- Cultural Resources
- Energy Development
- Frequency Spectrum Capacity
- Housing Availability
- Scarce Natural Resources
- Vibration
- Water Quality / Quantity

Air Quality (AQ)

Air quality is defined by numerous components regulated at the federal and state level. For compatibility, the primary concerns are pollutants that limit visibility, such as particulates, ozone, etc. and potential non-attainment of air quality standards that may limit future changes in operations at an installation or the surrounding region. The following Air Quality issue was identified:

- **Regional Air Quality.** Though Harrison County is in attainment for six air quality criteria pollutants and Keesler AFB is in compliance with its Title V Air Quality operating Permit, future community development has the potential to affect regional air quality. Keesler AFB has requested a change to its existing permit to reflect lower air quality emission limits.

Anti-Terrorism / Force Protection (AT / FP)

Anti-Terrorism Force Protection (AT / FP) relates to the safety of personnel, facilities, and information on an installation from outside threats. Security concerns and trespassing can present immediate compatibility concerns for installations. Due to current global conditions and recent events, military installations are required to implement more restrictive standards to address AT / FP concerns. These measures include increased security checks at installation gates and physical changes (such as new gate / entry designs). The following Anti-Terrorism / Force Protection issues were identified:

- **Waterfront Access to Keesler AFB.** Keesler AFB is accessible via the Back Bay of Biloxi. High levels of waterway traffic create a jurisdictional concern when boaters approach the Keesler AFB shoreline.
- **CSX Transportation Rail Proximity.** The CSX Transportation rail line located south of Keesler AFB carries hazardous cargo and could create a fence line breach if derailed.

Climate Consideration (CC)

Climate consideration examines the gradual shift of global weather patterns and temperatures resulting from natural factors and human activities (e.g., burning fossil fuels) that produce long-term impacts on atmospheric conditions. The results of climate variability, i.e. ozone depletion and inefficiencies in land use, can present operational and planning challenges for the military and communities as resources are depleted and environments are altered. The following Climate Consideration issues were identified:

- **Potential for Flooding to Impact Keesler Air Force Base Missions.** Increased frequency and severity of weather events, such as storm surge can create flooding at Keesler AFB and affect mission operations.
- **Potential for Climate Variability to Impact Keesler Air Force Base.** Keesler AFB is vulnerable to long-term impacts from climate variability including an increase in risk and severity of flooding and storm surge events.
- **Potential for Climate Variability to Impact Surrounding Jurisdictions Outside of Keesler AFB.** The community is vulnerable to long-term impacts from inundation due to climate variability including loss of access to Keesler Medical Center.

Coordination / Communication (COM)

Coordination / communication refers to the programs and plans that promote interagency coordination. Interagency communication serves the general welfare by promoting a more comprehensive planning process inclusive of all affected stakeholders. Interagency coordination also seeks to develop and include mutually beneficial policies for both communities and the military in local planning documents, such as comprehensive plans. The following Coordination / Communication issues were identified:

- **Enhanced Communication between the City of D'Iberville and Keesler Air Force Base.** Need for enhanced and consistent communication and information sharing between the City of D'Iberville and Keesler AFB for mutual planning purposes.
- **Public Notification of Properties Located within the Clear Zones.** Need for notification to property owners when purchasing or selling property located within the airfield Clear Zone.
- **Coordinated Law Enforcement Response at Keesler Air Force Base Bayridge Housing Subdivision and Marina.** Need for enhanced coordination between the City of Biloxi and Keesler AFB law enforcement to respond to issues at Keesler AFB Bayridge housing subdivision and the Keesler AFB Marina to avoid duplication of service and ensure lines of authority.

Dust / Smoke / Steam (DSS)

Dust results from the suspension of particulate matter in the air. Dust (and smoke) can be created by fire (controlled or prescribed burns, agricultural burning, and artillery exercises), ground disturbance (agricultural activities, military operations, grading), industrial activities, or other similar processes. Dust, smoke and steam are compatibility issues if sufficient in quantity to impact flight operations (such as reduced visibility or cause equipment damage). The following Dust / Smoke / Steam issue was identified:

- **Smoke from Keesler Medical Center Generators.** Monthly testing of the Keesler Medical Center generators creates smoke which impacts the adjacent Oak Park neighborhood residents.

Frequency Spectrum Impedance / Interference (FSI)

Frequency spectrum is 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 on a daily basis. The following Frequency Spectrum Impedance / Interference issue was identified:

- **Expansion of Wi-Fi and Wireless Communication on Keesler Air Force Base.** The expansion of wireless communication capability at Keesler AFB has the potential to impact surrounding communities.

Infrastructure Extensions (IE)

Infrastructure refers to public facilities and services such as sewers, water, electric, and roadways that are required to support existing and proposed development.

Public facilities and services 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. For example, the provision of a safe transportation system, including all modes of transportation (automobile, mass transit, railway, highway, bicycle, pedestrian, air, water, etc.), is an important infrastructure component. Adequate transportation infrastructure contributes to local, regional, and state accessibility. The following Infrastructure Extensions issue was identified:

- **Infrastructure Development and Planning.** The development of the new Division Street main gate for Keesler AFB has the potential to impact the surrounding neighborhood.

Land / Air / Sea Spaces (LAS)

The military manages or uses land and air space to accomplish testing, training, and operational missions. These resources must be available and of a sufficient size, cohesiveness, and quality to accommodate effective training and testing. Military and civilian air and sea operations can compete for limited air and sea space, especially when the usage areas are in close proximity to each other. Use of this shared resource can impact future growth in operations for all users. The following Land / Air / Sea Spaces issues were identified:

- **Shared Airspace with Recreational Aviation.** Seaplane and helicopter tours and other recreation activities that utilize airspace along the Gulf of Mexico coastline, such as parasailing and unmanned aerial vehicles can potentially cross the Keesler AFB approach flight paths, which increases the risk for mishaps.
- **Sand Beach Authority Awareness of Flight Restrictions.** While the Harrison County Sand Beach Authority is responsible for the permitting of vendors on Sand Beach, there may be a lack of awareness of the flight restrictions proximate to Keesler AFB.

Land Use (LU)

The basis of land use planning and regulation relates to the government's role in protecting 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 are incompatible in character. Land use separation also applies 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. The following Land Use issues were identified:

- **Potential for Incompatible Land Uses in Northern Accident Potential Zones.** The City of D'Iberville does not have Comprehensive Plan policies of land development regulations to manage development within the Accident Potential Zones associated with the Keesler AFB airfield.
- **Lack of Safety Zones in Municipal Land Use Code.** There are no safety zones in the City of Biloxi's Land Use Code.
- **Encroachment of Keesler AFB Natural Gas Line.** A High Pressure Natural Gas Line runs 12 miles from the City of Gulfport through the City of Biloxi to Keesler AFB, traversing private properties including a single-family residence. Keesler AFB has no control over the easement to ensure it remains free of encroachments.

Light and Glare (LG)

This factor refers to man-made lighting (street lights, airfield lighting, building lights) and glare (direct or reflected light) that disrupts vision. Light sources from commercial, industrial, recreational, and residential uses at night can cause excessive glare and illumination, impacting the use of military night vision devices and air operations. Conversely, high intensity light sources generated from a military area (such as ramp lighting) may have a negative impact on the adjacent community. The following Light and Glare issues were identified:

- **Reflective Building Materials Causing Glint and Glare.** Extensive use of highly-reflective building materials such as colored glass on commercial developments can create glint and glare which can affect pilot visibility and is of concern on aircraft approaches.
- **Reflective Materials from Solar Farms.** Reflective panels on large-scale solar farm developments can create glint and glare which can affect pilot visibility and is of concern on aircraft approaches. A solar farm is proposed approximately five miles north of Keesler AFB.

- **Ambient Lighting Surrounding Keesler Air Force Base.** Ambient lighting from sources surrounding Keesler AFB including electronic billboards can affect pilot visibility and the performance of night vision equipment.
- **Light Emissions from Event Sources.** Light emissions from fireworks and laser shows have the potential to disrupt Keesler AFB flight operations.
- **Keesler Air Force Base Outdoor Lighting.** Lighting from Keesler AFB along Irish Hill Drive illuminates outside the installation creating light pollution in the community.
- **Lighting for Proposed Parking Lot for Keesler Air Force Base Medical Center.** A new parking lot is proposed on the north end of Keesler AFB for the Keesler Medical Center, creating potential lighting concerns for the adjacent Oak Park neighborhood.

Noise (NOI)

Sound that reaches unwanted levels is referred to as noise. The central issue with noise is the impact, or perceived impact, on people, animals (wild and domestic), and general land use compatibility. 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 understand the relevance of decibels, a normal conversation often occurs at 60 dB, while an ambulance siren from 100 feet away is approximately 100 dB. Noise associated with military operations (arrival/departure of military aircraft, firing of weapons, etc.) may create noises in higher dB ranges. The following Noise issues were identified:

- **Noise from Keesler Medical Center Generators.** Monthly testing of the Keesler Medical Center generators creates noise which impacts residents in the adjacent Oak Park neighborhood.
- **Noise from Chiller on Keesler Air Force Base.** The chiller for Arnold Hall is located outside the building approximately 40 feet from

adjacent residences in the Oak Park neighborhood. When operational, the chiller creates noise impacting adjacent neighborhood residents.

- **Emergency Sirens from Keesler Medical Center Ambulances.** The required testing of Keesler Medical Center ambulance sirens at the beginning of every shift change at 5:30 a.m. and 5:30 p.m. creates noise which impacts the adjacent residential neighbors in the Oak Park neighborhood.
- **Noise from Commercial Truck Traffic.** Commercial truck traffic using the temporary commercial gate on Bayview Street creates noise which impacts the adjacent residential neighbors in the Oak Park neighborhood.
- **City of Biloxi Airport Noise Overlay Districts.** The City of Biloxi Airport Noise Overlay Districts do not incorporate the latest comprehensive land use guidance. The Districts are not identified on the Zoning Map for the public to reference.
- **Incompatible Development in Noise Contours.** Noise from activities at Keesler AFB has the potential to affect noise sensitive land uses surrounding the installation. Noise sensitive land uses and greater intensities in development within the Keesler AFB noise contours have the potential to impact mission-critical training.

Public Trespassing (PT)

This factor addresses public trespassing, either purposeful or unintentional, onto a military installation. The potential for trespassing increases when public use areas are in close proximity to an installation. The following Public Trespassing issue was identified:

- **Trespassing along Eastern Perimeter of Keesler Air Force Base.** Concern for trespassing onto Keesler AFB, particularly along the eastern perimeter near the Judge Sekul Gate where incidences have historically occurred.

Roadway Capacity (RC)

Roadway capacity relates to the ability of existing interstates, highways, arterials, and other local roads to provide adequate mobility and access between military installations and their surrounding communities. As urban development expands, roads once carrying limited local traffic begin to function more as urban major arterial roadways. These roads often become the main transportation corridors for all traffic from residential to commercial trucking, including access to military installations. As transportation systems grow and demand more capacity, these facilities become congested and create delays for both military and non-military automobile users. The following Roadway Capacity issues were identified:

- **Traffic Congestion Outside of Keesler AFB Gates.** Traffic backs up at White Avenue Gate, Meadows Drive Gate, and along Forrest Avenue and Irish Hill Drive during peak hours.
- **Traffic Generation at Commercial Gate.** Use of temporary commercial gate on Bayview Street creates heavy truck traffic in the Oak Park neighborhood.
- **Significant Traffic during Temporary Base Gate Closures.** Temporary gate closures, due to weather, on base training, or security events, create traffic congestion on White Avenue and Irish Hill Drive.

Safety Zones (SA)

Safety zones are areas in which development should be more restrictive in terms of use and concentrations of people due to the higher risks to public safety. An issue to consider includes aircraft accident potential zones.

Military installations often engage in activities or contain facilities that require special consideration by local jurisdictions when evaluating compatibility due to public safety concerns. It is important to regulate land use near military airfields in order to minimize damage from potential aircraft accidents and to reduce air navigation hazards. To help mitigate potential issues, the Department of Defense (DoD) has delineated Clear Zones (CZ) and

Accident Potential Zones (APZ) in the vicinity of airfield runways. APZs are usually divided into APZ I and APZ II. Each zone was developed based on the statistical review of aircraft accidents. Studies show that most mishaps occur on or near the runway, predominately along its extended centerline. The following Safety issues were identified:

- **Incompatible Uses in Clear Zones and Accident Potential Zones.** Incompatible land uses in the Clear Zones and Accident Potential Zones create a safety concern.
- **Structures Located in Mandatory Frangibility Zone.** Structures located within the Mandatory Frangibility Zone sub-area of the South Clear Zone do not meet breakaway requirements.
- **Power Lines Located in South Clear Zone.** High tension power lines within the South Clear Zone are within eight feet of the approach and departure flight path for landing jet aircraft, posing a risk for arc flashes.
- **Bird Attractants near Runway.** The flight path from Keesler AFB Runway (3/21) extends out over the Gulf of Mexico and Back Bay of Biloxi. Bird attractants, such as wetlands and tree canopies, are located on and around the installation and along with the Mississippi migratory bird flyway, creating the potential for bird aircraft strikes.

Vertical Obstructions (VO)

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

- **Vertical Obstructions in conflict with Imaginary Surface criteria in the City of Biloxi.** There are structures including telecommunication towers within the City of Biloxi that exceed height restrictions per the Imaginary Surfaces.
- **Vertical Obstructions in conflict with Imaginary Surface criteria in the City of D'Iberville.** The City of D'Iberville does not have Comprehensive Plan policies or regulations in the Zoning Ordinance to adequately manage future development within the sloped Keesler AFB Imaginary Surfaces.
- **Existing Military Operations Surface.** Though the City of Biloxi has incorporated the Existing Military Operations Surface (EMOS) by reference along with a corresponding height hazard map in the Land Development Ordinance (LDO), the EMOS is not graphically depicted per the Air Force description. The City of D'Iberville does not acknowledge the EMOS.

Please see the next page.



Implementation Plan

6

Implementation Plan

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

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

Each of the JLUS strategies that are included in this chapter is meant to address specific compatibility issues that are described in greater detail in Chapter 5 of the Keesler AFB JLUS Background Report. The issues are included before each set of strategies as a point of reference to what the strategies are addressing. They correspond to the issue numbers in the Chapter 5 of the Background Report for easy reference and can be used to read additional information on the specifics of the issues themselves.

The key to the implementation of strategies is the establishment of the JLUS Implementation Coordination Committee (see Strategy COM-1A) to oversee the execution of the JLUS. Through this committee, local jurisdictions, Keesler AFB, and other stakeholders can continue their collaboration and make adjustments to strategies over time to ensure the JLUS continues to resolve key compatibility issues into the future through realistic strategies and implementation.

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

Implementation Plan Guidelines

The key to a successful plan is balancing the different needs of all involved stakeholders. To produce a balanced plan, several guidelines were used as the basis for strategy development. These guidelines included:

- Recommended strategies must not result in a taking of property value as defined by state law.
- In some cases, the recommended strategies can only be implemented with new enabling legislation.
- In order to minimize regulation, many of the strategies are only recommended within the certain geographic area for which the issue they address occurs (e.g. within the noise contours), instead of recommended for the whole JLUS Study Area.
- Similar to other planning processes that include numerous stakeholders, the challenge is to create a solution or strategy that meets the needs of all parties. In lieu of eliminating strategies that do not have 100 percent buy-in from all stakeholders, it was determined that the solution / strategy may result in the creation of multiple strategies that address the same issue but tailored to individual circumstances.
- Since this JLUS is meant to be a “living document”, and state and federal regulations are subject to change, before implementing one of the suggested strategies included in the Implementation Plan, the implementing jurisdiction or party should ensure there is no conflict between the strategy and any existing state or federal law.

Military Compatibility Areas

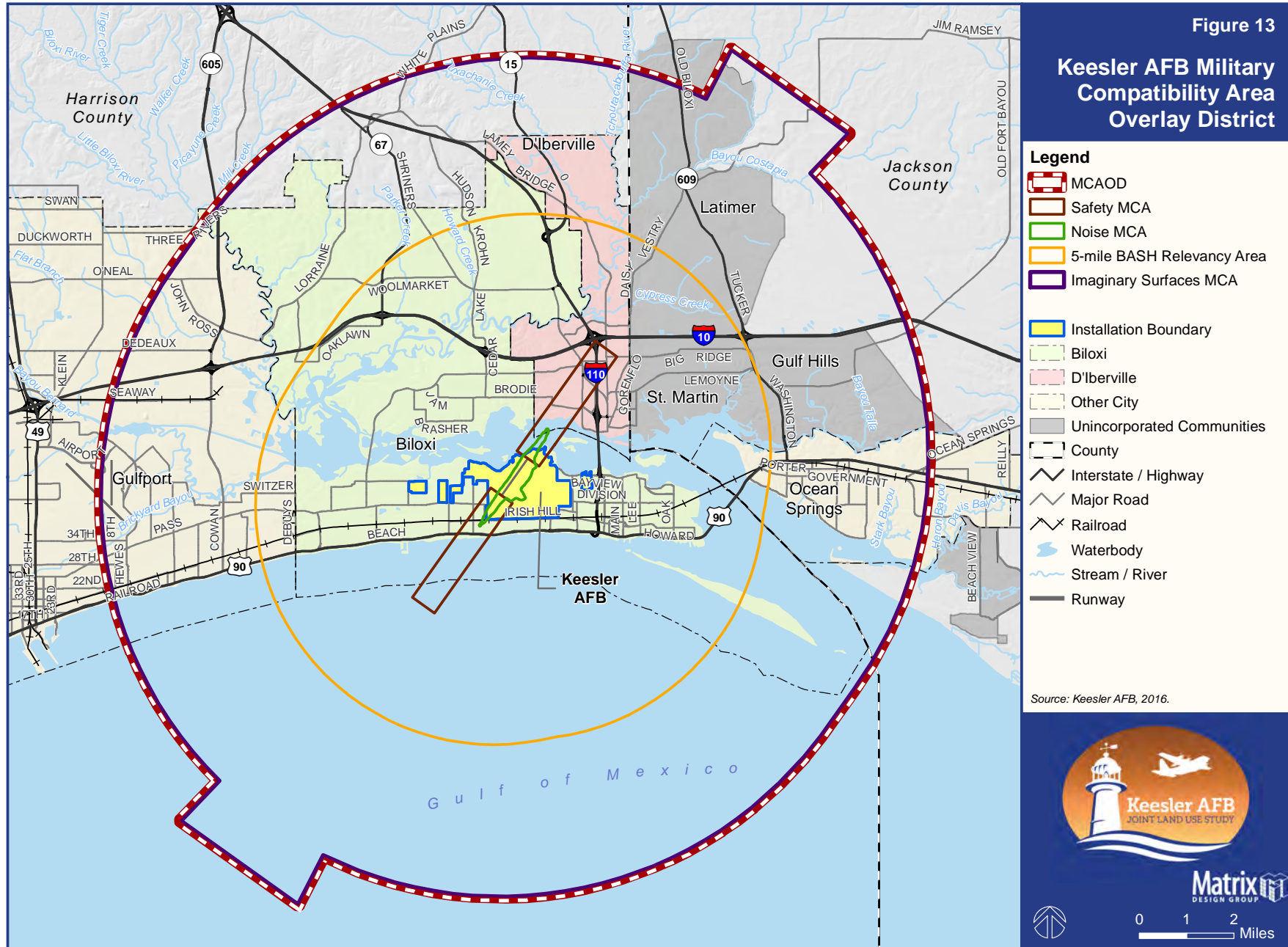
In compatibility planning, the generic term “Military Compatibility Area” (MCA) is used to formally designate a geographic area where military operations may impact local communities, and conversely, where local activities may affect the military’s ability to carry out its mission(s). An MCA is designated 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 (e.g., critical air space) used for training purposes.
- Establish compatibility requirements within the designated area, such as requirements for sound attenuation or aviation easements.

The Military Compatibility Area Overlay District (MCAOD) is a zoning technique that ensures the JLUS strategies are applied to the appropriate areas, and that locations deemed not subject to a specific compatibility issue are not adversely impacted by regulations or policies inappropriate for their location or circumstance. The MCAOD encompasses all the MCAs and its geographic boundary is defined by the largest MCA boundary. The MCAOD should be used by local jurisdictions to address ways to prevent or mitigate compatibility issues. Each jurisdiction’s MCAOD boundary is determined by the largest geographic boundary of all the MCAs that fall within their jurisdiction. The MCAOD is depicted on Figure 13.

The Keesler AFB MCAOD comprises four MCAs:

- Noise MCA
- Safety MCA
- Bird/ Wildlife Air Strike Hazard MCA
- Vertical Obstruction MCA



The MCAs are used to define the geographic areas where the JLUS strategies are to be applied. This technique ensures the strategies are applied to the appropriate areas, and that locations deemed not subject to a specific compatibility issue are not adversely impacted by regulations inappropriate for their location or circumstance.

These MCAs are shown on Figures 14 through 17 and are discussed in the following sections.

Noise Military Compatibility Area (Figure 14)

Noise is often a concern to the public surrounding military installations with flying missions. The Noise MCA includes all land located off-installation within the Keesler AFB 65 decibels (dB) day-night sound level (DNL) noise contour associated with military aircraft activities. Residential developments and other noise-sensitive land uses within this MCA may be subject to sound attenuation measures to reduce interior noise impacts.

Noise level reduction requirements in planning documents are key to ensuring noise sensitive uses such as residential, visitor accommodation, healthcare facilities, education facilities and government facilities are compatible in areas that experience noise levels of 65 dB DNL or greater. Local building codes can also be used to ensure that noise-attenuation measures are incorporated in all new development within the Noise MCA.

Safety Military Compatibility Area (Figure 15)

The proposed Safety MCA addresses compatible land use types and densities / intensities within the Clear Zones (CZs) and Accident Potential Zones (APZs) I and II of Keesler AFB's runway. Each of these is a subzone of the Safety MCA. The current location of each safety subzone is based on the airfield layout and air operations identified in Keesler AFB's AICUZ Report. The boundaries of each subzone should be updated based on any operational changes that occur with each AICUZ Study update.

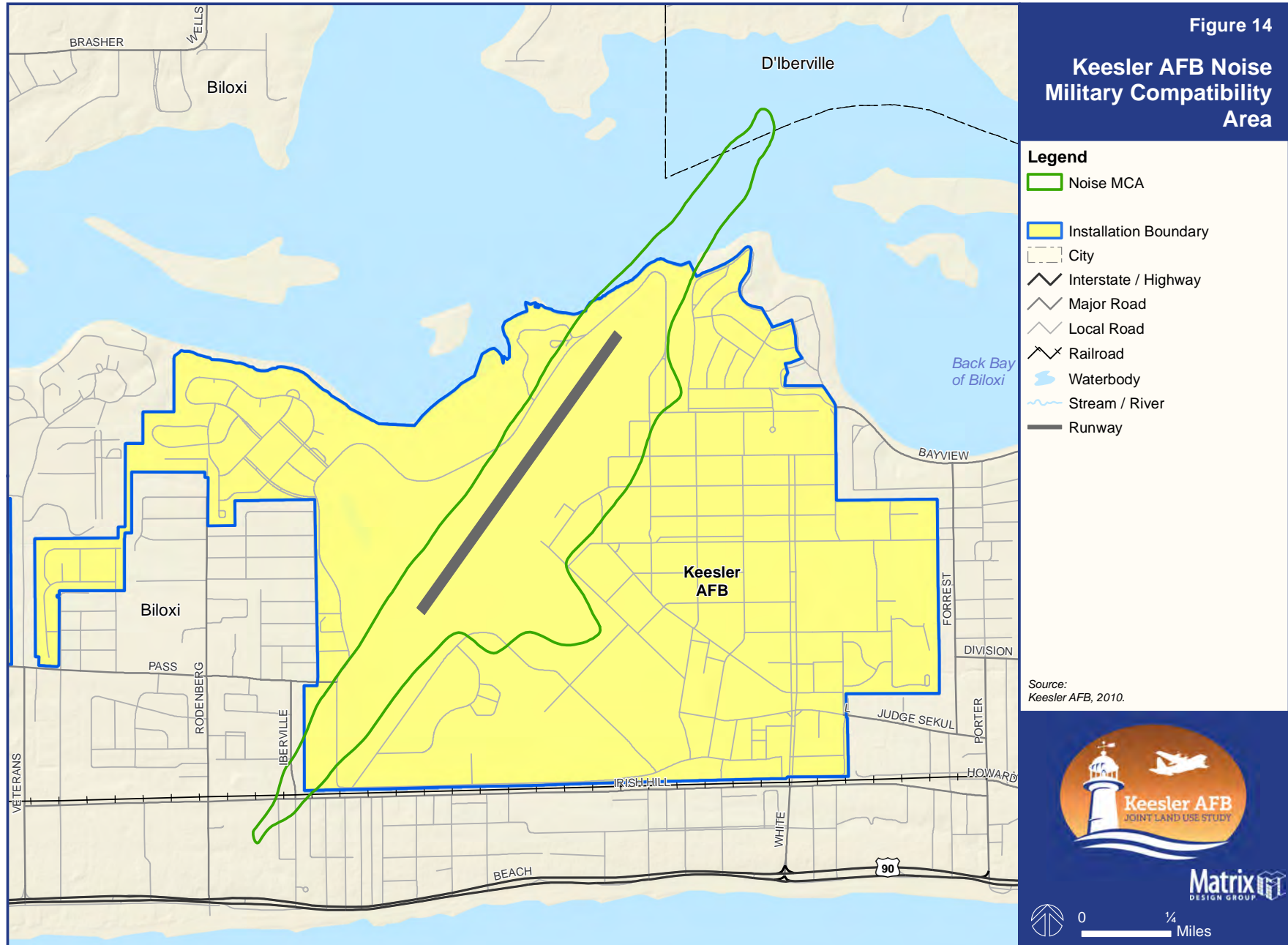
The Safety MCA is intended to prevent the development of incompatible land uses in areas with the greatest potential for an aircraft mishap. These safety zones were identified as a result of the Air Force's guidance that defines safety zones as areas where an aircraft accident is statistically most likely to occur (in the unlikely event that one was to occur). The safety zones follow departure, arrival, and pattern flight tracks and are based upon analysis of historical data.

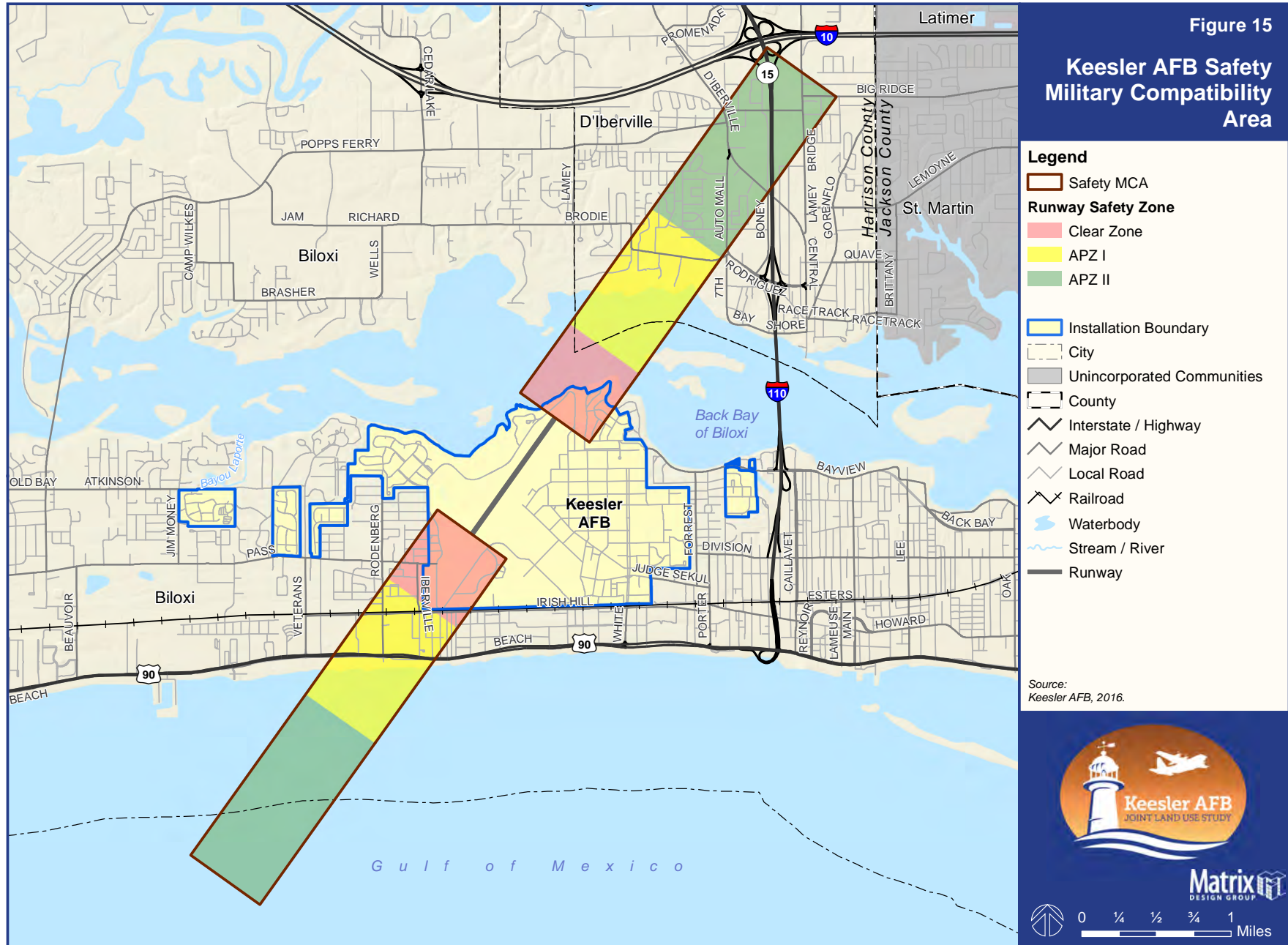
Within the CZ, most types of land use are incompatible with aircraft operations and no development is recommended. Compatibility guidelines preclude land uses that concentrate large numbers of people (such as residential uses including multifamily dwellings, hospitals and medical facilities, places of worship, educational facilities, cultural facilities and recreational facilities) within the APZs. While the likelihood of an accident is unlikely, the Air Force recommends low density and intensity land uses within the APZs to ensure the maximum protection of public safety and property.

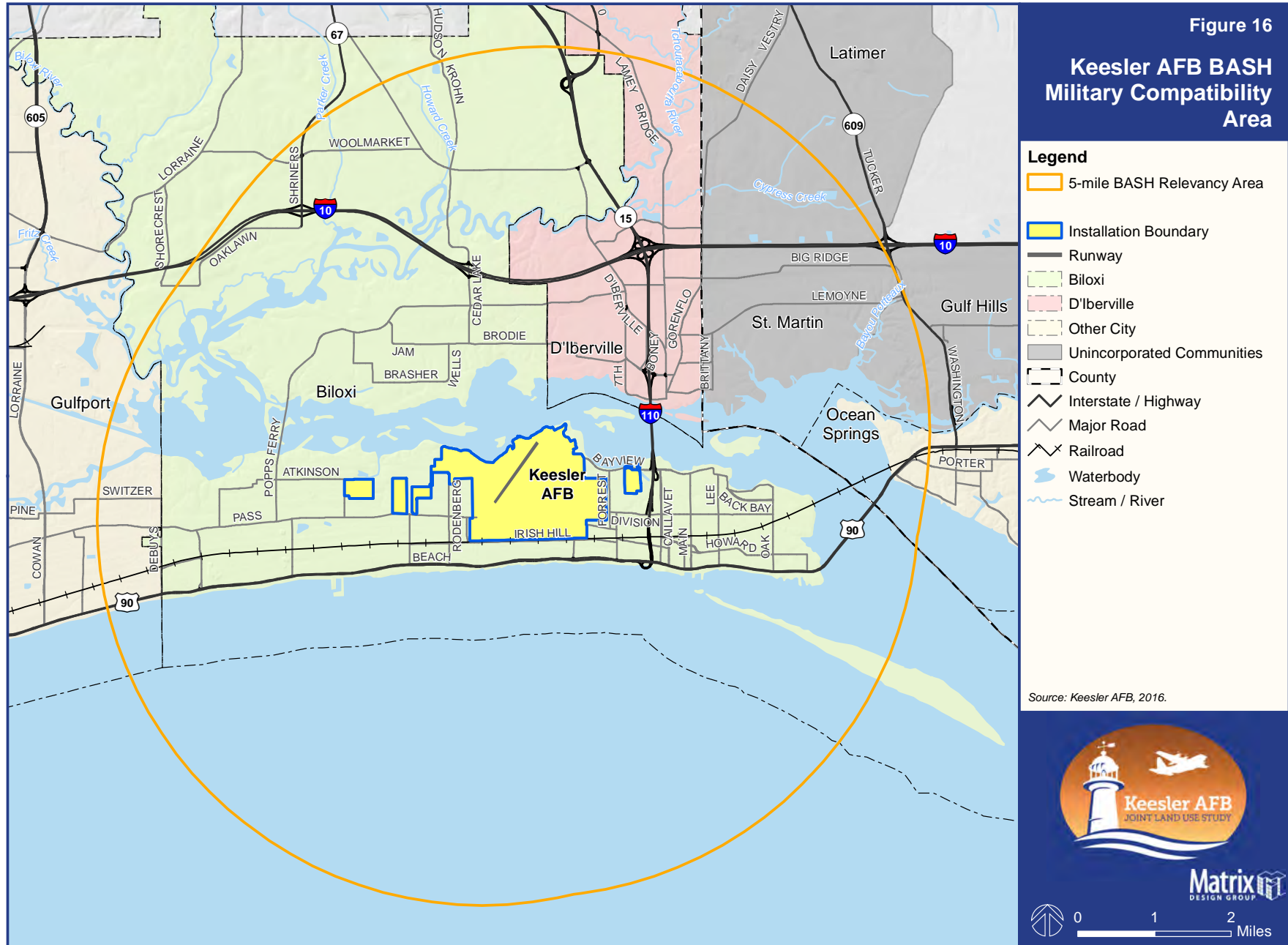
Single family residential uses are considered compatible at a recommended maximum density of two units per acre only in APZ II. Other generally compatible uses within APZ II include agriculture, limited intensity office / retail, and light industrial.

Bird / Wildlife Aircraft Strike Hazard Military Compatibility Area (Figure 16)

The proposed Bird / Wildlife Aircraft Strike Hazard (BASH) MCA extends from the air operations area at Keesler AFB out a radius of five miles. This MCA is meant to include areas near the airfield with the highest safety concerns if concentrations of wildlife or wildlife-attractant uses were located there. Bird strikes with aircraft can have serious safety concerns, including the potential for loss of life or aircraft. Even minor bird strikes can cause costly repairs to aircraft and interfere with training missions. The five mile distance associated with the BASH MCA is a Federal Aviation Administration (FAA) recommended standard for managing bird attractants around airports.







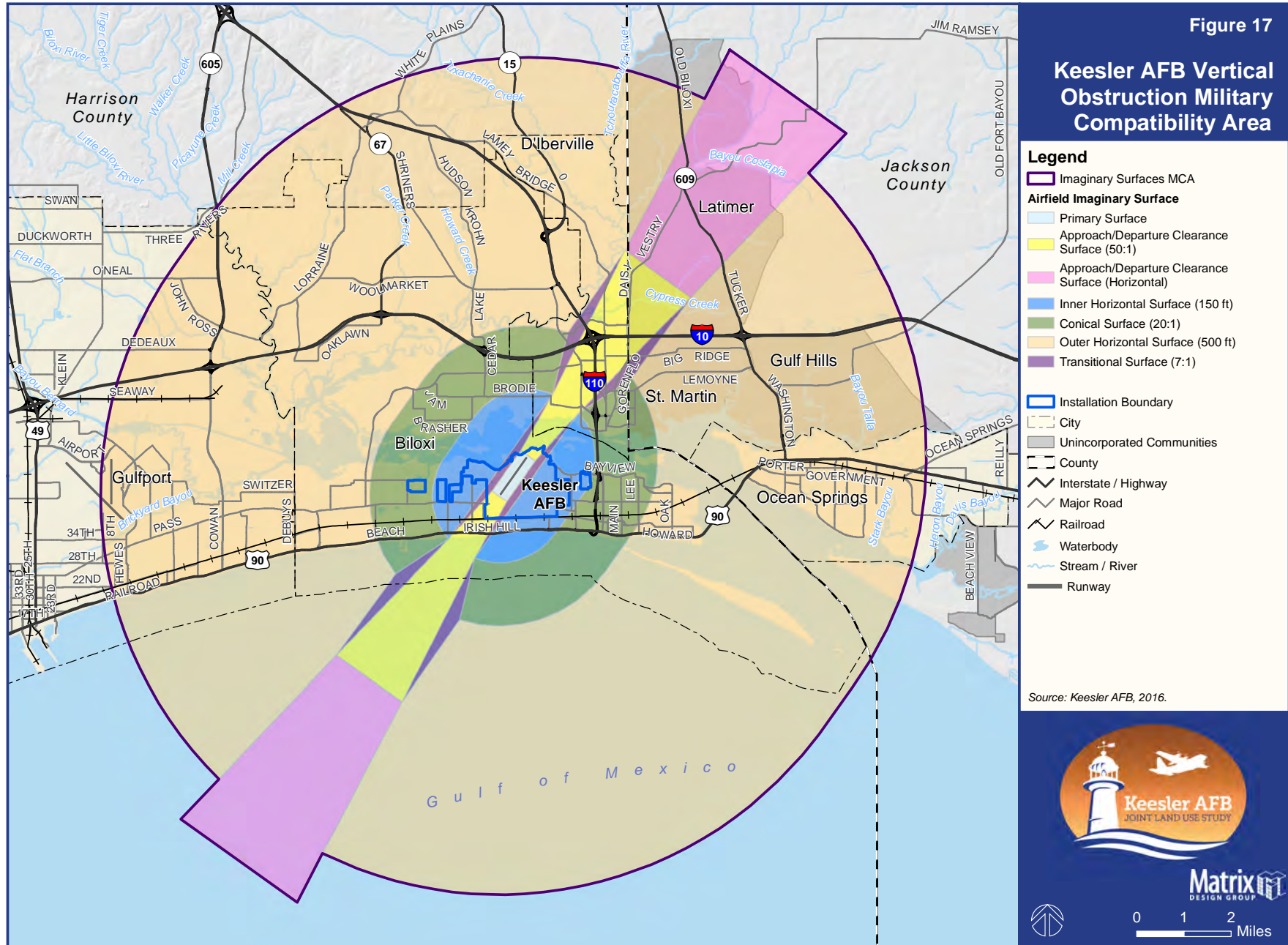
Vertical Obstruction Military Compatibility Area (Figure 17)

The purpose of the Vertical Obstruction MCA is to regulate the height of all structures within the area defined by FAA guidance and Air Force AICUZ instructions with criteria known as “imaginary surfaces” and the Existing Military Operations Surface (EMOS).

The imaginary surfaces are a 3-D geographic area comprising approach and departure airspace corridors and surrounding navigable airspace. Vertical obstruction heights are a major concern for flight operations and training due to the potential for a structure to extend into navigable airspace, which could impede safe flight operations and put both pilots and citizens on the ground at risk of an aircraft mishap.

The Existing Military Operations Surface (EMOS) is airspace unique to Keesler AFB to support the tactical air training mission at Keesler AFB. Like the imaginary surfaces, it defines height thresholds for structures in the navigable airspace and is contained within the imaginary surfaces. The EMOS is defined as a surface that extends from the thresholds of the runway along the projection of the centerline, both southwest and northeast for $1\frac{3}{4}$ nautical miles. The EMOS has not been accurately mapped which is recommended action in the implementation strategies.

Vertical obstructions that can affect flight safety include, but are not limited to towers, power lines, buildings, and trees. The imaginary surfaces and the EMOS are explained in more detail in Chapter 3, Keesler AFB Operations in the Background Report.



How to Read the Implementation Plan

The strategies presented in Table 3 are designed to address the issues identified during preparation of the JLUS. The purpose of each strategy is to:

- Avoid future actions, operations, or approvals that would cause a compatibility issue;
- Eliminate or reduce the adversity of existing compatibility issues where possible, and
- Provide for enhanced and on-going communications and collaboration.

To make the strategies easier to use, they are presented in a table format that provides the strategy and information on when and how that strategy will be implemented. The strategies are arranged in a table to correspond with their compatibility factor. The issue within each factor is presented to provide a linkage between the strategy and the condition it is intended to resolve or minimize. Figure 18 highlights the format and content of the strategy table. The following paragraphs provide an overview of how to read the information presented for each strategy in the table.

Issue or Strategy #. The issue # and strategy # are unique alpha-numeric numbers that provide a reference for each specific issue and strategy. A strategy's reference number is composed of the Compatibility Issue number and this ID (e.g., COM-1, COM-1B, etc.).

Strategy Type. This column indicates the type of strategy recommended to address the compatibility issue. The strategy types are categorized by their abbreviation:

Comm	Coordination / Communication
Map	Maps or Data
MOU	Memorandums of Understanding or Agreement
Plans	Comprehensive Plans / Neighborhood Plans / Agency Plans
Prog	Programs

Proj	Projects
Stud	Studies or Assessment Actions
Zon	Land Development Ordinance or Zoning Ordinance

Geographic Area. This column indicates the MCOAD or MCA area where the strategy should be applied, or whether strategy relates to the JLUS Study Area as a whole.

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

Timeframe to Initiate. This column indicates the projected timeframe of each strategy. The timeframes describe the year in which a strategy will be initiated or if it is an on-going action.

Short Term	Strategy proposed for initiation in 2017 / 2018 (within year of JLUS completion)
Mid Term	Strategy proposed to be initiated in 2019 / 2020 (within 1-2 years of JLUS completion)
Long Term	Strategy proposed to be initiated in 2021 / 2023 (3 to 5 years from JLUS completion)
On-going	An on-going implementation action

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

Figure 18 Strategy Key

Issue or Strategy ID	Strategy Type	Geographic Area	Strategy	Timeframe	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
Communication / Coordination (COM)										
COM-1	Enhanced Communication between the City of D'Iberville and Keesler Air Force Base Need for enhanced and consistent communication and information sharing between the City of D'Iberville and Keesler AFB to facilitate integrated, long-term, land use planning.									
COM-1A	Comm	MCAOD	Create a JLUS Implementation Coordination Committee to Oversee Implementation of JLUS Strategy Recommendations Formalize through a resolution that the Keesler AFB Policy and Technical Committees will transition to a JLUS Coordination Committee responsible for monitoring the implementation of recommended JLUS strategies and to act as a forum for continued communication and sharing of information and current events associated with military compatibility. <i>Other Partners: As Needed</i>	Short Term	■	□	□	□	□	□

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

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

MCA:
Geographic Area in which each strategy applies.

Strategy:
Description of the strategy.

Timeframes:
Short Term (2017 / 2018)
Mid Term (2019 / 2020)
Long Term (2021 / 2023)
On-going

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

Table 3 Keesler AFB JLUS Strategies

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
AIR QUALITY										
AQ-1	Regional Air Quality Though Harrison County is in attainment for six air quality criteria pollutants and Keesler AFB is in compliance with its Title V Air Quality operating Permit, future community development has the potential to affect regional air quality. Keesler AFB has requested a change to its existing permit to reflect lower air quality emission limits.									
AQ-1A	Prog	Study Area	Apply For and Obtain a Synthetic Minor Operating Permit Through Mississippi Department of Environmental Quality Keesler AFB should continue to follow-through on the application process to obtain a Synthetic Minor Operating Permit (SMOP) to enable awareness and understanding that Keesler AFB's thresholds are below the Title V thresholds. This will also assist in maintaining single source emissions at a reasonable level. <i>Other Partner: Mississippi Department of Environmental Quality</i>	Short Term					<input checked="" type="checkbox"/>	<input type="checkbox"/>
AQ-1B	Plan	Study Area	Update Mississippi Gulf Coast Ozone Advance Program Path Forward Plan The Gulf Regional Planning Commission (GRPC) should update its Path Forward Plan to include and incorporate military compatibility guidance and policies. The regional Clean Air Committee should invite a representative from Keesler AFB to participate in the committee meetings and provide technical assistance as necessary. <i>Other Partners: Hancock and Jackson Counties, Mississippi Department of Environmental Quality, Environmental Protection Agency, Mississippi Department of Transportation</i>	Mid Term	<input checked="" type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
ANTI-TERRORISM / FORCE PROTECTION										
AT-1	Waterfront Access to Keesler AFB Keesler AFB is accessible via the Back Bay of Biloxi. High levels of waterway traffic create a jurisdictional concern when boaters approach the Keesler AFB shoreline.									
AT-1A	MOU	Study Area	Budget and Plan for Waterside Safety Patrols Keesler AFB and the Mississippi Department of Marine Resources should work together to develop a plan to provide waterside jurisdictional and safety patrols for the Back Bay of Biloxi. The Memorandum of Understanding (MOU) would delineate the sharing of resources to provide for waterfront patrols. Public-public partnerships should be considered in funding methods. <i>Primary Partner: Mississippi Department of Marine Resources</i>	Short Term					■	■
AT-1B	Proj	Study Area	Install Offshore Buoys Along Installation Perimeter in Back Bay Keesler AFB should work with the Air Force, Mississippi Department of Marine Resources to install buoys including fencing in the Back Bay of Biloxi along the installation perimeter to assist in awareness by users of the Keesler AFB property line. <i>Primary Partner: Mississippi Department of Marine Resources, US Army Corps of Engineers, US Coast Guard</i>	Mid Term					□	■
AT-1C	Proj	Study Area	Develop Back Bay Signage Plan The jurisdictions in the JLUS Study Area should work to incorporate bay signage in their Capital Improvements Program (CIPs). The signage would alert recreationalists of the jurisdictional boundaries including the Keesler AFB installation perimeter and limit access to this area due to safety and liability reasons. <i>Primary Partners: US Army Corps of Engineers, US Coast Guard</i>	Short Term					□	■

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
AT-1D	MOU	Study Area	Bay Patrol and Monitoring Keesler AFB should work with Harrison County to develop an MOU with the Harrison County Sheriff's Office to monitor and patrol the associated shoreline to promote safety and protect the public. The MOU should: <ul style="list-style-type: none"> ■ Delineate locations of most concern for security breaches relative to military operations and training interruption; ■ Identify shared resources and reimbursement, ■ Describe frequency of monitoring / patrolling, and ■ Develop procedures for apprehending habitual offenders of security breaches. 	Short Term/ On-going				■	■	
AT-2	CSX Transportation Rail Proximity The CSX Transportation rail located south of Keesler AFB carries hazardous cargo and could create a fence line breach if derailed.									
AT-2A	Prog	MCAOD	Conduct Joint Derailment Exercises Keesler AFB and the City of Biloxi should continue to partner on conducting accident response and recovery exercises from a simulated train derailment. The exercises should be used to refine incident management coordination and protocols between agencies, and to identify and implement best courses of action for response and recovery. Consider participation from federal and state agencies, Harrison County, and CSX to ensure a unified response. <i>Other Partners: Harrison County, Mississippi Department of Environmental Quality, CSX Transportation, other agencies and organizations as appropriate</i>	On-going		■		□	■	□
AT-2B	Comm	MCAOD	Establish a Coordinated Installation Hazard Mitigation Protocol Keesler AFB should work with federal and state agencies, local governments and CSX Transportation to develop standard operating procedures for recovery and response incorporating best courses of action in the event of a rail mishap or accident occurring in the vicinity of the installation. At minimum, the procedures should include: <ul style="list-style-type: none"> ■ Reporting protocol for hazardous spills on the installation, ■ Contact information for relevant stakeholders including local jurisdictions, 	Short Term		□			■	□

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
AT-2B (continued)			<ul style="list-style-type: none"> Installation management procedures and remediation measures, and Safety measures for all relevant agencies and the public, in the event impacts extend outside the installation. <p><i>Other Partners: Harrison County, Mississippi Department of Marine Resources, US Coast Guard, CSX, Environmental Protection Agency, and other agencies and organizations as appropriate</i></p>							
AT-2C	Plans	MCAOD	<p>Update Plans and Amend Protocols</p> <p>Harrison County and the cities should update their Emergency Operations Plans and police and fire response protocols to incorporate provisions for the rail freight movement of hazardous materials. Such updates and amendments should include:</p> <ul style="list-style-type: none"> Protocol in reporting hazardous spills, Points of contact, Management procedures for spills, Safety measures to prevent spills from impacting the public, and Identification of all agencies that need to be notified in the instance of a hazardous chemical spill. 	Short Term		■	■	■		
AT-2D	Plans	MCAOD	<p>Develop a Regional Hazard Mitigation Plan</p> <p>Consider developing a Regional Hazard Mitigation Plan that aligns the mitigation strategies and actions between the jurisdictions to provide coordination and resources to address natural hazards in the region. The Plan would assess hazards, establish mitigation goals and objectives, and identify projects that will help the region and its constituent local jurisdictions prepare for, and reduce the impacts of, natural disasters.</p> <p><i>Primary Partner: Mississippi Emergency Management Agency</i></p>	Mid Term						■

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
CLIMATE CONSIDERATION										
CC-1	Potential for Flooding to Impact Keesler Air Force Base Missions Increased frequency and severity of weather events, such as storm surge, can create flooding at Keesler AFB and affect mission operations.									
CC-1A	Plans	MCAOD	Integrate Flood and Stormwater Management Plans Establish a partnership forum to discuss mutual locations and issues of concern. <i>Other Partners: Mississippi Emergency Management Agency</i>	Mid Term		<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CC-2	Potential for Climate Variability to Impact Keesler Air Force Base Keesler AFB is vulnerable to long-term impacts from climate variability including an increase in risk and severity of flooding and storm surge events.									
CC-2A	Stud	MCAOD	Develop Climate Resilience Assessment with Partnering Local Jurisdictions, State Agencies and Non-Governmental Organizations Establish a partnership between Keesler AFB, local jurisdictions, state agencies, non-governmental organizations and DoD to develop a Climate Resilience Assessment to address issues related to sustainability and addressing climate variability, including flooding, inundation, and storm water intensities. The assessment and associated actions should be coordinated with the local ongoing programs and studies. <i>Other Partners: Department of Defense, Mississippi Department of Marine Resources, Mississippi Department of Environmental Quality, Gulf of Mexico Alliance, Non- Governmental Organizations</i>	Long Term	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
CC-3	Potential for Climate Variability to Impact Surrounding Jurisdictions Outside of Keesler AFB The community is vulnerable to long-term impacts from inundation due to climate variability including loss of access to Keesler Medical Center.									
CC-3A	Comm / Plans	MCAOD	Transportation Infrastructure and Climate Variability Coordinate with GRPC / MPO and the Mississippi Department of Transportation on transportation infrastructure projects that support long-term traffic circulation needs while considering potential impacts from climate variability. Review and update traffic operation	Mid Term	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
CC-3A (continued)			plans during emergencies to coordinate traffic management and request transportation planning / projects as needed. <i>Other Primary Partner: Mississippi Department of Transportation</i> <i>Other Partners: Mississippi Emergency Management Agency</i>							
COMPLETED DURING JLUS CC-3B	Zon	MCAOD	Building Construction Standards The cities of Biloxi and D'Iberville should consider more stringent construction standards for wind and flooding than minimum Federal Emergency Management Agency (FEMA) and state building code requirements.	Mid Term		■	■			
COMMUNICATION / COORDINATION										
COM-1	Enhanced Communication between the City of D'Iberville and Keesler Air Force Base Need for enhanced and consistent communication and information sharing between the City of D'Iberville and Keesler AFB for mutual planning purposes.									
COM-1A	Comm	MCAOD	Create a JLUS Implementation Coordination Committee to Oversee Implementation of JLUS Strategy Recommendations Formalize through a resolution that the Keesler AFB Policy and Technical Committees will transition to a JLUS Coordination Committee, and be responsible for monitoring the achievement of the recommended JLUS strategies and act as a forum for continued communication and sharing of information and current events associated with military compatibility. Jurisdictions should appoint a military liaison to be the point of contact to be on the committee and that would be present at jurisdiction meetings. The resolution should outline such assigned responsibilities. <i>Other Partners: As Needed</i>	Short Term	■	□	□	□	□	□
COM-1B	Comm / Proj	Study Area	Shared Planning "Box" Email System Consider establishing a one-stop email system to coordinate compatibility planning initiatives, provide action updates, track development reviews, and provide general information, questions and answers. Develop a list of stakeholders that would have access to the email system	Short Term	□	□	■	□	□	□

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
COM-1B (continued)			including the JLUS Implementation Coordination Committee. Identify who will maintain the email system. <i>Other Partners: As Needed</i>							
COM-1C	Prog	MCAOD	Extend the Mission and Funding for the Mississippi Military Communities Council The Governor should fund and establish a charter for the Mississippi Military Communities Council (MMCC). Extending the mission would include providing military preparedness information to local, state, and federal officials and agencies. This council should prepare an Annual Report that highlights all the military installations in the state, delineates their economic impact numbers, and provides information on each installation's challenges and opportunities. In addition, appropriate, accurate mapping should be developed to assist in understanding of the Mississippi installations' mission requirements. The Council should include jurisdictional representation. <i>Primary Partners: Mississippi Legislature, Mississippi Development Authority, Governor of Mississippi</i>	Mid Term		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COM-1D	Comm	MCAOD	Develop and Adopt Military Notification Procedure / Protocol Consider revising Land Development Ordinance and Zoning Ordinances to include notification language of proposed developments within a three to five mile area of Keesler AFB as it relates to vertical obstructions defined by imaginary surface criteria.	Mid Term		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
COM-1E	Stud / Prog	MCAOD	Incorporate Additional Community Coordination Tasks within Community Planner Position to Enable Integrated Communication and Coordination with the Surrounding Communities. Consider renegotiating the Base Operation Support (BOS) Contract, to incorporate additional task and work components to provide adequate capability in the community planner position to enable enhanced coordination with local communities and to provide guidance to the JLUS Coordination Committee.	Short Term					<input checked="" type="checkbox"/>	

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
COM-1F	Comm	MCAOD	Host Open Houses and Additional Public Meeting Outreach Keesler AFB should host open house and installation tours and visits. Keesler AFB can provide enhanced insight to educate all groups, (e.g., building and development community, elected officials, and the general public) about the mission at Keesler AFB. <i>Other Partners: school districts</i>	On-going					<input checked="" type="checkbox"/>	<input type="checkbox"/>
COM-1G	MOU	MCAOD	Develop and Approve Memorandum of Agreement The cities of Biloxi and D'Iberville and Harrison County should work with Keesler AFB to develop a formal Memorandum of Agreement (MOA) that delineates the roles and responsibilities for each agency to collaborate on proposed development and land use planning matters. By resolution, each jurisdiction should appoint a military liaison. At a minimum, the MOA should include: <ul style="list-style-type: none"> ■ Point of contact and information for each agency including phone numbers and email addresses, ■ Role in communicating with the base on compatibility concerns, ■ Responsibility in coordinating on the resolution of compatibility concerns, ■ Community and military response times, ■ Checklist of triggers for coordination and communication, e.g. flood zone, safety zones, noise zones, height, frequency spectrum ■ Procedures for early development review. <i>Other Primary Partners: Mississippi Department of Transportation, Mississippi Power, other utility service providers</i>	Short Term		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
COM-1H	MOU	MCAOD	Invite a Keesler AFB Representative to Serve as a Non-Voting Member of the Jurisdiction Development Review Committee, Planning Commission, and Other Planning Bodies In an effort to continue a collaborative partnership, include in a Memorandum of Agreement between the City of D'Iberville and Harrison County and Keesler AFB that Keesler AFB agrees to provide a representative, as available, to attend and comment on mission compatibility issues on proposed developments at Development Review Committee and Planning Commission	Short Term			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
COM-1H (continued)			meetings. The Biloxi Land Development Ordinance which requires a Keesler AFB representative be included on the Biloxi Planning Commission and Board of Zoning Adjustments as a non-voting member and on the Development Review Committee provides for Keesler AFB as a voluntary non-voting member, could be used a model for enabling language.							
COM-1I	Prog	Study Area	Develop Economic Incentives Develop economic incentives that support military compatibility including residential and commercial development and redevelopment incentives to build outside of military compatibility areas such as safety zones. <i>Other Primary Partner: Harrison County Development Commission</i> <i>Other Partner: Mississippi Development Authority</i>	Mid Term		■	■	■	□	□
COM-1J	Comm	Study Area	Develop Educational Brochures Develop education brochures that highlight community and military compatibility and economic incentives for development and redevelopment including programs and grants. Brochures can be used to educate property owners, real estate industry and development community on compatibility issues and opportunities to promote community development while supporting the military mission. <i>Other Primary Partner: Harrison County Development Commission</i> <i>Other Partner: Mississippi Development Authority</i>	Mid Term	□	■	■	■	□	□
COM-1K	Comm	Study Area	Educate the Real Estate Industry and Development Community Conduct an annual training forum for the real estate industry and development community to educate them about military compatibility and economic incentives for development and redevelopment. Economic incentives should include existing programs and grants and those established as a result of the Joint Land Use Study recommendations. <i>Other Primary Partner: Harrison County Development Commission</i> <i>Other Partner: Mississippi Development Authority</i>	Mid Term		■	■	■	□	□

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
COM-1L	Comm	Study Area	<p>Request Mississippi Development Authority Host a Mississippi Joint JLUS Communities Task Force</p> <p>Request the Mississippi Development Authority provide a forum for Mississippi communities participating in JLUS activities to identify common issues, concerns and solutions.</p> <p><i>Primary Partner: Mississippi Development Authority</i></p> <p><i>Other Partners: NAS Meridian, NCBC Gulfport, Columbus AFB, Camp Shelby, cities and counties within military influence areas as identified in JLUS Reports</i></p>	Mid Term		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
COM-1M	Comm	Study Area	<p>Workshop with the Mississippi Gaming Commission</p> <p>Conduct a workshop with the Mississippi Gaming Commission to educate them on the Keesler AFB flight missions and requirements for height hazards within the Accident Potential Zones, Vertical Obstruction concerns related to Imaginary Surface criteria and Existing Military Operations Surface (EMOS).</p> <p><i>Other Partner: Mississippi Gaming Commission</i></p>	Short Term		<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
COM-1N	MOU	Study Area	<p>Enhance Coordination of Law Enforcement Resources</p> <p>Though Keesler AFB and other local and state law enforcement agencies have a notable history of partnering and coordination, consider opportunities to enhance these relationships. Develop a MOA for the coordinated sharing of manpower resources, access to resources, and cross training opportunities with Keesler AFB to expand response capability, optimize resources, and facilitate training certifications. Such initiatives could include improved access to boats at the Keesler AFB Marina and coordinated marine patrols on the Back Bay to increase coverage periods.</p> <p><i>Other Primary Partner: Mississippi Department of Marine Resources</i></p>	Short Term		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
COM-2	Public Notification of Properties Located within the Clear Zones Need for notification to property owners when purchasing or selling property located within the airfield Clear Zone.									
COM-2A	Prog	MCAOD	Update Property Conditions Disclosure The Real Estate Community should consider revising the State Property Conditions Disclosure to include documenting the location of property within an airfield safety zone. <i>Other: Gulf Coast Association of Realtors, Mississippi Real Estate Commission</i>	Long Term						■
COM-3	Coordinated Law Enforcement Response at Keesler Air Force Base Bayridge Housing Subdivision and Marina Need for enhanced coordination between the City of Biloxi and Keesler AFB law enforcement to respond to issues at Keesler AFB Bayridge housing subdivision and the Keesler AFB Marina to avoid duplication of service and ensure lines of authority.									
COM-3A	Comm	MCAOD	Coordination in Areas of Joint Authority Refine coordination procedures and protocols between City of Biloxi and Keesler AFB for law enforcement response in geographic areas of joint authority.	Short Term		■			■	
DUST / SMOKE / STEAM										
DSS-1	Smoke from Keesler Medical Center Generators Monthly testing of the Keesler Medical Center generators creates smoke which impacts the adjacent Oak Park neighborhood residents.									
DSS-1A	Proj	Noise MCA	Install Exhaust Filters Consider installation of exhaust filters to reduce smoke / exhaust. These filters may also reduce some of the noise element.	Short Term					■	

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
FREQUENCY SPECTRUM IMPEDANCE / INTERFERENCE										
FSI-1	Expansion of Wi-Fi and Wireless Communication on Keesler Air Force Base The expansion of wireless communication capability at Keesler AFB has the potential to impact surrounding communities.									
FSI-1A	Stud	MCAOD	Assess Cumulative Impact of Frequencies Outside Keesler AFB Consider the cumulative effects of increased Wi-Fi communication systems and coverage on Keesler AFB, which could potentially create adverse effects or diminished service for the surrounding community. While there is a possibility that Keesler could bleed over into the local community in the 2.4/5 GHz commercial band, they currently take precautions to ensure use of directional antennas facing inwards whenever possible. They also register devices with the Gulf Area Frequency Coordinator (GAFC), MAJCOM and Air Force Spectrum Management Office.	Mid Term					<input checked="" type="checkbox"/>	
INFRASTRUCTURE EXTENSIONS										
IE-1	Infrastructure Development and Planning The development of the new Division Street main gate for Keesler AFB has the potential to impact the surrounding neighborhood.									
IE-1A	Comm	MCAOD	Continue Infrastructure Planning and Coordination Keesler AFB should continue to coordinate infrastructure expansion plans with the surrounding jurisdictions and utility providers. Notify surrounding jurisdictions and / or other service providers when extending / enhancing infrastructure at Keesler AFB, such as transportation and utility infrastructure— roadway infrastructure, water, wastewater, acquisition of right-of-way, and utility-scale infrastructure, etc. that may impact areas in the vicinity of the installation. Infrastructure providers should consider alternatives that would help reduce future incompatible development associated with infrastructure improvements that could induce incompatible growth. Coordination should occur early in the planning process to optimize compatibility, reduce costs associated with plan changes, and resolve planning issues within a reasonable timeframe so as not to delay development.	On-going		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
IE-1A (continued)			<i>Other Partners: Mississippi Department of Transportation, utility service providers</i>							
IE-1B	Comm	Study Area	Participation on Metropolitan Planning Organization Invite Keesler AFB to participate on the Mississippi Gulf Coast Metropolitan Planning Organization Technical Coordinating Committee as a regional transportation stakeholder.	Short Term	■					
IE-1C	Comm	Study Area	Continued Coordination for Infrastructure Planning for Division Street Gate to Keesler AFB Keesler AFB and the City of Biloxi should continue to coordinate on the infrastructure expansion for the new Division Street Gate. Coordination should begin early in the process and continue throughout the life of the project to reduce costs and lost time on plan changes.	On-going		■			■	
LAND / AIR / SEA SPACES										
LAS-1	Shared Airspace with Recreational Aviation Seaplane and helicopter tours and other recreation activities that utilize airspace along the Gulf of Mexico coastline, such as parasailing and unmanned aerial vehicles can potentially traverse the Keesler AFB approach flight paths, which can increase the risk for aircraft mishaps.									
LAS-1A	Prog	MCAOD	Develop an Aviation Tourism Safety Educational Program Keesler AFB should work with the Harrison County Sand Beach Authority and various organized recreational activity organizations in the JLUS Study Area, i.e. seaplane and helicopter tours, parasailing, etc., to develop a recreational airspace safety educational program. This program should inform the organizations and recreationalists of the conditions of the area relative to military training. The conditions should include the distribution of educational information, using existing resources, about the types of training operations that occur along the coastline and the dangers associated with them. These brochures should be made available by a number of methods which could include: <ul style="list-style-type: none"> ■ Make available on the Keesler AFB and local jurisdictions websites, ■ Provide brochures to Seaplane and Helicopter Tours and Parasailing companies for distribution to their patrons, clientele as well as tourists, and/or 	Short Term		□	□	■	■	□

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
LAS-1A (continued)			<ul style="list-style-type: none"> Include in local recreational guides, such as "Discover South Mississippi" <p><i>Other Primary Partner: Harrison County Sand Beach Authority</i></p> <p><i>Other Partners: Seaplane and helicopter companies, parasailing tour companies, recreational unmanned aerial vehicle organizations, Visit Mississippi Gulf Coast, Gulf Coast Tourism Commission</i></p>							
LAS-1B	Plans	Vertical Obstruction MCA	<p>Amend Comprehensive Plan for Unmanned Aerial Vehicles (UAVs)</p> <p>Consider amending the Comprehensive Plan to include policies that support adopting a UAV no-fly zone and use requirements for UAVs in planning documents including an overlay district where the requirements would be applicable.</p>	Short Term		■				
LAS-1C	Zon	Vertical Obstruction MCA	<p>Adopt an Unauthorized Unmanned Aerial Vehicle (UAV) No-Fly Zone</p> <p>The Cities of Biloxi and D'Iberville should consider an ordinance for a one-mile no-fly zone around Keesler AFB to facilitate security and airspace control.</p>	Short Term		■	■		□	
LAS-1D	Zon	Vertical Obstruction MCA	<p>Adopt Use Requirements for Unmanned Aerial Vehicles (UAVs)</p> <p>The cities of Biloxi and D'Iberville should consider adopting requirements for the operation of UAVs within critical military use airspace to protect the public health, safety and welfare. The requirements should consider coordination procedures with Keesler AFB, operational requirements including permissible heights, establishing an overlay district under the sloped approach and departure clearance surface associated with the Keesler AFB airfield outside of the no-fly zone, and enforcement actions.</p>	Short Term		■	■		□	
LAS-1E	Prog	MCAOD	<p>Education to Coordinate with Keesler AFB</p> <p>Work with the Mississippi Gulf Coast Tourism Commission, local airports and local marinas to educate members about the need for the aviation tourism industry to coordinate with the Keesler AFB air operations.</p> <p><i>Other Primary Partner: Mississippi Gulf Coast Tourism Commission</i></p> <p><i>Other Partners: Local airports, local marinas</i></p>	Mid Term					■	■ □

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
LAS-1F	Comm	MCAOD	Coordination Through Business Licensure Consider the use of the existing business license or review procedure for aviation tourism vendors within the City of Biloxi and Harrison County to ensure notification of Keesler AFB airfield operations. <i>Other Primary Partners: Harrison County Sand Beach Authority</i>	Mid Term		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	
LAS-2	Sand Beach Authority Awareness of Flight Restrictions While the Harrison County Sand Beach Authority is responsible for the permitting of vendors on Sand Beach, there may be a lack of awareness of the flight restrictions proximate to Keesler AFB.									
			For strategies that address this issue see Strategies LAS-1A "Develop an Aviation Tourism Safety Educational Program" and LAS-1D "Coordination Through Business Licensure" to promote awareness of the flight restrictions proximate to Keesler AFB.							
LAND USE										
LU-1	Potential for Incompatible Land Uses in Northern Accident Potential Zones The City of D'Iberville does not have Comprehensive Plan policies or land development regulations to manage development within the Accident Potential Zones associated with the Keesler AFB airfield.									
LU-1A	Plans / Zon	MCAOD	Incorporate Military Compatibility Areas (MCAs) and Military Compatibility Area Overlay District (MCAOD) Information in Local Planning Documents The JLUS Stakeholders should incorporate the MCAs and MCAOD in Figures 13 through 17 of this Chapter into their available mapping, relevant planning documents, and communication efforts. The Keesler AFB MCAs and MCAOD should be used by JLUS stakeholders to identify where, geographically, each JLUS strategy should be applied. This will facilitate education and awareness of military compatibility areas in the JLUS Study Area. The Keesler AFB MCAOD could assist in achieving military compatibility in the future. A description of the Keesler AFB MCAOD and its subzones can be found in the Implementation Plan section narrative. The Keesler AFB MCAOD consists of three MCAs and associated subzones and a BASH Relevancy Area:	Short Term	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
LU-1A (continued)			<ul style="list-style-type: none"> ■ MCAOD. This area is the consolidated footprint of all the MCAs and associated subzones within the imaginary surface criteria of Keesler AFB. ■ Safety MCA. This MCA has three subzones in which strategies address the establishment of restrictive or conservation easements between the military and willing landowners and awareness measures and land use changes would avoid incompatible development around Keesler AFB. ■ BASH Relevancy Area. This covers a five mile radius around the Keesler AFB airfield in which strategies would discourage land uses that would attract increases in birds and wildlife in the area. ■ Noise MCA. An area that is defined by the 65 dB DNL or greater noise contour associated with air operations at Keesler AFB. This area covers the noise that extends off-installation. ■ Vertical Obstruction MCA. This MCA and its subzones document the areas subject to vertical height restrictions due to aircraft activity. This includes areas surrounding Keesler AFB and will define (1) areas within the imaginary surface criteria and Part 77 vertical obstruction compliance, and (2) Existing Military Operating Surface (EMOS) information giving a clear site picture on all military related criteria that impact flight operations in one document/GIS product. <p><i>Other Partners: Mississippi Department of Transportation, Mississippi Department of Environmental Quality</i></p>							
LU-1B	Comm / Map	Study Area	<p>Establish a JLUS Data Working Group</p> <p>Consider establishing a JLUS Data Work Group to:</p> <ul style="list-style-type: none"> ■ Develop GIS based maps for use by local governing authority ■ Review current land use regulatory controls within Keesler military influence areas ■ Conduct land use regulatory workshops using planning case studies, practices and strategies used to resolve conflicts between military influence areas and potential development 	Mid Term	■	■	■	■	■	

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
LU-1B (continued)			<p>■ Develop revisions to the land use regulations, including developing incentives, acquisitions and possible transfer of development rights.</p> <p>These actions should be conducted in conjunction with other recommended strategies addressing land use.</p>							
LU-1C	Maps	Study Area	<p>Create and Maintain a GIS Data Clearinghouse</p> <p>The Gulf Regional Planning Commission, JLUS partner jurisdictions, federal and state agencies and Keesler AFB should work collaboratively to develop a GIS clearinghouse to share GIS data for the Keesler AFB JLUS Study Area, e.g. military footprints, existing land use, zoning, and other pertinent GIS data, to enable enhanced long-range compatibility planning. In addition, a protocol for accessing and updating the information should be developed to ensure accuracy and appropriate security measures are established.</p> <p><i>Other Partners: federal and state agencies and other JLUS stakeholders, as appropriate</i></p>		■	□	□	□	□	□
LU-1D	Comm / Map	MCAOD	<p>Maintenance and Update of MCAs and MCAOD</p> <p>Keesler AFB shall provide updated information to the JLUS Implementation Coordination Committee when changes in operations or circumstances result in the need to update or modify one of the MCA or MCAOD boundaries. The JLUS Implementation Coordination Committee will be responsible for making a recommendation to members for incorporation into appropriate plans, regulations, and policies.</p>	Short Term		■	■	■	■	
LU-1E	Comm / Zon	MCAOD	<p>Review Zoning Ordinances for Compatibility</p> <p>Consider creating a Military Compatibility Area Task Force to coordinate review, deliberate issues, recommend mitigation strategies, evaluate zoning changes and consider other best practices to mitigate encroachment potential to promote and encourage land use planning in consideration of military compatibility, and result in more sustainable economic development and long-range planning.</p>	Short Term	□	■	■			

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
LU-1F	Plans	MCAOD	Update Plans for Military Compatibility The jurisdictions, economic development organizations, and school districts in the JLUS Study Area should update their plans to incorporate military compatibility goals, objectives and policies. <i>Other Primary Partner: School districts</i>	Mid Term		■	■			■
LU-1G	Comm / Zon	MCAOD	Mission Compatibility Evaluation Process The jurisdictions in the JLUS Study Area should develop a formal process to coordinate with Keesler AFB and the DoD Siting Clearinghouse on alternative energy siting permits. The DoD's Mission Compatibility Evaluation Process provides a timely, transparent, and science-based analysis to identify the mission impacts from energy development projects in order to prevent, minimize, or mitigate adverse impacts on military readiness and operations, including test and evaluation activities. The Mission Compatibility Evaluation Process is defined in Part 211 of Title 32 of the Code of Federal Regulations.	Mid Term	□	■	■	□	■	■
LU-1H	Prog	MCAOD	State Level Economic Development Program Pursue a state level program that supports funding for community economic development while supporting the military mission. Program elements could include assistance for land acquisition, studies to accomplish land use compatibility goals such as a Highway 90 Corridor Study and neighborhood redevelopment plans, regulatory recommendations, and supporting legislation. <i>Other Partner: Mississippi Development Authority</i> <i>Primary Partners: Mississippi Military Communities Council, Mississippi Legislature</i>	Mid Term	□	□	□			□ ■
LU-1I	Prog	MCAOD	State Grant Program for Land Acquisition Around Military Installations The cities of Biloxi and D'Iberville should work with the Mississippi Military Communities Council to obtain state grant funding for land acquisition around military installations. Consider pursuing grant opportunities through the Mississippi Development Authority and Restore Act. <i>Other Partner: Mississippi Development Authority</i> <i>Primary Partners: Mississippi Military Communities Council, Mississippi Legislature</i>	Mid Term		■	■			□ ■

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
LU-1J	Zon	MCAOD	Development Rights Purchase Program Consider program for property owners of land in military mission footprint areas to use tax abatement to recoup value of property in these areas towards the purchase of property outside military mission footprint areas for development and redevelopment.	Mid Term		■	■			
LU-2	Lack of Information on Safety Zones in Municipal Land Use Code There are no safety zones references in the City of Biloxi's Land Use Code.									
LU-2A	Map	MCAOD	Foster Enhanced Public Awareness and Education Through Accurate Mapping Keesler AFB should participate in the regional GIS consortium to share and exchange current and accurate GIS data relevant to base planning and the Military Compatibility Areas. <i>Other Partners: Mississippi Department of Transportation, Mississippi Department of Environmental Quality, school districts</i>	Short Term	□	□	□	□	■	□
LU-3	Encroachment of Keesler AFB Natural Gas Line A High Pressure Natural Gas Line runs 12 miles from the City of Gulfport through the City of Biloxi to Keesler AFB, traversing private properties including a single-family residence. Keesler AFB has no control over the easement to ensure it remains free of encroachments.									
LU-3A	Proj	Study Area	Install Signage Along Easement Right-of-Way Keesler AFB and the cities of Biloxi and Gulfport should work to incorporate signage in their Capital Improvement Plans. The signage would alert property owners about the high pressure gas line and the 30 foot easement. In addition, the signage would alert and encourage property owners to keep the area free from structures to facilitate access by government officials and contractors should the pipeline require maintenance or in the event of an incident. Potential public-public partnerships should be used to fund the development and installation of the signs. <i>Other Primary Partner: City of Gulfport</i>	Mid Term		■			□	■
LU-3B	Comm	Study Area	Internal Coordination with City Planning Staff The cities of Biloxi and Gulfport and Harrison County should develop an internal coordination protocol to facilitate the information sharing of the high pressure gas line, and coordinate with	Short Term		■		■	□	■

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Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
LU-3B (continued)			Keesler AFB to make planning staff aware there is a gas line in the area when considering applications and communications with other staff and customers. <i>Other Primary Partner: City of Gulfport, Harrison County</i>							
LU-3C	Zon	Study Area	Surveys for Development on Properties with Gas Line Require a survey as part of the development application submittal for properties traversed by the natural gas line.	Short Term		■	■	■		
LU-3D	Zon	Study Area	Gas Line Disclosures For properties subject to the natural gas easement, disclose to property owners when they submit development applications that a gas line and easement runs through their property. Permit applications should specify that they were made aware of the gas line and easement prior to issuance. <i>Other Primary Partner: City of Gulfport</i>	Short Term		■		■		■
LIGHT AND GLARE										
LG-1	Reflective Building Materials Causing Glint and Glare Extensive use of highly-reflective building materials such as colored glass on commercial developments can create glint and glare which can affect pilot visibility and is of concern on aircraft approaches.									
LG-1A	Stud	MCAOD	Conduct Glare Study About the Use of Certain Reflective Building Materials Cities of Biloxi and D'Iberville should work with Keesler AFB to conduct a study about the impacts of certain reflective building materials, i.e. reflective or mirrored glass, on pilot visibility. The study should identify at a minimum the following: <ul style="list-style-type: none"> ■ Building materials that have the greatest impact on pilot vision, ■ Time of day the impact is the greatest, ■ Areas in which the impact is the greatest, and ■ Solutions to these impacts including but not limited to re-routing aircraft during certain times of the day and amending the land development ordinance to restrict the use of the 	Mid Term		■	■		□	□

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
LG-1A (continued)			reflective and mirrored materials in buildings in certain areas critical to the Keesler AFB mission. <i>Other Partner: Mississippi Public Service Commission</i>							
LG-1B	Zon	MCAOD	Amend Land Development Ordinance Upon completion of Strategy LG-1A" Conduct Glare Study About the Use of Certain Reflective Building Materials", the cities of Biloxi and D'Iberville should amend their Land Development Ordinance and Zoning Ordinance to include the findings of the study and restrict the identified building materials that produce the most glare or glint in the areas where the impact to pilots' vision is the greatest.	Mid Term		■	■			
LG-1C	Zon	MCAOD	Lighting Overlay District Based on the findings of Strategy LG-1A" Conduct Glare Study About the Use of Certain Reflective Building Materials", the cities of Biloxi and D'Iberville should amend their Land Development Ordinance and Zoning Ordinance to include a lighting overlay district where land use controls for lighting would apply.	Mid Term		■	■			
LG-2	Reflective Materials from Solar Farms Reflective panels on large-scale solar farm developments can create glint and glare which can affect pilot visibility and is of concern on aircraft approaches. A solar farm is proposed approximately five miles north of Keesler AFB.									
LG-2A	Zon / Comm	Vertical Obstruction MCA	Require Non-Reflective Panels on New Solar Development Projects in the Jurisdictions Consider amending the Land Development Ordinance and Zoning Ordinance to require the use of non-reflective construction materials for all new solar energy projects within the Vertical Obstruction MCA and particularly within the airfield approach-departure corridor. Ordinances should also be amended to require review and coordination by Air Force prior to issuing a permit for all commercial alternative energy developments within the Vertical Obstruction MCA. Consider establishing an education and outreach program on use of non-reflecting solar panels for contractors and homeowners.	Mid Term		■	■	■	□	

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
LG-2B	Plans / Comm / MOU	MCAOD	<p>Coordinate with Department of Defense Siting Clearinghouse and Mississippi Public Service Commission</p> <p>Update comprehensive plans and agency / organization plans to include policies and amend the Land Development Ordinance and Zoning Ordinances to require submission of all proposed alternative energy development projects to the Department of Defense Siting Clearinghouse to review each project for mission compatibility. Include coordination with Department of Defense Siting Clearinghouse as part of the Memorandum of Agreement between Keesler AFB and jurisdictions.</p> <p>Consider executing a MOA between the Mississippi Public Service Commission (MPSC) and Keesler AFB to forward alternative energy projects to the military for review. Include in the MOA that Keesler AFB will provide airfield surface areas and flight tracks to the MPSC for information purposes.</p> <p><i>Other Primary Partners: School districts, colleges / universities, utilities, Mississippi Public Service Commission</i></p>	Mid Term	■	■	■	■	■	■
LG-3	<p>Ambient Lighting Surrounding Keesler Air Force Base</p> <p>Ambient lighting from sources surrounding Keesler AFB including electronic billboards can affect pilot visibility and the performance of night vision equipment.</p>									
LG-3A	Zon	Vertical Obstruction MCA	<p>Lighting Standards for LED Billboards</p> <p>The cities of Biloxi and D'Iberville should amend their Land Development Ordinance and Zoning Ordinance to include lighting standards for Light Emitting Diode (LED) billboards, especially in the approach and departure corridors.</p> <p><i>Other Primary Partner: Mississippi Department of Transportation</i></p>	Mid Term		■	■			■
LG-4	<p>Light Emissions from Event Sources</p> <p>Light emissions from fireworks and laser shows have the potential to disrupt Keesler AFB flight operations.</p>									
LG-4A	Zon	Vertical Obstruction MCA	<p>Amend Ordinances for Fireworks</p> <p>The cities of Biloxi and D'Iberville should amend their Land Development Ordinance and Zoning Ordinance to require coordination and an agreement between event holders and Keesler AFB</p>	Short Term		■	■	□		

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
LG-4A (continued)			for the display of fireworks within Keesler AFB flight tracks, especially in the approach and departure corridors. Existing permit procedures should be used when coordinating the use of fireworks. <i>Other Partner: Harrison County Sand Beach Authority</i>							
LG-4B	Zon	Vertical Obstruction MCA	Amend Land Development Ordinances for Laser Shows The cities of Biloxi and D'Iberville should amend their Land Development Ordinance and Zoning Ordinance to prohibit or require coordination with Keesler AFB for upward-directed laser light shows, especially in the approach and departure corridors.	Short Term		■	■			
LG-5	Keesler Air Force Base Outdoor Lighting Lighting from Keesler AFB along Irish Hill Drive illuminates outside the installation creating light pollution in the community.									
LG-5A	Proj	Study Area	Minimize Military Glare For Civilians Keesler AFB should evaluate the off-installation occurrence of light along Irish Hill Drive and determine appropriate measures to reduce any extensive light trespass nuisances.	Mid Term					■	
LG-6	Lighting for Proposed Parking Lot for Keesler Air Force Base Medical Center A new parking lot is proposed on the north end of Keesler AFB for the Keesler Medical Center, creating potential lighting concerns for the adjacent Oak Park neighborhood.									
LG-6A	Proj	Study Area	Incorporate Backlight, Uplight, and Glare (BUG) Rated Fixture in Plans of Proposed Parking Lot Keesler AFB should consider using the BUG rated fixtures for the proposed parking lot at the Keesler Medical Center. BUG-rated fixtures control the wasteful emission of light and reduce glare on adjacent properties. In addition, the installation of BUG-rated fixtures enables energy conservation as well due to the reduction of light spillage.	Short Term					■	

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
NOISE										
NOI-1	Noise from Keesler Medical Center Generators Monthly testing of the Keesler Medical Center generators creates noise which impacts the adjacent Oak Park neighborhood residents.									
NOI-1A COMPLETED DURING JLUS	Proj	Study Area	Consider Noise Reduction Measures for the Medical Center Generators Keesler AFB should evaluate the use of baffles and install them to reduce the sound transmission from the generator testing.	Short Term					■	
NOI-1B	Proj	Study Area	Consider Developing a Voluntary Sound Attenuation Retrofit Program for Residential Uses Consider developing a program that provides guidance on sound attenuation standards for retrofitting existing residential uses. The program can include grant opportunities available to assist property owners in retrofitting structures impacted by the noise from generator testing. Other funding sources for retrofitting homes should be identified and provided within the program materials.	Mid Term		■				
NOI-2	Noise from Chiller on Keesler Air Force Base The chiller for Arnold Hall is located outside the building approximately 40 feet from adjacent residences in the Oak Park neighborhood. When operational, the chiller creates noise which impacts the adjacent neighborhood residents.									
NOI-2A COMPLETED DURING JLUS	Proj	Study Area	Consider Noise Reduction Measures for the Medical Center Chillers Keesler AFB should evaluate additional noise mitigation approaches for the chiller operations including replacement of the chiller system.	Short Term					■	

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
NOI-3	Emergency Sirens from Keesler Medical Center Ambulances The required testing of Keesler Medical Center ambulance sirens at the beginning of every shift change at 5:30 a.m. and 5:30 p.m. creates noise which impacts the adjacent residential neighbors in the Oak Park neighborhood.									
NOI-3A	Stud	Study Area	Leverage Daytime Testing or Minimize Nighttime Testing To the extent possible, the sirens testing should be maximized during daytime hours starting at a later time in the morning (6:30 a.m. or 7:00 a.m.) to minimize the nuisance of noise generated by night training.	Short Term					■	
NOI-3B	Stud	Study Area	Review, Alter, And Update Testing Activities For Ambulance Sirens Keesler AFB should consider altering testing schedules for the ambulance sirens to minimize noise to the neighboring communities based on weather conditions.	Short Term					■	
NOI-3C	Stud	Study Area	Alternate Testing Location Keesler AFB should consider siren testing at an alternate remote location on the base to reduce the sound transmission outside the installation.	Short Term					■	
NOI-4	Noise from Commercial Truck Traffic Commercial truck traffic using the temporary commercial gate on Bayview Street creates noise which impacts the adjacent residential neighbors in the Oak Park neighborhood.									
NOI-4A	Proj	Study Area	The permanent solution to this issue is the new commercial gate relocation project. Therefore, this issue is adequately addressed through current tools and no further action is needed.						■	

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other									
NOI-5	City of Biloxi Airport Noise Overlay Districts The City of Biloxi Airport Noise Overlay Districts do not incorporate the latest comprehensive land use guidance. The Districts are not identified on the Zoning Map for the public to reference.																		
NOI-5A	Plans	Noise MCA	Consider Updating Noise Attenuation Standards Consider updating the Land Development Ordinance to incorporate the comprehensive noise attenuation guidelines recommended in the most current Air Force land use compatibility guidance.	Mid Term		<div></div>													
NOI-6	Incompatible Development in Noise Contours Noise from activities at Keesler AFB has the potential to affect noise sensitive land uses surrounding the installation. Noise sensitive land uses and greater intensities in development within the Keesler AFB noise contours have the potential to impact mission-critical training.																		
NOI-6A	Zon	Noise MCA	Consider Encouraging the Inclusion of Sound Attenuation Building Standards for New Construction The city should consider promoting the inclusion of sound attenuation standards in building codes for new construction of noise-sensitive land uses located within the noise contours for aviation training and defined as being within the Noise MCA. One of the standards that should be considered to be promoted is the minimum sound transmission class (STC) rating of structure components in compliance with the table shown below. As an alternative to compliance with this table, structures shall be permitted to be designed and constructed so as to limit their interior noise level to no greater than 45 dB Ldn. Exterior structures, terrain and permanent plantings shall be permitted to be included as part of the alternative design. The alternative design shall be certified by an acoustical engineer. <table><tr><td></td><td></td><td></td></tr><tr><td>dB LDN</td><td>STC of Exterior</td><td>STC of Doors / Windows</td></tr><tr><td>65-69</td><td>39</td><td>25</td></tr></table>				dB LDN	STC of Exterior	STC of Doors / Windows	65-69	39	25	Mid Term		<div></div>				
dB LDN	STC of Exterior	STC of Doors / Windows																	
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NOI-6B	Prog	Noise MCA	Consider Developing a Voluntary Sound Attenuation Retrofit Program for Residential Uses Consider developing a program that provides guidance on sound attenuation standards for retrofitting existing residential and commercial facilities. The program can include grant opportunities available to assist property owners in retrofitting structures in noise-sensitive areas. Other funding sources for retrofitting homes should be identified and provided within the program materials as well.	Mid Term		■	■			
NOI-6C	Prog	Noise MCA	Update Property Conditions Disclosure The Real Estate Community should consider revising the State Property Conditions Disclosure to include documenting the location of property within noise zones associated with an airfield or airport runway. <i>Other: Gulf Coast Association of Realtors, Mississippi Real Estate Commission</i>	Mid Term						■
PUBLIC TRESPASSING										
PT-1	Trespassing along Eastern Perimeter of Keesler Air Force Base Concern for trespassing onto Keesler AFB, particularly along the eastern perimeter near the Judge Sekul Gate where incidences have historically occurred.									
PT-1A	MOU	Study Area	Develop MOU for Monitoring and Apprehending Trespassers Keesler AFB should coordinate with Harrison County Sheriff's Department and other local law enforcement agencies to assist in the monitoring and apprehending of trespassers that trespass on Keesler AFB. The initial apprehension would occur with Keesler AFB Military Police, and the trespassers would be transferred to the appropriate civil authorities to ensure appropriate prosecution. This would facilitate the safety of the public and maintain military readiness. <i>Other Partners: Harrison County Sheriff's Department, Biloxi Police Department</i>	Short Term		■		■	□	■
PT-1B	Comm	Study Area	Initiate "Eyes On Keesler AFB" Program Engage local community groups and jurisdictions to work with law enforcement agencies to create a Keesler Community Watch Program, whereby citizens and public safety officers that	On-going	■	■		■		□

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
PT-1B (continued)			witness trespassing onto Keesler AFB inform a designated point of contact at the base. <i>Other Partners: School districts, willing landowners</i>							
PT-1C	Zon	Study Area	Setbacks for Accessory Structures Consider revising the rear yard setback requirement for accessory structures to be consistent with primary structures for zoning districts that abut Keesler AFB.	Short Term		■			□	
ROADWAY CAPACITY										
RC-1	Traffic Congestion Outside of Keesler AFB Gates Traffic backs up at White Avenue Gate, Meadows Drive Gate, and along Forrest Avenue and Irish Hill Drive during rush hours.									
RC-1A	Stud	MCAOD	Prepare a Traffic Modeling Study for the Areas Immediately Surrounding Keesler AFB The Gulf Regional Planning Commission should coordinate with Mississippi Department of Transportation and Keesler AFB and the surrounding communities to prepare and develop a comprehensive traffic modeling study for the areas immediately around Keesler AFB to assess roadway capacity levels for egress and ingress to Keesler AFB. <i>Other Partners: Mississippi Department of Transportation</i>	Mid Term	■	□	□	□	□	□
RC-2	Traffic Generation at Commercial Gate Use of temporary commercial gate on Bayview Street creates heavy truck traffic in the Oak Park neighborhood.									
RC-2A	Prog	MCAOD	Traffic Public Education / Awareness Program Keesler AFB and the City of Biloxi should conduct public outreach and develop a public education program for the surrounding community regarding the new Division Street Gate and timeframe for completion. The program or information about the gate should be made available on jurisdictions' and the military installation's websites. <i>Other Partner: Mississippi Department of Transportation</i>	Short Term	□	■			□	□

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
RC-3	Significant Traffic during Temporary Base Gate Closures Temporary gate closures due to weather, on base training, or security events, create traffic congestion on White Avenue and Irish Hill Drive.									
RC-2A	Comm	MCAOD	Enhance Communication for Mitigating Local Transportation Enhance communication of developing extenuating conditions or situations between Keesler AFB and City of Biloxi can assist in quickly mitigating impacts to local traffic.	Short Term		■			□	
SAFETY ZONES										
SA-1	Incompatible Uses in Clear Zones and Accident Potential Zones Incompatible land uses in the Clear Zones and Accident Potential Zones create a safety concern.									
SA-1A	Zon	Safety MCA	Land Use Controls in Safety Zones The cities of Biloxi and D'Iberville should review current land use controls within Keesler AFB Military Compatibility Areas (Figures 13 through 17 of this Chapter); conduct land use regulatory workshops using planning case studies, practices and strategies used to resolve conflicts between Military Compatibility Areas and potential development; and develop revisions to the land use regulations including a Safety Overlay District to address land use compatibility in the CZs and APZs.	Short Term		■	■			
SA-1B	Prog	Safety MCA	Acquire Conservation Easements to Secure Buffer in Keesler AFB Airfield Safety Zones Participate in the Readiness and Environmental Protection Initiative (REPI) program and other buffering and conservation programs to purchase restrictive use easements, fee simple acquisition, or fee title to lands that present threat of encroachment and impact to military operations. The Air Force should identify potential REPI and other conservation partners, land that meets the REPI criteria, and identify willing sellers. <i>Other Partners: Partnership for Gulf Coast Land Conservation, Land Trust for the Mississippi Coastal Plain, Mississippi Land Trust, willing landowners, Mississippi Department of Environmental Quality, Mississippi Department of Marine Resources</i>	Long Term		□	□	□	■	□

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
SA-1C	Plans	Safety MCA	Redevelopment Plans for Safety Zone Areas Consider developing and adopting neighborhood redevelopment plans which create opportunities for expanded economic development while addressing encroachment in the CZs and APZs as well as neighborhoods impacted by Keesler AFB. Prioritize actions for implementation that result from the redevelopment plan.	Long Term		■	■		□	
SA-1D	Zon	Safety MCA	Transfer Development Rights Out of Safety Zones Consider program for property owners with land inside and outside safety zones to transfer development rights from sender sites inside safety zones to receiver site properties under the same ownership outside safety zones through development agreements.	Mid Term		■	■			
SA-1E	Prog	Safety MCA	Conduct Highway 90 Corridor Study Conduct a Highway 90 Corridor Study to identify impacts from the Keesler AFB mission footprint and opportunities for redevelopment. The corridor study should consider the development of character areas, design guidelines, zoning and funding strategies and an implementation plan.	Mid Term		■				
SA-2	Structures Located in Mandatory Frangibility Zone Structures located within the Mandatory Frangibility Zone sub-area of the south Clear Zone do not meet breakaway requirements.									
SA-2A	Prog	Safety MCA	Public Education Program for Mandatory Frangibility Zone Keesler AFB and the City of Biloxi should develop a public education program for private property owners within the Mandatory Frangibility Zone.	Short Term	■	■				
SA-3	Power Lines Located in South Clear Zone High tension power lines within the south Clear Zone are within eight feet of the glideslope for landing jet aircraft, posing a risk for arc flashes.									
SA-3A	Stud	Safety MCA	Conduct Study of Power Lines Keesler AFB, Mississippi Power, and the City of Biloxi should collaborate on a study to identify the specific area where power lines create a flight risk and the feasibility of relocating the power lines in this area.	Long Term	■				■	■

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
SA-4	Bird Attractants near Runway The flight path from Keesler AFB Runway (3/21) extends out over the Gulf of Mexico and Back Bay of Biloxi. Bird attractants, such as wetlands and tree canopies, are located on and around the installation and along with the Mississippi migratory bird flyway, creating the potential for bird aircraft strikes.									
SA-4A	Zon	BASH MCA	Amend Land Development Regulations for Bird / Wildlife Aircraft Strike Hazards The cities of Biloxi and D'Iberville should consider amending the Land Development Ordinance and Zoning Ordinance to regulate uses that are bird and wildlife attractants such as landfills, transfer stations, golf course water features and detention ponds, to reduce the potential for increased BASH incidents.	Mid Term		■	■			
VERTICAL OBSTRUCTIONS										
VO-1	Vertical Obstructions in Conflict with Imaginary Surface Criteria in the City of Biloxi There are structures including telecommunication towers within the City of Biloxi that exceed height restrictions per the FAA Imaginary Surfaces criteria.									
VO-1A	Zon	Vertical Obstruction MCA	Amend Land Development Ordinance for Height Hazards The City of Biloxi should amend the Airport Airspace Overlay in the Land Development Ordinance to specify the slopes and heights per the Code of Federal Regulations Title 14 Part 77 <i>Department of Defense Airport Imaginary Surfaces</i> for the Keesler AFB airfield and the definition of the Keesler AFB Existing Military Operations Surface (EMOS). The Land Development Ordinance should incorporate a map illustrating these areas per Strategy VO-1C "Foster Enhanced Planning Awareness of Keesler's Imaginary Surfaces and Existing Military Operations Surface Through Accurate Mapping". This strategy is linked to strategy LU-1A "Incorporate Military Compatibility Areas (MCAs) and Military Compatibility Area Overlay District (MCAOD) Information in Local Planning Documents" specifically development of a Vertical Obstruction MCA.	Short Term		■				
VO-1B	Zon	Vertical Obstruction MCA	Modify Telecommunication Tower Provisions of the Land Development Ordinance The City of Biloxi should modify the telecommunication tower provisions of the Land Development Ordinance to facilitate consistent, required coordination between multiple stakeholders. At a minimum, the provisions should include:	Short Term		■				

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
VO-1B (continued)			<ul style="list-style-type: none"> Contact information for all local government and military officials including name, phone number, and email address Identification of suitable and non-suitable areas for telecommunications towers Utilization of permit forms to aid in record keeping and formalization Options or incentives for operators that collocate Validation of proposed tower frequencies that might have changed since FAA review 							
VO-1C	Map	Vertical Obstruction MCA	Foster Enhanced Planning Awareness Of Keesler's Imaginary Surfaces and Existing Military Operations Surface Through Accurate Mapping Provide all of the surrounding local, county, regional and state governments with an accurate electronic height hazard map that depicts the Imaginary Surface criteria and Existing Military Operations Surface (EMOS) for the Keesler AFB airfield.	Short Term					■	
VO-1D	Zon	Vertical Obstruction MCA	Consider Developing a Zoning Height Limit to Assist in Management of Height Issues Related to Development Consider developing zoning height limitations to preserve the critical airspace around the Keesler AFB airfield. These height limits would be based upon the imaginary surface criteria in Strategy VO-1A "Amend Land Development Ordinance for Height Hazards", the Existing Military Operations Surface (EMOS) in Strategy VO-1C "Foster Enhanced Planning Awareness Of Keesler's Imaginary Surfaces and Existing Military Operations Surface Through Accurate Mapping", and the existing terrain data.	Mid Term		■			□	

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
VO-1E	Map	Vertical Obstruction MCA	Consider Developing a 3-Dimensional Model to Assist in Management of Height Issues Related to Development Develop a 3-dimensional GIS-based model that can accurately portray the height limitations on a given property to preserve the critical airspace around the Keesler AFB airfield. This model would be based upon the mapping developed in Strategy VO-1C "Foster Enhanced Planning Awareness of Keesler's Imaginary Surfaces and Existing Military Operations Surface Through Accurate Mapping". This model could be used early in the development review process for evaluating development applications.	Mid Term	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<input type="checkbox"/>	
VO-1F	Zon	Vertical Obstruction MCA	Coordination with Federal Aviation Administration (FAA) on Obstruction Evaluations The City of Biloxi should require an Obstruction Evaluation from the FAA as part of the application package for development subject to Title 14, Part 77 of the Code of Federal Regulations pertaining to imaginary surfaces including applications for temporary construction equipment.	Short Term		<input checked="" type="checkbox"/>				
VO-1G	Prog	Vertical Obstruction MCA	Existing Military Operations Surface in Federal Register Request the addition of the Keesler AFB Existing Military Operations Surface (EMOS) to the Federal Register. Adding it to the Register would legitimize it as military airspace that the FAA would consider in their reviews for Obstruction Evaluations.	Short Term					<input checked="" type="checkbox"/>	
VO-1H	Prog	Vertical Obstruction MCA	Develop Talking Paper on Vertical Obstructions Develop a talking paper on vertical obstructions that can be used to educate the community on vertical obstruction issues and to help decision-makers develop informed compatibility policy and regulatory solutions that protect community economic development and the military mission. The talking paper should consider an additional height buffer above the imaginary surfaces and Keesler AFB Existing Military Operations Surface (EMOS) to protect airspace used by the military.	Short Term	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
VO-2	Vertical Obstructions in Conflict with Imaginary Surface Criteria in the City of D'Iberville The City of D'Iberville does not have Comprehensive Plan policies or regulations in the Zoning Ordinance to manage development within the sloped Keesler AFB Imaginary Surface criteria.									
VO-2A	Zon	Vertical Obstruction MCA	Amend the City's Zoning Ordinance for Imaginary Surfaces Heights and Slopes The City of D'Iberville should amend its Zoning Ordinance to comply with the slopes and heights of the vertical obstruction guidelines in the Code of Federal Regulations Title 14 Part 77 and the <i>Department of Defense Airport Imaginary Surfaces</i> for the Keesler AFB airfield and the Keesler AFB Existing Military Operations Surface (EMOS). The Land Development Ordinance should incorporate a map illustrating these areas per Strategy VO-1C "Foster Enhanced Planning Awareness of Keesler's Imaginary Surfaces and Existing Military Operations Surface Through Accurate Mapping". This strategy is linked to strategy LU-1A "Incorporate Military Compatibility Areas (MCAs) and Military Compatibility Area Overlay District (MCAOD) Information in Local Planning Documents" specifically development of a Vertical Obstruction MCA.	Short Term			■			
VO-2B	Zon	Vertical Obstruction MCA	Develop Telecommunications Ordinance The City of D'Iberville should develop a Telecommunications Ordinance to facilitate consistent, required coordination between multiple stakeholders. At a minimum, the ordinance should include: <ul style="list-style-type: none"> ■ Contact information for all local government and military officials including name, phone number, and email address, ■ Identification of suitable and non-suitable areas for telecommunications towers ■ Utilization of permit forms to aid in record keeping and formalization ■ Decommissioning procedures and contact information ■ Options or incentives for operators that collocate ■ Validation of proposed tower frequencies that might have changed since FAA review 	Short Term			■			

Issue / Strategy ID #	Strategy Type	Geographic Area	Strategy	Timeframe to Initiate	Gulf Regional Planning Commission	City of Biloxi	City of D'Iberville	Harrison County	Keesler AFB	Other
VO-3	Existing Military Operations Surface Though the City of Biloxi has incorporated the Existing Military Operations Surface (EMOS) by reference along with a corresponding height hazard map in the Land Development Ordinance (LDO), the EMOS is not graphically depicted per the Air Force description. The City of D'Iberville does not acknowledge the EMOS.									
			For strategies that address the EMOS issue, see the following Strategies: <ul style="list-style-type: none"> ■ VO-1A "Amend Land Development Ordinance for Height Hazards" ■ VO-1C "Foster Enhanced Planning Awareness Of Keesler's Imaginary Surfaces and Existing Military Operations Surface Through Accurate Mapping" ■ VO-1D "Consider Developing a Zoning Height Limit to Assist in Management of Height Issues Related to Development" ■ VO-1F "Proof of FAA Notification" ■ VO-2A "Amend the City's Zoning Ordinance for Imaginary Surfaces Heights and Slopes" 							



