

## Air Installations Compatible Use Zones Program

The Department of Defense's (DoD's) Air Installations Compatible Use Zones (AICUZ) Program balances the needs of aircraft operations with community concerns by promoting compatible use of lands in the vicinity of military airfields. This is done to protect public health, safety, and welfare without degrading flight safety and mission requirements.<sup>1</sup> AICUZ studies analyze the effects of aircraft noise, aircraft accident potential, and land development on present and future neighbors of United States Air Force bases.

This brochure summarizes the Joint Base Langley-Eustis (JBLE) 2020 AICUZ Study, which provides an update to the 2007 Langley Air Force Base AICUZ Study and the 2007 U.S. Army Transportation Center Fort Eustis and Fort Story Installation Operational Noise Management Plan. The update documents changes in flight operations and noise contours and provides compatible land use guidelines for land areas surrounding JBLE.

Land close to JBLE may be exposed to increased noise levels and/or accident potential. Without compatible land use controls, development in the surrounding areas could result in incompatible uses that create conflicts between military flight operations and landowners.

## JBLE History and Mission

In 2010, Langley AFB and Fort Eustis were consolidated under the responsibility of the Air Force, becoming Joint Base Langley-Eustis (JBLE) in accordance with the 2005 Base Realignment and Closure Commission recommendation. The host unit of JBLE is the 633d Air Base Wing, an Air Force-led mission support wing that serves both Air Force and Army units. The primary mission performed at JBLE-Langley is the mission of the 1st Fighter Wing. JBLE-Eustis is a Training and Doctrine Command installation that provides training related to operations that require transportation modes, including rail, marine, and amphibious movements.



*The map on the back of this brochure shows noise zones, CZs, APZs, and surface danger zones for JBLE.*

## Economic Impact

The DoD provides direct, indirect, and induced economic benefits to local communities through jobs and wages. Benefits include employment opportunities, increases in local business revenue, and revenue from the sale and taxing of property. The annual economic impact of JBLE in the local economy was \$2.9 billion in 2018. JBLE directly employs 20,497 military and civilian personnel, with military dependents accounting for 7,162 personnel.<sup>2</sup>

## Noise Zones and Noise Metric

Under the AICUZ Program, the DoD provides noise zones to define noise exposure. Noise exposure is measured using the Day-Night Average Sound Level (DNL), which is the standard metric used by many government agencies (e.g., the United States Environmental Protection Agency, Federal Aviation Administration) to address aircraft noise.

The DNL metric is based on the number of annual average daily aircraft operations over a 24-hour period. A 10-decibel (dB) adjustment is included in the DNL metric for aircraft noise occurring between 10:00 p.m. and 7:00 a.m. because people are more sensitive to noise at night.

## Clear Zones and Accident Potential Zones

The DoD also provides Clear Zones (CZs) and Accident Potential Zones (APZs) as planning tools for local agencies. CZs and APZs define the areas where an aircraft accident is likely to occur, if an accident occurs - they are not predictors of accidents. While the chances of an accident are remote, mishaps do occur and proper land use planning can reduce risk to persons on the ground.

- **CZ:** a 3,000-foot square area centered on the end of the runway.
- **APZ I:** a 3,000-foot-wide by 5,000-foot-long area beyond the Clear Zone and along the extended runway centerline.
- **APZ II:** a 3,000-foot-wide by 7,000-foot-long area beyond APZ I and along the extended runway centerline.

The DoD also provides JBLE's surface danger zones and noise zones associated with the JBLE-Eustis small arms ranges. A surface danger zone depicts the space necessary for containment of projectiles, fragments, and debris from the firing of a ground weapons system or demolition activity.

## Hazards to Aircraft Flight Zone

Certain land uses and activities can pose potential hazards to flight. These land uses and activities may include:

- Uses that would attract birds, especially waterfowl;
- Towers, structures, and vegetation that penetrate navigable airspace or are to be constructed near the airfield;
- Lighting (direct or reflected) that would impair pilot vision;
- Uses that would generate smoke, steam, or dust; and
- Electromagnetic interference (EMI) with aircraft communication, navigation, or other electrical systems.

The Air Force has identified a Hazards to Aircraft Flight Zone (HAFZ) within the imaginary surfaces of the runway to address these concerns.<sup>4</sup> Unlike noise zones, CZs, and APZs, the HAFZ does not have recommended land use compatibility (see the Compatible Development section). Instead, the HAFZ is a consultation zone within which the Air Force requests that project applicants and local planning bodies consult with the Air Force to ensure the project is compatible with installation operations.

<sup>1</sup>The Air Force's guidance on the AICUZ Program can be found in Air Force Instruction 32-1015 (2019).

<sup>2</sup>Joint Base Langley-Eustis Economic Impact Analysis Fiscal Year 2018.

<sup>3</sup>Maps of Joint Base Langley-Eustis flight tracks are available in the AICUZ Study.

<sup>4</sup>Imaginary surfaces are described in Unified Facilities Code 3-260-01 and 14 Code of Federal Regulations Part 77.17.

## Compatible Development

The AICUZ Program includes guidelines for land use within noise zones, CZs, APZs, and surface danger zones. These guidelines are shown in the tables below. In general, the DoD recommends that noise-sensitive land uses be placed outside of high noise zones and that people-intensive uses not be placed within APZs. Near JBLE-Langley, existing land uses in these areas are generally compatible with some areas of residential, commercial, industrial, institutional and other types of land use that are incompatible or incompatible with exceptions. The noise zones, CZs, APZs, and surface danger zones for JBLE-Eustis are either within the installation boundary or over water.

Land development should be compatible with noise zones, CZs, APZs, and surface danger zones around military airfields and small arms ranges. Although the military can serve in an advisory capacity, local governments control development beyond the boundaries of JBLE.

*The map on the back of this brochure shows the 2020 AICUZ footprint for JBLE and existing land use around the installation.*

### Land Use Classification and Compatibility Guidelines

GENERALIZED LAND USE CATEGORY	NOISE ZONE (dB DNL)						CZ	APZ I	APZ II
	<65	65-69	70-74	75-79	80-84	85+			
Residential, including Mixed Use Residential	Yes	No <sup>1</sup>	No <sup>1</sup>	No	No	No	No	No	No <sup>1</sup>
Commercial	Yes	Yes	Yes <sup>2</sup>	Yes <sup>2</sup>	No	No	No	Yes <sup>2</sup>	Yes <sup>2</sup>
Industrial, including Mixed Use Industrial	Yes	Yes	Yes	Yes	Yes <sup>2</sup>	No	No	Yes <sup>2</sup>	Yes <sup>2</sup>
Institutional	Yes	Yes <sup>2</sup>	Yes <sup>2</sup>	Yes <sup>2</sup>	No	No	No	No	Yes <sup>2</sup>
Agriculture	Yes	Yes <sup>2</sup>	No	Yes <sup>2</sup>	Yes <sup>2</sup>				
Vacant	Yes	Yes <sup>2</sup>	No	Yes <sup>2</sup>	Yes <sup>2</sup>				
Parks, Open Space, & Greenways	Yes	Yes <sup>2</sup>	Yes <sup>2</sup>	No	No	No	No	Yes <sup>2</sup>	Yes <sup>2</sup>

Key: No Incompatible No<sup>1</sup> Incompatible with exceptions  
Yes Compatible Yes<sup>2</sup> Compatible with restrictions

Source: Adapted from AFI 32-1015 (2019), refer to AICUZ Study Appendix A for details

### Land Use Classifications and Compatibility for Small Arms Noise

GENERALIZED LAND USE CATEGORY	NOISE ZONE (dB PK15)		
	<87	87-104	>104
Residential, including Mixed Use Residential	Yes	No <sup>1</sup>	No
Commercial	Yes	Yes <sup>2</sup>	Yes <sup>2</sup>
Industrial, including Mixed Use Industrial	Yes	Yes <sup>2</sup>	Yes <sup>2</sup>
Institutional	Yes	Yes <sup>2</sup>	Yes <sup>2</sup>
Agriculture	Yes	Yes <sup>2</sup>	Yes <sup>2</sup>
Vacant	Yes	Yes <sup>2</sup>	Yes <sup>2</sup>
Parks, Open Space, & Greenways	Yes	No	No

Key: No Incompatible No<sup>1</sup> Incompatible with exceptions  
Yes Compatible Yes<sup>2</sup> Compatible with restrictions

Source: Adapted from AFI 32-1015 (2019), refer to AICUZ Study Appendix A for details

## Based and Transient Aircraft Utilizing Joint Base Langley-Eustis

The types of aircraft operating at JBLE include fixed-wing (airplanes and jets) and rotary wing (helicopters).

### Fixed-wing Aircraft



**F-22 Raptor** The F-22 Raptor is assigned to JBLE-Langley as part of the 1st Fighter Wing and is the Air Force's fifth-generation fighter aircraft.



**F-16 Fighting Falcon** The F-16 Fighting Falcon is a fighter aircraft that temporarily visits JBLE-Langley.

### Rotary-wing Aircraft



**AH-64 Apache** The AH-64 Apache is a twin-engine, four bladed, multi-mission attack helicopter assigned to JBLE-Eustis.



**Sikorsky CH-53E** The Sikorsky CH-53E Super Stallion is a heavy-lift helicopter flown by both the Navy and Marine Corps that visits JBLE-Eustis.

# Air Installations Compatible Use Zones (AICUZ) Brochure for Joint Base Langley-Eustis

Virginia



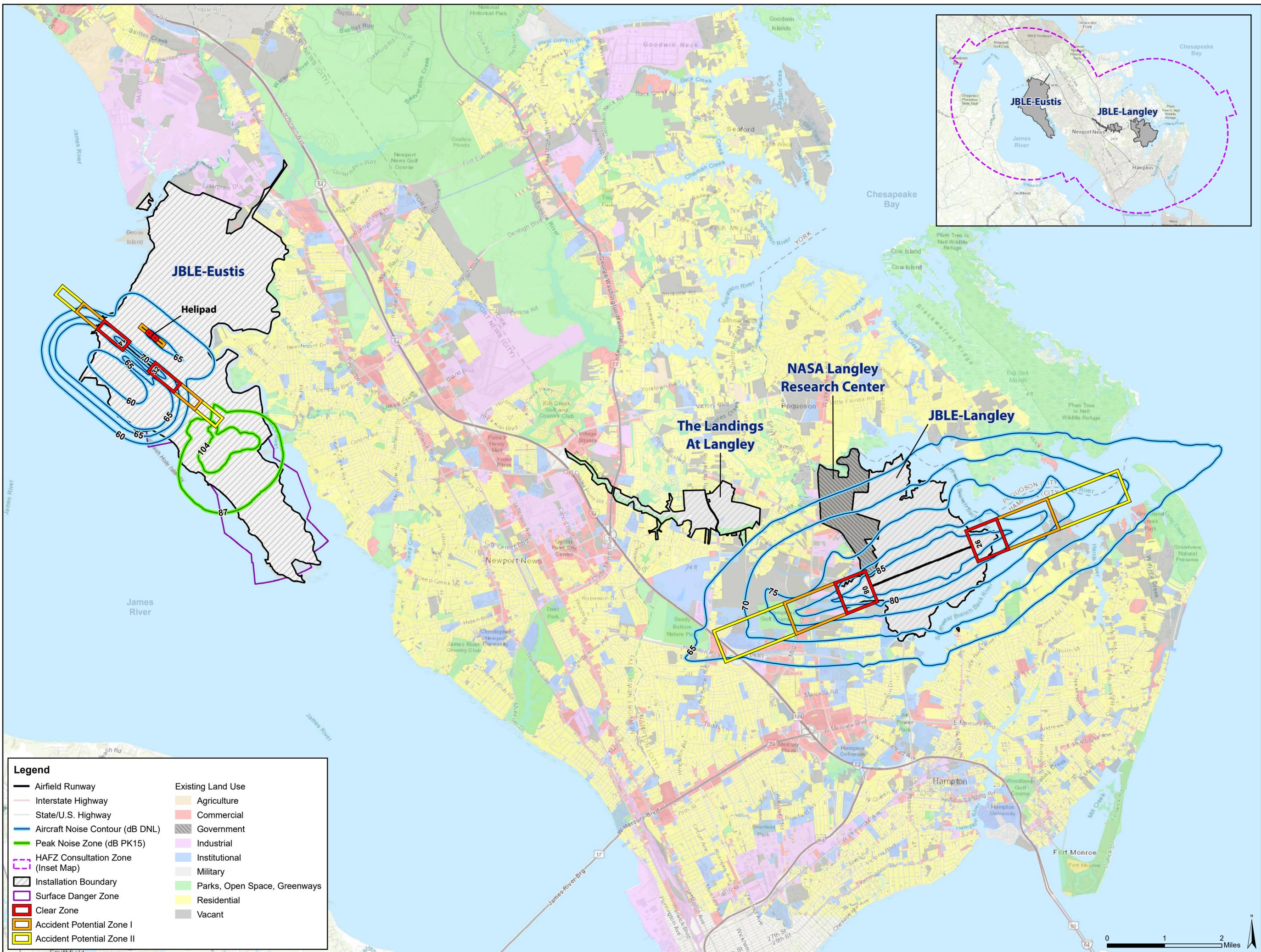
U.S. AIR FORCE

# 2020

## For More Information:

Concerned citizens are encouraged to contact the 633d Air Base Wing Public Affairs (PA) Office with any noise complaints. You can reach the PA Office at (757) 764-5701 or the 733d MSG Public Affairs Office at (757) 878-6115.

JBLE also posts information, including alerts about upcoming aircraft operations that are able to be shared publicly, on the installation website and social media pages.  
 Website: <<https://www.jble.af.mil/>>  
 Facebook: <<https://www.facebook.com/JointBaseLangleyEustis>>  
 Twitter: <<https://twitter.com/JBLEstatus>>



Note: The aircraft operations and small arms operations noise contours shown on this map use different noise metrics. Please see the appropriate land use tables in Section 6.4 of the AICUZ Study for more information.