

CHARLESTON AFB JOINT LAND USE STUDY II

NARRATIVE

Since the 1995 closure of the Charleston Naval Base, Charleston has emerged as a model joint military complex that saves money, increases efficiency, shares resources, and benefits from security of local ports and installations. In 2005, U.S. military operations in the tri-county region of Berkeley, Charleston, and Dorchester counties accounted for over 28,000 direct jobs and total annual economic impact of \$4.4 billion.

The military presence is second only to tourism as the region's primary economic driver. The United States Navy is once again the region's largest employer with over 16,200 full time employees. The Charleston Air Force Base ranks third in the region with 5,600 employees. In addition, the U.S. Army Material Command Combat Equipment Group located on the Charleston Naval Weapons Station employs over 500 (See Attachment for more detail).

Present military real estate in the Charleston region is largely confined to the Air Force Base (AFB) and the Naval Weapons Station (NWS), together totaling over 20,000 acres in Berkeley and Charleston Counties. As a mandate of the 2005 Base Realignment and Closure (BRAC) process, the AFB and the NWS are transitioning to a "joint basing" management model, which will combine the bases under the Air Force command.

Given the enormous economic benefits that these two military bases provide the Berkeley-Charleston-Dorchester Region, it is of great importance to ensure that they remain viable installations. A Joint Land Use Study examines land uses surrounding military bases, with the purpose of providing future guidance to prevent pressure on the bases from surrounding development; and to limit negative impacts of base operations on surrounding communities.

The Berkeley-Charleston-Dorchester Council of Governments, as the sponsoring agency, is requesting assistance from the Department of Defense's Office of Economic Adjustment to conduct a new and current Joint Land Use Study for Charleston Air Force Base.

Statement of Need

A Joint Land Use Study (JLUS) was conducted in 1993 for Charleston Air Force Base. Fortunately, Charleston AFB survived the Department of Defense's 1995 and 2005 Base Realignment and Closures. However, as air operations increase, and the populations and development of land within surrounding communities continue to increase, a new JLUS is needed to evaluate these changes and take a proactive step towards limiting incompatible development.

Additionally, as the Air Force Base and Naval Weapons Station move to the new joint-base structure, the JLUS will need to incorporate the operations and land use issues of the Naval Weapons Station. Although air operations at NWS are limited to occasional helicopter flights, this installation presents other issues to its surroundings that were not accounted for in the 1993 JLUS – including explosive arcs and road ownership issues.

The addition of the Weapons Station to the JLUS process will also require heavier participation from its two bordering municipalities – Goose Creek and Hanahan, as well as Berkeley County, in which the base lies completely within.

AICUZ Studies

The Air Installation Compatible Use Zone Study promotes compatible land use in areas subject to aircraft noise and accidents. The AICUZ designates Runway Clear Zones and Accident Potential Zones (APZ) based on runway locations. It also establishes noise level contours for areas that encounter average decibel levels above 65. These are calculated and mapped using NOISEMAP computer models that take into account flight paths and flight frequencies.

The 1993 JLUS for Charleston AFB used information from the 1992 AICUZ report. The most recent AICUZ, published in 2004, reflects changes to air operations from 1993-2002, along with future projections of operations. The 2004 AICUZ notes the following changes since the 1992 study:

- Increase in the number of C-17 aircraft
- Increase in the number of nighttime (10pm – 7am) aircraft operations
- Addition, elimination, and modification of aircraft flight tracks to correspond to flying operations changes
- Technical improvements to the NOISEMAP computer modeling program

Although the Clear Zones and APZs remain the same, noise contours differ somewhat from those of the 1992 study. A 4% reduction in total acreage within the noise zones occurred from 1992-2002; however, the shape of the noise contours have changed significantly, and some areas experienced an increase in noise. The upcoming JLUS will need to take into account the changes in the noise zone, particularly where noise intensity has increased.

Other New Data

In addition to the new AICUZ study, there is a multitude of new data that must be taken into consideration. Since the 1993 JLUS, Geographic Information Systems (GIS) have become readily available analysis tools for land planners. Having GIS shapefiles for land parcels, explosive arcs, noise contours and accident potential zones will be a great asset for the next JLUS – and more efficient and accurate levels of analysis will be possible. Additionally, the affected counties and municipalities have new and/or updated comprehensive plans, zoning ordinances and land parcel databases that need to be taken into consideration for this JLUS. The more up-to-date the information used in the JLUS, the more likely the study can be effective in achieving its goals.

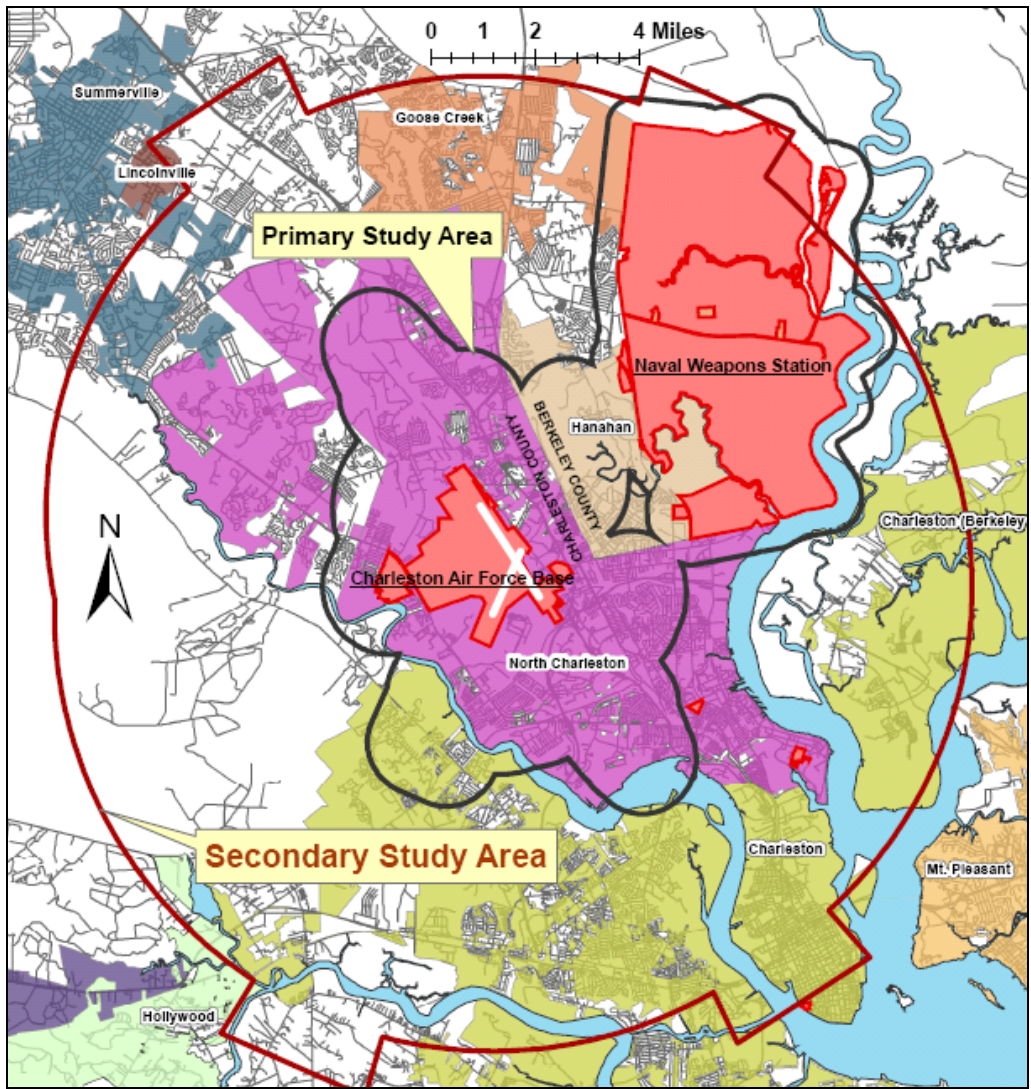
Study Area Changes

In the previous JLUS, two study areas were defined. Study Area A included jurisdictions that crossed the boundaries of the accident potential zones and noise contours of the Air Force Base – Charleston, North Charleston, Hanahan, and Charleston County. This was the primary area of focus in the study, and it recommended land use policies for this area. A larger study area radiating out from the AFB, Study Area B, included

jurisdictions further from the base, where only height limit restrictions would apply, and did not include land use policies. This secondary study area, in addition to those in Study Area A, included Berkeley County, Dorchester County, Goose Creek, Lincolnville and Summerville.

Because the JLUS now includes the Naval Weapons Station, the primary study area (A) will need to include Berkeley County and Goose Creek, where it did not before. Additionally, because the town of Hollywood has expanded its boundaries in the last 15 years, it is now located within the radius of height restricted areas of the AFB, and so it will be added to the secondary study area (B).

The study areas for Charleston AFB JLUS II are shown in the map below. The primary study area is defined by 1 mile outward of the Air Force Base AICUZ areas, and ½ mile out from the boundaries of the Naval Weapons Station. The secondary area encompasses the AFB's outer horizontal surface, which extends 30,000 feet outward from the runways and requires a 500-foot height clearance.



Increasing Population & Development

According to population estimates from the U.S. Census Bureau in July 2005, Charleston and Berkeley Counties are now home to 330,000 and 151,000 residents, respectively. The Cities of North Charleston, Goose Creek, and Hanahan have populations of 86,300, 32,500, and 13,800, respectively. Once small bedroom communities, all three cities are experiencing rapid growth - especially North Charleston and Goose Creek - as the region's population is redistributed from the traditional urban core to the surrounding periphery, where infrastructure and housing are less expensive. Below is a population table of the counties and municipalities in the primary study area, which shows their 1990 & 2000 census populations, as well as the U.S. Census Bureau's most recent population estimate (July 2005).

| BCD Population Trends, 1990-2000, 2005 | | | | | |
|---|------------------|------------------|--------------------|----------------------|-------------------|
| Jurisdiction | 1990 | 2000 | Chg.(90-00) | %Chg. (90-00) | 2005 est.* |
| Charleston | 80,414 | 96,650 | 16,236 | 20% | 106,712 |
| Goose Creek | 24,692 | 29,208 | 4,516 | 18% | 32,516 |
| Hanahan | 13,176 | 12,937 | (239) | -2% | 13,818 |
| North Charleston | 70,218 | 79,641 | 9,423 | 13% | 86,313 |
| Berkeley County | 128,776 | 142,651 | 13,875 | 11% | 151,673 |
| Charleston County | 295,039 | 309,969 | 14,930 | 5% | 330,368 |
| BCD Region | 506,875 | 549,033 | 42,158 | 6% | 583,434 |
| South Carolina | 3,486,703 | 4,012,012 | 525,309 | 15% | 4,198,068 |

Sources: 1990-2000 US Censuses

*Based on July 2005 population estimates from the Population Division, U.S. Census Bureau

As these communities continue to grow, development increases, furthering the risk of encroachment on the military installations. According to the Charleston Metro Chamber of Commerce, permits for new residential units in the Charleston region grew from 4,684 in 2001 to 8,366 in 2004. During that same time period, permits for non-residential units grew from 1,012 to 1,229. This growth creates additional encroachment by both residential and commercial units around the existing footprints of the AFB and NWS. The following are potential areas of land use or infrastructure conflicts in proximity to Charleston Air Force Base and Charleston Naval Weapons Station.

Potential encroachment problems affecting the AFB include:

1. *Center Pointe Development* – large new commercial and retail development, most of which is located in both the accident potential zone and 70+ decibel level noise zones of the AFB and the Charleston International Airport. Existing tenants include a Super Wal-Mart, Sam's Wholesale Club, and Tanger outlet mall. Future plans for the development include additional office and commercial-retail space.

2. Vought/Alenia Aeronautics Complex – new industrial space located adjacent to the AFB and the Charleston International Airport. Opening in 2006, the first phase of the operation includes the addition of over 1 million square feet of new manufacturing space and the creation of more than 600 new jobs. Vought and Alenia will manufacture and assemble portions of Boeing's new 787 aircraft. Adjoining property is currently being marketed to potential suppliers.

Potential issues affecting the NWS include:

1. Red Bank Road – transects the NWS property (east to west). An easement (expiring within the next 5 years) is currently provided to the S.C. Department of Transportation. This road is heavily traveled, serving as a main access point to the Bushy Park industrial area. Large industries such as AGFA, Bayer, and DuPont operate at Bushy Park. Red Bank Road's condition is deteriorating and is currently in need of resurfacing and intersection improvements. The Navy is also requesting that this road be widened to accommodate increased traffic due to a new medical clinic (soon to be under construction) and expected increases in operations.
2. Goose Creek Residential Growth – new construction in the Goose Creek area is soaring, with 5 new communities underway adjacent or within close proximity to the NWS boundaries. Brickhope Plantation, located off Liberty Hall Rd., will consist of 1175 single-family lots, 525 multi-family/town home lots, 27 acres of commercial land and 3 parks. Coker's crossing, off of Montague Plantation Rd. will consist of 2 phases and will total 92 lots. Falling Leaf, a smaller community also off of Montague Plantation Rd., will consist of 17 home sites. Quail Hill, between Either Dr. and Stephanie Dr. in the Boulder Bluff area, will contain 137 homes. Finally, Longleaf Plantation, off of Liberty Hall Rd., contains 4 phases and will have 337 home sites once completed.

New Approaches for 2nd JLUS

Joint Land Use Study II for Charleston AFB will take a more proactive approach towards limiting incompatible development. Whereas the 1st JLUS simply listed and recommended various land use strategies, the 2nd JLUS will thoroughly develop land use tools that can be adopted by the study area jurisdictions, and included as amendments to their comprehensive plans and/or zoning ordinances. A couple of land use tools that are likely to be developed by this study are:

1. Transfer of Development Rights (TDR) Program – In this program, development rights could be bought from land within the AICUZ noise and accident zones. These development rights could then be used to increase the density or development intensity on another property within 'receiving zones' designated by the TDR program. The project team intends to research TDR programs and determine if one would be appropriate as a land use tool for the study area.
2. Military Installation Overlay Districts – The JLUS will develop overlay zoning districts for land parcels surrounding the installations. The regulations of the overlay districts will supplement the underlying zoning to create additional regulations that limit incompatible development. This would include restrictions

on height, density, use, or lot coverage. The JLUS will recommend specific amendments to local land use regulations, and the project team will provide assistance to local governments to incorporate these revisions.

Public Participation

Additionally, heavier public participation is expected for this Joint Land Use Study. There are several ways that the new JLUS will attempt to get more public input into the process, including public information brochures, a webpage, surveys, and a forum for public feedback.

- ***Public information brochures*** – these will be distributed to residents, business owners, and land owners surrounding the bases. The purpose will be to inform residents of the purpose of the JLUS process and list the schedule for public meetings
- ***Public meetings*** – public information meetings will be held throughout the JLUS process, providing an opportunity for business owners, land owners, developers, real estate professionals, the media, and the general public, to learn about the JLUS, ask questions, and voice their concerns.
- ***Surveys*** – A survey of residents and business owners in the study area could provide information about noise and other military operation impacts, as perceived by those in the area. It would also provide information as to whether or not these people are aware that they are in noise or accident zones, and if they signed real estate disclosures regarding these zones.
- ***Website*** – A JLUS website would provide maps and information about the JLUS, as well as provide an e-mail forum for public feedback and questions.

Base Descriptions

Charleston Air Force Base

The AFB is located entirely in the City of North Charleston in Charleston County. Adjacent to the south is the Charleston International Airport, with which the base shares certain airfield facilities, including two runways. The AFB is home to the 437th Airlift Wing and the 315th Reserve Airlift Wing.

According to the *Charleston Air Force Base: Economic Impact Analysis Fiscal Year 2002*, the facility employs 7,842 workers, of which approximately 1,309 are civilians. In addition, a total of 3,739 individuals, including dependents, live on base in 1,352 family housing units and seven dormitories. Roughly 20% of all military employees live on base. Total building holdings cover 1,167 acres and comprise 4,882,745 square feet. In 2002, the value of all capital assets was valued at \$281,006,582, including \$278,923,773 for buildings and real property and \$2,082,809 for land.

Charleston AFB is a joint-use airfield, sharing two intersecting runways with Charleston International Airport (CHS). The primary runway is 9,001 feet long and the intersecting runway is 7,000 feet long. The AFB maintains the two runways and most of the taxiways, and security and crash rescue response for all flights. CHS can accommodate

the operation of the largest commercial aircraft in use today. During 2004, the airport had 912,604 enplanements and 915,993 deplanements, and a total of 123,689 aircraft operations, including 36,902 military operations.

The 437th AW is the host unit at the AFB and flies the Boeing C-17 Globemaster III aircraft. The C-17 Globemaster III is the newest, most flexible cargo aircraft to enter the airlift force. The C-17 is capable of rapid strategic delivery of troops and all types of cargo to main operating bases or directly to forward bases in the deployment area. The aircraft can perform tactical airlift and airdrop missions and can also transport litters and ambulatory patients during aeromedical evacuations when required. The inherent flexibility and performance of the C-17 force improve the ability of the total airlift system to fulfill the worldwide air mobility requirements of the United States.

The 437th Airlift Wing is comprised of four groups:

- 437th Operation Group distinguishes itself by projection of America's global reach through direct delivery, airdrop and air refueling.
- 437th Maintenance Group dedicated to performing organizational and intermediate-level maintenance on all assigned C-17 aircraft; also provides total logistics support for the wing.
- 437th Mission Support Group provides morale, welfare, security, housing, lodging, engineering, communications, food services, disaster preparedness, and much more base support for 61 organizations.
- 437th Medical Group supports combat readiness through training quality-managed health care for area beneficiaries.

437th Airlift Wing includes a variety of agencies that directly support the wing commander, group commanders, and the base population. Three tenant units also share the base, 315th Airlift Wing (AFRC), 1st Combat Camera Squadron, and 373rd Training Squadron, AETC.

Charleston AFB is constantly involved in the Denton Amendment program flying humanitarian aid on available missions to worldwide destinations in more than 13 countries. From October 1, 2001 to September 30, 2002, the Denton program moved 428,534 lbs in 25 missions. Charleston AFB either prepared or moved 80 percent of the cargo for the Denton program. Charleston has seven 60-K Tunnner loaders that can easily transport and load heavy, palletized cargo on all aircraft. Additionally, the AFB has more than 4,821 computers and 636 government owned vehicles.

Naval Weapons Station

The NWS is located north of the Charleston peninsula in the Cities of Goose Creek and Hanahan, both in Berkeley County. The property includes more than 1,770 buildings comprising over 11 million square feet and is valued at over \$1 billion.

Commissioned in 1941, the NWS had two distinct missions: as home for two strategic submarine squadrons and a tender, and as an ordnance station with capacity for more than 60 million pounds conventional ordnance. The ordnance mission continues today, and NWS Charleston is the only military installation in the continental U.S. with completely unencumbered explosive safety arcs.

NWS has expanded its mission and DoD support role, and today is home to the following units: 841st Transportation Battalion, Atlantic Ordnance Command Detachment Charleston, U.S. Army Material Command Combat Equipment Group (Afloat), and Mobile Mine Assembly Unit 11. The Station also serves as a training center, with the Naval Nuclear Power Training Command, Nuclear Power Training Unit and Border Patrol satellite academy; an engineering command; and Space and Naval Warfare Systems Center (SPAWAR).

SPAWAR Charleston operates as the U.S. Navy's most efficient systems center with a cost to contract at 61-percent below the Navy's average, according to Navy reports. SPAWAR Charleston has 1,300 employees, including more than 600 degreed engineers, and supplies work for more than 5,000 contractors.

As mentioned before, the Weapons Station will be incorporated under Air Force command as a joint base in 2007.

Goals of the Study

This Joint Land Use Study document will not only serve as an update to the 1993 JLUS, using the most current and accurate information available; it will also take a more proactive stance towards limiting incompatible land use by developing and recommending specific land use tools and policies for implementation. The process will include heavier input from the public, and it will take on new issues by including the Naval Weapons Station.

The resulting document's goal will be to ensure the continued viability of the two military installations, so that they may continue to operate effectively and contribute to the regional economy. The JLUS process will result in a study that can guide local jurisdictions in the application of planning and development of land use controls and policies that support the ongoing military missions of the AFB and NWS. The study is also anticipated to help educate local leaders and the general public about the contributions, ongoing missions, and future potential of the region's military installations. Additionally, it is hoped that there will be increased communication between the localities of the region. This would help the communities of the BCD Region work better together towards the good of the region as a whole, for not only this Joint Land Use Study, but any collaborative efforts in the future.