



# 28th Bomb Wing

2008 Economic Impact Analysis





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# Ellsworth Organizations

## HOST: 28th Bomb Wing

### 28th Bomb Wing

Commander/Vice Commander  
Chaplain  
28th Comptroller & Contracting Squadron  
Equal Employment Opportunity  
Flight Safety  
Grounds Safety  
Historian  
Inspector General  
Judge Advocate  
Manpower Office  
Museum  
Public Affairs  
Treaty Compliance Office  
Sexual Assault Reponse Coordinator  
Weapons Safety  
Wing Operations Center

### 28th Operations Group

34th Bomb Squadron  
37th Bomb Squadron  
28th Operations Support Squadron

### 28th Maintenance Group

28th Aircraft Maintenance Squadron  
28th Maintenance Squadron  
28th Maintenance Operations Squadron  
28th Munitions Squadron

### 28th Mission Support Group

28th Civil Engineer Squadron  
28th Communications Squadron  
28th Contracting Squadron  
28th Force Support Squadron  
28th Logistics Readiness Squadron  
28th Security Forces Squadron

### 28th Medical Group

28th Medical Support Squadron  
28th Medical Operations Squadron

### Associate Units

Area Defense Council  
Army-Air Force Exchange Service  
Air Force Audit Agency  
Air Force Financial Services Center  
Air Force Junior ROTC  
American Red Cross  
Defense Commissary Agency  
Defense Investigative Service  
Defense Reutilization and Marketing Office  
Detachment 3, Combat Command (AFIT)  
Detachment 8, 372d Training Squadron  
Detachment 226, AFOSI  
Raytheon Support Services Company  
USAF Judiciary 4th Circuit  
Belle Fourche Electronic Scoring Site  
(Lockheed-Martin)  
82nd Weapons of Mass Destruction  
Civil Support Team

## COMMANDER'S FORWARD


Ellsworth is home to America's "roving linebacker" bomber -- the mighty and versatile B-1B Lancer. It is one of only two operational bases to possess this lethal combat platform. We maintain these airframes, keep our Airmen trained and ready and practice our real-world mission of putting bombs on target. This commitment and dedication ensures our wartime readiness to deliver precise airpower in any combat theater anywhere in the world at the direction of the combatant commander.

The 28th Bomb Wing is more than just the B-1, it's a team that makes the success of the B-1 mission possible -- a professional military organization comprised of outstanding people doing outstanding things. Servicemembers here define excellence and hold unlimited potential to exceed the demands of tomorrow. Ellsworth is committed to empowering its people to do the right thing, the right way, at the right time and at the right cost.

This Economic Impact Analysis details the benefit of Ellsworth's partnership with our surrounding communities in the beautiful Black Hills. However, our kinship with the local area branches beyond simple economics. Our installation has always enjoyed a working relationship with our local civic leaders based on a spirit of sincere respect and support. Our Airmen and their families have truly embraced our community by lending a little more than 6,000 total hours of their off-duty time to more than 40 local charity and volunteer organizations.

The excellent atmosphere of community relations is demonstrated regularly through continued interaction with the community at events ranging from parades to reunions. Ellsworth also participates in the Military Affairs Committee and involves more than 10 civic leaders in base events as honorary commanders. In reflection, many businesses here offer military discounts and hold military appreciation days for servicemembers and their families. The lateral support between Ellsworth and our local township is top-notch and I am proud to call this community my home.

The information in this guide will answer your economic questions about Ellsworth. Identical values and a sense of patriotism solidify the relationship between our Airmen and the surrounding areas. Our individual communities will grow stronger in the future as we continue to work together.



Scott A. Vander Hamm, Col., USAF  
Commander, 28th Bomb Wing





# Air Combat Command

## Values, Vision and Mission

### CORE VALUES

Integrity First, Service Before Self, Excellence in All We Do

### VISION

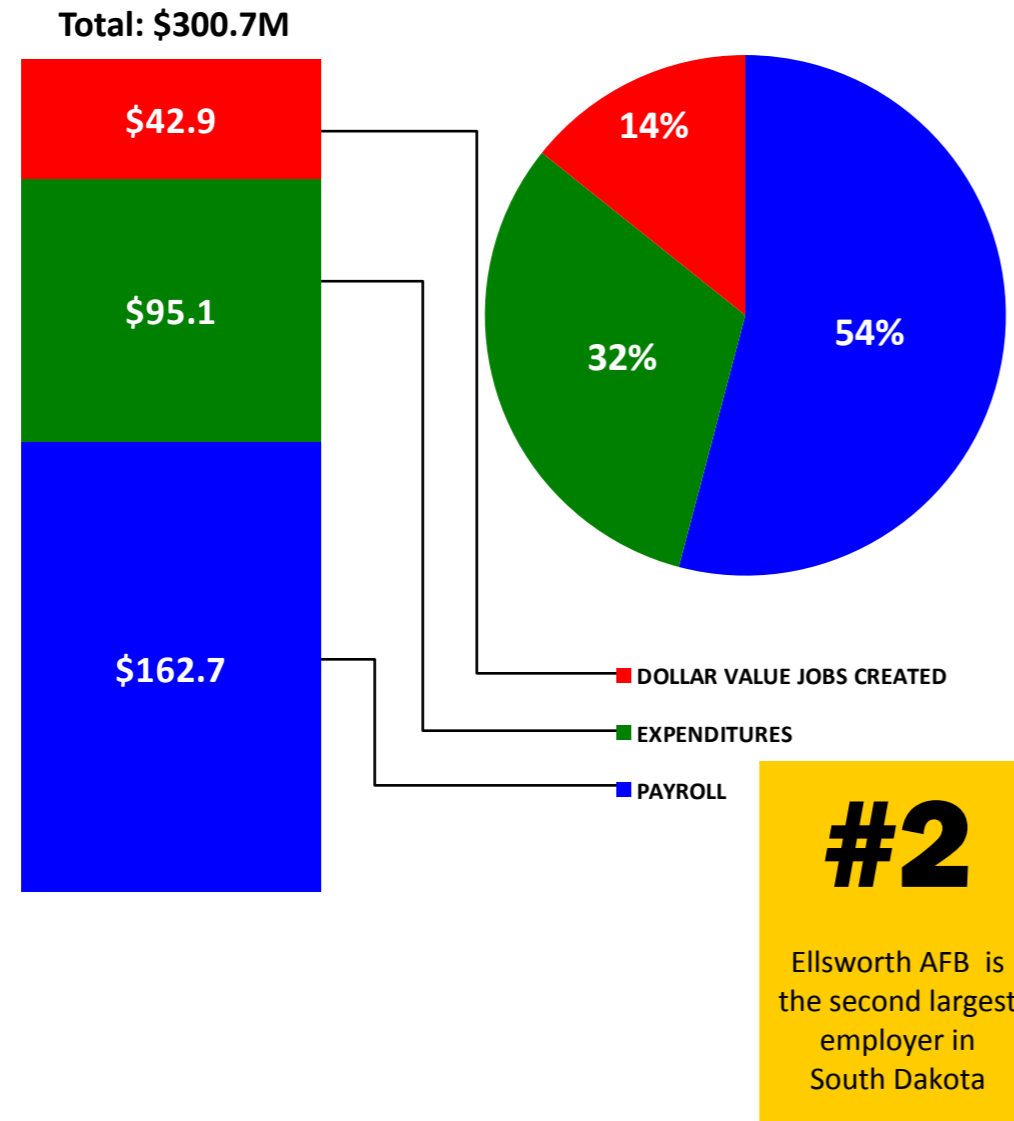
Air Force People Building the World's Most Respected Air and Space Force — Global Power and Reach for America

### MISSION

Air Combat Command Professionals Providing the World's Best Air Forces by Delivering Rapid, Decisive and Sustainable Airpower



# Total Economic Impact (\$M)



**#2**  
 Ellsworth AFB is the second largest employer in South Dakota

### QUICK FACT

*Ellsworth is the second-largest employer in South Dakota and the largest in the West River region.*

*The Douglas School District is the eleventh-largest of 165 in the state.*

# 28th Bomb Wing Values, Vision and Mission

### CORE VALUES

Integrity First, Service Before Self, Excellence in All We Do

### VISION

To be the "backbone" of global engagement for the 21st century

### MISSION

Deliver decisive combat power for global response



FROM THE  
COMPTROLLER

This Economic Impact Analysis for Ellsworth Air Force Base is prepared annually by the Financial Analysis Flight to provide information to the public concerning our significant economic impact on the local area. Items addressed include: personnel assigned to or employed by the base; annual payroll of all assigned and employed personnel; expenditures for construction, services, and procurement of materials, equipment and supplies; and estimated number and dollar value of indirect jobs created by Ellsworth's presence.

This statement should provide the reader with an understanding of the vital economic and personal relationship between Ellsworth AFB and the surrounding communities.

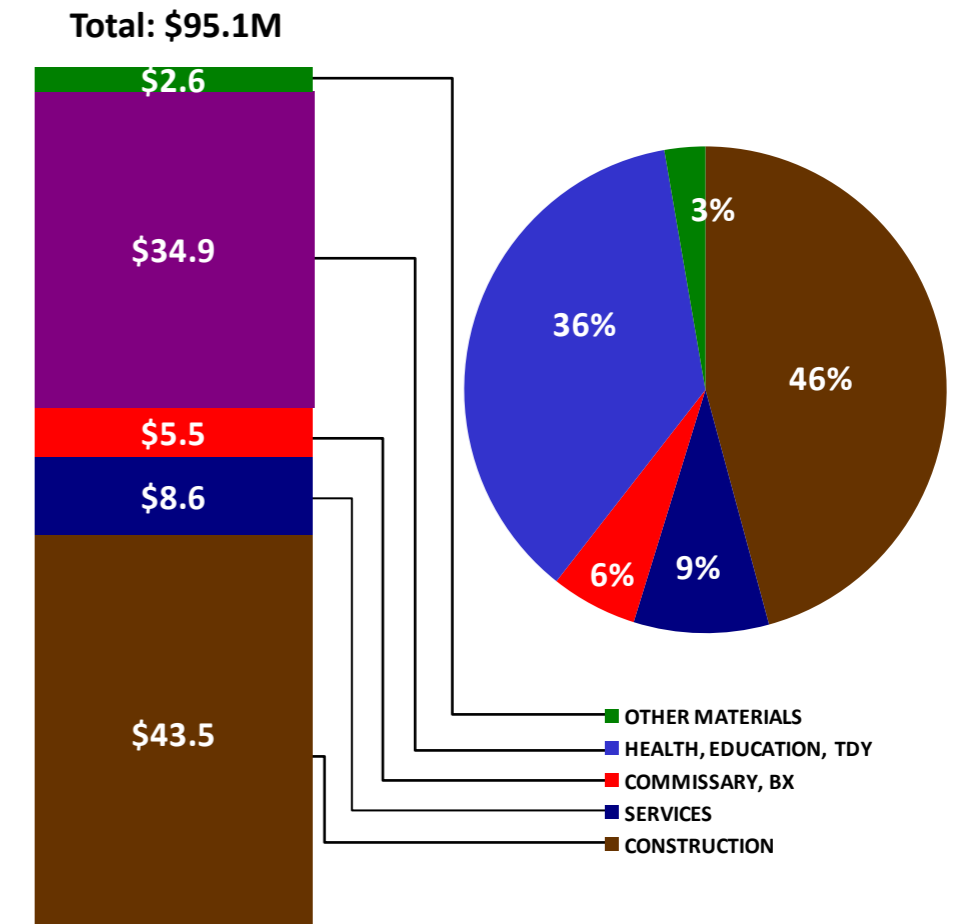


Lisa M. Stanley, Capt., USAF  
Chief, Financial Analysis



Christine M. Wasdin, Lt. Col., USAF  
Commander, 28th Comptroller and Contracting Squadron

## Direct Expenditures (\$M)

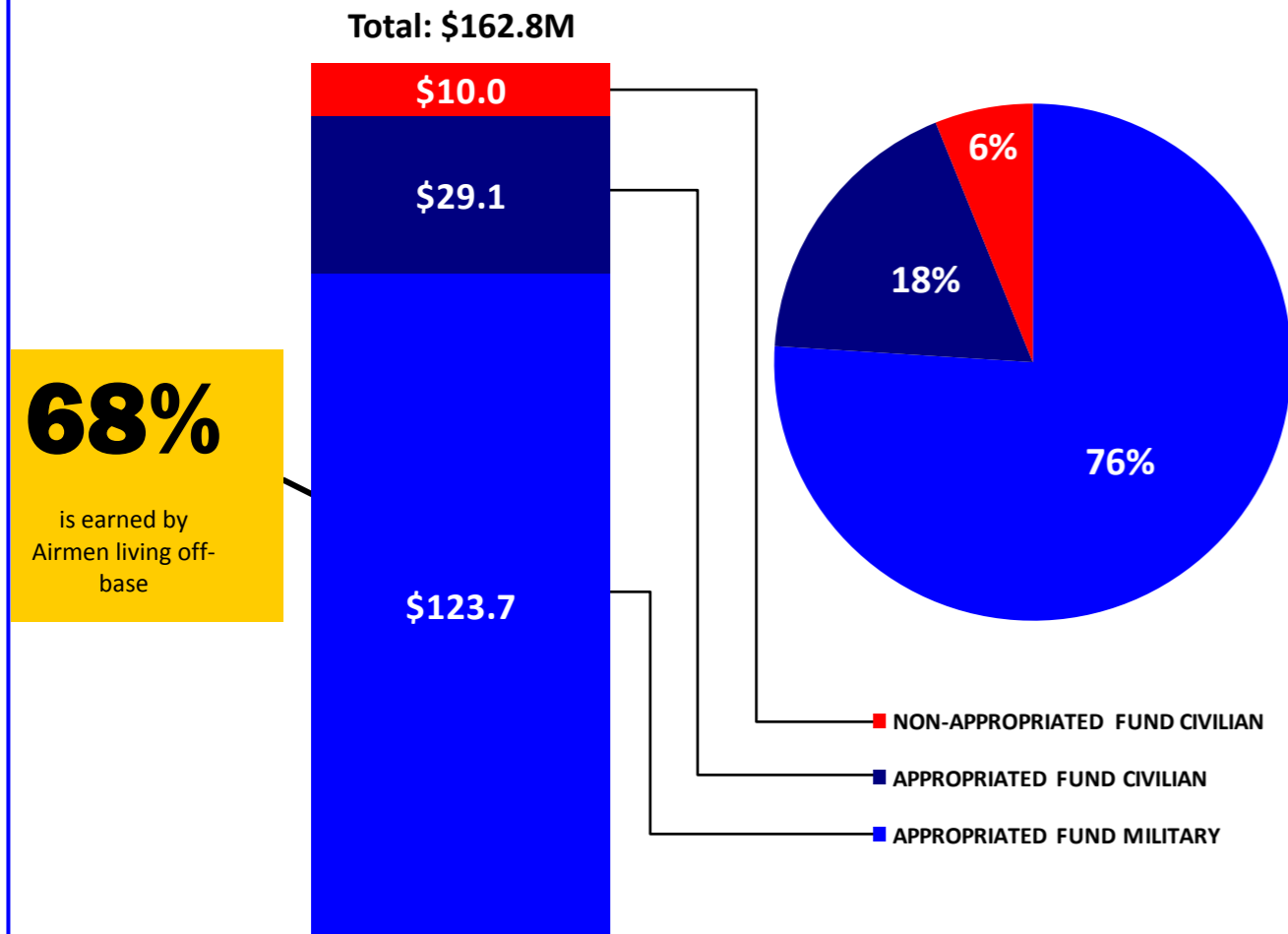


### QUICK FACT

Ellsworth Air Force Base has a robust, active small and local business program to maximize the amount of funds that go to small and disadvantaged businesses. The base is actively tracked by Air Combat Command and Headquarters, U.S. Air Force to ensure that, whenever possible, contract awards go to local or historically challenged business.



## Payroll (\$M)



### QUICK FACT

*Military pay is centrally managed at the Air Force level. Civilian pay is locally managed based on a fair share of the total Air Combat Command CIVPAY budget. Civilian pay is budgeted based upon total Unit Manning Document authorizations and an average workyear cost derived from prior year estimates. Non-appropriated civilian pay is set, drawn directly from funds earned through operations of 28th Force Support Squadron activities.*



## METHODOLOGY

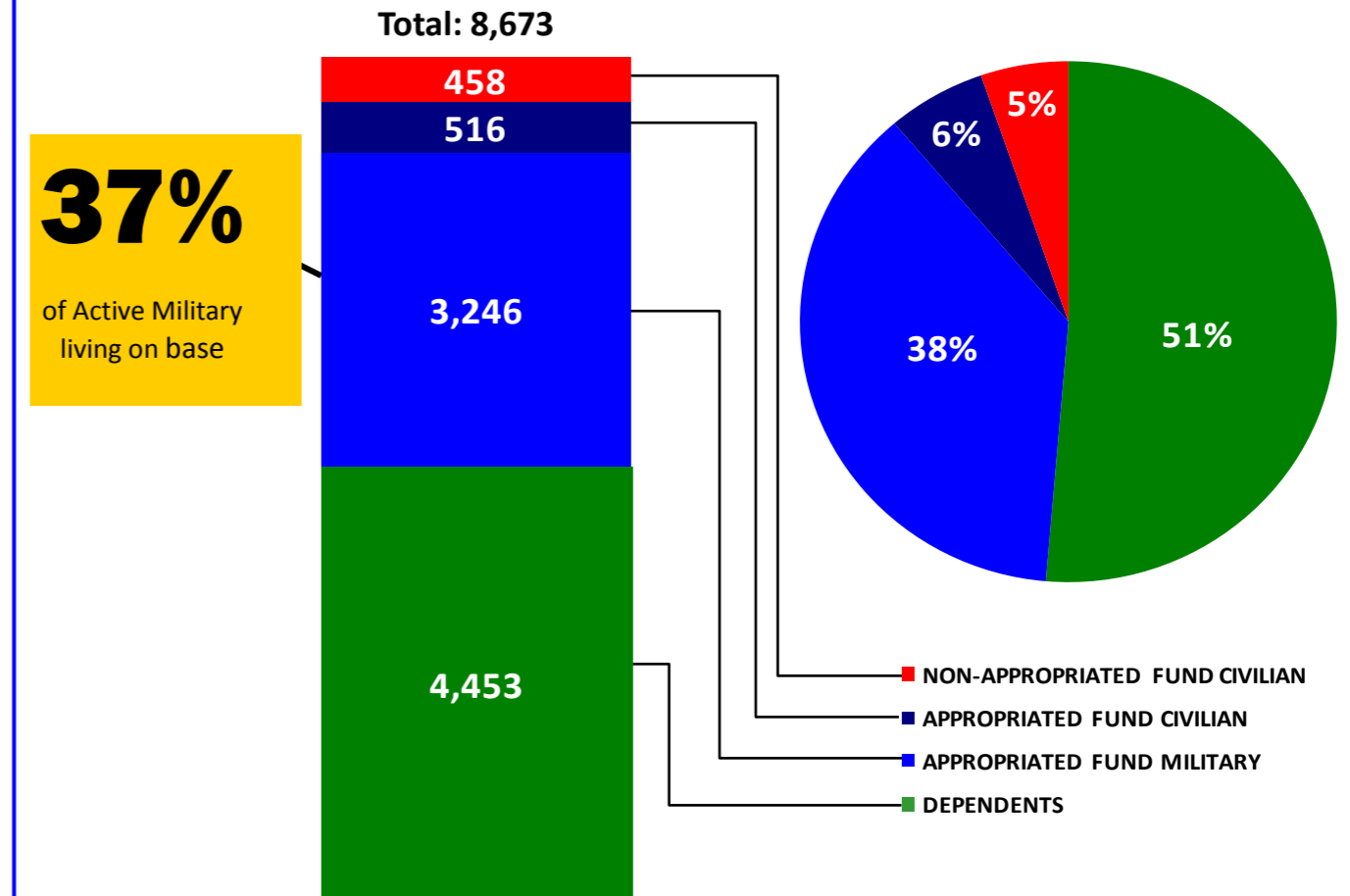
The total economic impact of a base on its economic area is computed by summing annual base payroll, annual base expenditures, and the estimated dollar value of indirect jobs created. An economic area is generally defined as a Metropolitan Statistical Area (MSA). Each MSA has unique indirect job multipliers that are calculated by the Bureau of Labor Statistics (BLS) and are used to estimate the value of the indirect jobs created. The average annual pay for the local area was obtained from the Rapid City Chamber of Commerce, using South Dakota Employment Security Commission Labor Market Information Division data. This analysis was prepared using a Secretary of the Air Force Directorate of Economic and Business Management (SAF/FMCE) program that was developed within the parameters of the Office of the Secretary of Defense's Economic Impact Analysis model. The economic impact takes into account both Appropriated Funds (APF) and Non-Appropriated Funds (NAF).

## AVAILABILITY OF INFORMATION

This Economic Impact Analysis (EIA) provides key information about the resources and economic impact Ellsworth AFB has on the surrounding communities. Release of this document to non-military individuals must be approved by the Public Affairs Office at Ellsworth AFB SD commercial (605) 385-5056 or DSN 675-5056. Questions concerning the content of this analysis should be directed to the Public Affairs Office.

Information contained in this analysis is current as of 30 September 2008. This analysis was prepared by 28 CPTS/FMA, Laurie Paulsen at DSN 675-1541, 2 Lt Paul Parmenter at DSN 675-1549, and Senior Airman Anthony Coudriet at DSN 675-1560 or commercial (605) 385-1541 or 1560.

## Personnel



## QUICK FACT

*Non-appropriated funds personnel are employed by the Ellsworth Morale and Recreation fund; they watch our children, run our recreation facilities and help ensure the readiness of the force. The funding for these employees is not directly appropriated by Congress, but is generated by the activities on base and grants from AAFES taken from Base Exchange profits.*



## Table 4

### Estimate of Indirect Jobs Created

TYPE OF PERSONNEL	TOTAL BASE JOBS	Multiplier	TOTAL INDIRECT JOBS
Active-Duty Military	3,246	0.29	941
Reserve/Air National Guard/Trainees	-	0.13	-
Appropriated Fund Civilians	516	0.43	222
Other Civilians	458	0.43	197
<b>TOTAL:</b>	<b>4,220</b>		<b>1,360</b>

ESTIMATED NUMBER OF INDIRECT JOBS CREATED: 1,360

LOCAL COMMUNITY AVG ANNUAL PAY: \$ 31,540

**ESTIMATED ANNUAL DOLLAR VALUE OF JOBS CREATED: \$ 42,894,400**

## Table 5

### Total Economic Impact Estimate

PERSONNEL COSTS			
Military		\$	123,652,298
Federal Civilian		\$	29,092,151
Other Civilian		\$	9,977,194
<b>TOTAL ANNUAL PAYROLL:</b>		<b>\$</b>	<b>162,721,643</b>
ANNUAL DIRECT EXPENDITURES			
<b>TOTAL ANNUAL EXPENDITURES:</b>		<b>\$</b>	<b>95,105,520</b>
ESTIMATED ANNUAL DOLLAR VALUE OF JOBS CREATED			
Estimated Indirect Jobs Created			1,360
Average Annual Pay	x	\$	31,540
<b>TOTAL VALUE OF JOBS CREATED:</b>		<b>\$</b>	<b>42,894,400</b>
TOTAL ANNUAL ECONOMIC IMPACT ESTIMATE			
<b>GRAND TOTAL:</b>		<b>\$</b>	<b>300,721,563</b>

## B-1B Lancer

### Fact Sheet

#### MISSION

Carrying the largest payload of both guided and unguided weapons in the Air Force inventory, the multi-mission B-1 is the backbone of America's long-range bomber force. It can rapidly deliver massive quantities of precision and non-precision weapons against any adversary, anywhere in the world, at any time.

#### FEATURES

The B-1's blended wing and body configuration, variable-geometry wings and turbofan afterburning engines, combine to provide long range, maneuverability and high speed while enhancing survivability. Forward wing settings are used for takeoff, landings, air refueling and in some high-altitude weapons employment scenarios. Aft wing sweep settings — the main combat configuration — are typically used during high subsonic and supersonic flight, enhancing the B-1's maneuverability in the low- and high-altitude regimes. The B-1's speed and superior handling characteristics allow it to seamlessly integrate in mixed force packages. These capabilities, when combined with its substantial payload, excellent radar targeting system, long loiter time and survivability, make the B-1 a key element of any joint/composite strike force. The B-1 weapon system is capable of creating a multitude of far-reaching effects across the battlefield.

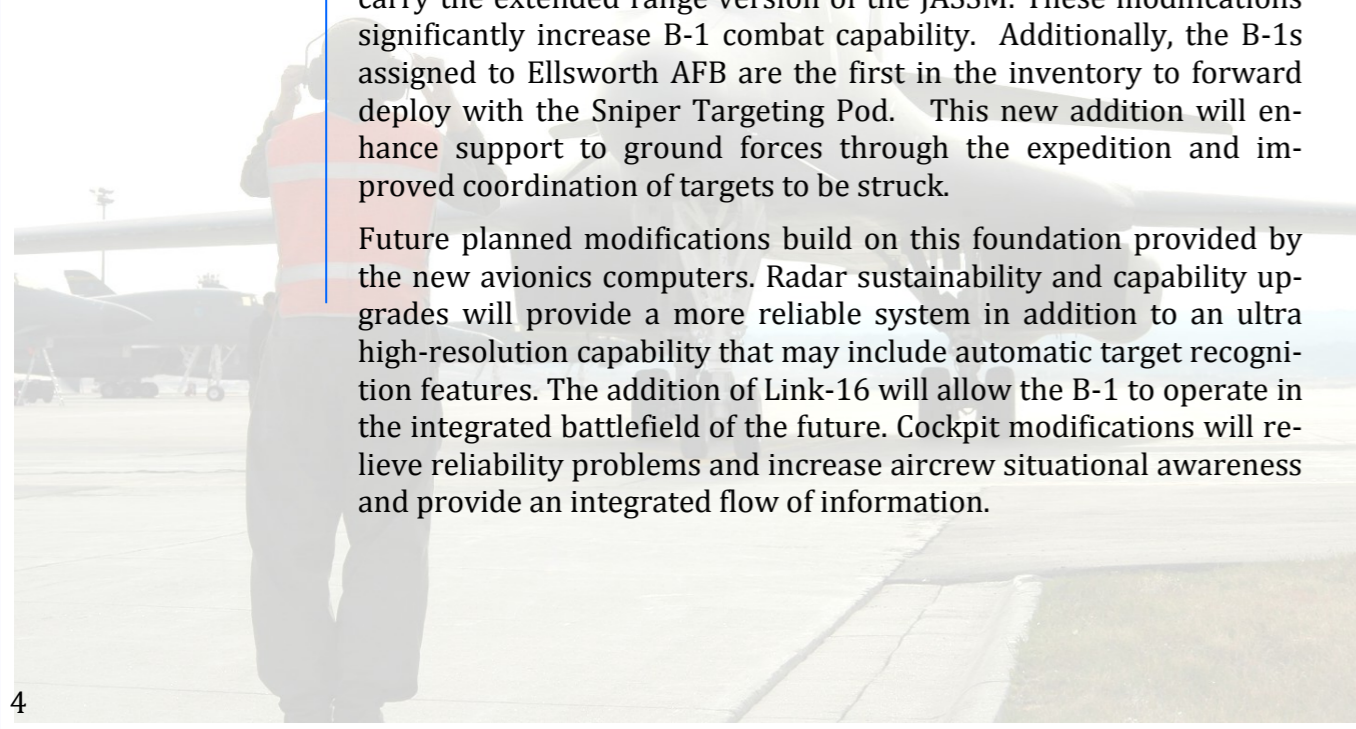
The B-1 is a highly versatile, multi-mission weapon system. The B-1's offensive avionics system includes high-resolution synthetic aperture radar, capable of tracking, targeting and engaging moving vehicles as well as self-targeting and terrain-following modes. In addition, an extremely accurate Global Positioning System-aided Inertial Navigation System enable aircrews to autonomously navigate globally, without the aid of ground-based navigation aids as well as engage targets with a high level of precision. The recent addition of Combat Track II radios permit an interim secure beyond line of sight reach back connectivity until Link-16 is integrated on the aircraft. In a time sensitive targeting environment, the aircrew can receive targeting data from the Combined Air Operations Center over CT II, and then update mission data in the offensive avionics system to strike emerging targets rapidly and efficiently. This capability was effectively demonstrated during operations Enduring Freedom and Iraqi Freedom.

The B-1's self-protection electronic jamming equipment, radar warning receiver (ALQ-161) and expendable countermeasures (chaff and flare) system complements its low-radar cross-section to form an integrated, robust onboard defense system that supports penetration of hostile airspace. The ALQ-161 electronic countermeasures system detects and identifies the full spectrum of adversary threat emitters then applies the appropriate jamming technique either automatically or through operator manual inputs. Chaff and flares are employed against radar and infrared threat systems.

B-1 capabilities are being enhanced through the completion of the Conventional Mission Upgrade Program. This program has already improved lethality by adding the ability to carry up to 30 cluster munitions (CBU-87, -89, -97), a Global Positioning System receiver, an improved weapons interface that allows the carriage of Joint Direct Attack Munitions guided weapons and advanced secure radios (ARC-210). Survivability is enhanced through the addition of the ALE-50 Towed Decoy System which decoys advanced radar guided surface-to-air and air-to-air missile systems.

The CMUP adds improved avionics computers which allow the employment of additional advanced guided precision and non-precision weapons: 30 Wind-Corrected Munitions Dispensers (CBU-103, -104, -105 WCMD), 12 AGM-154 Joint Standoff Weapons or 24 AGM-158 Joint Air-to-Surface Standoff Missile. The B-1 will be able to carry and employ any mix of these weapons (a different type of weapon in each of the three weapons bays). The B-1 will also be the first platform to carry the extended range version of the JASSM. These modifications significantly increase B-1 combat capability. Additionally, the B-1s assigned to Ellsworth AFB are the first in the inventory to forward deploy with the Sniper Targeting Pod. This new addition will enhance support to ground forces through the expedition and improved coordination of targets to be struck.

Future planned modifications build on this foundation provided by the new avionics computers. Radar sustainability and capability upgrades will provide a more reliable system in addition to an ultra high-resolution capability that may include automatic target recognition features. The addition of Link-16 will allow the B-1 to operate in the integrated battlefield of the future. Cockpit modifications will relieve reliability problems and increase aircrew situational awareness and provide an integrated flow of information.



**Table 3**  
**Expenditures for Construction, Services and Procurement of Materials, Equipment and Supplies<sup>1</sup>**

CLASSIFICATION	ACTUAL ANNUAL EXPENDITURES
<b>1. CONSTRUCTION</b>	
Military Construction Program	\$ 8,546,000
Non-Appropriated Fund	\$ 137,320
Military Family Housing	\$ 21,400,000
O&M	\$ 12,397,840
Clinic	\$ 231,000
Other	\$ 800,277
<b>TOTAL:</b>	<b>\$ 43,512,437</b>
<b>2. SERVICES</b>	
Services Contracts *	\$ 4,068,807
Other Services (not included elsewhere)	\$ 4,549,187
<b>TOTAL:</b>	<b>\$ 8,617,994</b>
<b>3. MATERIAL, EQUIPMENT, AND SUPPLY PROCUREMENT</b>	
Commissary	\$ 11,820
Base Exchange (BX)	\$ 5,490,364
Health (TRICARE, Government cost only)	\$ 25,208,166
Education (Impact aid and tuition assistance)**	\$ 7,898,117
TDY	\$ 1,768,404
Other Materials, Equipment & Supplies (not included elsewhere)	\$ 2,598,218
<b>TOTAL:</b>	<b>\$ 42,975,089</b>
<b>TOTAL ANNUAL EXPENDITURES:</b>	<b>\$ 95,105,520</b>

<sup>1</sup> Does not include contracts for services supplied to other Air Force installations

\* Includes only contracts in the local economic area or contracts requiring the use of locally supplied goods and services.

\*\* Includes monies owed from previous year from Dept of Education



**Table 2**

**Annual Payroll by Classification and Housing Location**

CLASSIFICATION	LIVING ON BASE	LIVING OFF BASE	TOTAL
<b>1. APPROPRIATED FUND MILITARY</b>			
Active-Duty Military	\$ 39,648,933	\$ 84,003,365	\$ 123,652,298
Air Force Reserve/Air National Guard	\$ -	\$ -	\$ -
Non-Extended Active Duty Reserve/Air Nat'l Guard	N/A	N/A	\$ -
Trainees/Cadets	N/A	N/A	\$ -
<b>TOTAL:</b>	<b>\$ 39,648,933</b>	<b>\$ 84,003,365</b>	<b>\$ 123,652,298</b>
<b>2. APPROPRIATED FUND CIVILIANS</b>			
General Schedule		\$ 21,081,617	
Federal Wage Board		\$ 6,450,817	
Other *		\$ 1,559,717	
<b>TOTAL:</b>		<b>\$ 29,092,151</b>	
<b>3. NON-APPROPRIATED FUND CONTRACT CIVILIANS AND PRIVATE BUSINESS EMPLOYEES</b>			
Civilian Non-Appropriated Fund (NAF)		\$ 2,724,023	
Civilian Base Exchange (BX)		\$ 1,745,362	
Contract Civilians (not included elsewhere)		\$ 4,519,441	
Private Businesses On Base, By Type:			
Credit Union		\$ 470,505	
Other Civilians (not included elsewhere)		\$ 517,863	
<b>TOTAL:</b>		<b>\$ 9,977,194</b>	
<b>TOTAL ANNUAL PAYROLL:</b>		<b>\$ 162,721,643</b>	

\* Defense Commissary Agency (DECA) employee wages

**BACKGROUND**

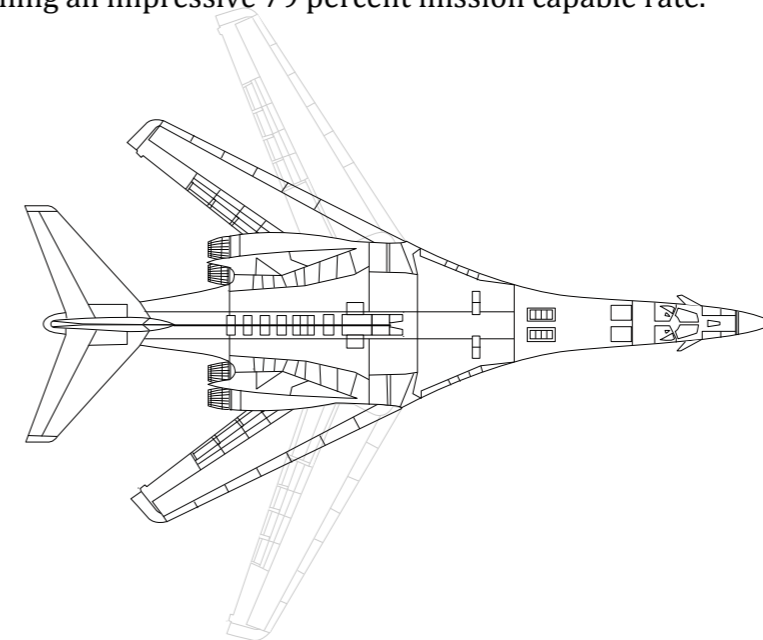
The B-1A was initially developed in the 1970s as a replacement for the B-52. Four prototypes of this long-range, high speed (Mach 2.2) strategic bomber were developed and tested in the mid-1970s, but the program was canceled in 1977 before going into production. Flight testing continued through 1981.

The B-1B is an improved variant initiated by the Reagan administration in 1981. Major changes included the addition of additional structure to increase payload by 74,000 pounds, an improved radar and reduction of the radar cross section by an order of magnitude. The inlet was extensively modified as part of this RCS reduction, necessitating a reduction in maximum speed to Mach 1.2.

The first production B-1 flew in October 1984 and was delivered to Dyess Air Force Base, Texas, in June 1985. Initial operational capability was achieved on Oct. 1, 1986. The final B-1 was delivered May 2, 1988.

The B-1 holds almost 50 world records for speed, payload, range, and time of climb in its class. The National Aeronautic Association recognized the B-1 for completing one of the 10 most memorable record flights for 1994. The most recent records were made official in 2004.

The B-1 was first used in combat in support of operations against Iraq during Operation Desert Fox in December 1998. In 1999, six B-1s were used in Operation Allied Force, delivering more than 20 percent of the total ordnance while flying less than 2 percent of the combat sorties. Eight B-1s were deployed in support of Operation Enduring Freedom. B-1s dropped nearly 40 percent of the total tonnage during the first six months of OEF. This included nearly 3,900 JDAMs, or 67 percent of the total. All of this was accomplished while maintaining an impressive 79 percent mission capable rate.



**GENERAL  
CHARACTERISTICS**

**Primary Function:** Long-range, multi-role heavy bomber

**Contractor:** Boeing, North America (formerly Rockwell International, North American Aircraft); Offensive avionics, Boeing Military Airplane; Defensive avionics, EDO Corporation

**Power Plant:** Four General Electric F101-GE-102 turbofan engine with afterburner

**Thrust:** 30,000-plus pounds with afterburner, per engine

**Wingspan:** 137 feet (41.8 meters) extended forward, 79 feet (24.1 meters) swept aft

**Length:** 146 feet (44.5 meters)

**Height:** 34 feet (10.4 meters)

**Weight:** approximately 90,000 pounds (86,183 kilograms)

**Maximum Takeoff Weight:** 477,000 pounds (216,634 kilograms)

**Fuel Capacity:** 265,274 pounds (120, 326 kilograms)

**Payload:** 75,000 pounds (34,019 kilograms)

**Speed:** 900-plus mph (Mach 1.2 at sea level)

**Range:** Intercontinental

**Ceiling:** More than 30,000 feet (9,144 meters)

**Armament:** 24 GBU-31 GPS-aided JDAM (both Mk-84 general purpose bombs and BLU-109 penetrating bombs) or 24 Mk-84 2,000-pound general purpose bombs; 8 Mk-85 naval mines; 84 Mk-82 500-pound general purpose bombs; 84 Mk-62 500-pound naval mines; 30 CBU-87, -89, -97 cluster munitions; 30 CBU-103/104/105 WCMD, 24 AGM-158 JASSMs or 12 AGM-154 JSOWs

**Crew:** Four (aircraft commander, copilot and two weapon systems officers)

**Unit Cost:** \$283.1 million (fiscal 98 constant dollars)

**Initial Operating Capability:** October 1986

**Inventory:** Active force, 64 (test, 2); ANG, 0; Reserve, 0

**POINT OF  
CONTACT**

**Air Combat Command, Public Affairs Office;** 115 Thompson Street, Suite 211; Langley AFB, VA 23665-1987  
 DSN 574-5014 or (757) 764-5014  
 e-mail: acc.pai@langley.af.mil

**Table 1  
Personnel by Classification and Housing Location**

CLASSIFICATION	LIVING ON BASE	LIVING OFF BASE	TOTAL
<b>1. APPROPRIATED FUND MILITARY</b>			
Active-Duty Military		2,055	3,246
Air Force Reserve/Air National Guard		0	0
Non-Extended Active Duty Reserve/Air Nat'l Guard		0	0
Trainees/Cadets	N/A	N/A	0
<b>TOTAL:</b>		<b>2,055</b>	<b>3,246</b>
<b>2. ACTIVE DUTY MILITARY DEPENDENTS</b>			
		2,653	4,453
<b>TOTAL:</b>		<b>2,653</b>	<b>4,453</b>
<b>3. APPROPRIATED FUND CIVILIANS</b>			
General Schedule			366
Federal Wage Board			106
Other *			44
<b>TOTAL:</b>			<b>516</b>
<b>4. NON-APPROPRIATED FUND CONTRACT CIVILIANS AND PRIVATE BUSINESS</b>			
Civilian Non-Appropriated Funds (NAF)			189
Civilian Base Exchange (BX)			89
Contract Civilians (not included elsewhere)			138
Private Businesses On Base, By Type:			
Branch Banks/Credit Union			14
Other Civilians (not included elsewhere)			28
<b>TOTAL:</b>			<b>458</b>
<b>TOTAL PERSONNEL:</b>			<b>8,673</b>



Part III  
Wing Economic Impact



Part II  
Wing Assets





## Description of Capital Assets

As of 30 September 2008

DESCRIPTION OF CAPITAL ASSETS					
<b>LAND</b>				<b>ACRES</b>	
On-base				5,409	
Off-base				2,511	
<b>TOTAL:</b>				<b>7,920</b>	
<b>RUNWAY</b>				<b>FEET</b>	
Length				13,500	
Width				300	
<b>BUILDINGS</b>					
Total Structures				355	
Total Square Footage				4,476,934	
<b>MILITARY FAMILY HOUSING UNITS</b>		<b>2BR</b>	<b>3BR</b>	<b>4BR</b>	<b>TOTAL</b>
Officer		0	73	43	116
Enlisted		452	565	301	1,202
<b>TOTAL:</b>					<b>1,318</b>
<b>DORMITORY QUARTERS</b>		<b>OCCUPANCY</b>	<b>CAPACITY</b>	<b>PERCENTAGE</b>	
Airman		583	607	96%	
<b>TEMPORARY QUARTERS</b>			<b>ROOMS</b>	<b>CAPACITY</b>	
Visitor Quarters			80	80	
Distinguished Visitor Quarters			8	8	
Temporary Lodging Facilities			30	150	
<b>TOTAL:</b>			<b>118</b>	<b>238</b>	
<b>AIRCRAFT</b>				<b>ASSIGNED</b>	
B-1 Bombers Assigned				28	

## Current Value of Capital Assets and Sales

As of 30 September 2008

CURRENT VALUE OF CAPITAL ASSETS	
<b>WEAPONS SYSTEMS</b>	
B-1 Bombers	\$ 7,926,800,000
<b>INVENTORIES (Sales outlets)</b>	
Commissary	\$ 12,764,651
Army and Air Force Exchange Service	\$ 2,824,484
Non-Appropriated Fund Activities	\$ 74,119
<b>TOTAL:</b>	<b>\$ 15,663,254</b>
<b>CAPITAL ASSETS</b>	
Runway	\$ 19,454,428
Real Property On-base	\$ 489,344,740
Real Property Off-base	\$ 2,999,953
Military Family Housing	\$ 55,149,401
Leased Housing	\$ 73,360,178
On/Off-base land	\$ 949,376
<b>TOTAL:</b>	<b>\$ 641,258,076</b>
<b>TOTAL VALUE OF ASSETS</b>	
<b>TOTAL:</b>	<b>\$ 8,583,721,330</b>