

Related to the AFPM 2020 Summit Session:
Preventative Maintenance Reliability and Machine
Learning: Optimizing the US Army Fleet

# A Primer on the US Army Major Organizational Force Structure and its Vehicles and Equipment

THE DEPARTMENT OF DEFENSE USES 4,600,000,000 US GALLONS (1.7×1010 L) OF FUEL ANNUALLY, AN AVERAGE OF 12,600,000 US GALLONS (48,000,000 L) OF FUEL PER DAY. A LARGE ARMY DIVISION MAY USE ABOUT 6,000 US GALLONS (23,000 L) PER DAY.

August 27, 2020 11:00AM EDT

Edward F. Dorman III Major General, United States Army (Retired)

#### Contents

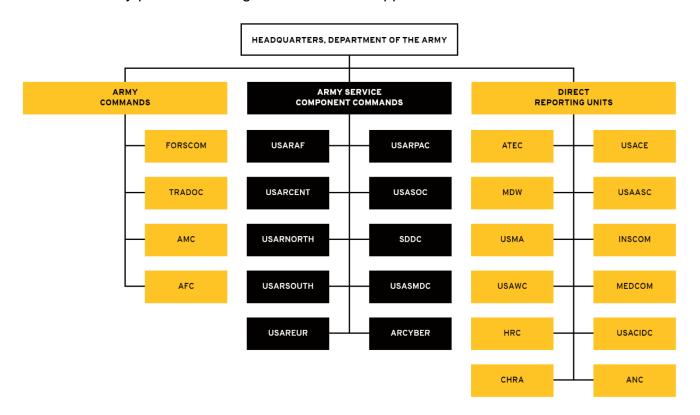
| ORGANIZATION – INTRODUCTION             | 3  |
|---|----|
| TYPICAL COMMAND STRUCTURE               | 4  |
| MILITARY ORGANIZATION                   |    |
| UNIT / TEAM STRUCTURE                   | 6  |
| THE FLEET: WHAT BURNS FUEL?             | 9  |
| APPENDIX:                               | 14 |
| ARMY COMMANDS (ACOM):                   | 14 |
| ARMY SERVICE COMPONENT COMMANDS (ASCC): | 15 |
| DIRECT REPORTING UNITS (DRU):           | 17 |

## United States Army: A Primer for the American Fuel and Petrochemical Manufacturers

#### ORGANIZATION - INTRODUCTION

The Army, as one of the three military departments (Army, <u>Navy</u> and <u>Air Force</u>) reporting to the <u>Department of Defense</u>, is composed of two distinct and equally important components: the active component and the reserve components. The reserve components are the <u>United States Army</u> Reserve and the Army National Guard.

Regardless of component, the Army conducts both operational and institutional missions. The operational Army consists of numbered armies, corps, divisions, brigades, and battalions that conduct full spectrum operations around the world. The institutional Army supports the operational Army. Institutional organizations provide the infrastructure necessary to raise, train, equip, deploy, and ensure the readiness of all Army forces. The training base provides military skills and professional education to every Soldier—as well as members of sister services and allied forces. It also allows the Army to expand rapidly in time of war. The industrial base provides world-class equipment and logistics for the Army. Army installations provide the power-projection platforms required to deploy land forces promptly to support combatant commanders. Once those forces are deployed, the institutional Army provides the logistics needed to support them.



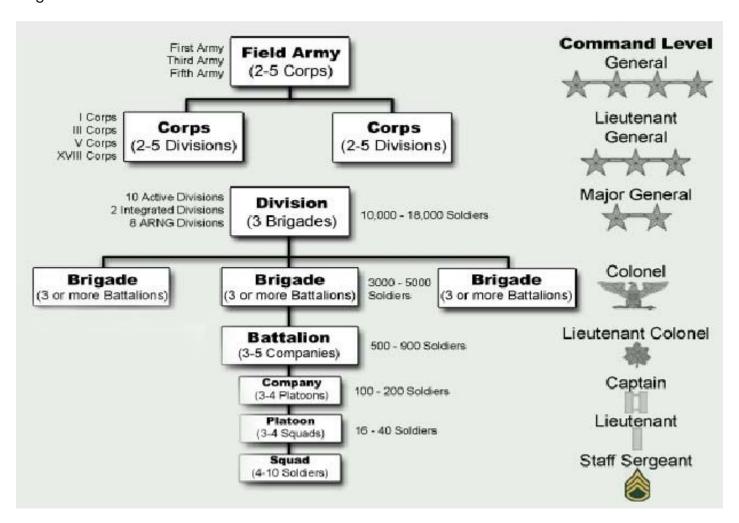
Without the institutional Army, the operational Army cannot function. Without the operational Army, the institutional Army has no purpose.

The Appendix contains a brief summary of the elements within three components:

- Army Commands (ACOM)
- Army Service Component Commands (ASCC)
- Direct Reporting Units (DRU)

#### TYPICAL COMMAND STRUCTURE

The elements in the organizational chart for the U.S. Army span from the individual soldier all the way to the largest building block commonly used, the Corps. In between are the intermediate elements of Army organization, including the squad, platoon, company, battalion, brigade and division.



As you move through the organization, the elements become larger and also encompass more combat support units. Typically, a company is the smallest Army element to be given a designation and an affiliation with higher headquarters at battalion and brigade level.

#### MILITARY ORGANIZATION

The elements of command in the U.S. military organization include:

- A Fire Team, which is comprised of 2 Riflemen, one being the Team Leader, a
  Grenadier, and an Automatic Rifleman used when small recon or special missions are
  required. Led by a sergeant.
- A squad, which is the smallest element in the Army structure, is typically made up of four to 10 soldiers and normally is commanded by a sergeant or staff sergeant. Some units have two squads that made up a section, commanded by a staff sergeant.
- Normally, a platoon includes 16 to 44 soldiers and is led by a lieutenant with an NCO
  as second in command. A platoon usually consists of three to four squads or sections.
- A company contains three to five platoons and a total of 60 to 200 soldiers. It's
  commanded by a captain with a first sergeant as the commander's principal NCO
  assistant. If the element is an artillery unit, it's called a battery rather than a company. If
  it's armored or air cavalry, it's called a troop. A company is a tactical sized unit and can
  perform a battlefield function on its own.
- This encompasses four to six companies and between 300 and 1,000 soldiers. A
  battalion normally is commanded by a lieutenant colonel, and a command sergeant
  major serves as principal NCO assistant. A battalion can conduct independent
  operations, if they're of limited scope and duration, and operates its own administration.
  An armored or air cavalry unit of equivalent size is known as a squadron.
- A brigade includes 1,500 to 3,200 soldiers, and a brigade headquarters commands the
  tactical operation of two to five combat battalions. Brigades normally are employed on
  independent or semi-independent operations, and normally are commanded by a
  colonel with a command sergeant major as senior NCO. In some cases, a brigadier
  general may assume command. Armored cavalry, ranger and special forces units in
  this size range are called regiments or groups instead of brigades.
- A division, with 10,000 to 16,000 soldiers, usually consists of three brigade-sized elements and is commanded by a major general, who is assisted by two brigadier generals. It can conduct major tactical operations and sustained battlefield operations and engagements. Divisions are numbered and are assigned missions based on their structures. Divisions perform major tactical operations for the corps and can conduct sustained battles and engagements.
- A corps includes 20,000 to 45,000 soldiers and is made up of two to five divisions. It's
  normally commanded by a lieutenant general, who is assisted by a command sergeant
  major and an extensive corps staff. The corps provides the framework for modern multinational operations.
- A field army combines two or more corps, with 50,000 or more soldiers, and is typically commanded by a lieutenant general or higher-ranking officer. An army group plans and directs campaigns in a theater of operations and includes two or more field armies under a designated commander.

#### UNIT / TEAM STRUCTURE

The Army hasn't set a specific size to any specific element in its organizational chart. Instead, the number of soldiers in any given element of command depends on the type of unit involved and its mission.

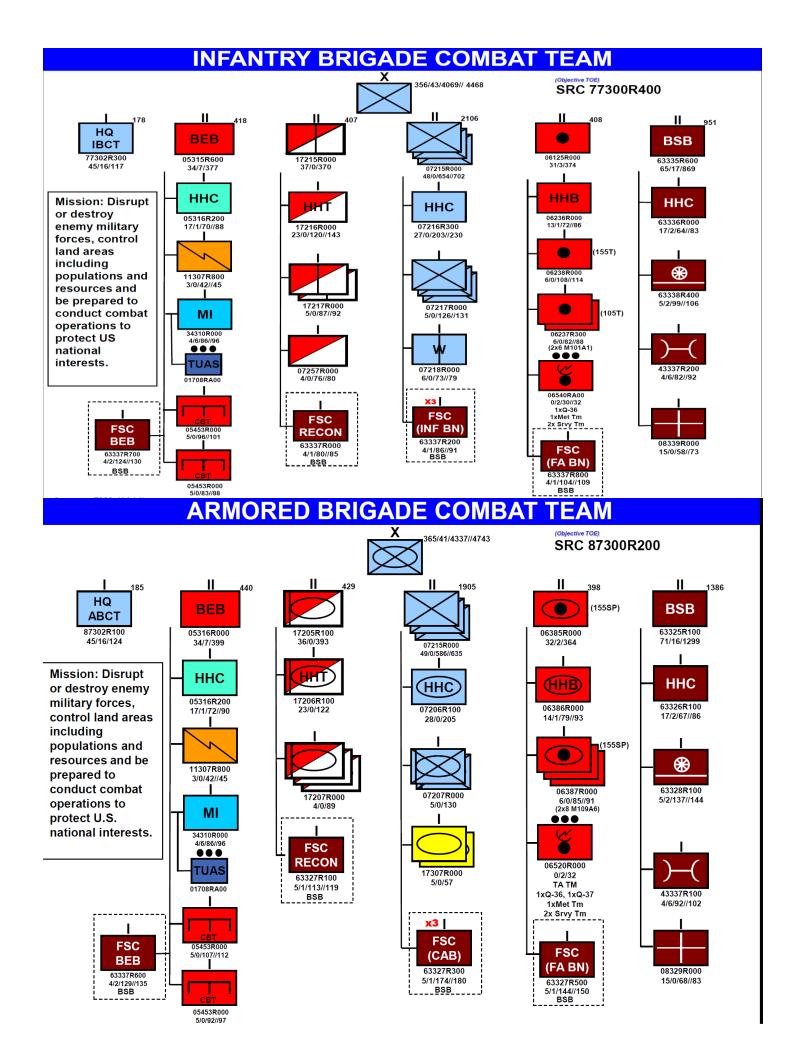
For example, an aviation company would have a different number of troops assigned than an infantry company because it has a different mission, different equipment, and therefore different requirements.

The usual Army structure is battalion, brigade, division. Battalions that are organized into regiments are the exception. An example of this exception would be cavalry regiments. Cavalry is unique in that battalions are called "squadrons" and companies are called "troops."

## Number of Major Combat Units in the Army, 2017 and 2021

|                               | 2017 | 2021 |
|-------------------------------|------|------|
| Armored Brigade Combat Teams  |      |      |
| Active component              | 9    | 9    |
| National Guard                | 5    | 5    |
| Stryker Brigade Combat Teams  |      |      |
| Active component              | 7    | 7    |
| National Guard                | 2    | 2    |
| Infantry Brigade Combat Teams |      |      |
| Active component              | 14   | 14   |
| National Guard                | 19   | 19   |
| Total Brigade Combat Teams    |      |      |
| Active component              | 30   | 30   |
| National Guard                | 26   | 26   |

Source: Congressional Budget Office, using data from the Department of Defense's 2017 budget request.



#### STRYKER BRIGADE COMBAT TEAM 327/41/4009//4377 SRC 47100R500 Ш Ш Ш Ш Ш 395 174 840 466 405 2,094 HHC (155T) **BEB BSB SBCT** 000 47102R500 06325R000 63105R000 05316R000 17095R500 40/7/419 36/0/369 34/2/362 43/16/781 45/16/113 43/0/655//698 Mission: Disrupt HHC or destroy enemy military forces, 05316R200 17/1/71//89 **HHC** (HH) **HHB** control land areas 000 $\widetilde{\circ}$ 63106R000 including 06326R000 17096R500 17/2/148//167 21/0/102 25/0/185 16/0/77//93 populations and resources and be 11307R800 prepared to 3/0/42//45 \* conduct combat (155T) operations to MI 63108R000 protect US 06327R000 5/2/199//206 17097R500 national interests. 34310R000 6/0/85//91 5/0/100 6/0/157 (3x6 XM777) ••• ••• TUAS 01708RA00 06530F000 43107R000 0/2/30//32 5/12/363//380 05453R000 5/0/83//88 05063R300 5/0/90//95 6/0/47//53 08108R000 16/0/71//87

#### THE FLEET: WHAT BURNS FUEL?

The following vehicles and equipment make up the US Army fleet and are the major consumers of fuel in the US Army:

## **VEHICLE IDENTIFICATION**



M1A2 ABRAMS MBT



M3A3 CAVALRY FIGHTING VEHICLE M2A3 INFANTRY FIGHTING VEHICLE



M7 BRADLEY FIRE SUPPORT VEHICLE



M2A2 ODS-E BRADLEY ENGINEER VEHICLE



M109A6 PALADIN 155SP



M992A2 FA AMMO SPT VEH (FAASV)



M113A3 (CARRIER PERS (RISE)



M113A3 AMBULANCE



M1064 120MM MORTAR CARRIER



M1068 CARRIER CP ARMD/ M577A3 CARRIER CP



M577A3 MEDICAL TREATMENT VEHICLE



M88A1 MED RCVY VEHICLE



M88A2 IRV (HERCULES)



XM1150 ASSAULT BREACHER VEHICLE



TRACTOR FT HIGH SPEED ARMORED COMBAT M9 ACE



TRACTOR FULL TRACKED HIGH SPEED: DEPLOYABLE LT ENGINEER (DEUCE)



M977/M985 HEMTT CGO



M978 HEMTT POL TANKER



M984A1 HEMTT WRECKER



M1120 HEMTT LHS



M1074/M1075 TRUCK CARGO HEAVY PLS TRANSPORTER 15 - 16.5 TON



M7 FORWARD REPAIR SYSTEM MOUNTED ON HEMTT LHS



M7 FORWARD REPAIR SYSTEM MOUNTED ON PLS TRANSPORTER



M1977 TRANSPORTER COMMON BRIDGE W/ RAPIDLY EMPLACED BRIDGE (REB)



M1076 TRAILER PLS 8X20



M1076 TRAILER PLS 8X20 W/LOAD HANDLING SYSTEM 2000GAL CAP WATER TANK (HIPPO)



M1076 TRAILER PLS 8X20 W/RAPIDLY EMPLACED BRIDGE (REB)



M1200 ARMORED KNIGHT



M1117 ARMORED SECURITY VEHICLE (ASV)



M1151A1 TRUCK ECV: ARMT CARRIER



M1151A1 TRUCK ECV: ARMT CARRIER W/.50 CAL



M1151A1 TRUCK ECV: ARMT CARRIER W/Mk-19



M1167 TRUCK ECV: TOW/ITAS CARRIER



M997 TRUCK AMBULANCE 4 LITTER: 4X4 HMMWV



M1165A1 TRUCK EXP CAP: ENHANCED



M1152A1 TRUCK EXP CAP: ENHANCED



CMD SYSTEM: TACTICAL (CPP RWS) (MTD ON M1152A1 HMMWV)



M1152A1 TRUCK EXP CAP: W/RIGID WALL SHELTER



M1152A1 TRUCK EXP CAP: ENHANCED W/S788 SHELTER



M1152A1 TRUCK EXP CAP: W/S250 SHELTER



M1152A1 TRUCK EXP CAP: W/SECM ORD/ENG APPL



TROJAN SPIRIT (AN/TSQ-190(V)2 OR (V)3

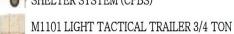


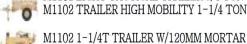
SMART-T

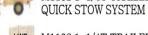


CBPS

CHEMICAL-BIOLOGICAL PROTECTIVE SHELTER SYSTEM (CPBS)











M1078 TRUCK CARGO: LMTV



iii-2

M1079 TRUCK VAN: LMTV



M1083 TRUCK CARGO: MTV



M1083 TRUCK: MTV W/TPU



M1084 TRUCK CARGO: MTV W/MHE



M1085 TRUCK CARGO: MTV LWB



M1086 TRUCK CARGO: MTV LWB W/MHE



M1087 TRUCK VAN EXPANSIBLE: MTV



M1088 TRUCK TRACTOR: MTV



M1089 TRUCK WRECKER: MTV



M1157 TRUCK DUMP 10 TON: MTV



M1082 TRAILER CARGO: LMTV WITH DROPSIDES



M1095 TRAILER CARGO: MTV W/DROPSIDES



TRAILER TANK WATER 800GAL (CAMEL)





STANDARD AUTOMOTIVE TOOL SETS (SATS) TRAILER



CONTAINERIZED KITCHEN (CK)



M129A3 SEMITRAILER VAN: SUPPLY 12 TON



M172A1 SEMITRAILER LOWBED: 25 TON



TRUCK LIFT FORK 4000LB CAP ROUGH TERRAIN



TRUCK LIFT FORK ALL TERRAIN LIFTER ARTICULATED SYSTEM (ATLAS)







TOOL OUTFIT HYDRAULIC SYSTEM: (HYSTRU)





WELDING SHOP TRAILER MOUNTED



DOLLY LIFT SET 2 1 TON



DOLLY LIFT SET 7 ½ TON



PU 797: GEN SET DED TM: 5KW 60HZ PU 798: GEN SET DED TM: 10KW 60HZ



PU 801: GEN SET DSL ENG TM: 15KW 50/60HZ

iii-3



PU 802: GEN SET DSL ENG TM: 15KW 50/60HZ PU 803: GEN SET DSL ENG TM: 30KW 50/60HZ PU 805: GEN SET DSL ENG TM: 60KW 50/60HZ





POWER PLANT UTILITY, LARGE 35KW 12 TON ECU (HVY TMSS)



POWER PLANT UTILITY. MEDIUM 20KW 5 TON ECU (MED TMSS)



POWERPLANT: DSL TRLR MTD 10KW 60HZ AN/NJQ-37



2.4M KU SATELLITE TERMINAL: SATCOM TRANSPORTABLE TRAILER W/ONBOARD 7KW **GENERATOR** 



HOWITZER, LIGHT TOWED (105MM) M119



HOWITZER, MEDIUM TOWED (155MM) M777



TACTICAL UNMANNED AERIAL VEHICLE SYSTEM (SHADOW)



M916A1 TRUCK TRACTOR: LET 6X6 66000 GVW W/W



ELECTRONICS SHOP SHELTER MOUNTED AVIONICS: AN/ASM-147 (SHOWN MTD ON M1078 LMTV)



ELECTRONICS SHOP SHELTER MOUNTED AVIONICS: AN/ASM-146 (SHOWN MTD ON M1085 MTV)



SEMITRAILER LOWBED:



HIGH MOBILITY ENGINEER EXCAVATOR (HMEE)



M1126 STRYKER INFANTRY CARRIER



M1127 STRYKER RECON VEHICLE W/.50 CAL



M1127 STRYKER RECON VEHICLE W/Mk-19



M1128 MOBILE GUN SYSTEM (MGS)



M1129 STRYKER MORTAR CARRIER



M1130 STRYKER COMMAND VEHICLE



M1131 STRYKER FIRE SUPPORT VEHICLE



M1132 ENGINEER SUPPORT VEHICLE



M1133 STRYKER MEDICAL **EVACUATION VEHICLE** 



M1134 STRYKER ATGM



iii-4

M1135 STRYKER CBRN RECONNAISSANCE VEHICLE



MULTI-TEMP REFRIGERATED CONTAINER SYSTEM: MTRCS (ON M1120 HEMTT LHS)



LOAD HANDLING SYSTEM 2000 GAL WATER (HIPPO) (ON M1120 HEMTT LHS)



TACTICAL WATER PURIFICATION SYSTEM (TWPS): (ON M1120 HEMTT LHS)



M969A1 SEMITRAILER TANK: 5000 GAL FUEL DISPENSING





UNMANNED AERIAL VEHICLE LAUNCHER: (TUAV-SHADOW)



RADAR SET: AN/TPQ-37(V)9



RADAR SET: AN/TPQ-36(V)10



ASSAULT KITCHEN

#### **APPENDIX:**

#### ARMY COMMANDS (ACOM):



#### U.S. ARMY FORCES COMMAND (FORSCOM) FORT BRAGG, NC

FORSCOM trains, mobilizes, deploys, sustains, transforms, and reconstitutes assigned conventional forces, providing relevant and ready land power to combatant commanders.



#### **U.S. ARMY TRAINING AND DOCTRINE COMMAND (TRADOC)**FORT EUSTIS, VA

TRADOC recruits, trains, and educates the Army's Soldiers; develops leaders; supports training in units; develops doctrine; establishes standards; and builds the future Army.



#### U.S. ARMY MATERIEL COMMAND (AMC) REDSTONE ARSENAL, AL

AMC provides superior technology, acquisition support and logistics to ensure dominant land force capability for Soldiers, the United States, and our Allies



#### U.S. ARMY FUTURES COMMAND (AFC) AUSTIN, TEXAS

AFC will modernize the Army for the future; integrate the future operational environment, develop and deliver future force requirements, design future force organizations and deliver materiel capabilities.

#### ARMY SERVICE COMPONENT COMMANDS (ASCC):



USARAF/SETAF provides mission command and employs forces to set the theater, conduct security force assistance, and provide support to joint and international partners in order to achieve USAFRICOM Theater Campaign Plan objectives.

**U.S. ARMY CENTRAL (USARCENT)**SHAW AIR FORCE BASE, SC

USARCENT is the assigned Army Service Component Command (ASCC) to the United States Central Command (USCENTCOM) and provides continuous oversight and control of Army operations throughout the USCENTCOM Area of Responsibility (AOR).

#### **U.S. ARMY NORTH (USARNORTH)** FORT SAM HOUSTON, TX

USARNORTH is the assigned Army Service Component Command (ASCC) to the United States Northern Command (USNORTHCOM) and provides continuous oversight and control of Army operations throughout the USNORTHCOM Area of Responsibility (AOR).

#### **U.S. ARMY SOUTH (USARSOUTH)** FORT SAM HOUSTON, TX

USARSOUTH is the assigned Army Service Component Command (ASCC) to the United States Southern Command (USSOUTHCOM) and provides continuous oversight and control of Army operations throughout the USSOUTHCOM Area of Responsibility (AOR).

#### **U.S. ARMY EUROPE (USAREUR)**WIESBADEN, GERMANY

USAREUR is the Army Service Component Command (ASCC) assigned to the United States European Command (USEUCOM) and provides continuous oversight and control of Army operations throughout the EUCOM Area of Responsibility (AOR).







#### U.S. ARMY PACIFIC (USARPAC) FORT SHAFTER, HI

USARPAC is the assigned Army Service Component Command (ASCC) to the United States Pacific Command USPACOM and provides continuous oversight and control of army operations throughout the USPACOM Area of Responsibility (AOR) less the Korean Peninsula.



### **U.S. ARMY SPECIAL OPERATIONS COMMAND (USASOC)**FORT BRAGG,

N.C.

USASOC is the assigned Army Service Component Command (ASCC) to the United States Special Operations Command (USSOCOM).



## MILITARY SURFACE DEPLOYMENT AND DISTRIBUTION COMMAND (SDDC)SCOTT AIR FORCE BASE, IL

SDDC is the assigned Army Service Component Command (ASCC) to the United States Transportation Command (USTRANSCOM) and a Major Subordinate Command (MSC) to U.S. Army Materiel Command (AMC).



#### **U.S. ARMY SPACE AND MISSILE DEFENSE COMMAND (USASMDC)**HUNTSVILLE, AL

USASMDC is the assigned Army Service Component Command (ASCC) to the United States Strategic Command (USSTRATCOM) and provides continuous oversight, control, integration, and coordination of Army forces supporting USSTRATCOM.



#### U.S. ARMY CYBER COMMAND (USARCYBER) FORT BELVOIR, VA

United States Army Cyber Command is an operational level Army force, with ARCYBER designated by the Secretary of the Army as an Army Service Component Command to U.S. Cyber Command (USCYBERCOM). Army Cyber Command directs and conducts integrated electronic warfare, cyberspace and information operations as authorized, or directed, to ensure

freedom of action in and through cyberspace and the information environment, and to deny the same to our adversaries.

#### **DIRECT REPORTING UNITS (DRU):**



#### U.S. ARMY MEDICAL COMMAND (MEDCOM) FORT SAM HOUSTON, TX

MEDCOM is designated as a Direct Reporting Unit (DRU) by the Secretary of the Army. The MEDCOM provides medical, dental, and veterinary capabilities to the Army and designated DoD activities; operates fixed facilities; conducts medical research, materiel development and acquisition; educates and trains personnel; and develops medical concepts, doctrine, and systems to support Army healthcare delivery.



<u>U.S. ARMY INTELLIGENCE AND SECURITY COMMAND (INSCOM)</u>FORT BELVOIR, VA

INSCOM is designated by the Secretary of the Army as a Direct Reporting Unit (DRU) and reports directly to the Army DCS, G-2. The INSCOM synchronizes the operations of all INSCOM units to produce intelligence in support of the Army, Combatant Commands, and the National intelligence community.



#### **U.S. ARMY CRIMINAL INVESTIGATION COMMAND (USACIDC)** QUANTICO,

VA USACIDC is designated as a Direct Reporting Unit (DRU) by the Secretary of the Army. The USACIDC conducts sensitive or special interest investigations as directed by the Secretary of the Army or the Chief of Staff of the Army; plans for and provides personal security (protective services) for DoD and Department

of the Army officials as designated by the Secretary of the Army or the Chief of Staff of the Army; provides criminal investigative support to all Army elements including forensic support; maintains overall responsibility for Army investigations of controlled substances; conducts and controls all Army investigations of serious crimes, less serious crimes, upon request, or as necessary for effective Army law enforcement, and fraud; and other crimes arising in Army procurement activities.



#### U.S. ARMY HUMAN RESOURCES COMMAND (HRC) FORT KNOX, KY

The U.S. Army Human Resources Command executes distribution, strategic talent management, personnel programs and services Army wide in order to optimize Total Force personnel readiness and strengthen an agile and adaptive Army.



#### U.S. ARMY CORPS OF ENGINEERS (USACE) WASHINGTON, D.C.

USACE is designated as a Direct Reporting Unit (DRU) by the Secretary of the Army. The USACE provides engineering services and capabilities in support of National interests.



## **U.S. ARMY MILITARY DISTRICT OF WASHINGTON (MDW)** FORT MCNAIR, WASHINGTON, D.C.

MDW is designated as a Direct Reporting Unit (DRU) by the Secretary of the Army and reports directly to the Chief of Staff of the Army. The MDW is a geographic command with responsibilities that extend throughout the U.S. National Capitol Region (NCR) – Washington, D.C. metropolitan area.



## <u>U.S. ARMY TEST AND EVALUATION COMMAND (ATEC)</u>ABERDEEN PROVING GROUND, MD

ATEC is designated as a Direct Reporting Unit (DRU) by the Secretary of the Army and reports directly to the Chief of Staff of the Army. The ATEC plans, integrates, and conducts: experiments, developmental testing, independent operational testing, and independent evaluations and assessments to provide

essential information to acquisition decision makers and Commanders.



#### U.S. MILITARY ACADEMY (USMA)WEST POINT, N.Y.

USMA is designated as a Direct Report Unit (DRU) by the Secretary of the Army and reports directly to the Chief of Staff of the Army. The mission of the USMA is to educate, train, and inspire the Corps of Cadets so that each graduate is a commissioned leader of character committed to the values of Duty, Honor, Country and prepared for a career of professional excellence and

service to the Nation as an officer in the United States Army.



#### U.S. ARMY ACQUISITION SUPPORT CENTER (USAASC) FORT BELVOIR, VA

USAASC is designated as a Direct Reporting Unit (DRU) by the Secretary of the Army and reports directly to the ASA (ALT). The USAASC supports the readiness of the Army by continually improving the Army's capability through all stages of materiel development, developing a professional acquisition workforce and supporting the acquisition community at all levels.



#### U.S. ARMY WAR COLLEGECARLISLE, PA

The purpose of U.S. Army War College at this time in our Nation's history is to produce graduates from all our courses who are skilled critical thinkers and complex problem solvers in the global application of Landpower. The goal is to provide high quality Professional Military Education, aggressively Conduct Research, Publish, Engage in Discourse, and Wargame with the entire faculty, staff, students and fellows, conduct strategic leader development, and attract, recruit, and retain a high quality faculty and staff.



#### **ARLINGTON NATIONAL CEMETERY**ARLINGTON, VA

On behalf of the American people, Arlington National Cemetery lays to rest those who have served our nation with dignity and honor, treating their families with respect and compassion, and connecting guests to the rich tapestry of the cemetery's living history, while maintaining these hallowed grounds befitting the sacrifice of all those who rest here in quiet repose.



#### CIVILIAN HUMAN RESOURCES AGENCYABERDEEN PROVING GROUND, MD

CHRA provides comprehensive human resources services for the Army. As a DRU under the Department of the Army G-1, CHRA is part of the Army's initiative to mold human resources functions into a corporate structure, enabling efficient and effective human resources support worldwide.