

Force Transformation

10-16 Weapon Systems Modernization

The Army is transforming into a force more capable of strategic dominance across the entire spectrum of operations while conducting contingency operations. Transformation and modularity will provide the nation with an Army that is more responsive, survivable, agile, versatile, lethal, deployable, and sustainable. Building a versatile mix of mobile, networked Brigade Combat Teams (BCTs) capable of conducting operations across the full spectrum of conflict presents a formidable challenge requiring sustained funding support from the Congress.

Recapitalization, a critical element in our modernization effort, extends the life of the existing fleet and reduces the risk of technological obsolescence. Recapitalization is necessary to preserve the essential capabilities required to support The Army Plan.

The Army's traditional acquisition process does not adequately support an Army at War. Through the process called "Spin-Outs", we are accelerating delivery of key technologies to the Current Force. At the same time, the Army is using lessons learned from recent engagements to redesign the structure of its Current Force in order to create appropriately-sized units with modular capability. These units will be highly lethal and agile, sustainable and available for worldwide deployment. Without an infusion of additional resources, current readiness and future modernization are at risk due to continued and increasing demands of Operational Tempo (OPTEMPO), contingency operations, and war fighting. Based on restructuring, the Army still needs at least \$35 billion annually through the FY2015 Program Objective Memorandum (POM) in Research, Development, and Acquisition (RDA) funding.

It is imperative that Congress fund the Army's pursuit of the initiatives to recapitalize the Current Force to reduce near-term risk and to accelerate spin-out technology insertion to all Maneuver Brigade Combat Teams (BCTs) in order to provide BCTs with resources across the full spectrum of operations.

As the Army strives to field operationally effective forces, Army Acquisition faces a number of constraints, in addition to procurement costs. The expense associated with the personnel required to operate systems around the clock in locations across the globe is the most restrictive constraint. Additionally, long-term system maintenance and support costs may be expected to result in significant recurring financial obligations. The nation can achieve cost-savings and add greater capability over time by procuring new systems, or enhancing existing systems, that reduce force structure bills and recurring costs. For example, potential enhancements to the Terminal High Altitude Area Defense (THAAD) system increase the defensible area by 400-500 percent. These enhancements are projected to result in only a 5 percent increase in the number of deployed soldiers required to operate a THAAD battery. By using the impact on force structure as a principal criterion for acquiring improved capabilities, the Army should realize better efficiencies in the deployment of manpower resources.

Army Aviation assets support and compliment every facet of military operations. Attack and Armed Scout Helicopters conduct rear, close, deep operations, and precision strikes in day, night, and adverse weather conditions. Cargo and Utility Helicopters conduct air transport, air assault, aero-medical evacuation, command and control, and special operations support of world-wide combat, contingency, Homeland Security, and humanitarian operation efforts across the full spectrum. Unmanned Aircraft Systems provide Reconnaissance, Surveillance and Target Acquisition; Manned/Unmanned teaming; communications relay; and weaponization. Army Fixed Wing assets provide transport and logistical support, airborne reconnaissance, and conduct intelligence and electronic warfare operations.

With the Army termination of the Comanche in 2004, the Administration, DoD, and the Congress directed that resources saved in the period 2004-2011 be reinvested into Army Aviation to fix the force. The Army's reinvestment of these dollars was focused on several systems, to include a Light Utility Helicopter (Lakota) and the Extended Range Medium Range (ER/MP) Unmanned Aircraft System (UAS). The Army has delivered the UH-60M and CH-47F, and has established programs of record for the AH-64D Longbow Block III and the Small Unmanned Aircraft System (SUAS). These actions have allowed the Army to keep its Aviation Force on both the modernization and transformation paths. Sufficient Army funding is imperative to continue this modernization program.

The OH-58D Kiowa Warrior is dedicated as the "eyes and ears" of the ground commander and fills the armed reconnaissance role for attack helicopter and air cavalry units. Sustainment efforts, to include a Safety Enhancement Program and a phased-in approach of a Life Support 2020 Program will extend the service life of the aircraft beyond 2020.

With twenty eight configurations and mission equipment package variants, the UH-60 Blackhawk remains the mainstay of the Army utility fleet, providing rapid and agile maneuver capability through air assault, general support, airborne Command and Control and MEDEVAC. The UH or utility version provides general air assault and utility support. The MH and its direct action variant support Special Forces roles and missions. The A and HH versions support the Army's medical evacuation needs. The UH-60M recapitalization program, the Improved Turbine Engine Program (ITEP), and the accelerated procurement of UH-60s for the Reserve Component (RC) require the Army to sustain a viable utility helicopter fleet out to 2025.

The AH-64D Longbow program provides Army Aviation with an air-to-ground radar capability for use day or night, in adverse weather and obscured battlefield conditions. The Longbow modernization program requires 634 Block I and II Longbow Apaches to Block III network-centric (Improved Data Modem) aircraft for the Current and Future Force. Increased precision and increased lethality munitions are critical to the attack fleet for mission accomplishment.

The CH-47 Chinook/Improved Cargo Helicopter (CH-47F) is a future force system that provides the Future Force's intra-theater heavy lift capability and supports the Army Vision. The CH-47F program will remanufacture all existing CH-47D aircraft and procure new build aircraft with upgraded cockpits and new airframe structural components to meet the emerging Army transformation requirement. A separate engine upgrade program, along with improved rotor blades will provide enhanced lift capability and fuel efficiency. The CH-47D fleet must be maintained until replaced by the CH-47F. Other improvements include Condition Based Maintenance (CBM) system / Digital Source Collector and Health and Usage Monitoring System (DCS/HUMS), and Aircraft Wireless Intercom System.

The UH-72A Lakota is the primary replacement aircraft for the OH-58 and UH-1H aircraft, supporting a wide variety of federal and state domestic operations. Current planning stretches the fielding of the LUH through 2016. Current maintenance issues and the age of both the OH-58 and UH-1 make the fielding of this aircraft an immensely viable priority.

The Army's Tactical Unmanned Aerial System (TUAS) program is critical to Current and Future Force operations. Unmanned aerial systems are vitally important to the battlefield commander's ability to conduct decisive operations without putting Soldiers' lives at risk. Current operations in Afghanistan, Iraq, and around the world continue to highlight the need for these invaluable assets. Demand for the capabilities these systems provide will ensure continued development and procurement of new unmanned aircraft.

The continued modernization, upgrades, technology insertions, replacement of combat attrition, and new procurement of Aviation systems for both the Active Component and Reserve

Component are critical to the Army's ability to sustain the full range of current and future military operations.

The Army's Family of Medium Tactical Vehicles (FMTV) Program is designed to replace the current fleet of medium weight trucks. The 2.5-ton and the 5-ton truck fleets are older than their drivers and need to be replaced in order to enhance capability and reduce operating costs. Within the past few years, the service life has been dramatically diminished by on-going combat operations. The Reserve Components are short 8,000 High Mobility Multipurpose Wheeled Vehicles (HMMWV). Additionally, there is a critical need for increasing the procurement levels of the Family of Heavy Tactical Vehicles in support of Combat, Combat Service, and Combat Service Support units within the Army National Guard.

The Abrams tank provides the Joint Force Commander with mobile protected firepower, closing with and destroying enemy forces on an integrated battlefield using mobility, firepower, and shock effect. The 120mm main gun and special armor make the Abrams tank particularly suitable for urban combat operations, as well as for attacking or defending against large concentrations of heavy armor forces. Currently, there are two upgrade programs ongoing within the Abrams fleet. The first is the M1A1 Abrams Integrated Management (AIM) program which restores and upgrades existing M1A1s to a like-new condition. The M1A1 AIM improvements including a Revised Hull and Turret Network Boxes (RH&TNB), a Digital Electronics Control Unit (DECU), a Driver's Hatch Interlock (DHI) sensor system, an Upgraded Tank Commander's Panel (UTCP), an Eyesafe Laser Rangefinder (ELRF), Embedded Diagnostics (ED), a Pulse Jet Air System (PJS), a Battlefield Override System, and improved survivability. The second is the Abrams M1A2 System Enhancement Program (SEP) program which provides improvements in lethality and survivability over the M1A1 and includes 2nd Generation Forward Looking Infrared (FLIR) sensors, Hunter/Killer capability via the Commander's Independent Thermal Viewer (CITV), digital command and control, Thermal Management System (TMS), Improved Commander's Weapons Station, Position Navigation equipment with digital enhancements (embedded Future Battle Command Brigade and Below) (FBCB2), and numerous other survivability and lethality improvements. The Total Integrated Revitalization Engine (TIGER), started in FY2006, adds a single configuration AGT1500 engine for the Abrams Tank fleet.

Similar upgrades enhance the combat effectiveness of the Bradley Fighting Vehicle (M2/M3A3) through the inclusion of two 2nd Generation Forward Looking Infrared (FLIR) devices (one for the gunner, one for the commander), upgraded core electronics, improved ballistic fire control, situational awareness, enhanced fire control system, and a collective Nuclear, Biological, and Chemical (NBC) protection system. Updated FBCB2 is critical to maintaining a seamless digital interoperability within the Current Force.

Javelin provides the U.S. Army and USMC with a man-portable, fire-and-forget, medium-range missile, with enhanced situational awareness, and precision direct-fire effects able to defeat fortifications, soft targets and armored vehicles in full spectrum operations. It is the first "fire-and-forget" shoulder-fired missile with dual modes of engagement, both top attack and direct attack, capabilities. The performance improvements in current production Javelin Block I CLUs are: increased target identification range, increased surveillance time with new battery and software management of the on-time, and external RS-170 interface for video output. The CLU provides stand alone all weather and day/night surveillance capability ideally suited for infantry operations in Afghanistan. The performance improvements in current production Javelin Block I missiles are: increased probability of hit/kill at 2500m, improved warhead lethality, and reduced time of flight.

The TOW missiles are combat proven missiles that provide TOW Anti-tank and TOW Bunker Buster fires to the Army's IBCTs, HBCTs and SBCTs. TOW continues to be used consistently in OEF and OIF as the weapon of choice in precision combat engagements against targets ranging from main battle tanks, to structures and fleeting targets of opportunity. TOW missiles are launched from a variety of combat systems including ITAS, the Bradley Fighting

Vehicle System (BFVS), the Stryker Anti-Tank Guided Missile (ATGM) Light Armored Vehicle (LAV), the M220A2 TOW 2 launcher, and the M901A1 Improved TOW Vehicles. The USMC employs the TOW 2B missile from its M220A2 launchers, ATGM – LAV, and AH-1 Cobra helicopters. TOW is used by 43 allied nations. The TOW family of missiles provides these Warfighters highly lethal precision fires that minimize collateral damage - an essential capability against an adaptive enemy that uses non-combatants and culturally sensitive sites as cover.

The Improved Target Acquisition System (ITAS) is a combat proven system that provides: long-range, lethal anti-armor and precision assault fires capability for Infantry Brigade Combat Teams (IBCT) and Stryker Brigade Combat Teams (SBCT) across the spectrum of contemporary operational environments. The Far Target Locator (FTL) capable ITAS adds a GPS based position and attitude determination subsystem to ITAS, enabling the system to generate a 10 digit grid coordinate of a target location. The FTL is being procured to pure-fleet the ITAS system in both the USMC and US Army. ITAS is integrated into the Stryker Anti-Tank Guided Missile (ATGM) vehicle of the SBCT anti-tank company. ITAS provides a precision assault capability for the SBCT infantry battalions until the Mobile Gun System (MGS) becomes available. ITAS with the TOW missile continues to be the weapon of choice in precision combat engagements in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF).

The HELLFIRE AGM-114 Family of Missiles is a joint precision, air-to-ground munition that provides attack helicopters and Unmanned Aerial Systems (UAS) with point-target precision strike capability to defeat heavy, advanced armor; urban point targets; individual hard point and non-traditional targets with minimal collateral damage. The missile is carried by several air platforms including the AH-64 Apache, AH-1 Cobra, OH-58D Kiowa Warrior, AH-6 Little Bird, MH-60 Black Hawk, ERMP-Sky Warrior, MQ-1B Predator, and MQ-9 Reaper. The Longbow HELLFIRE missile (AGM-114L) has a millimeter-wave (MMW) sensor and a HEAT warhead, providing fire-and-forget and adverse weather capability against armored targets. Four variants of the Semi-Active Laser (SAL) HELLFIRE II are (1) the high-explosive anti-tank (HEAT) missile, or AGM-114K, which defeats all known and projected armored threats; (2) the AGM-114M blast fragmentation missile, which is effective against primary target sets such as boats, buildings, bunkers and light-armored vehicles; (3) the metal augmented charge missile, or AGM-114N, which defeats enclosures, caves and enemy personnel housed therein; and (4) the recently introduced augmented HEAT warhead, AGM-114K2A, which adds blast fragmentation exterior sleeve to the HEAT warhead's anti-tank capability, providing precision strike against soft targets in the open. The SAL AGM-114R, which will be fielded in FY 2012, will integrate all four variants into one missile, and feature an increased 360 degree engagement envelop for both rotary and UAS applications and provide the Warfighter the ability to select his desired lethality effects prior to launch. This improvement will also address safety and performance shortcomings. The AGM-114R improvements support the Army's Bridging strategy for the air-to-ground missile through 2020. Production rates will peak at a historical rate to 6000 missiles a year starting in FY 2010 ensuring the joint, international and coalition services continue to have this invaluable missile for missions in the CENTCOM AOR. All variants can be carried on and fired from the all-digital M299 launcher, giving HELLFIRE the capability to engage multiple targets simultaneously. In FY 2012, a modernized light weight quad, dual and UAS M299 launcher will be fielded providing the platforms the ability to loiter longer and reducing fatigue on aircrafts and improve safety.

The Joint Air-to-Ground Missile (JAGM) system will be a common air-to-ground precision guided missile for use by Joint Service manned and unmanned aircraft to destroy high-value stationary, moving and relocatable land and naval targets. JAGM will be required to provide a common, multi-mode weapon capable of providing both current and future aviation platforms with reactive targeting capabilities satisfying the sum of needs across the joint platforms.

A joint need exists for a family of light weight, precise, low collateral damage fire support munitions that can be utilized in urban, open, and complex terrain. Current military operations have demonstrated that these munitions need to allow the current inventory of manned and unmanned platforms to maximum endurance and payload, while at the same time increasing

stowed kills and lethality. A new Small Guided Munitions (SGM) program that focuses on less than 50 lb munitions in the 5.0" guided missile, small guided munitions, and glide weapon realm will meet the above requirements.

The Hydra-70 unguided rocket system delivers various unitary and cargo warheads and has proven itself a major contributor to the success of Overseas Contingency Operations. The Hydra rocket system is evolving through a Safety, Reliability, and Production (SRAP) modernization effort that will maintain the rocket system as a critical joint aviation armament system for the 21st Century.

The Modernized Rocket Launcher (MRL) will bring 21st Century capabilities to the proven Hydra-70 rocket system by integrating the digital systems of aviation platforms with a non-umbilical rocket interface that will increase accuracy, improve reliability, enhance safety, and improve rocket loading times. The MRL digital interface and the OH-58D Kiowa Warrior Cockpit Display System (CDS) 5 will be the hinge pin for success of many existing and future Army efforts like the Small Guided Munitions (SGM) effort.

The M142 High Mobility Artillery Rocket System (HIMARS) is a C-130 transportable, wheeled, indirect fire, rocket/missile launcher capable of firing all rockets and missiles in the Multiple Launch Rocket System (MLRS) and Army Tactical Missile System (ATACMS) Family of Munitions (AFOM).

The Non Line of Sight – Launch System (NLOS-LS), which is an integral part of BCT Modernization Spin-Out 1 architecture brings to the Army and Navy force's a new concept in precision attack munitions against targets in low to high intensity conflicts. This highly mobile, platform independent system providing 15 vertically launch missiles per NLOS-LS System in a ground or naval application. The current missile can follow way point guidance and receive, through an on-board radio, changes in target location through the use of a tactical network. This system can engage stationary or moving land or naval targets out to 40 km either autonomously or in cooperative engagement from aerial or ground/sea sensors. NLOS-LS modularity supports configuring systems with multiple missile variants to counter expected ground or aerial threats to the Brigade Combat Teams. Future growth potential is for a family of munitions, which support deploying sensor, non-lethal and lethal missile systems or payloads. NLOS-LS is scheduled for fielding to the Army's IBCTs and to the Navy's Littoral Combat Ship.

The M777A2 Lightweight 155MM (LW155) Towed Howitzer meets a critical need for both active and reserve component Army units. Fielding for ARNG units, which began in FY08, is programmed to continue through FY11. However, given the long lead times associated with certain essential materials and the absence of deliberate actions to the contrary, this schedule could result in an unwise break in production in FY09-10. Any break in production should be avoided.

The Warfighter Information Network - Tactical (WIN-T) is a mission-critical system and an integrating network that will provide reliable, secure, and seamless video data, imagery, and voice services that enable decisive combat actions. The Joint Network Node (JNN) / WIN-T is integral and necessary to the success of the Army, as both a core and complementary system supporting the robust, efficient and responsive movement of information throughout the Battlespace.

The Army Battle Command System (ABCS) is the overarching command and control system providing the framework for a truly interoperable digitized battlespace. The ABCS extends from the Army Component of the Joint/Strategic Global Command and Control System (GCCS-A), through the Army Tactical Command and Control Systems (ATCCS), and culminates in near-real-time information exchange over the tactical internet among combat systems equipped with Force XXI Battle Command Brigade and Below (FBCB2). The Standardized Integrated Command Post Systems and Tactical Operations Centers (TOC) provide the core of our command and

control architecture. These two programs are integral in facilitating AEA. Headquarters at all levels will plan, rehearse and execute missions using these high-priority systems.

WE THEREFORE RESOLVE to urge the Administration and Congress to:

Accelerate funding for high-pay-off weapon systems that support the Army's modernization requirements for Current and Future Forces. These systems include:

- Army Aviation Reset Program
- Current systems recapitalization
- Spin-Out Technology Insertion
- Armor Force Protection Program
- Stryker Brigade Combat Teams (SBCTs)
- OH-58D Kiowa Warrior
- Armed Scout Capability
- UH-60 Black Hawk Helicopter Modernization Program, to include the Improved Turbine Engine Program (ITEP)
- AH-64D Longbow Apache Block III Modernization Program
- CH-47F Chinook Improved Cargo Helicopter Remanufacture, Procurement, and Engine Upgrade Program
- UH-72A Lakota Light Utility Helicopter
- Tactical Unmanned Aerial Vehicle (TUAV)
- Family of Heavy and Medium Tactical Vehicles (FMTV), High Mobility Multipurpose Wheeled Vehicle (HMMWV) for RC
- Abrams Tank Upgrade Program
- Bradley Fighting Vehicle Upgrade Program
- Javelin Anti-tank Missile System
- Multiple Launch Rocket System (MLRS) Upgrade Program, including Guided MLRS (GMLRS)
- High Mobility Artillery Rocket System (HIMARS)
- M777A2 Lightweight 155 MM Towed Howitzer
- Combat Engineer Systems
- Fund Command and Control Critical Information Systems, to include the following:
 - Army Battle Command System (ABCS), to include: Global Command and Control System-Army (GCCS-A), Battle Command Brigade & Below (FBCB2), Army Tactical Command and Control Systems (ATCCS), Advanced Field Artillery Tactical Data System (AFATDS), Air and Missile Defense Workstation (AMDWS), All-Source Analysis System (ASAS), Battle Command Sustainment Support System (BSC3) and in addition, maintain the vitality of current Standard Army Management Information Systems (STAMIS)
- Tactical Internet

- Joint Tactical Radio System (JTRS)
- Defense Message System (DMS)
- Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T)
- Maneuver Control System (MCS)
- All Source Analysis System (ASAS)
- Warfighter Information Network – Tactical (WIN-T)
- Battle Command Sustainment Support System (BCS3)
- Area Common User System Modernization (ACUS MOD)
- Air and Missile Defense Planning and Control System (AMDPCS)
- Modernization of Command And Control Systems for AC and RC
- Fully fund JNN/WIN-T Increment 1, replacing Cold War-era Classified and Unclassified Tactical Telephone, Video Conference, and Data Communications Systems required to support battle-related, high-definition intelligence products, voice, video and data down to Battalion Command Posts, to be completed not later than 2011.